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Ocean Wind 1 Offshore Wind Farm Final Environmental Impact Statement Volume 4

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BOEM
Bureau of Ocean Energy
Management

Appendix O. Responses to Comments on the Draft Environmental Impact Statement

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O.1. Introduction

On June 24, 2022, BOEM published a notice of availability for the Ocean Wind 1 Offshore Wind Farm EIS, consistent with the regulations implementing NEPA (42 USC 4321 et seq.), to assess the potential impacts of the Proposed Action and alternatives. The Draft EIS was made available in electronic form for public viewing at <https://www.boem.gov/renewable-energy/state-activities/ocean-wind-1>, and hard copies or electronic copies were delivered to other entities as specified in Appendix K of the Draft EIS. The NEPA review process requires agencies to allow the public the opportunity to comment on a Draft EIS. The notice of availability initiated a 45-day public comment period for the Draft EIS. BOEM extended the public comment period by 15 days. The comment period closed on August 23, 2022. This appendix describes the Draft EIS public comment processing methodology and definitions, includes responses to comments received on the Draft EIS, and describes where specific updates to the Final EIS can be found in the document.

O.2. Objective

BOEM reviewed and considered all written and oral public submissions received during the Draft EIS public review and comment period. BOEM's goal was to identify comments to be addressed in this Final EIS and to categorize those comments based on the applicable resource areas or NEPA topics. This categorization scheme allowed subject matter experts to review comments directly related to their areas of expertise and allowed BOEM to generate statistics based on the resource areas or NEPA topics addressed in each of the comments. All public comment submissions received can be viewed online at <http://www.regulations.gov> by typing "BOEM-2022-0021" in the search field.

O.3. Methodology

O.3.1 Terminology

The following terminology is used throughout this appendix:

- **Submission:** The entire content submitted by a single person or group at a single time. For example, a 10-page letter from a citizen, an email with a portable document format (PDF) attachment, and a transcript of an oral comment given at a public hearing meeting were each considered to be a submission.
- **Comment:** A specific statement within a submission that expresses a sender's specific point of view, concern, question, or suggestion. A comment can consist of more than once sentence, as long as those grouped sentences express a single idea. One submission may contain many comments.
- **Substantive Comment:** Draft EIS submissions were reviewed to identify and categorize "substantive" comments. To be substantive, a comment must relate to the reasonably foreseeable impacts of the Proposed Action, alternatives, or cumulative actions and do one or more of the following:
 - Question (with supporting rationale) the accuracy of information in the Draft EIS
 - Question (with supporting rationale) the adequacy of, methodology for, or assumptions used for the environmental analysis
 - Present new information relevant to the analysis
 - Present reasonable alternatives or mitigation measures other than those analyzed in the Draft EIS
 - Present or cause modifications to alternatives or mitigation measures analyzed in the Draft EIS
 - Correct factual errors in the content of the Draft EIS

- General Comment: General comments are comments other than substantive comments. General comments may: (1) express interest or concern regarding an impact topic without providing specific comments on the information, methods, or findings presented in the Draft EIS, (2) express general support for or opposition to the proposed Project, or (3) comment on a topic unrelated to the proposed Project.

O.3.2 Comment Submittals

Federal agencies, state/local/tribal governments, and the general public had the opportunity to provide comments on the Draft EIS via the following mechanisms:

- Electronic submissions via www.regulations.gov on docket number BOEM-2022-0021;
- Hard-copy comment letters submitted to BOEM via traditional mail; and
- Comments submitted verbally at each of the public hearings.

BOEM held three online public hearings via Zoom to solicit verbal comments to inform preparation of the Final EIS. The hearings were free and open to the public with no reservations required. Locations and dates of these hearings are outlined in Table O.3-1.

Table O.3-1 Public Hearings

Date	Time	Location
July 14, 2022	1:00 p.m. Eastern Time	Zoom Webinar
July 20, 2022	5:00 p.m. Eastern Time	Zoom Webinar
July 26, 2022	5:00 p.m. Eastern Time	Zoom Webinar

All submissions initially provided by methods other than www.regulations.gov, including the transcripts of comments recorded at each public hearing listed in Table O.3-1, were uploaded to the docket. Each submission, including testimony by individual speakers at the public hearings listed in Table O.3-1, was assigned a unique identification number. That unique Submission ID was retained throughout the comment management process, for both submissions and the individual comments within those submissions.

O.3.3 Comment Processing

BOEM downloaded and reviewed all submissions from [regulations.gov](http://www.regulations.gov). These submissions were provided in Hypertext Markup Language (html) format, while attachments provided by stakeholders as part of their [regulations.gov](http://www.regulations.gov) submission were typically provided in PDF or Microsoft Word format. Text from all formats was parsed, coded, and exported into a single Microsoft Excel file that served as the primary submission database. In cases where an attachment did not contain comments specific to the docket for the Ocean Wind 1 Draft EIS, the attachment was retained separately for BOEM reference as applicable, linked to the main body of the submission through the unique Submission ID. Examples of this type of attachment include copies of comment letters that were originally submitted during the scoping period, copies of comment letters that were originally submitted on another docket, or attached photos, published reports, news articles, or other secondary material. The submission database also included information about each submission, including the submitter's contact information, submission date, and whether the submitter was a government entity or agency.

Each submission and all oral testimony were read to identify individual substantive and general comments (as defined under Section O.3.1, *Terminology*). Each comment was parsed, coded, and exported to a spreadsheet that served as the master comment database. Each comment then received a unique comment ID number, tied to the Submission ID. For example, the fourth comment identified in regulations.gov submission 0001 was identified as BOEM-2022-0021-0001-0004.

Substantive comments from cooperating agencies and the lessee were organized by agency or organization and are presented verbatim in Sections O.4 and O.5. Other agency, stakeholder, and public comments were each assigned to one section of the Draft EIS, based on the document's table of contents, or to a general topic such as "NEPA/Public Involvement Process." Substantive comments are presented verbatim in Section O.6. General comments are summarized in Section O.7 and the specific comments that contributed to a comment summary are identified by comment number.

O.4. Responses to Cooperating Agency Comments on the Draft EIS

O.4.1 Cooperating Federal Agencies

O.4.1.1. Advisory Council on Historic Preservation

Table O.4-1 Responses to Comments from the Advisory Council on Historic Preservation (Letter No. 1273)

Comment from Advisory Council on Historic Preservation	Response
Previous Consulting Party Concerns – As part of prior consultation meetings, several consulting parties raised questions and concerns regarding the BOEM's identification of historic properties within the Area of Potential Effect (APE), particularly within the Visual APE. The DEIS materials, specifically Appendix N, does not appear to provide context for how those prior concerns were responded to and/or addressed. While responses to the comments may be reflected in the DEIS, we encourage the BOEM, as part of its response to the DEIS comments and as part of the upcoming consultation meeting, address the reconciliation of those comments. These efforts are critical to the BOEM exhibiting how it has complied with the Standards for developing environmental documents to comply with Section 106, as described in 36 CFR § 800.8(c)(1).	BOEM has provided multiple opportunities to Section 106 consulting parties to review information about the Project and provide their comments on the Project and shared information. This includes the distribution of the following: the complete terrestrial archaeological resources report, complete marine archaeological resources report, complete historic resources visual effects assessment, complete cumulative visual effects assessment report, and a technical memorandum detailing the delineation of the APE for the Project on March 21, 2022; and the supplemental architectural intensive-level survey report on April 1, 2022. Ocean Wind revised the distributed technical reports for BOEM based on consulting party comments and information from the revised versions of these reports is included in the Final EIS. BOEM will distribute the Final EIS to consulting parties on May 26, 2023.

Comment from Advisory Council on Historic Preservation	Response
<p>Cumulative Effects – The ACHP appreciates the BOEM’s analysis of the cumulative visual effects of the undertaking on historic properties as it relates to other offshore wind energy development activities proposed in surrounding lease areas. As indicated in previous and ongoing offshore wind consultations, the ACHP sees this analysis as a pivotal component when assessing and justifying the agency and applicant’s rationale for determining and resolving effects to historic properties. To that end, the BOEM’s analysis identified that the undertaking will result in cumulative visual effects on those historic properties already being adversely affected by visual effects; however, the discussion on how the BOEM has considered the cumulative effects in addition to those effects occurring directly from the undertaking is unclear. We recommend that further consideration and discussion be given to the overall nexus of effects on the affected historic properties and that this is reflected in DEIS analysis and in the proposed resolution measures.</p>	<p>BOEM’s analysis of cumulative visual effects in the Draft EIS is supported by a cumulative historic resources visual effects analysis, which was distributed to consulting parties, including ACHP, on March 21, 2022. This document describes the approach for analysis, including assessment of cumulative visual effects only on historic properties adversely affected by the proposed Project. This approach is taken as a means of addressing the degree to which the proposed Project contributes to cumulative effects by percentage, relative to the other planned projects with potential to contribute adverse effects on the historic property.</p> <p>BOEM incorporated revisions to the historic resources visual effects assessment and VIA into the Final EIS analysis of affected historic properties. These revisions may trigger additional revisions to the cumulative historic resources visual effects analysis. As part of these revisions, BOEM will continue to work with consulting parties to ensure their input is reflected in the proposed resolution measures to be included in the Final EIS, including the Memorandum of Agreement attached to Appendix N.</p>
<p>Phased Identification – Pursuant to 36 CFR § 800.4(b)(2), the BOEM has also determined the need to phase and defer identification and assessment of effects related to the inshore cable route extensions and onshore cable routes added in March 2022 and associated with Oyster Creek landfall until after the execution of the MOA and issuance of the FEIS. As drafted, the agreement does not effectively delineate the process that BOEM and the applicant will follow to complete identification and assessment of effects and any subsequent resolution measures. The current draft folds the proposed phased and deferred process into the mitigation stipulation, which could result in confusion during implementation. The ACHP recommends separating out this requirement into its own stipulation that can inform any additional resolution efforts associated with affected historic properties.</p>	<p>BOEM has revised Memorandum of Agreement Stipulation I.A.1 to remove reference to phased identification. A new stipulation has been inserted as IV to address phased identification and assessment separate from measures to mitigate adverse effects. The new stipulation addresses the process BOEM and Ocean Wind will follow for phased identification, including the approach for consultation with Section 106 consulting parties for resolution measures if historic properties are identified and adverse effects assessed through the phased identification process.</p>

Comment from Advisory Council on Historic Preservation	Response
<p>Mitigation Measures – At this time, the ACHP does not have any substantive comments on the proposed mitigation measures for those historic properties that will be adversely affected; however, we encourage the BOEM to continue refining and detailing the specifics of the treatment plans with consulting parties to the greatest degree possible. The ability of the BOEM to reach agreement on the scope, limiting parameters, and timing associated with the proposed mitigation measures, will afford a more productive and focused consultation as well as avoid potential disagreement process on the finalized treatment plans.</p>	<p>Draft historic property treatment plans were provided in Appendix N as attachments to the draft Section 106 Memorandum of Agreement. BOEM has continued coordination with consulting parties through the Section 106 review process. Updated historic property treatment plans are provided in Appendix N of the Final EIS.</p> <p>BOEM intends to continue to refine the specifics of individual historic property treatment plans with relevant consulting parties in preparation for the release of the Final EIS and Memorandum of Agreement. This will include distribution of the revised Memorandum of Agreement, including attached treatment plans, for consulting party review and comment. BOEM will seek additional input on resolution of adverse effects from consulting parties during forthcoming consulting party meetings.</p>
Comments on Draft EIS Appendix N (Finding of Effect)	
<p>N.5. Phased Identification. Page N-26: As noted in our letter, recommend revisions to this section and the MOA to better separate phasing and deferring of 106 being proposed.</p>	<p>Please refer to the response to comment 1273-0004. Reference to the new, separate Stipulation IV in the Memorandum of Agreement that addresses the process for phased identification has been added to Section N.5 of Appendix N.</p>
<p>Attachment A (MOA). Page 1: PA - Perhaps call this NJ-NY PA instead of just PA. I'm not sure if it's needed to include this PA as an attachment or perhaps just name the PA.</p>	<p>Page 1: BOEM will revise the Memorandum of Agreement to refer to the Programmatic Agreement as NJ-NY PA.</p> <p>Page 1: The Memorandum of Agreement will be revised to reference the Programmatic Agreement in lieu of attaching the full document.</p>
<p>Attachment A (MOA). Page 1: Regarding the statement “WHEREAS, in accordance with 36 CFR 800.3, BOEM invited ACHP to consult on the Project on March 30, 2021, and ACHP accepted on April 6, 2021”, this sequence is inaccurate. On March 23, 2021, the ACHP provided its guidance on BOEM's use of 800.8(c) consistent with that letter it was on August 15, 2022, we indicated our formal participation, upon receiving the DEIS and AE finding. Recommend revising this clause and relocating it to later in the preamble.</p>	<p>Page 1: The WHEREAS clause regarding time sequence of correspondence has been corrected. The page 1 reference to ACHP now indicates “and ACHP responded with acknowledgement and guidance regarding NEPA substitution on March 23, 2021” and reference to ACHP indication of formal participation has been relocated to the bottom of page 2. Page 2 language clarifies: “upon receiving the Draft EIS, including Appendix N, <i>Finding of Adverse Effect</i>, ACHP notified BOEM that it will formally participate in this Section 106 consultation via letter sent on August 15, 2022.”</p>
<p>Attachment A (MOA). Page 1. Regarding the statement “Both Section 106 reviews for the lease issuance and the approval of the site assessment plan were considered”, replace with “which underwent Section 106 review”.</p>	<p>Page 1: The language “Both Section 106 reviews for the lease issuance and the approval of the site assessment plan were considered...” was replaced with recommended language, “which underwent Section 106 review.”</p>

<p>Attachment A (MOA). Page 2. Regarding the statement “be no visual adverse effect to these to these two NHLs because ocean views are not character-defining features of these historic properties”, has NPS opined on this finding? I think it would be helpful to know.</p>	<p>Page 2: Regarding the finding of “no visual adverse effect” on the two NHLs (Lucy the Margate Elephant and Atlantic City Convention Hall), in response to comments from New Jersey SHPO and additional research presented in the revised historic resources visual effects assessment, BOEM has revised its findings in Appendix N and Section 3.10 to find both NHLs adversely affected by the Project.</p> <p>Regarding consultation with the National Park Service, BOEM has undertaken the following efforts to solicit input from the National Park Service: distribution of the complete historic resources visual effects assessment, complete cumulative visual effects assessment report, and a technical memorandum detailing the delineation of the APE for the Project on March 21, 2022; distribution of supplemental architectural intensive-level survey report on April 1, 2022; distribution of the Draft EIS to consulting parties for review and comment on June 24, 2022; distribution of the revised technical reports, revised draft finding of adverse effect, and revised draft Memorandum of Agreement to Consulting Parties on November 11, 2022; and invitation to provide input during Consultation Meeting #1 on March 8, 2022, Consultation Meeting #2 on May 4, 2022, Consultation Meeting #3 on November 30, 2022, Consultation Meeting #4 on February 22, 2023, and Consultation Meeting #5 during the second quarter of 2023.</p> <p>The National Park Service did not submit comments on the technical reports distributed in March; the National Park Service did participate in Consultation Meeting #1 but did not provide any additional input during the meeting. The National Park Service did participate in Consultation Meeting #2 and requested a link to the time-lapsed simulation shown during the presentation, which was provided. The National Park Service did not submit public comments on the Draft EIS. The National Park Service did provide comments on the revised technical reports in December 2022 and that input focused on consideration of cumulative effects on historic properties, impacts from nighttime lighting and associated visual simulations, approach to considering vegetation as a visual obstruction, and approach to considering parcels with no structures or no habitable structures. The National Park Service did participate in Consultation Meeting #3 and requested BOEM follow up to discuss the Oyster Creek route crossing at Island Beach Park and the park’s status as a Land and Water Conservation Fund site, asked for an explanation of nighttime lighting impacts assessment approach, requested clarification on a visual</p>
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Comment from Advisory Council on Historic Preservation	Response
	simulation image, and asked BOEM to share input about when central Atlantic leasing areas would be included in analysis of cumulative effects. The National Park Service participated in Consultation Meeting #4 and expressed several comments regarding nighttime lighting.
<p>Attachment A (MOA). Page 2. Regarding the statement “WHEREAS, within the range of the Project alternatives...be adversely affected with the implementation of the undertaken”, I would recommend that this Stipulation and the ones below be revised to more closely reflect our example clause that relates to the finding of adverse effect. I’m fine with it being several clauses due to the different APE’s but the AE for the undertaking gets lost in the current language.</p> <p>WHEREAS, [Agency abbreviation] has determined that the undertaking may have an adverse effect on [insert name of historic property(ies)], which [“is” or “are”] [“listed in” or “eligible for listing in”] the National Register of Historic Places, and has consulted with the [insert name of State or Tribe] [“State” or “Tribal”] Historic Preservation Officer ([“SHPO” or “THPO”]) pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108);</p>	<p>Page 2: Memorandum of Agreement clauses have been revised to more closely reflect the ACHP example clause that relates to the finding of adverse effect for the undertaking.</p>
<p>Attachment A (MOA). Page 2. Replace “avoid adverse effects” with “avoid adversely affecting”. In previous consultation, the has been significant CP confusion concerning how BOEM describes the adverse effect from the undertaking being avoided for properties within the APE, which has lead to CPs thinking there might be more than one finding.</p>	<p>Page 2: “Avoid adverse effect...” has been replaced with recommended language “avoid adversely affecting.”</p>

Comment from Advisory Council on Historic Preservation	Response
<p>Attachment A (MOA). Page 3. Regarding the statement “[Month XX, 20XX], BOEM invited the USACE to sign this MOA as a concurring party, and the USACE accepted the invitation to sign this MOA as a concurring party”: A non-lead federal agency is not required to sign an MOA for an undertaking to complete the Section 106 process. The lead agency signs the Section 106 agreement on behalf of the non-lead agencies to fulfill their collective responsibilities for the undertaking. However, non-lead federal agencies should sign the MOA if they have been assigned responsibility for certain actions in the implementation of that agreement. In this case, the non-lead agencies should sign the MOA as invited signatories. If the non-lead agencies would like to sign an MOA in which they have not been assigned any specific responsibilities, they may sign as a concurring party. If a non-lead agency does not sign an MOA, it does not prevent the agreement from being executed nor does it alter the fact that its responsibilities under Section 106 will be satisfied through the implementation of the agreement.</p>	<p>Page 3: Thank you for describing the variety of scenarios that provide for non-lead agencies to sign project-level Memorandum of Agreement documents. In this case USACE is a non-lead federal agency for this undertaking, but BOEM invited that agency to sign the Memorandum of Agreement as a concurring party because construction of the Project requires a Department of the Army permit from USACE for activities that result in the discharge of dredge or fill material into jurisdictional wetlands or other waters of the United States pursuant to Section 404 of the CWA, and activities occurring in or affecting navigable waters of the United States pursuant to Section 10 of the RHA. However, BOEM did not invite USACE to sign the Memorandum of Agreement as an invited signatory because that agency does not have responsibilities for actions in the implementation of the Memorandum of Agreement.</p>
<p>Attachment A (MOA). Page 3. Revise “is” to “as”?</p>	<p>Page 3: Use of “is” on page 3 has been revised to “as.”</p>
<p>Attachment A (MOA). Page 4. Regarding the statement “any consulting party to sign this MOA or otherwise concur does not invalidate or affect the effective date of this MOA, and consulting parties who choose not to sign this MOA will continue to receive information if requested and have an opportunity to participate in consultation as specified in this MOA”, this merely restates what the regulations and the ACHP’s guidance indicates regarding signatories and concurring parties. It can stay if requested, but it seems unneeded.</p>	<p>Page 4: While this information restates what is required in Section 106 regulations and ACHP guidance, BOEM chose to retain the language in the Memorandum of Agreement for the benefit of concurring parties who are less frequently involved in the Section 106 process and may benefit from having this information included within the agreement for reference.</p>
<p>Attachment A (MOA). Page 4. Regarding “June 24, 2022 to August 8, 2022”, update needed.</p>	<p>Page 4: Reference to June 24, 2022, has been updated to August 8, 2022.</p>
<p>Attachment A (MOA). Page 5. Stipulation A.1. This item seems to include the phasing and deferring of identification and assessment of adverse effects. The ACHP recommends clearly separating out the process for phased identification and assessment instead of folding it in the measures to mitigate stipulation. Recommend a separate stipulation earlier in the agreement focused on the phased component. As currently written it blends the resolution of know effects with the phasing process.</p>	<p>Page 5: BOEM has revised Memorandum of Agreement Stipulation I.A.1 to remove reference to phased identification. A new stipulation has been inserted as IV to address phased identification and assessment separate from measures to mitigate adverse effects. Please see related responses to comments 1273-0004 and 1273-0006.</p>

Comment from Advisory Council on Historic Preservation	Response
Attachment A (MOA). Page 6. Regarding “if warranted”, what is a warranted trigger?	Page 6: III.A.1.ii states: “Revisit avoidance recommendation and adjust avoidance buffer, if warranted, based on Phase IB/Phase II results and allow BOEM to make final determination if the avoidance buffers will need to be adjusted.” This language has been revised to: “If Phase IB identification/Phase II NRHP evaluation and site boundary delineation result in a BOEM determination of ‘not eligible for listing in the NRHP,’ BOEM will consider and make final determination on if required avoidance buffers will be adjusted.”
Attachment A (MOA). Page 6. Stipulation A.1.iv -ACHP. There are several areas in the MOA focused on treatment plans or discovery plans that include ACHP participation. Given the capacity of ACHP staff as well and the specific expertise required, we request the ACHP be removed from the review and development of these documents and exclusively include the ACHP in places associated with disputes and disagreements.	Page 6: In response to ACHP concerns about capacity to review treatment plans, ACHP has been removed from the review and development of these plans and limited its involvement to disputes and disagreements.
Attachment A (MOA). Page 7. Stipulation B.1- 5. Typically, you spell out numbers less than 10.	Page 7: Number formatting on page 7 has been revised per ACHP’s recommendation.
Attachment A (MOA). Page 7. Stipulation B.1. Attachment 5 provides a schedule for completion, but I would recommend noting a deadline for these items here in conjunction with the Attachment.	Page 7: A deadline of “prior to construction” has been added to Stipulation B.1. in the Memorandum of Agreement. BOEM will consider requiring inclusion of a new section in Attachment 5, <i>Treatment Plan Above-ground Historic Properties That will be Visually Adversely Affected</i> , that summarizes requirements for Stipulation B.1.i, in addition to measures in Stipulation III.B., which area already detailed in Memorandum of Agreement Attachment 5.
Attachment A (MOA). Page 7. Stipulation B.1.i. Regarding “Historic American Building Survey (HABS) Level II documentation”, recommend BOEM codify as much as possible the terms of these treatment plans in the MOA.	Page 7: BOEM appreciates your recommendation and will consider providing additional details present in Memorandum of Agreement Attachment 5 related to HABS Level II documentation requirements in Stipulation III.B, where applicable.
Attachment A (MOA). Page 7. Stipulation B.1.i. HABs Level II standards. Has the NPS and CP weighed in on the selected level of HABS?	Page 7: The National Park Service and respective consulting parties have not provided input on preferred mitigation to resolve adverse effects on any of the 10 affected properties. The National Park Service did not provide comments on the Draft EIS. However, the draft Memorandum of Agreement was be redistributed in advance of Consultation Meeting #3 and consulting parties, including the National Park Service, had an additional opportunity to provide input at that time.

Comment from Advisory Council on Historic Preservation	Response
Attachment A (MOA). Page 9. Delete “ACHP [if ACHP chooses to participate]”.	Page 9: Reference to ACHP has been removed on page 9.
Attachment 1 – Programmatic Agreement. Recommend including this PA as an attachment only if necessary as referencing the document by name should be adequate.	Appendix N was revised to reference the Programmatic Agreement in lieu of attaching the full document.
Attachment 4 – Treatment Plan Ancient Submerged Landform Features. Page 20. The ACHP requests the HPTP and the MOA be revised to limit ACHP involvement to only when resolving disputes and disagreements under the MOA’s terms.	In response to ACHP concerns about capacity to review treatment plans in comment 1273-0007, ACHP has been removed from the review and development of these plans and limited its involvement to disputes and disagreements.

O.4.1.2. U.S. Environmental Protection Agency

Table O.4-2 Responses to Comments from U.S. Environmental Protection Agency (Letter No. 0609)

Comment from U.S. Environmental Protection Agency	Response
General Comments. EPA acknowledges changes made to clarify impact levels based on our comments on the administrative draft. In particular, we appreciate the resource-specific impact definitions added to the various sub-sections within Chapter 3. We recommend Section 3.3 be further revised to explicitly state the four-level classification scheme (negligible, minor, moderate, or major) and to clarify how duration of impacts are considered in this classification. Please clarify the distinction between minor and moderate impact level definitions for the Air Quality section. Currently Table 3-4-1 groups minor to moderate impacts together, however there are presumably distinctions between minor and moderate classifications that are not clear.	BOEM’s classification for levels of impact is addressed in Section 3.3. In Table 3.4.1-1 the distinction between “minor” and “moderate” is a qualitative evaluation based on predicted emission levels and durations and the size of the affected region. Minor: Measurable impacts that occur would be small and the affected resource is expected to recover completely without remedial or mitigating action. Moderate: The affected resource would recover completely when remedial or mitigating action is taken.
When evaluating project effects, we recommend using existing environmental conditions as the baseline for comparing impacts across all alternatives, including the no action alternative. This provides an important frame of reference for quantifying and/or characterizing magnitudes of effects and understanding each alternative’s impacts and potential benefits.	The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. A detailed description of BOEM’s methodology for assessing impacts is provided in Section 1.6 of the Final EIS.

Comment from U.S. Environmental Protection Agency	Response
<p>Alternatives. Table 2-4 provides a comparison of impacts to each resource category using a few different scenarios: the no action alternative, the proposed action, the incremental difference of impacts from the proposed action and other ongoing and planned activities (including offshore wind activities) and for each of the different alternatives. A clear explanation of how the impacts in each scenario were analyzed to support the proposed action should be provided.</p> <p>Additionally, the DEIS characterizes most alternatives as causing similar impacts despite there being measurable differences in some of the alternatives (for example, Alternatives D and E which attempt to minimize impacts to habitat or resources). EPA believes that this may be an artifact of the broad and generalized metrics used to classify impacts. The DEIS should indicate how substantial a reduction in impacts would be necessary to result in any discernible difference in the impact determination given these broad evaluation metrics.</p> <p>Additionally, the DEIS would benefit from a clearer quantitative comparison of impacts across alternatives (when applicable) that would justify the selection of the proposed alternative.</p>	<p>Sections 1.6 and 3.1 of the Final EIS provide an explanation of the impact analysis approach, and additional clarification was added to Table 2-4 and Table S-2 to more clearly distinguish between impacts of each action alternative alone and cumulative impacts, consistent with Chapter 3 template changes.</p> <p>Resource-specific impact level definitions are presented in each resource section, and the impacts of each alternative align with the appropriate impact level, as supported by the analysis. Alternatives reduced impacts on many resources; however, they did not always result in a change to the resource's impact level conclusion. The minimization of impacts is identified and quantified where possible in the Final EIS.</p> <p>For the No Action Alternative analysis in the Chapter 3 resource sections, the Final EIS was updated to present the analysis of the ongoing non-offshore wind and ongoing offshore wind activities under a separate subheading from the planned non-offshore wind and offshore wind activities. The Proposed Action and action alternatives were also updated to present the cumulative impact analysis under a separate subheading.</p>
<p>The current analysis of the No Action alternative is broken down into two parts within each of the Chapter 3 resource categories, a No Action scenario without other offshore wind projects and a No Action scenario that includes other offshore projects. The first of these analyses is valuable for the purpose of comparing impacts of each alternative. The second of these parts may be more valuable if moved to a separate cumulative impacts section. Creating a separate cumulative impacts section in the DEIS would allow the reader to review the cumulative impacts of the proposed action and nearby offshore wind projects more easily. This distinction could also be made in Tables 2.4.</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6 of the Final EIS.</p>

Comment from U.S. Environmental Protection Agency	Response
<p>In S.4.1 it is unclear whether this No Action alternative includes other offshore wind projects; therefore, it is unclear in Table S-2 what the impact conclusion for the No Action alternative is based on.</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. Text has been updated in Section S.4 of the Executive Summary to clarify what may be considered under the No Action Alternative. Table S-2 provides the impact for each resource. The No Action Alternative discussion for each resource area has also been updated. The impact conclusions can be found in each Chapter 3 section.</p>
<p>Air Quality. EPA understands that Ocean Wind, LLC is currently in the process of applying for an OCS permit. The DEIS states “emissions from the OCS source, as defined in the CAA, would be permitted as part of the OCS permit for which Ocean Wind has begun the application process. The Project must demonstrate compliance with the [National Ambient Air Quality Standards] NAAQS... The OCS air permitting process includes air dispersion modeling of emissions to demonstrate compliance with NAAQS” (p. 3.4-10). The preliminary modeling results within the OCS permit area are shown in Tables 3.4-4 and 3.4-6. EPA recommends these tables be modified to include information comparing the modelled concentrations to the NAAQS, state air quality standards, or other relevant reference measures, which would allow for a more quantitative assessment to determine if emissions would adversely impact the air quality resource.</p>	<p>As the commenter notes, Ocean Wind performed NAAQS and Air Quality–Related Values analyses as part of its OCS air quality permit application to USEPA. A summary of these analyses has been added to the Final EIS.</p>
<p>In addition, EPA recommends that BOEM conduct an analysis to determine whether emissions not covered by the OCS permit, particularly those emissions originating within the nonattainment area boundaries, will cause or contribute to a new violation of the NAAQS, increase the frequency or severity of any existing violation of the standards, or delay timely attainment of the standards. Alternatively, BOEM could ensure no adverse impact on the NAAQS from these emissions by demonstrating that they are contemporaneously offset.</p>	<p>Discussion of emissions not covered by the OCS permit has been added to the Final EIS. All emissions associated with the Project were included in the modeling for the OCS permit application to ensure that impacts would not be underestimated.</p>

Comment from U.S. Environmental Protection Agency	Response
<p>Page 3.4-10 of the DEIS states: “Long-range transport modeling is under review in conjunction with the OCS air permitting process and will be presented in the Final EIS.” This statement is in the context of the Class I area modeling that will be done in the Brigantine Wildlife Refuge. In this case, this area is only about 20 km away which is not considered “Long Range Transport” (> 50km). EPA recommends revising this to read “Modeling is under review to determine if emissions from the Project would cause or contribute to adverse impacts on the air-quality related values of a Class I area.”</p>	<p>The sentence has been deleted.</p>
<p>Some of the tables (3.4-3, and 3.4-4) present emissions estimates for Year 1 and Year 2 of construction. Please clarify why emissions for Year 2 are estimated to be substantially higher than Year 1.</p>	<p>Ocean Wind assumed all onshore construction occurs in Year 1 and all offshore construction occurs in Year 2 (COP Volume II, Section 2.1.3.2.1).</p>
<p>The DEIS states “BOEM anticipates that air quality impacts from construction and decommissioning of the Proposed Action would be minor.” (p 3.4-12). EPA understands that the summary is a conservative analysis as it assumes all emissions would directly affect the nearest county’s air, and further acknowledges that construction impacts are considered short-term. However, it is unclear how a determination of “minor” impacts can be made given the information portrayed in Table 3.4-4, which demonstrates the estimated construction emissions in relation to the total emission inventory of potentially affected counties. Please clarify how a determination of “minor” impacts can be made, when the emissions of criteria pollutants represent a substantial percentage of the potentially affected counties’ emission inventory (for example, in the case of NOx, the project construction emissions represent between 96.7-259.6% of the county emission inventories).</p>	<p>Although emissions totals can indicate general air quality conditions in a region, the impacts (pollutant concentrations) that result from the emissions depend on the source locations and characteristics, meteorology, topography, distances between sources and receptors, and other factors. Predicted concentrations are compared to the NAAQS. Final EIS Table 3.4-6 shows that all predicted maximum concentrations would be less than the NAAQS.</p>
<p>Additionally, the DEIS asserts “Given the generally low emissions of the sea vessels and equipment that would be used during proposed construction activities, any potential air quality impacts would likely be within a few miles of the source.” The assertion that vessels and equipment have “generally low emissions” is contradicted by the emissions estimates in the DEIS, which show peak NOx emissions from construction activities (primarily marine vessel emissions) exceeding the total annual emissions for 2017 of all other sources combined in Atlantic and Cape May counties.</p>	<p>The text has been revised in the Final EIS to address this comment and better characterize the emissions sources.</p>

Comment from U.S. Environmental Protection Agency	Response
Qualitative statements such as “impacts due to construction are expected to be small” may be misleading. Even with the required permits impacts may not be small, these statements should be modified to better reflect the situation.	The characterization of impacts has been revised in the Final EIS based on the results of the NAAQS analysis performed for the OCS permit application.
Greenhouse Gas Emissions. Executive Order 13990 (E.O. 13990, 86 FR 7037; January 20, 2021) urges agencies to “consider all available tools and resources in assessing GHG emissions and climate change effects of their proposed actions, including as appropriate and relevant, the 2016 GHG Guidance”. EPA notes that the DEIS discloses greenhouse gas emissions (in CO2 equivalents) associated with construction and operation of the Project. EPA recommends that the data be presented both in terms of individual greenhouse gas (CO2, N2O, CH4), as well as the aggregated amount in terms of CO2 equivalents considering each pollutants global warming potential.	The individual GHGs have been added to the emissions tables.
EPA appreciates that the DEIS highlights the potential benefits associated with the Project with respect to greenhouse gas reductions. For example, the DEIS indicates that increases in renewable energy can lead to reduction in emissions from fossil-fuel powered plants and provides estimates of annual emissions avoided. EPA recommends that the DEIS incorporate an energy substitution analysis and clarify the assumptions made when calculating the emissions avoided, in particular, by specifying the changes to the resulting energy mix as energy resources are substituted for one another.	Ocean Wind used the BOEM Wind Tool to estimate avoided emissions. The avoided emissions estimate is based on the annual power generation of the Project and the associated grid emissions for each pollutant. The annual power generation was based on the Project capacity, the capacity factor, a transmission loss factor, and annual operating hours (assumed as 8,760 hours per year). The capacity is multiplied by the capacity factor and hours per year and then adjusted down by the transmission loss factor. The total annual power generated to the grid is then multiplied by the grid average annual emission factors for each pollutant from the USEPA eGRID data set to get annual emissions displacement per year for each pollutant.
Additionally, as the DEIS states that minor air quality benefits are projected, EPA recommends that BOEM expand upon this discussion to explain how the net greenhouse gas reductions would help meet relevant national and local climate action goals and commitments. As there will still be greenhouse gas emissions produced during construction and operations and maintenance, a chart comparing the magnitudes of the produced emissions and avoided emissions would also be helpful in assessing Project impacts and benefits.	Section 3.4.5 of the Draft EIS discusses the produced emissions (see Tables 3.4.3 through 3.4.5) and avoided emissions (in text) and provides the “payback period” during Project operation after which the avoided emissions (net of operational emissions) become greater than the construction emissions.

Comment from U.S. Environmental Protection Agency	Response
<p>Climate Change. EPA recognizes the long-term potential benefits of the proposed large-scale offshore wind renewable energy project with respect to greenhouse gas reductions and climate change and acknowledges the importance of the Project for meeting New Jersey's renewable energy goals under Executive Orders 8 and 92. Furthermore, such projects are consistent with the goals outlined in Executive Order 14008, <i>Tackling the Climate Crisis at Home and Abroad</i>. To better convey potential climate benefits associated with the Project, EPA recommends that BOEM consider utilizing tools such as the Social Cost of Greenhouse Gases [Footnote 1: See <i>IWG SC-GHG, United States Government, Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (Feb. 2021)</i>] which can demonstrate the net social benefits of greenhouse gas emission reductions across different alternatives.</p>	<p>Estimates of SC-GHG have been added to the Final EIS.</p>
<p>EPA recommends that BOEM consider the proposed action in the context of the future state of the environment in light of foreseeable climate change. Climate change can make ecosystems, resources, and communities more susceptible as well as lessen resilience to other environmental impacts apart from climate change. In some instances, this may exacerbate the environmental effects of the proposed action. While the DEIS does incorporate information about the impacts of climate change on various resource areas in Appendix F (Planned Activities Scenario), it does not fully consider the compounding impacts of climate-related vulnerabilities in the assessment of the proposed action.</p>	<p>Additional discussion on impacts of the Proposed Action in context of foreseeable climate change has been included in the Final EIS.</p>
<p>Additionally, EPA believes that the document would benefit from a more robust consideration of climate change risks to the proposed action in the description of the affected environment. This should include consideration of climate resiliency measures, particularly for infrastructure that may be vulnerable to the impacts associated with climate change (such as sea level rise, more frequent storms, etc.).</p>	<p>Additional discussion of how the design for onshore facilities accounts for erosion, more frequent high-intensity storm events, tidal surge, and sea level rise associated with climate change has been added to the Final EIS in Chapter 2, <i>Alternatives</i>. Additional discussion of climate change risks to the Proposed Action has been included in the Final EIS in Appendix I.</p>
<p>Water and Natural Resources. Pursuant to Section 320 of the Clean Water Act (CWA) (33 U.S.C. 1330; as amended by P.L. 100-4 et seq.), the Barnegat Bay-Little Egg Harbor was established as an estuary of national significance. The Barnegat Bay Partnership (BBP), which comprises federal, state, and local government agencies, academic institutions, nongovernmental organizations, and</p>	<p>The Draft EIS addresses IPFs that would affect Barnegat Bay. Ocean Wind would need to ensure that any action that would affect Barnegat Bay or tributaries to Barnegat Bay would not result in exceedances of water quality standards and would comply with any existing Total Maximum Daily Load requirements for any waters designated as impaired under CWA Section 303(d). All impacts on wetlands and</p>

Comment from U.S. Environmental Protection Agency	Response
<p>businesses working together to restore and protect the Bay, recently revised its Comprehensive Conservation and Management Plan (CCMP) for Barnegat Bay-Little Egg Harbor Estuary (January 2021). The CCMP identifies the following goals, all of which are meant to be considered/achieved in consideration of sea level rise, and includes objectives towards achievement of these goals:</p> <p>Water Quality – To protect and improve water quality throughout Barnegat Bay and its watershed by reducing the causes of water quality degradation to achieve swimmable, fishable, and drinkable water, and to support aquatic life.</p> <p>Water Supply – To ensure adequate water supplies and flow in the Barnegat Bay watershed for ecological and human communities now and in the future.</p> <p>Living Resources – To protect, restore, and enhance habitats in the Barnegat Bay and its watershed as well as ensure healthy and sustainable natural communities of plants and animals both now and in the future.</p> <p>Land Use – To improve and sustain collaborative regional approaches to responsible land use planning and open space preservation in the watershed that protect and improve soil function(s), water quality, water supply, and living resources.</p> <p>EPA requests that BOEM keep in mind the CCMP goals and provide enough analysis of impacts to assure that the activities proposed will not affect achievement of the CCMP goals, especially in light of climate change.</p>	<p>other waters of the United States that result in a loss of the resource would require compensatory mitigation per CWA Section 404. Terms and conditions of the Section 404 and RHA Section 10 permit would include various measures to avoid and minimize impacts on surface waters, including Barnegat Bay, including water quality.</p>

Comment from U.S. Environmental Protection Agency	Response
<p>Wetland Impacts. EPA understands that Ocean Wind, LLC in parallel with the development of the DEIS is currently pursuing a CWA Section 404 permit and is conducting a wetland delineation to further inform a wetlands impact analysis. We look forward to reviewing this information, along with any proposed mitigation/restoration measures once it becomes made available.</p> <p>The DEIS indicates that Ocean Wind, LLC would use appropriate installation technology to minimize disturbance to the seabed and sensitive habitat. EPA recommends that the DEIS be revised to include specific details about the proposed installation technologies which would minimize impacts to wetlands.</p> <p>In the discussion of wetland impacts, the DEIS states “following construction, these wetland impact areas would be restored to pre-existing conditions, and herbaceous vegetation would become reestablished” (p. 3.22-9). EPA recommends that the project applicant commit to developing a Revegetation Maintenance & Monitoring Plan to ensure proper vegetation and habitat re-establishment.</p> <p>Section 3.22.8 of the DEIS states “No measures to mitigate impacts on wetlands have been proposed”. This contradicts what is stated in the text, for example on p. 3.22-11 where mitigation is referenced. According to the text, wetland mitigation would likely include a combination of onsite restoration of wetlands temporarily affected during construction and a wetland enhancement or mitigation banking credit purchase. EPA recommends that BOEM revise section 3.22.8 and Table H-1 in Appendix H (Mitigation and Monitoring) to reflect these mitigation measures.</p>	<p>Ocean Wind would be required to comply with the terms and conditions of the CWA Section 404 permit for restoring temporarily affected wetlands (e.g., onshore export cable placement), which would include the method of restoring wetland impacts. The statement regarding onsite restoration, enhancement, or mitigation banking credit purchase simply lists the options that Ocean Wind could implement to address wetland impacts. If BOEM decides to approve the Project and Ocean Wind 1 is constructed, the final issued Section 404 permit would include such restoration and mitigation details.</p> <p>BOEM has not proposed any specific mitigation measures for wetlands (as stated in Section 3.22.8), but Ocean Wind has proposed several measures that would avoid and reduce impacts on wetlands. Those measures (e.g., GEN-13) are cited throughout the Proposed Action analysis in EIS Section 3.22. If BOEM decides to approve the Project, BOEM may include additional measures that would be conditions of Project approval. All of these APMs are in EIS Appendix H.</p> <p>The statement regarding Ocean Wind using appropriate installation technologies to minimize impacts on seabed and sensitive habitats is an APM taken directly out of Ocean Wind’s COP (see COP Volume II Table 1.1-2, measure GEN-08). Ocean Wind provides no further details on this committed measure. The method/technology to install cables to minimize impacts would likely depend on final design and permitting requirements.</p>

Comment from U.S. Environmental Protection Agency	Response
<p>Land Use. EPA recommends the DEIS incorporate a table that indicates different land use types and impacts to the various land use types associated with each alternative. The table should quantify changes in land use and acreage impacted.</p> <p>A description of intended construction/development associated with construction ports should be incorporated in the description along with an explanation of separate permitting processes.</p>	<p>No changes in land use types are expected as a result of the Proposed Action or any alternative. Because Alternatives B, C, and D alter offshore aspects of the PDE, they would not result in different impacts on the various land use types when compared to the Proposed Action. However, additional information on land use types and acreage affected was added to the discussion of Alternative E in Section 3.14.7 to provide a meaningful comparison to the Proposed Action.</p> <p>The Proposed Action does not include port expansion activities. Information was added to Section 3.14.5 on page 3.14-9 to clarify that the port enhancement activities described are separate from the Proposed Action and would be evaluated as part of a separate permitting process.</p>
<p>Benthic. EPA appreciates commitments made by BOEM such as development of a benthic monitoring plan and the applicant-proposed measure to avoid anchoring on sensitive habitat. To better assess benthic impacts, EPA recommends revising Table 3.6.2 to compare impacts across all alternatives for each different habitat type.</p> <p>On p. 3.6-17: Comparison to pre-construction conditions should be included as part of the analysis of the benthic monitoring program.</p> <p>The total lengths of unburied cables are not disclosed in the DEIS. The DEIS should explain which phase of the project this information will be known and disclosed.</p> <p>On p. 3.6-23 the conclusion is made that cable emplacement would result in minor impacts while on page 3.6-24 it is stated that a main driver for a moderate impact rating includes emplacement of cables/structures. Please correct or discuss this discrepancy.</p>	<p>Text has been added to address the discrepancy in minor versus moderate impacts of cable emplacement. For example, "Overall impacts of cable emplacement on benthic habitats are anticipated to be negligible to moderate, depending on the location and the method of cable emplacement."</p> <p>While removal of WTG positions is anticipated to result in a corresponding reduction in inter-array cable length and associated cable protection and cable installation and seafloor preparation impacts, the cable protection and cable installation and seafloor preparation area for the alternatives excluding WTG positions could not be calculated because the inter-array cable alignments associated with these alternatives have not been designed/engineered. However, acres of impacts of cables for each alternative are included in the Final EIS.</p> <p>Differences in impacts for Alternatives D and E compared to the Proposed Action have been added.</p>
<p>Recreation and Tourism. In Table L-2, for tourism/recreation, it is noted that there are expected to be neither irretrievable or irreversible impacts. Profit losses of businesses that rely on tourism could be considered irretrievable impacts, the DEIS should further discuss these impacts.</p>	<p>Impacts on businesses, including those that rely on tourism, as a result of the Proposed Action are described in Section 3.11, <i>Demographics, Employment, and Economics</i>. Profit losses of businesses that rely on tourism were added as a potential irretrievable impact in Table L-2.</p>
<p>Indian Nation Issues and Coordination. Executive Order 13175 Consultation and Coordination with Indian Tribal Governments (E.O. 13175, 65 FR 67249; November 6, 2000) was issued to establish</p>	<p>EIS Appendix N includes Section N.2.2.3, <i>NHPA Section 106 Consultations</i>. This section describes outreach to tribes, a government-to-government consultation meeting on June 17, 2021,</p>

Comment from U.S. Environmental Protection Agency	Response
<p>regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the U.S. government-to-government relationships with Indian tribes. EPA notes that the DEIS documents outreach to a number of federally recognized tribes with ancestral associations to lands within the Project area including the Eastern Shawnee Tribe of Oklahoma, Shawnee Tribe, Absentee-Shawnee Tribe of Indians of Oklahoma, Stockbridge-Munsee Community Band of Mohican Indians, Delaware Nation, Delaware Tribe of Indians, Shinnecock Indian Nation, Narragansett Indian Tribe, Rappahannock Tribe, Mashantucket Pequot Tribal Nation, and Wampanoag Tribe of Gay Head (Aquinnah). In addition to this information, we recommend the DEIS describe the process and outcomes of consultations with these tribal governments including major issues raised and how those issues were addressed. Additionally, EPA encourages continued outreach and involvement of tribes in evaluating terrestrial and marine archaeological resources, designing marine surveys, and interpreting results. We also recommend that tribes be invited to participate in the development of an unanticipated discovery plan (UDP) for offshore and onshore construction activities.</p>	<p>follow-up activities after the meeting, and Section 106 consulting party meetings, which included tribal participants. Detail has been added to describe issues raised and how those issues were addressed.</p> <p>Tribes that accepted BOEM's invitation to consult had an opportunity to provide input on identification of terrestrial and marine archaeological resources during Consultation Meeting #1 on March 8, 2022. BOEM shared with consulting parties the complete terrestrial archaeological resources report, complete marine archaeological resources report, complete historic resources visual effects assessment, and complete cumulative visual effects assessment report on March 21, 2022, and requested comments. In addition, the findings of these reports were discussed and BOEM sought input during Consultation Meeting #2 on May 4, 2022.</p> <p>BOEM sought input on its Finding of Adverse Effect during Consultation Meeting #3, which also offered tribes an opportunity to provide input on resolution of adverse effects as stipulated in the Memorandum of Agreement.</p> <p>Consistent with stipulations in the Memorandum of Agreement, BOEM will continue to seek involvement from the consulting tribes during implementation of treatment plans to resolve adverse effects on terrestrial and marine archaeological resources, including during fulfillment of mitigation measures that include designing marine surveys, and interpreting results.</p> <p>A Post-Review Discovery Plan for Terrestrial Resources and Post-Review Discovery Plan for Submerged Resources have been prepared for the Project and are included as attachments to the Memorandum of Agreement, which is attached to EIS Appendix N. These documents were included for public review with the Draft EIS. In addition, tribes that have accepted BOEM's invitation to be Section 106 consulting parties were invited to participate in Consultation Meeting #3, which discussed adverse effects on historic properties and sought input on resolution of adverse effects.</p>
<p>Environmental Justice and Impacted Communities. Please specify how emissions at offshore locations would have regional impacts with no disproportionate impacts on EJ populations.</p> <p>The DEIS states that overall air emissions associated with port activity near EJ populations would be minor, and that impacts at specific ports</p>	<p>Emissions at offshore locations would have regional impacts, with no disproportionate impacts on environmental justice populations, because (1) emissions generated during construction, O&M, and decommissioning of offshore infrastructure in the Lease Area would occur 15 miles offshore, (2) emissions would be mixed and dispersed</p>

Comment from U.S. Environmental Protection Agency	Response
<p>close to EJ populations cannot be evaluated because port usage has not been identified. EPA understands that specific ports of call have not yet been finalized, however this does not preclude BOEM from conducting a conservative analysis assuming maximum utilization of vessels for construction and operations and maintenance at each of the six potential ports of usage. Such an analysis is possible as there are readily available data sources that can estimate current vessel activity at U.S. ports [Footnote 2: See EPA's Ports Emissions Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions. https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1014J1S.pdf]. Given the information provided in Appendix N of the Construction and Operations Plan in close proximity to ports who are exposed to air pollution and are at risk for developing asthma, heart disease and other health problems [Footnote 3: See EPA's National Port Strategy Assessment: Reducing Air Pollution and Greenhouse Gases at U.S. Ports. https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100PGK9.pdf]. Communities with EJ concerns are often disproportionately burdened by environmental hazards and stressors, unhealthy land uses, psychosocial stressors, and historical traumas, all of which drive environmental health disparities.</p>	<p>into the atmosphere, (3) the prevailing wind direction (west to east, or westerlies) would generally not direct emissions back toward shore, and (4) the pollutant concentrations generated by the Proposed Action are predicted to be within the NAAQS at all locations. This clarification has been added to Section 3.12.5. Emission estimates included in COP Appendix N for the Atlantic City, New Jersey Carbon Monoxide Maintenance Area (NAM8) can be used to estimate emissions associated with utilization of the O&M facility in Atlantic City during Project construction and have been added to Section 3.12. While Ocean Wind has quantified estimated emissions by calendar year within the nonattainment area that includes Atlantic City, compliance with the NAAQS cannot be determined based on the emission inventory alone. Dispersion modeling would be required to characterize concentrations for comparison to the NAAQS. The Proposed Action's contributions to increased air emissions at the ports of Norfolk, Virginia, and Charleston, South Carolina, which are near environmental justice populations, are not quantitatively evaluated because the nonattainment/maintenance areas that include these ports are much larger and include multiple counties, which does not allow for meaningful conclusions regarding emissions at specific ports. Emissions at the Port of Paulsboro and Hope Creek are not analyzed because these ports are not in low-income or minority populations.</p>
<p>The DEIS should consider whether communities may already be experiencing existing pollution and social/health burdens. For example, EJ Screen analysis indicates that adjacent port communities near Paulsboro experience high levels of PM2.5, diesel particulate matter and are rated as high air toxics cancer and respiratory risk. EPA encourages BOEM to consider the cumulative impacts of these existing conditions that together with the proposed action may result in disproportionately adverse impacts on affected communities with EJ concerns.</p> <p>We recommend BOEM develop a stakeholder outreach/EJ public engagement plan for areas that may be impacted by the proposed action and provide an opportunity for affected communities to inform the project's mitigation measures. This outreach plan should detail information on planned engagement milestones and commitments to meetings with potentially impacted communities and community organizations.</p>	<p>Environmental justice populations are not present in most areas where onshore infrastructure would be located or at the ports expected to see the heaviest Project use (Port of Paulsboro and Hope Creek [New Jersey Wind Port]).</p> <p>BOEM has facilitated effective public outreach throughout the EIS process, including to low-income and minority populations, as demonstrated through broad participation in scoping meetings and public hearings and substantial public input received through comments submitted on regulations.gov or through verbal testimony at public meetings during scoping and the public review period for the Draft EIS. It is noted that no stakeholders representing environmental justice or disadvantaged communities requested targeted consultation and coordination to address Project impacts on disadvantaged communities during EIS scoping or the public comment period for the Draft EIS.</p>

Comment from U.S. Environmental Protection Agency	Response
<p>We also encourage BOEM to determine if linguistically isolated populations reside in the geographic areas impacted by the proposed project and provide appropriate translation and interpretation services to ensure meaningful engagement. All outreach efforts should be documented in the EJ section of the DEIS.</p>	
<p>Analysis of Indirect and Cumulative Impacts. In accordance with the CEQ NEPA regulations, (Section 1508.1 (g)) effective as of May 2022) define effects or impacts to mean “changes to the human environment from the proposed action or alternatives that are reasonably foreseeable.” This definition includes indirect effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable and cumulative effects, which result from the incremental effects of the action when added to the effects of other past, present and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. As mentioned previously, EPA encourages the development of a separate section that considers cumulative impacts associated with the Project. The cumulative effects analysis would assess the impacts of each of the alternatives in combination with reasonably foreseeable future actions, which would include planned offshore wind projects.</p> <p>Throughout the DEIS, it is stated that the proposed action would not directly result in any port expansion, and that port improvements are not dependent on the proposed action. Consequently, impacts associated with port expansions and improvements are not considered in the DEIS. EPA believes that these activities are a reasonably foreseeable indirect effect of the proposed action, and therefore should be considered in the DEIS under NEPA. Omitting consideration of such actions results in an underestimation of the project’s impacts.</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Clarification regarding BOEM’s methodology for assessing impacts has been provided in Section 1.6 of the Final EIS.</p> <p>Potential impacts of port expansion and improvements can be found in relevant Chapter 3 sections.</p>

O.4.1.3. U.S. Department of the Interior, U.S. Fish and Wildlife Service

Table O.4-3 Responses to Comments from U.S. Fish and Wildlife Service (Letter No. 0922, 1177, 1265)

Comment from U.S. Fish and Wildlife Service	Response
<p>FEDERALLY LISTED AND CANDIDATE SPECIES. The Biological Assessment (BA), submitted to the Service on May 27, 2022, and prepared by BOEM, correctly identified the appropriate federally listed and candidate species under the Service's jurisdiction that may be present in the proposed project's action area. They include the northern long-eared bat (<i>Myotis septentrionalis</i>, threatened [4d]), eastern black rail (<i>Laterallus jamaicensis jamaicensis</i>, threatened [4d]), piping plover (<i>Charadrius melodus</i>, threatened), rufa red knot (<i>Calidris canutus rufa</i>, threatened), roseate tern (<i>Sterna dougallii dougallii</i>, endangered), bog turtle (<i>Glyptemys muhlenbergii</i>, threatened), monarch butterfly (<i>Danaus plexippus</i>, candidate), American chaffseed (<i>Schwalbea americana</i>, endangered), Knieskern's beaked-rush (<i>Rhynchospora knieskernii</i>, threatened), seabeach amaranth (<i>Amaranthus pumilus</i>, threatened), sensitive joint-vetch (<i>Aeschynomene virginica</i>, threatened), and swamp pink (<i>Helonias bullata</i>, threatened). The Service provided a response to BOEM's BA on July 1, 2022, and ESA Section 7 consultation is ongoing. The Service requests that the Final Environmental Impact Statement (FEIS) is updated, as appropriate, to reflect our most recent and any future comments.</p> <p>The "presence of structures" portion within Section 3.7.5 of the DEIS currently states that "Due to the anticipated use of flashing red tower lights, restricted time period of exposure during migration, and small number of migrants that could cross the Wind Farm Area, BOEM and USFWS conclude that the Proposed Action would not likely adversely affect roseate terns, piping plovers, eastern black rail, and red knots. See the Ocean Wind 1 BA (BOEM 2022) for a complete discussion of the potential collision risk to ESA-listed species as a result of operation of the proposed Project". However, the Service has not concurred with this determination, and ESA Section 7 coordination with BOEM is currently ongoing. Please ensure that this Section and any other sections within the DEIS that may display incorrect information are revised.</p>	<p>Thank you for confirming that BOEM's BA for the Ocean Wind 1 Project correctly identifies the federally listed species that may be potentially present in the Project's action area.</p> <p>The inclusion of "and USFWS" in the sentence regarding the conclusion for ESA-listed species was an error. The sentence in question in the <i>Presence of Structures</i> section on page 3.7-18 has been revised by removing "and USFWS."</p>

Comment from U.S. Fish and Wildlife Service	Response
<p>Benthic Resources, Watercourses, Wetlands, and Permits. A public notice for a U.S. Army Corps of Engineers (Corps) permit application by Ocean Wind, LLC pursuant to Section 10 of the RHA and Section 404 of the CWA was recently released with plans illustrating the amount of impacts the proposed project would have to submerged aquatic vegetation (SAV), wetlands, and watercourses under the Corps jurisdiction. The Service is concerned about the impacts and loss of these valuable natural resources. The Service requests that BOEM ensures that the FEIS is consistent with the impacts displayed on the public notice (if they are not already), discusses mitigation for these impacts, and further explains what is being proposed to avoid or minimize impacts. For example, there is no mitigation explained for the permanent impacts to SAV and it is not clear why alternative installation methods, such as trenchless or horizontal directional drilling, were not considered to avoid SAV and the other aquatic resources within Barnegat Bay. It is also not clear what will be proposed to mitigate for permanent impacts to watercourses. The Service provided additional comments to the Corps on July 18, 2022, regarding the public notice and impacts on these resources.</p>	<p>SAV surveys completed for the HDD will be used to avoid SAV where practicable, e.g., Peck Bay, Oyster Creek. Ocean Wind has developed a SAV Monitoring Plan (June 2022) and SAV Preliminary Mitigation Plan (December 2022) that include pre- and post-construction monitoring of SAV along the inshore cable route and restoration for impacts that cannot be minimized or avoided. Alternative C includes avoidance of SAV beds via an alternate route through Oyster Creek (a dredged channel).</p> <p>Potential impacts on SAV were quantified for each alternative in the Final EIS and for each landfall; impacts on habitats for HDD and open trenching were also be quantified in the Final EIS, to determine potential impacts and mitigation needs.</p>
<p>Birds and the Migratory Bird Treaty Act. The Service continues to recommend incorporating or considering measures to help reduce the risks of bird collisions into the proposed project design. An example could be incorporating some of the creative thinking that was mentioned in our previous letters, referencing the Hodos (2003) and May et al. (2020) studies, which reported that the inclusion of black attachments on or painting portions of wind turbine blades black can be effective at reducing motion smear or blur and bird collisions. While BOEM has decided to not incorporate this specific recommendation into the design of the project, the Service encourages BOEM to review other studies or potential technologies that could be incorporated into the project design that may reduce collisions. Additionally, in relation to addressing possible motion smear or blur impacts in the DEIS, Section 3.7.3.2 explains that “Motion smear, a phenomenon where spinning turbine blades become deceptively transparent to the eye, can also factor into collision risk (Hodos 2003). However, offshore wind turbines are very large and spin much slower (7.8 rotations per minute) than onshore wind turbines.” As previously explained, the Hodos (2003) study explained “that as the blade diameter increases,</p>	<p>Since BOEM’s response to USFWS’s comments on the preliminary Draft EIS on motion smear/blur, BOEM has looked further into the referenced studies in the comment and FAA requirements for wind turbine paint. While BOEM acknowledges the May et al. (2020) study indicates a reduction in bird strikes with wind turbines with a black-painted blade, the results are preliminary, and eight turbines (half with black paint) is not a large sample size. In addition, relatively few bird carcasses were found both before and after painting the blades (a total of 42 dead birds at all eight turbines during the study period of 10 years). It is also not clear if the paint achieves the same results across different bird species, and its efficacy may be site specific. In addition, and more of a determining factor in the use of black paint on wind turbine blades in the United States, the FAA’s 2020 <i>Obstruction Marking and Lighting Circular (70/7460-1M)</i> includes a section (Section 13) on wind turbine paint requirements (for aviation safety) that states the darkest acceptable paint color is light gray, with preference of pure white. Black paint on wind turbines is not allowed under the FAA circular. As part of Ocean Wind’s Avian and Bat Post-Construction Monitoring Framework (see discussion in the next</p>

Comment from U.S. Fish and Wildlife Service	Response
<p>the minimum distance at which a visual deterrent will be visible increases.” and that “paradoxically, the larger, slower turbines pose a greater hazard to birds in the region of the tip than do the smaller, faster turbines.” As such, even though the larger turbines will spin slower, they may create a greater hazard for birds. The usage of the word “However” in the second sentence indicated above may give the impression that the larger, slower spinning turbines help alleviate the issue of motion smear. The Service recommends removing or rephrasing that second sentence to avoid confusion while discussing this issue.</p>	<p>response below), BOEM would continue to evaluate technologies to reduce collisions if post-construction monitoring indicates action should be taken.</p> <p>BOEM has updated the text in Section 3.7.3.2 regarding larger turbines and slower rotations as they relate to motion smear.</p>
<p>Avian and Bat Post Construction Monitoring Framework. The DEIS provides multiple mentions of the avian and bat post-construction monitoring framework. Additionally, it is included in the construction and operations plan. Please note, that the Service has been working with BOEM regarding this framework during the ESA Section 7 consultation and will continue to do so. As noted in our July 1, 2022, response letter to BOEM’s BA, previous Service comments on the avian and bat post-construction monitoring framework submitted to BOEM on April 11, 2022, were not addressed. Our key concern is that active monitoring efforts are proposed to continue for a maximum of 3 years, while the operational life of the proposed project is 35 years. Additionally, the Service is aware that offshore wind developers are interested in conservation measures that will provide a net positive in benefits for their projects. A monitoring framework that includes the lifetime of the project would help to ensure that this can be achieved. The Service anticipates continuing to address and work with BOEM on this issue during the ongoing ESA consultation.</p>	<p>Ocean Wind and BOEM recognize that active monitoring beyond 3 years may be necessary. The Avian and Bat Post-Construction Monitoring Framework states that, “Over the course of monitoring, Ocean Wind will work with BOEM, USFWS, and other relevant regulatory agencies, to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring, based on an ongoing assessment of monitoring results.” In addition, similar to previously approved COPs (e.g., South Fork, Vineyard Wind), BOEM anticipates that BOEM’s COP approval conditions for avian and bat protection conditions will include an avian and bat monitoring plan for construction and operations. As part of the monitoring plan, adaptive management may be required (i.e., new mitigation measures and monitoring may be required by BOEM if impacts deviate substantially from the impact analysis in the EIS).</p>
<p>Section 3.7.8 of the DEIS explains that “If the reported post-construction bat monitoring results (generated as part of <i>Ocean Wind’s Avian and Bat Post-Construction Monitoring Framework</i> [COP Appendix AB, Ocean Wind 2022) indicate bird impacts deviate substantially from the impact analysis included in this EIS, then Ocean Wind must make recommendations for new mitigation measures or monitoring methods (refer to Appendix H, Table H-2).” It appears that this Section should be edited to “if the reported post-construction avian and bat monitoring results...”. As such, please ensure that this Section is edited in the FEIS.</p>	<p>BOEM has edited EIS Section 3.7.8 to replace “bat” with “bird.”</p>

Comment from U.S. Fish and Wildlife Service	Response
<p>Edwin B. Forsythe National Wildlife Refuge and Air Quality. The project is in proximity to the Edwin B. Forsythe National Wildlife Refuge. Portions of the refuge, identified as the Brigantine National Wilderness Area, are designated as a Class 1 Wilderness Area. The Service is concerned about the potential air quality impacts to the wilderness area due to emissions and construction activities that will occur because of the proposed project. Class 1 Wilderness Areas are afforded, by Congress, Air Quality Related Value protections under the CAA and are also protected by the Wilderness Act. The Service is the Federal land manager of the Brigantine National Wilderness Area and, as such, is evaluating the project for air quality-related concerns. The Service will contact BOEM, as appropriate, if any additional information is required.</p>	<p>Ocean Wind performed an Air Quality-Related Values analysis as part of its OCS air quality permit application to USEPA. A summary of this analysis has been added to the Final EIS.</p>
<p>Adaptive Management. The Service's previous letters on the Preliminary DEIS included recommendations to include a commitment towards adaptive management, including regularly updating and adopting best management practices. As previously described, this is particularly important given the long-expected lifespan of the proposed wind farm, its potential to result in ongoing bird and bat collision and/or displacement over many years, and its role in the full build-out of offshore wind energy in the context of numerous other projects in various stages of planning/development along the OCS. New innovative technologies and solutions to protect the environment and species from the potential impacts of offshore wind are being developed while the industry continues its growth. They are being supported by offshore wind developers, scientists, and members of the public. The Service would like to ensure that all phases of the project are adaptive at applying new information as they progress. Many details would have to be worked out, but the Service is willing and would appreciate the opportunity to discuss and work with BOEM on this issue. As such, the Service continues to recommend an adaptive management section and commitment within the DEIS.</p>	<p>Table 2-2 of the Final EIS identifies the Avian and Bat Post-Construction Monitoring Framework, which would be implemented by Ocean Wind during operation. As stated in the framework, adaptive monitoring is an important principle of the monitoring framework. Over the course of monitoring, Ocean Wind will work with BOEM, USFWS, and other relevant regulatory agencies to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and additional periods of monitoring, based on an ongoing assessment of monitoring results.</p>

Comment from U.S. Fish and Wildlife Service	Response
Supplemental Air Quality and AQRV Comments	
<p>D.1. Incomplete or Unavailable Information Analysis for Resource Areas (D.1.1 Air Quality). This paragraph subjectively states that in BOEMs opinion that is that there is sufficient current information and that the overall impacts from the project will decrease the overall pollution in the area. However, as demonstrated in the emission estimates, especially during construction the amount of air emissions may be significant and potentially impact Air Quality Related Values (AQRVs) at Class I areas. It is requested that BOEM reevaluate this paragraph and provide a more detailed quantification of emissions and objectively describe the air quality and AQRV impacts.</p>	<p>Ocean Wind performed NAAQS and Air Quality-Related Values analyses as part of its OCS air quality permit application to USEPA. A summary of these analyses has been added to the Final EIS.</p>
<p>Suggested Language for the Paragraph from Ocean Wind 1 DEIS - Appendix G that discusses FLM responsibilities and AQRVs:</p> <p>The CAA defines Class I areas as certain national parks and wilderness areas where very little degradation of air quality from new sources or projects is allowed. Class I areas consist of national parks larger than 6,000 acres and wilderness areas larger than 5,000 acres that were in existence before August 1977. Class I areas are managed by the Federal Land Managers (FLM) (e.g. US Forest Service, National Park Service and the US Fish and Wildlife Service.) Projects subject to federal permits are required to notify the FLM responsible for designated Class I areas within 300 kilometers of the Project. One of the purposes of the federal Prevention of Significant Deterioration (PSD) permitting program under the CAA, is to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic or historic value. Air quality related values (AQRVs) are resources that are used to determine whether these resources may be adversely affected by a change in air quality. The resources may include visibility or specific scenic, cultural, physical, biological, ecological, or recreational resources. The Federal Land Managers AQRVs include visibility, vegetation, water quality, soils, and impacts to fish and wildlife. The potential harm from air pollution to these resources depends on how much, the type air emission exposure and the sensitivity of the resources. The FLM identifies appropriate AQRV for the Class I area and the impact to AQRVs is evaluated by the project proponent. Air quality-related values identified by USFWS for</p>	<p>Ocean Wind performed an Air Quality-Related Values analysis as part of its OCS air quality permit application to USEPA. A summary of this analysis has been added to the Final EIS.</p>

Comment from U.S. Fish and Wildlife Service	Response
<p>Brigantine Wilderness include aquatic resources, fauna/wildlife, soils, vegetation, and visibility.</p> <p>The project is in proximity to the Edwin B. Forsythe National Wildlife Refuge. Three distinct parts of the E.B. Forsythe Refuge have been identified as the Brigantine National Wilderness Area (WA), and are designated as Class 1 areas under the Clean Air Act (CAA).</p> <p>Brigantine Wilderness Area, approximately 25 miles north-northwest of the geographic center of the Project, is the only Class I area within 300 kilometers of the project. Class 1 Wilderness Areas are afforded, by Congress, Air Quality Related Value (AQRV) protections under the CAA and are afforded protections under the Wilderness Act. The Service is concerned about the potential air quality impacts to the wilderness area due to air emissions from construction activities that will occur because of the proposed project. Additional air quality protection may be warranted individually because of the project's proximity, or cumulatively because of the number of proposed future offshore wind energy leases and associated development affecting the area. The Service as the federal land manager (FLM) of the Brigantine National WA requests that the project evaluate and analyze the potential AQRV impacts, including visibility and deposition, to the Brigantine National Wilderness Area.</p>	
<p>Add this paragraph: The DEIS should include a description of the nearby air quality monitoring (IMPROVE, NADP, NJ DEP and EPA) and the long-term trends that these monitors are showing for each pollutant of concern. Current conditions and trends in Class I areas are for visibility are established via the IMPROVE (Interagency Monitoring of Protected Visual Environments) program and for deposition are established via the NADP (National Atmospheric Deposition Program). The Brigantine Wilderness air quality monitors are located at the Edwin B. Forsythe National Wildlife Refuge Visitor Center, approximately 4 miles west and 4 miles south-southwest of the 2 closest Brigantine Wilderness Area boundaries. Visibility and deposition at Brigantine Wilderness Class I areas has been _____ / since (describe trends and provide reference).</p>	<p>Ocean Wind performed NAAQS and Air Quality-Related Values analyses as part of its OCS air quality permit application to USEPA. A summary of these analyses has been added to the Final EIS.</p>
<p>Make this a new paragraph: The CAA amendments directed USEPA to establish requirements to control air pollution from OCS oil and gas-related activities along the Pacific, Arctic, and Atlantic Coasts and along the U.S. Gulf Coast of Florida, east of 87° 30' west longitude. . .</p>	<p>This comment does not request any change to the EIS.</p>

Comment from U.S. Fish and Wildlife Service	Response
Correction: The FLM agencies evaluates project impacts as far away as 300 km from the Class I area.	
<p>Other Suggested Additions: Include a paragraph about how the proposed actions' air emissions and contributions to climate change might impact these resources: ground-level ozone, atmospheric deposition of acids, (NADP Network) nutrients, toxics, vegetative impacts to onshore biological resources including vegetative quality, wetlands and other WOTUS, acidification of soils and waterbodies that could result in changes in community structure and biodiversity within these habitats. This paragraph should be a comprehensive look that accounts for the reasonable foreseeable future projects.</p> <p>Include a paragraph that addresses the potential impacts to wetlands and other WOTUS from the incremental contribution of climate change attributed to the action when combined with, past, present and other reasonable foreseeable projects.</p>	Ocean Wind performed an Air Quality-Related Values analysis as part of its OCS air quality permit application to USEPA. A summary of this analysis has been added to the Final EIS.

O.4.1.4. National Oceanic and Atmospheric Administration, National Marine Fisheries Service

Table O.4-4 Responses to Comments from National Marine Fisheries Service (Letter No. 1287)

Comment from National Marine Fisheries Service	Response
<p>Approach to the Alternatives Analysis: We appreciate that BOEM has made some modifications to the approach to the "No Action" Alternative, but we recommend further refinement in the approach to provide decision makers and the public with the clearest possible view of the potential impacts of the proposed action and alternative. In particular, we continue to recommend that BOEM evaluate a "No Action" scenario that does not include all future buildout throughout the analysis in the EIS. As presented in the Executive Summary and Chapter 2, the description of the No Action Alternative presumes that all other reasonably foreseeable impact-producing activities, including proposed but not yet approved offshore wind projects, have been built and these impacts are therefore included in the baseline against which other alternatives are evaluated. We are concerned that this approach leads to an incomplete description and analysis of impacts on NOAA trust resources from activities and trends in the baseline, as well as</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Clarification regarding BOEM's methodology for assessing impacts has been provided in Section 1.6 of the Final EIS. The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>

Comment from National Marine Fisheries Service	Response
<p>from the proposed action and alternatives. This approach likely skews the impacts analysis in the DEIS in several ways:</p> <ol style="list-style-type: none"> 1) By overstating the impacts of both the No Action Alternative and baseline effects; 2) by minimizing and diluting the direct and indirect effects of the proposed action and action alternatives when evaluated against the No Action Alternative and baseline; 3) by reducing the distinction in impacts among alternatives such that there is no material difference; and 4) by conflating the cumulative impacts analysis with impacts considered in the No Action Alternative 	
<p>The confusion and lack of clarity resulting from the alternative analysis approach in the DEIS are exemplified in its consideration of the effects of the proposed action on North Atlantic right whales (NARW), which may impact NMFS's ability to rely upon this analysis to support the determinations necessary to issue an ITA under the MMPA. We recommend the methodology be modified to define the No Action/baseline as the effects of existing constructed and permitted wind projects and ongoing non-wind activities and evaluate the effects of reasonably foreseeable future activities, such as future wind projects, in the cumulative impacts section of the FEIS, entirely independent from the No Action Alternative and baseline evaluation of the action alternatives. We provide additional comments on this critical issue in Attachment A.</p>	<p>The No Action Alternative evaluated in the EIS consists of the existing baseline and impacts of ongoing activities, including constructed and permitted offshore wind projects and ongoing non-wind activities. Reasonably foreseeable future planned activities were also evaluated.</p>
<p>Habitat Impact Minimization Alternatives: We recognize and appreciate that BOEM has considered alternatives to the proposed action that would minimize impacts to vulnerable marine habitats. NMFS considers both the Sand Ridge and Trough Avoidance alternative (Alternative D) and the Submerged Aquatic Vegetation (SAV) Avoidance alternative[s] (Alternative E) to be feasible alternatives, which would allow BOEM to meet its purpose and need while reducing impacts to sensitive habitats to the greatest extent practicable. However, we have concerns with how these alternatives are discussed, analyzed, and contextualized in the document. Comments herein and in Attachment A should be incorporated into the FEIS to provide decision makers and the public a clear understanding of how these alternatives could reduce adverse impacts of the Ocean Wind project on these important habitats.</p>	<p>BOEM has reviewed and addressed NMFS's comments regarding the analysis of Alternatives D and E in the Final EIS.</p>

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<p>Sand Ridge and Trough Avoidance (Alternative D): The DEIS does not include a comprehensive analysis of the Sand Ridge and Trough Avoidance alternative. This lack of detailed analysis makes it difficult for the reader to understand how impacts from this alternative differ from other alternatives under consideration. It is also not clear how BOEM would implement this alternative if selected. Like the PDEIS, the DEIS treats removal of any particular Wind Turbine Generator (WTG) as essentially equal across all alternatives, without properly recognizing the unique value of the sand ridge and trough habitat. In addition, the alternative does not consider impacts of inter-array cables and scour protection associated with those cables, as impacts appear to only be quantified for WTG locations with scour protection. The impacts from inter-array cables on the integrity of these habitats was one of the primary reasons the sand ridge and trough avoidance alternative was proposed, and should be evaluated under this alternative. We also recommend that additional details be provided in order to clarify how BOEM is considering this alternative. For example, the document discusses the potential removal of between 9 and 15 WTGs for this alternative, but it is unclear how the total number, or position, of WTGs would be prioritized for removal or ultimately selected. We recommend you coordinate with us to address these issues and further refine this alternative to ensure a clear understanding of the specifics of the alternative.</p>	<p>The Draft EIS provided a description of Alternative D in Chapter 2 and a detailed analysis of the impacts of Alternative D in comparison to the Proposed Action in Chapter 3.</p> <p>Although the removal of WTG positions is anticipated to result in a corresponding reduction in inter-array cable length and associated cable protection impacts, the resulting impacts are difficult to calculate because the inter-array cable alignments associated with Alternative D have not been designed. Section 3.6 of the Final EIS notes that impacts on benthic habitat would be further reduced due to the removal or reduction of required inter-array cables.</p> <p>The identification of individual WTGs for removal, should the number removed be fewer than 15, would be coordinated with NMFS.</p>
<p>SAV Avoidance (Alternative E): We have significant concerns with the scope and analysis of the SAV Avoidance Alternative, as it does not consider all practicable measures to avoid and minimize SAV impacts from cable routing and installation. The technical corrections provided by BOEM on August 3, 2022, indicate that this alternative does consider minimizing impacts to SAV habitat west of Island Beach State Park, as well as at the cable landing location; however, the impacts of cable route options are not clearly presented in the DEIS, making a straightforward comparison of routing options and associated impacts to SAV beds difficult. In addition, the discussion and analysis of alternate routine cable installation methods, which would avoid and minimize impacts to sensitive habitats in estuaries and embayments, lack detail.</p>	<p>Alternative E was developed to address concerns regarding impacts on SAV west of Island Beach State Park. Table 3.6-5 presents a comparison of the two cable route options for the area west of Island Beach State Park. Section 3.6.5 was updated to discuss an assessment of alternative cable installation methods.</p>

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<p>Specifically, the SAV Avoidance Alternative lacks any discussion or analysis of horizontal directional drilling (HDD), which could be used to further avoid and minimize impacts to SAV and other sensitive habitats, especially on the backside of Island Beach State Park. HDD is part of the proposed action (Barnegat Bay route through dense SAV beds); thus, it remains unclear why it is not being considered for the SAV Avoidance Alternative. In fact, due to the significant potential impacts to sensitive habitats, open trenching is rarely used in Barnegat Bay, and alternative methods, such as HDD, are routinely recommended and employed for similar actions. This is a significant omission that should be fully considered and analyzed in the FEIS.</p>	<p>Use of HDD for export cable installation west of Island Beach State Park was analyzed, and additional detail regarding the feasibility and impacts of this installation method was provided in Section 3.6.</p>
<p>Analytical Issues: We raised several concerns with the characterization and analysis of impacts to NOAA trust resources in our cooperating agency comments on the PDEIS. We recognize where BOEM included further resource descriptions and analysis in response to those comments; however, we have remaining concerns with the lack of information to support some impact determinations, as well as missing analyses on the scope of project impacts. Moreover, while the DEIS includes some additional discussion of resources, the document is not comprehensive and does not apply those findings to an examination of the proposed action and alternatives. As a result, conclusions stated in the document related to impact determinations lack supporting rationale.</p>	<p>As mentioned by NMFS, BOEM did respond to all comments received on the Preliminary Draft EIS. However, BOEM recognizes that NMFS has some remaining concerns and has responded to those specific concerns as raised by NMFS in EIS Sections 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>; 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>; 3.19, <i>Sea Turtles</i>; and 3.17, <i>Other Uses (Marine Minerals, Military Use, Aviation)</i>.</p>
<p>For example, as noted in our cooperating agency comments, the DEIS states that fishery management has a major impact on fishing operations, and suggests that fishery management actions will have a greater impact on fishery operations and revenue than the Ocean Wind project or other reasonably foreseeable future projects. Given that fishery management actions are taken to ensure the long-term optimal yield for the fishery, and no justification for the statement is provided, these conclusions appear without merit. This and other impact determination conclusions should be supported by information in the EIS.</p>	<p>The major impact rating is for some fisheries that would be adversely affected by regulated fishing effort. Text noting that species may be affected differently by fishery management measures has been added.</p> <p>In addition, the Final EIS has been updated to reorganize the No Action Alternative, cumulative impacts, and the Proposed Action. The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. Ongoing activities include permitted offshore wind projects. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Reasonably foreseeable future actions include the buildout of executed renewable energy lease areas. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6 of the Final EIS.</p>

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<p>The approach used in the DEIS to present only average impact determinations in some locations (e.g., commercial fisheries), rather than articulating the anticipated range of impacts, also reduces transparency and makes it more difficult for our agency and the public to comprehend how conclusions were reached. We therefore request that a clear justification for impact determinations, consistent with definitions included in the DEIS, be included in the FEIS.</p>	<p>BOEM has included in the Ocean Wind 1 EIS clear justification for impact determinations consistent with definitions included in the EIS. In response to the specific comments provided by commenters, including NMFS, BOEM has addressed some instances where the justification was not clear.</p>
<p>In addition, there continue to be important analyses and conclusions that are absent from the DEIS. Specifically, in the Benthic Resources and Finfish, Invertebrates, and EFH sections, there is no analysis of impacts from unexploded ordnance (UXO) removal and/or detonation, nor is there any discussion of impacts from hydrodynamic changes on habitat, primary productivity or larval distribution due to the presence of in-water structures.</p>	<p>Discussion of potential impacts of UXO detonation (e.g., physical disturbance, increased sediment suspension and deposition, potential contaminant resuspension, physical impacts on finfish, disturbance to spawning/migration) has been added to Sections 3.6.5 and 3.13.5 of the Final EIS.</p>
<p>The DEIS also does not analyze impacts of the export cables construction and operation on federal and non-federally managed fisheries or overall impacts to shoreside support services and fishing communities. All anticipated changes to the marine environment and fishing communities from the Ocean Wind project and other projects need to be explicitly discussed and the potential impacts rigorously examined in the FEIS.</p>	<p>BOEM has determined that the qualitative analysis provided in Section 3.9.3.2 under the cable emplacement and maintenance IPF is appropriate for temporary cable route disturbance.</p> <p>Potential impacts on shoreside services are mentioned qualitatively in Sections 3.9.3.2 and Section 3.9.5 under the <i>presence of structures</i> IPF. BOEM acknowledges the importance of the commercial fishing industry, as well as the variety of ports and shoreside businesses related to and within this area. To that end, it has included extensive analysis of commercial fishing revenue exposure within the Ocean Wind 1 Lease Area, and presumably a reduced catch could have an impact on these related shoreside businesses. Use of the commercial fishing revenue exposure as a metric produces a conservative estimate of potential impacts on the industry. However, as the analysis indicates, a small fraction of the amount of fishing activity in New England and the Mid-Atlantic region is affected by the proposed development in the Lease Area, but, depending on the fishery in question, impacts on shoreside support services would be long term and negligible to moderate.</p>

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<p>Mitigation Measures: As we have highlighted in past comments, the evaluation of mitigation measures is a critical component of the analysis in any NEPA document. The FEIS should clearly analyze and describe the anticipated impacts of the proposed action, mitigation measures considered to be part of that action, the effectiveness of these measures, as well as the expected impacts if mitigation methods are applied; this structure is necessary to support the final impact determinations</p> <p>We recognize that additional text has been added to the DEIS since our review of the PDEIS; this provides some clarification between mitigation measures that are part of the proposed action and additional measures that could further reduce impacts. However, the DEIS still contains areas where BOEM is relying on measures to reduce impacts; yet it remains unclear which measures are considered in the impact determination. For example, in the section evaluating the impacts of pile driving noise on sea turtles, BOEM notes that the implementation of monitoring and clearance zones would prevent exposure of sea turtles to noise that could result in mortality or injury. However, given that pile driving is planned to occur at night, it is not clear if this conclusion is based on the applicant proposed measures (APM) or the APMs plus the additional mitigation measures related to night-time pile driving identified in section 3.19.9 of the DEIS. The FEIS should be explicit as to what additional mitigation measures beyond the APMs are anticipated to be required and which measures were relied on to reach the impact conclusions.</p>	<p>Ocean Wind's committed mitigation measures are analyzed as part of the Proposed Action and as such contribute to the impact level conclusion. BOEM evaluates proposed mitigation measures for each resource in Chapter 3 and describes whether implementation of the measure would result in reduced impacts.</p>
<p>In other sections of the DEIS, there are additional mitigation measures that should be considered, such as time of year restrictions and construction methods to reduce impacts, that are not contemplated at all in the document. These are significant omissions that should be remedied in the FEIS. This information is necessary to include as part of a full and complete project impact analysis, regardless of the location of where the mitigation measure would occur or which agency would have jurisdiction to enforce them.</p>	<p>In the Draft EIS, BOEM analyzed measures proposed during the public scoping comment period and proposed by cooperating agencies.</p>
<p>NOAA Scientific Surveys: As we have discussed previously, we have significant concerns related to the major impacts offshore wind will have on our NOAA scientific surveys. Despite comments provided in our PDEIS review, inaccurate and unsubstantiated claims remain in the document, such as the assertion that without offshore wind energy, the</p>	<p>The impact on scientific research and surveys as a result of ongoing and planned activities has been updated to major due to the potential impacts of ongoing and planned offshore wind activity, including Block Island Wind Farm, Coastal Virginia Offshore Wind pilot project, Vineyard Wind 1, and South Fork Wind Farm.</p>

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<p>effect of climate change on fisheries would have a “moderate” impact on NOAA surveys. The offshore wind development projects are the primary cause of immediate impacts on NOAA scientific surveys and research, not climate change. Furthermore, the analysis in the DEIS does not include any discussion or details on how these major impacts will be mitigated other than referencing the ongoing BOEM/NMFS survey mitigation efforts. Rather than providing further details, the DEIS suggests this information will be incorporated later in the FEIS. In order to minimize the major adverse impacts expected on scientific surveys, mitigation measures should be implemented before development moves forward, consistent with our joint survey mitigation efforts. As stated in the DEIS, we will continue to work with you to ensure these details can be included in the FEIS</p>	<p>BOEM has committed to working with NOAA to implement the Federal Survey Mitigation Strategy program (https://repository.library.noaa.gov/view/noaa/47925). As of February 2023, implementation is pending. As discussions between BOEM and NOAA on implementation of the program continue, specific details on appropriate mitigation measures will be added to the environmental analysis.</p>
<p>Section Number: S.4.1. Consistent with NMFS’s comment related to its concern with the structure of the no action alternative, recommend the deletion of the text in S.4.1 stating “However, all other reasonably foreseeable future impact-producing activities will continue” as this language continues to confuse and conflate the cumulative impacts analysis with the effects of “no action” and thus skews the effects of action alternatives when compared to no action. NMFS does agree with the inclusion of “existing” IPFs but disagree with the inclusion of reasonably foreseeable future IPFs.</p>	<p>In EIS Section S.4.1 and Chapter 2, the sentence noted in this comment was deleted and replaced with a paragraph describing the analysis of reasonably foreseeable future impact-producing activities.</p>
<p>Section Number: S.5. In table S-2 under Marine mammals, this is a good demonstration that the structure of the alternatives analysis creates confusion and does not allow for a meaningful analysis of the alternatives as all the action alternatives are the same despite some alternatives including a good reduction in the number of turbines constructed (which would reduce both construction and operational impacts). In the impact analysis in Chapter 3, as well as the summary table presented in the Executive Summary, BOEM suggests minor impacts to NARWs would occur against current baseline situation, but major impacts to NARW would occur as a result of the No Action alternative when considering the baseline existing environmental trends and activities as well as planned non-offshore wind and offshore wind activities. As written, the impacts from the project in consideration of the baseline alone results in major impacts to NARWs but when combined with foreseeable actions, the impacts are reduced to moderate. These determinations are not supported in Chapter 3 but,</p>	<p>Note that table S-2 has incorrectly rated the impacts of the No Action Alternative as “minor.” The table conclusions have been updated based on the analysis presented in Section 3.15 to reflect the rating for the No Action Alternative as “negligible to major.” A note has also been added to the table to outline that the major effects are in relation to NARWs.</p> <p>In Section 3.15.6, the IPFs related to the action alternatives are discussed in relation to the species that may be affected by the alternatives. Through the analysis it was determined that the action alternatives are unlikely to result in a change to the impact determinations outlined for the Proposed Action. This is outlined in Section 3.15.6.1, which states, “BOEM anticipates that any incremental reduction in impacts would not change the resulting effects on marine mammals to the extent necessary to alter the impact level conclusions for any impact mechanism. The impacts resulting from Alternatives B-1, B-2, C-1, and D individually would be</p>

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<p>more importantly, these determinations challenge NMFS ability to make the required findings under the MMPA and adopt this EIS. We also note that teasing out these distinctions was extremely difficult and the differences in the determinations for each alternative are not supported. Finally, both here and in Chapter 3, it is not clear how the short (construction) and long-term impacts (operation) are influencing the overall single determination in this as well as the collective marine mammal group as a whole.</p>	<p>similar to those of the Proposed Action and would be moderate for mysticetes except for the NARW, which would range from moderate to major. BOEM anticipates that the impacts resulting from the Proposed Action would minor for odontocetes and pinnipeds and could include minor beneficial impacts.”</p>
<p>Section Number: 2.1.1. The following language should be added in Section 2.1.1, “Under the No Action Alternative, impacts to marine mammals incidental to construction activities would not occur. Therefore, NMFS would not issue the requested authorization under the MMPA to the applicant”. For adoption, it is important that NMFS’ No Action Alternative be incorporated into the EIS and the section that describes the No Action Alternative would be the most appropriate place to do this. This comment was made during NMFS’ cooperating agency review of the PDEIS but the language was not incorporated into the DEIS. This language should be incorporated into the FEIS.</p>	<p>Section 2.1.1 was revised to include the suggested language.</p>
<p>Section Number: 2.1, Table 2.1. Consistent with NMFS’s comment related to its concern with the structure of the no action alternative, we recommend deletion of the following text under the No Action Alternative Description “However, all other existing or other reasonably foreseeable future impact- producing activities would occur.”</p>	<p>In EIS Section S.4.1 and Chapter 2, the sentence noted in this comment was deleted and replaced with a paragraph describing the analysis of reasonably foreseeable future impact-producing activities.</p>
<p>Section Number: 3.3. As noted in a Global comment on Section 3.13 (Finfish, EFH, Invertebrates), NMFS has discussed with BOEM previously that we recommend the following categories be used to describe impact duration: short-term (less than 2 years); long-term (2 years to < life of the project); and permanent (life of the project). It is unclear why the Ocean Wind DEIS defines short term impacts as less than 3 years. We recommend this be modified to less than 2 years. We are also concerned that BOEM defines “long term” as lasting for the life of the project, and permanent effects are defined as those that extend beyond the life of the project. This should be modified to be consistent with the EFH duration definitions, as impacts that last the life of the project (30+ years) should be classified as a permanent impact.</p>	<p>BOEM disagrees with this comment and has not made this change. As explained in EIS Section 3.3, short term effects are effects that may extend up to 3 years, long-term effects are effects that may extend for more than 3 years and may extend for the life of the Project (35 years), and permanent effects are effects that extend beyond the life of the Project.</p>
<p>Section Number: 3.3. We have concerns about the use of terms to describe ‘incremental’ impacts of the action alternative in relation to the combined impacts from all ongoing and planned activities. The DEIS</p>	<p>EIS Section 3.3, <i>Definition of Impact Levels</i>, defines the terms “undetectable,” “noticeable,” and “appreciable.” These terms are used to describe the incremental impact of the action alternatives in</p>

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introduces these new terms related to the contribution of the Proposed Action to cumulative effects. The definitions are new and it is unclear how they were developed, what they mean and how they were applied throughout the impacts analyses in Ch. 3.	relation to the combined impacts from all ongoing and planned activities, including both non-offshore wind and offshore wind activities.
Section Number: 3.6.3 and 3.6.5. There are limited citations from the peer-review literature for each of the impact producing factors evaluated. Please review the literature and provide relevant citations that support the analysis, rationale, and conclusions.	Additional literature review and citations have been added to Section 3.6 as noted in response to specific comments below.
Section Number: 3.6.3. Discussion of SAV and other important habitats should be included here. Additionally, this section may be the most appropriate place for SAV discussion in the context of climate change and carbon sequestration (blue carbon). Although the background information on the importance of SAV has been expanded, the current document lacks a robust discussion of SAV in the context of climate change and carbon sequestration-blue carbon. In addition to the role of SAV in providing habitat for aquatic species, it serves important ecosystem functions including primary production, carbon sequestration, and nutrient cycling in the coastal zone. The distribution and abundance of SAV has declined globally and in the northeast U.S. As you know, there have been documented dramatic declines in SAV throughout New Jersey and Barnegat Bay in particular. Although declines in water quality have been associated with SAV losses in New Jersey, direct losses through development, dredging, trenching, and other bottom disturbing activities further exacerbates the widespread impacts. We appreciate your recognition of SAV as an important, hard-to-replace resource, but recommend you also include robust background information on the importance of SAV to sequestering atmospheric carbon dioxide, providing an important service in addressing climate change. SAV occupy less than 0.2% of the area in the world's oceans, yet sequester approximately 10% of the annual organic carbon burial in the oceans (Duarte et al. 2005). The mean global long-term rate of carbon sequestration in seagrass sediments are an order of magnitude greater than terrestrial forests (McLeod et al. 2011). This information should be integrated into your evaluation of any impacts to SAV, regardless of the alternative.	The information in the comment has been added to the text. However, it has been added to Section 3.6.1, which discusses the value of SAV rather than in Section 3.6.3, which addresses environmental consequences. Text addressing impacts of cable emplacement on seagrasses has been added to Section 3.6.3 and a more robust discussion of SAV in the context of climate change and carbon sequestrations has been added to Section 3.6.1 based on review of Duarte et al. 2005, Duarte and Krause-Jensen 2017, Howard et al. 2017, Mccreadie et al. 2019, Novak et al. 2020, Pendleton et al. 2012, Tokoro et al. 2014, Kennish et al. 2007, and Kennish et al. 2011.
Section Number: 3.6.3. In addition to warmer water, eelgrass is currently experiencing stresses and declines in distribution and abundance from invasive species such as green crabs (Neckles 2015)	The following has been added to Section 3.6.1, in addition to the text suggested in the comment: "The physical stress to organisms from climate change impacts can also increase the opportunity for

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and invasive tunicates (Wong and Vercaemer 2012; Carman et al. 2019). More intense rain events and coastal storms have been associated with climate change and are expected to increase in the future. Reduced salinities, stronger storms, and more turbid water are identified as stressors for eelgrass (Short et al. 2016). Therefore, minimizing additional direct and indirect impacts from dredging should be an important management policy for conserving eelgrass (Neckles et al. 2009).	disease. For example, eelgrass is threatened by seagrass wasting disease (in warmer ocean temperatures) (Graham et al. 2021)."
Section Number: 3.6.3 – 3.6.7. The adverse impacts of the presence of structures is inappropriately minimized/discounted, especially in the context of “range expansions” and the “stepping-stone effect,” by comparing offshore wind development to existing artificial reefs. This is inappropriate as it does not account for size/scale/scope, distribution, etc. of offshore wind [farms] in addition to how they may interact with existing natural and artificial habitats (e.g., acting as bridges or corridors).	Recent studies have been reviewed and text added to Section 3.6.3.1 to clarify the effects of structures on benthic habitat and finfish. Text has been added to address the comment based on reviews of Bray et al. 2017, Wilding et al. 2017, Adams et al. 2014, Causon and Gill 2018, Krone et al. 2017, and Taormina et al. 2018.
Section Number: 3.6.5. The narrative on EMF indicates that the science is unsettled on this topic. However, the conclusion is that there would be no measurable impacts. Please provide a rationale for this conclusion.	Discussion informed by Hutchison et al. 2020, Harsanyi et al. 2022, and Albert et al. 2020 has been added to Section 3.6.5 to clarify that impacts on specific organisms are documented under specific conditions; however, the data are inadequate to predict the impacts of EMF.
Section Number: 3.6.5. This analysis of noise focuses on sound pressure. Noise can produce sound pressure, particle motion, and substrate vibration. All of these should be discussed separately.	Text has been added to Section 3.6.5 based on reviews of Popper et al. 2022, Carroll et al. 2016, and Roberts et al. 2016.
Section Number: 3.6.5. It is unclear where and how UXO detonations have been evaluated. The impacts of this activity should be included and integrated into this section, and impacts should be evaluated comprehensively.	Text has been added to Section 3.6.5 based on reviews of Hannay and Zykov 2022 and Middleton et al. 2022.
Section Number: 3.6.5. Presence of Structures: This section should incorporate discussion of new literature on wind wake effects and potential impacts on biological production and larval dispersal. For example: Christiansen et al. 2022 (doi: 10.3389/fmars.2022.818501); Dorrell et al. 2022 (doi: 10.3389/fmars.2022.830927); van Berkel et al. 2020 (https://doi.org/10.5670/oceanog.2020.410); Floeter et al. 2022 (doi: 10.3389/fmars.2022.884943); Chen et al. 2021 (https://s3.us-east-1.amazonaws.com/nefmc.org/Doc.14.a-UMASSD_WHOI_short_report_05_6_12_2021_revison.pdf)	Potential impacts on benthic resources from mixing has been added to Section 3.6.5 based on reviews of Tagliabue et al. 2021, Floeter et al. 2022, and Dorrell et al. 2022.

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Section Number: 3.6.5. Discharges: This discussion should include effects of anti-corrosive and anti-fouling compounds.	Discussion of impacts on benthic habitats due to anti-corrosive and anti-fouling compounds has been added to Section 3.6.5.
Section Number: 3.6.5. The background written here about ridge and trough complexes and the value they provide is more robust compared to the description included in the earlier version of the DEIS provided for our Cooperating Agency review of the DEIS. However, the impacts to this habitat (even in the evaluation of the ridge and trough avoidance alternative) appear to be inappropriately discounted and minimized. While quantitative information is now provided about the reduced benthic impacts of each alternative from removal of WTGs and associated scour protection, the qualitative assessment is still insufficient, as the document essentially still treats removing WTGs in any area of the lease area as being equal. We reject this approach and assumptions therein; this needs to be corrected and unique ridge and trough habitat and value it provides needs to be integrated into the analyses and conclusions.	Text has been added to Section 3.5 to describe the value of ridge and trough complexes based on review of Slacum et al. 2010, Byrnes et al. 2000, Brooks et al. 2006, and VIMS 2014. Text has been added to Section 3.6.7 to clarify that removing WTGs from the northeastern portion of the Project area would reduce impacts on ridge and trough habitats.
Section Number: 3.6.5. It remains unclear how the individual WTGs would be selected for removal in the Sand Ridge and Trough avoidance alternative. This should be done in coordination with NMFS.	If the sand ridge and trough avoidance alternative is selected, BOEM will coordinate with NMFS on removal of specific WTGs from the sand ridge and trough complex.
Section Number: 3.6.5. The tables of impacts (3.6-3 and -4) and narrative should include both total inter-array cable length/acreage and necessary cable scour protection in order to comprehensively compare impacts among alternatives. These should be displayed in the same way (with habitat categories) as they are in Table 3.6-2. The impacts of inter-array cables was a primary reason for development of the ridge and trough alternative.	While removal of WTG positions is anticipated to result in a corresponding reduction in inter-array cable length and associated cable protection and cable installation and seafloor preparation impacts, the cable protection and cable installation and seafloor preparation area for the alternatives excluding WTG positions could not be calculated because the inter-array cable alignments associated with these alternatives have not been designed/engineered.
Section Number: 3.6.5. It is unclear why the current version of the DEIS concludes that the SAV Avoidance alternative, which reduces direct impacts to SAV by more than 14 acres would have negligible to moderate adverse impacts to benthic resources, in contrast to the proposed action that is expected to have minor impacts. The SAV Avoidance alternative, due to avoiding substantial SAV habitat, should be described as having less impacts in comparison to the proposed action.	The impact conclusion for Alternative E has been revised to conclude that Alternative E would have minor impacts on SAV with supporting rationale.
Section Number: 3.9. Please indicate how averages are calculated in the event that there is no available data for each port, area, FMP, etc.	A new data request was sent from BOEM to NMFS on October 13, 2022, and updated data were received on December 2, 2022. These

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in specific years. (e.g. if there is no data available for New Bedford in 2008 is a zero used in the average or is the observation dropped.)	data were updated in applicable tables. Averages were calculated based upon available data for each year across the 14-year period and a note has been added to indicate this methodology.
Section Number: 3.9. Please indicate which personal communications are NMFS GARFO data requests.	The NMFS GARFO personal communication reference has been removed and replaced with a new data reference in the Final EIS.
Section Number: 3.9. We appreciate the inclusion of the NOAA social indicators for gentrification pressure in the EJ section. However, an analysis of the socio-economic impacts to commercial fisheries from gentrification should be included in this section. Gentrification has increasingly been a significant pressure to commercial fisheries due to new industries (wind is a new industry), tourism (studies have shown that offshore wind increases tourism), and communities with higher dependence on recreational fishing also frequently have high levels of gentrification (section 3.18 states that there will be benefits to recreational fishing due to reef-effect). See our cooperating agency comments on example literature that should be used to evaluate impacts of gentrification from prior evidence, also repeated here: As found in the literature, established fishing communities are forced to adapt to new social, economic, and environmental conditions and as a result many fishing communities in the Northeast have been supplemented with technology-based industries and tourism, and are heavily impacted by coastal development, gentrification and the emergence of retirement communities (Claesson, Robertson and Hall-Arber, 2006). Increased tourism and recreational boating & fishing infrastructure as a result of gentrification has also resulted in space use conflicts both onshore and offshore between commercial and recreational fishing (Jepson and Colburn 2013, Thompson 2012, Hall Arber et al. 2001) that could be exacerbated by the proposed action and other projects. Offshore wind development can be another industry providing pressure to these communities, so recognizing those communities that are vulnerable is important. See NMFS Gentrification summaries: https://storymaps.arcgis.com/stories/56781eb366f1485e8ffd7c96b16f133f .	Discussion of gentrification is provided in Section 3.12, <i>Environmental Justice</i> . Within Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> , a qualitative discussion of potential socioeconomic impacts on commercial fisheries has been developed and included in the presence of structures IPF, following discussion on fisheries revenue exposure. Additional text and citations referenced within this comment have been incorporated into the EIS section, as appropriate.
Section Number: 3.9. The inability/ability of fisheries to adapt and remain resilient should be included in BOEM's EIS analyses based on previous studies and evidence in fisheries. See research on commercial and recreational fishing industry's adaptive capacity in NY and NJ (Seara et al. 2012) and perceived resilience. As expressed by	Discussion of the ability of fishermen to adapt is included under the presence of structures IPF in Section 3.9.3.2. Additional text and citations referenced within this comment have been incorporated into the EIS section, as appropriate.

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<p>BOEM during mitigation guidance public meetings, insight can be gained from prior changes in the system, such as fisheries disasters and hurricanes on how fisheries reacted. The following resources are helpful for social, economic and cultural impacts of northeast regional fisheries disasters: Scyphers SB, Picou JS, Grabowski JH. Chronic social disruption following a systemic fishery failure. <i>Proc Natl Acad Sci U S A</i>. 2019 Nov 12;116(46):22912-22914. doi: 10.1073/pnas.1913914116. Epub 2019 Oct 28. PMID: 31659050; PMCID: PMC6859345; The following study provided a national- scale view of fishery disasters and found fishery disasters to be a problem that has worsened over time, and has cascading socioeconomic impacts to society. Regional fishery disasters that have placed burden on fisheries should be considered in BOEM's determination of the ability for fisheries to adapt to changes from offshore wind: Bellquist L, Saccomanno V, Semmens BX, Gleason M, Wilson J. The rise in climate change-induced federal fishery disasters in the United States. <i>PeerJ</i>. 2021 Apr 22;9:e11186. doi: 10.7717/peerj.11186. PMID: 33981495; PMCID: PMC8071068.</p>	
<p>Section Number: 3.9. Please see research on the cultural dimensions of socioecological systems (Poe Norman and Levin 2013:https://conbio.onlinelibrary.wiley.com/doi/10.1111/conl.12068), which states that inadequate knowledge of cultural dimensions of ecosystems risks the inadequate accounting of negative impacts to communities and misses the opportune to build meaningful alternatives. As previously commented by NMFS and others, BOEM has not made an effort to acknowledge the importance of analyzing the socio-cultural effects in the EIS. Fisheries are part of social-ecological systems that take into account inter-relationships between ecological functions and human communities that depend on ecosystem services for their well-being. Similar to assessing the economic impacts based on historic catch and VMS data, discussion of and research on social wellbeing in the region should be discussed where available to consider the full impacts of the proposed action. Methodologies can be sought through Social Impact Assessment (SIA) documents-see Colburn and Clay Practitioners Handbook and resources included in the document https://spo.nmfs.noaa.gov/content/tech-memo/practitioners-handbook-fisheries-social-impact-assessment and other literature such as Hicks C. C., et al., Engage key social concepts</p>	<p>The development of alternatives for Ocean Wind 1 was done in a cooperative and transparent manner in coordination with cooperating agencies using the best science, data, and information available. Within Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, a qualitative discussion of potential socioeconomic impacts on commercial fisheries has been developed and included in the presence of structures IPF, following discussion on fisheries revenue exposure. In addition, EIS Sections 3.11 and 3.12 discuss elements of commercial fishing impacts and associated shore-side qualitative impacts.</p> <p>Additional text and citations referenced within this comment have been incorporated into the EIS section, as appropriate.</p>

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<p>for sustainability. Science 352, 38–40 (2016). In the Affected Environment description, please insert a discussion of and applicable references to social and well-being information of fishing industry participants. The brief discussions on cultural importance and identity can be supported by numerous studies on traditional values and historical significance of fishing areas in the region. Examples of available social research include: 1) Job satisfaction and well-being studies, including safety considerations, have been done in the region for decades -see Pollnac et al. (2014) and it's citations, Smith and Clay (2010), 2) Silva et al. 2021, Cutler et al. 2022 and Henry and Olson (2014) provides an overview of commercial fishing crew demographics and changes over time.</p>	
<p>Section Number: 3.9. Fisheries well-being topics relevant to offshore wind are listed below based on Van Holt et al. (2016) and Smith et al. 2020 and should be considered in BOEM's impact assessment with description of relevant research in the region. Where data is not available this should also be noted. Well-being objectives to consider include: Impacts to income and employment, infrastructure investment, equitable distribution of fisheries benefits, maintaining fishing opportunities for small-scale operators, promoting food security, and maintaining cultural importance of fishing to the community. Using available studies and data can allow BOEM to analyze the potential effects of offshore wind development to all alternatives proposed.</p>	<p>Social and cultural impact assessments are provided in Section 3.12, <i>Environmental Justice</i>.</p> <p>Within Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, a qualitative discussion of potential socioeconomic impacts on commercial fisheries has been developed and included in the presence of structures IPF, following discussion on fisheries revenue exposure.</p> <p>Additional text and citations referenced within this comment have been incorporated into the EIS section, as appropriate.</p>
<p>Section Number: 3.9. See NMFS comment from our Cooperating Agency review on transboundary nature of fishing fleets, which is still under review by BOEM and has not been incorporated into DEIS. NMFS submitted comment is summarized here: Discuss the transboundary nature of the fishing fleets in this section in terms of landing ports vs. primary/hailing port. Regional movement of fishing effort should be considered when evaluating the impacts from the project and future Offshore Wind activities. As more ocean space is used, this will increasingly impact travel time to landing ports historically utilized in other states. This could lead to shifts in landing ports (Papaioannou et al. 2021) and result in economic loss to ports & communities, especially small ports. In an intercept survey from Maine to North Carolina in 2018, researchers found that 20% (n=479) of the fishing industry participants reported different primary and landing ports from the intercept port, as well as differences between their primary</p>	<p>Discussion was incorporated into the presence of structures IPF in Section 3.9.3.2.</p> <p>Additional text and citations referenced within this comment have been incorporated into the EIS section, as appropriate.</p>

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<p>and landing port over the prior year. Almost all of the differences in this study were ports located in different states and the most common reported differences between primary (homeport) and landings ports were Cape May, NJ and New Bedford, MA and Newport News, VA, and Point Judith, RI and Point Pleasant, NJ. These findings give insight into the movement of vessels and the different ports they are operating and landing within (Cutler et al. 2022 and Silva et al. 2021, NOAA Technical Memo NMFS-NE-274). Studies have shown the decline of Northeast fishing communities given trends toward industry consolidation - both ownership and location (Brewer et al. 2011, Brinson and Thunberg 2016, Brewer et al. 2017). Papiouannou et al. (2021) also account for “transient” vessels that land in a port not declared as landing or homeport.</p>	
<p>Section Number: 3.9.1. Explain how ports were identified for Table 3.9-4 and its purpose in this section, or remove it from this document. This table does not include ports that are primarily impacted by the project area. Table 3.9-10 includes ports affected by the project area and seems more relevant to this EIS. If this is supposed to show all landings from all ports in New England and Mid-Atlantic there are ports that are missing (e.g., Gloucester, MA, Belford, NY, North Kingstown, RI and Atlantic City, NJ). The table mischaracterizes “All New England/Mid-Atlantic Ports” in the last row, as there are a number of ports missing the way this table is described. Clarify what criteria was used in selecting these ports. Additionally, the citation listed under the table for NOAA Fisheries Office of Science and Technology 2019 does not list all ports with landings in the region. Where applicable please include ports from Appendix G 3.11 - Demographics, Employment, and Economics.</p>	<p>Table 3.9-4 was updated to specifically show both peak and average annual landings and revenue from the top 20 highest-revenue ports in the geographic analysis area.</p>
<p>Section Number: 3.9.1. Footnote 16 is incorrect and should be revised to reflect the use of the terms “VMS” and “non-VMS fisheries” such as in Figure 3.9-5. Similarly, footnote 19 is incorrect too. While some fisheries are not required to use VMS (those in parentheses), vessels issued other federal permits that require VMS also land these species. This could be refined to serve as a proxy definition for non-VMS fisheries because while “declared out of fishery” generally reflects fisheries that do not require the use of VMS, it actually only means declared out of a fishery managed by days-at-sea effort controls (i.e., scallops, Northeast multispecies, and monkfish).</p>	<p>Comment addressed. Footnotes 16 and 19 were modified using language provided in the comment.</p>

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<p>Section Number: 3.9.1. Figure 3.9-2 is a good way to illustrate inter-annual variability in fishing operations and clearly shows the spike in surfclam landings/revenue in 2010 and menhaden spikes in 2008, 2013, and 2017. Please consider depicting landings/revenue by primary affected fishery species (not FMP) and vessels/trips in a similar manner and discussing landings/revenue trends and min/max values to more accurately describe historical patterns and potential future fishery impacts. The use of averages in tabular data often obscures such patterns, although averages can be useful for other purposes.</p>	<p>A new data request was sent from BOEM to NMFS on October 13, 2022, and updated data were received on December 2, 2022. These data were updated in applicable tables. As part of this update, Figure 3.9-2 was updated to a bar chart covering the years 2008–2021. The noted inter-annual variability in fishing operations is still depicted for these data. Other data for landings/revenue by species, FMP, etc. remain in tabular format.</p>
<p>Section Number: 3.9.1. This section of the DEIS should include a more thorough evaluation of portside support services and community dependence on fishing. There is only one sentence indicating that commercial fishing contributes to the overall regional economy on the bottom of page 3.9-3, listing the general services such as vessel maintenance, processors, wholesalers/distributors, and retailers. This is insufficient and should be expanded to fully describe the affected environment for commercial and for-hire fishery operations to set the stage for evaluating impacts to fisheries and associated communities. Please provide data from the Fisheries Economics of the US data tool for the region https://www.fisheries.noaa.gov/data-tools/fisheries-economics-united-states# that describes the regional economic value of fisheries, including sales, value added, and number of employees by state. Also, the Fisheries of the US report referenced on page 3.11-6 contains useful information that could assist this discussion. See comments providing during the cooperating agency review. According to BOEM's Draft Mitigation Guidance, impacts to shoreside support could be compensated, but must be included in the EIS to be considered for compensation. NMFS continues to strongly recommend BOEM integrate data regarding shoreside support businesses and port communities into project EISs and has provided references to support that effort. We are available to further assist, as necessary.</p>	<p>Consistent with BOEM's Draft Fisheries Mitigation Guidance, BOEM has added a mitigation measure requiring the lessee to submit a shoreside seafood business analysis to further supplement funds available for settling claims of lost (unrecovered) economic activity as a result of offshore wind development to Appendix H, Table H-3, and has analyzed this measure in Section 3.9.9.</p>
<p>Section Number: 3.9.1. BOEM should be evaluating the impacts of alternatives based on prior research done by Hoagland et al. (2015). Please include the finding from Hoagland et al. (2015) regarding portions of the MA/RI lease areas and input-output modelling of displacement of fishermen out of New Bedford, MA and Point Judith, RI. This study found that “the direct output impact would involve a loss of \$5.2 million, leading to \$10.5 million in direct, indirect and induced</p>	<p>For an individual offshore wind project, there are too many variables and unknowns that would be necessary for conducting an analysis of this size and utilizing an input-output model (i.e., IMPLAN) to have an accurate representation by lease area of potential economic impacts. The EIS estimates the revenue exposure; however, the impacts on the fishing industry as a whole are discussed qualitatively. The Hoagland et al. (2015) article was evaluated and, although they</p>

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<p>impacts to the regional economy. The corresponding loss in employment in the economy was 152 jobs, with nearly three-quarters of these losses in the fishing industry." Analyses such as this are necessary for other regions and/or projects to estimate the impacts to the wider economy beyond ex-vessel exposure. Without this, impacts are not adequately captured and therefore mitigation measures will be insufficient. If studies/analyses like this cannot be done, BOEM should ensure a discussion in the analysis of alternatives within the FEIS that consider the methodology used here (and in other input-output analyses in the region) and use the best available science to evaluate possible impacts to wider economy and seafood industry.</p>	<p>reached conclusions on the direct, indirect, and induced impacts on the fishing industry, they created assumptions and applied methodology that may not be accurate or appropriate. For instance, they assumed 100 percent of commercial fishing activities would be precluded within this designated WEA. That is most likely not the case; while some commercial fishing vessels may chose to avoid fishing within the WEA, others may not. In addition, although there is a discussion of potential enhancements to recreational fishing and the establishment of fishery reserves, it is not quantified or included as part of the analysis.</p>
<p>Section Number: 3.9.1. Insert a discussion of the fisheries and ports affected along the proposed export cable corridors. Focusing exclusively on evaluating impacts from the project area and not the export cable does not provide all of the information necessary to make an informed decision regarding the full impacts of this proposed action. As we noted in comments for the South Fork Wind DEIS, fisheries that operate along the cable corridor could be very different than those operating within the project area. These fisheries are likely more state-managed fisheries, including the whelk/conch and menhaden fisheries. These fisheries are not well reflected in the federal fishing footprint data that is used almost exclusively in this DEIS - thus additional data sources such as those from states, the Atlantic States Marine Fisheries Commission, and the NOAA shoreside processor reports can and should be used to augment existing data sources and fully describe these fisheries and associated ports.</p>	<p>BOEM has determined that the qualitative analysis provided in Section 3.9.3.2 under the cable emplacement and maintenance IPF is appropriate for temporary cable route disturbance.</p>
<p>Section Number: 3.9.3.1. Insert a discussion that some species are unharmed or may actually benefit from climate change. For species affected by this project, Hare et al, 2016 note that Atlantic menhaden, squid, black sea bass, and butterfly are likely to benefit from warming waters, while summer flounder and spiny dogfish are likely to be unaffected (see Figure 5). Also note that fishery management actions are intended to achieve long-term sustainable fisheries populations which should have long-term benefits to fisheries and fishing communities.</p>	<p>Text has been added related to Hare et al. (2016) indicating certain species may benefit from climate change while others may be adversely affected.</p> <p>Text also has been added regarding the fishery management actions and intentions.</p>
<p>Section Number: 3.9.3.2. This section describes the No Action Alternative and should only discuss the potential impacts for wind projects that BOEM has already approved. Evaluating impacts from all</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated.</p>

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<p>planned projects listed in Appendix F incorrectly and inappropriately conflates the No Action alternative evaluation with the cumulative impact analysis. Such analyses should be kept separate and distinct to preserve the ability for the public and BOEM to accurately differentiate the impacts of each alternative considered in this action. Otherwise, BOEM risks minimizing the differences between alternatives and undermining the utility of the DEIS.</p>	<p>Ongoing activities include permitted offshore wind projects. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Reasonably foreseeable future actions include the buildout of executed renewable energy lease areas. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6 of the Final EIS.</p>
<p>Section Number: 3.9.3.2. Under Noise, note that construction noise from construction activities can induce behavioral change across a broad geographic area up to 7.5 km from the source. Therefore, construction activities in adjacent projects could impact fish and fisheries beyond the boundaries of an individual project area. This should be identified as an impact so that buffers can be established in compensation estimates of exposure for fishermen filing claims for lost revenue if biological impacts occur.</p>	<p>The impact conclusion for noise has been revised to long term and moderate. Text has been added to discuss the broad range of noise impacts. Section 3.13.3.2 describes the impacts of sound pressure and particle motion on fish and invertebrates.</p>
<p>Section Number: 3.9.3.2. Under traffic, note that relocation and increased steaming time may also result in product spoilage for fisheries such as surfclams that must be processed shortly after harvest. This could result in increased adverse economic impacts to affected vessels in the form of lower product price or rejection of harvested product. This impact should be listed throughout this document relevant to impacts from increased transit times from other IPFs such as presence of structures on PDF page 180 (p 3.9-32) and elsewhere. Also, maintenance vessels during project operations could also increase vessel traffic and cause similar impacts. This should be noted here, as traffic is not limited to construction activities. Finally, the impacts should be classified as long term and major based on the definitions in Table 3.9- 19 because there is no reference to remedial action to lessen impacts and the potential increased traffic may occur indefinitely absent any details regarding plans for decommissioning project structures.</p>	<p>Text in Section 3.9 has been updated under the traffic IPF and elsewhere to identify and account for these additional potential impacts from relocating to different fishing grounds.</p>
<p>Section Number: 3.9.3.2. Thank you for inserting the additional references discussing fishing behavior and the potential for effort shifts that could impact communities that we suggested in our cooperating agency review. As noted in our comments, assuming fishermen will find alternate fishing grounds oversimplifies a complex issue (Holland and Sutton 2000). Please include the remaining literature provided, that discusses the increasing difficulty of fisheries to adapt due to</p>	<p>Additional text and citations referenced within this comment have been incorporated into the EIS section, as appropriate.</p>

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management measures (Murray et al. 2010) and regional trends of more specialized vessels and catching fewer species (Seara 2014, Stoll et al. 2016, McClenachan et al. 2019).	
<p>Section Number: 3.9.3.2. Under presence of structures, insert cumulative revenue exposure evaluations for all projects listed in Appendix F in the appropriate discussion of cumulative impacts instead of this section. Discussion of the no action alternative should only focus on the impacts of approved projects. We strongly encourage BOEM to request an evaluation of cumulative revenue exposure from NMFS for use in the cumulative impact analysis. Further, it is not accurate to say that available data cannot estimate impacts along the cable corridors. While we agree that the fishery footprint data are not of the preferred resolution to precisely evaluate impacts within small areas, such data can and have been used to estimate revenue exposure along the cable corridor for previous projects. Fishing footprint data, along with VMS data, are the best scientific information available and can and should be used to inform decisions relative to project and cumulative impacts. We strongly encourage BOEM to integrate such data into the NEPA documents for this and other actions.</p>	<p>Note that with the reorganization and separation of the No Action Alternative, cumulative impacts, and the Proposed Action, the new Section 3.9.3.2 is <i>Cumulative Impacts of the No Action Alternative</i> and summarizes the impacts of the No Action Alternative in combination with other non-offshore wind activities and planned offshore wind activities.</p> <p>The revenue exposure under the No Action Alternative is presented in Table 3.9-20.</p> <p>BOEM has determined that the qualitative analysis provided in Section 3.9.3.2 under the cable emplacement and maintenance IPF is appropriate for temporary cable route disturbance.</p>
<p>Section Number: 3.9.3.2. Please note that revenue exposure does not account for increased operational costs and does not fully represent potential impacts from project activities. Costs must be included and quantified throughout all sections whenever possible to present the most accurate estimate of project impacts, particularly considering the socioeconomic impacts discussion will form the basis of any potential fisheries compensation amounts used as mitigation.</p>	<p>By providing revenue exposure within the EIS analysis, not impacts, BOEM is already providing a very conservative estimate of potential revenue losses and potential impacts. Therefore, by providing this overestimation of revenue exposure, the analysis provides a buffer to cover other operating expenses.</p>
<p>Section Number: 3.9.3.2. Revise the impact conclusions from “moderate” to “moderate to major.” Vessels that derive a large percentage of their total revenue from wind energy areas would experience major impacts as defined in Table 3.9-19. Wind projects represent substantial disruptions and the entities could have indefinite measureable impacts with or without remedial action. Further, although most vessels derive a small percentage of the total revenue from any one wind lease area and would have moderate impacts there are some vessels, as noted in this discussion, those that rely on wind lease areas for over 50 percent of annual revenue and would experience major impacts. Therefore, it is more appropriate and accurate to state that impacts to commercial fishing vessels would be long term and</p>	<p>It is presumed that this revision is requested under the presence of structures IPF; the edit was made to note “long term and moderate to major.”</p>

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<p>moderate to major. It is also consistent with conclusions listed on page 185. Characterizing impacts as only moderate is similar to previous concerns we expressed regarding the “averaging” of impacts and dismisses impacts to vessels that are more reliant upon fishing within existing lease areas.</p>	
<p>Section Number: 3.9.3.2. Table 3.9-20 is poorly described and it’s unclear how this data was used to determine these values. First, was an average taken? Average of the timeseries is not an accurate characterization. See prior comments about also using a maximum value in the time series and information provided in BOEM’s draft mitigation guidance Appendix A. Secondly, how were projects that don’t have clear construction timelines (those proposed from 2026-2030) addressed in this table? Please clarify what data and analyses determined the findings that “It is estimated that over that period, only 0.9 percent of the vessels that fished in one or more of the offshore wind lease areas generated more than 50 percent of their total fishing revenue for the year from one or more of the areas.” The text is reporting percentages, but the table shows revenue values. What data was used to calculate that percentage? With increased clarity, this information should also be provided for individual species and ports. Lastly, see BOEM’s draft mitigation guidance for dollar adjustment methodology recommendations and use those approaches in future analyses.</p>	<p>Explanatory text was updated for clarity and incorporated into this section that discusses the presentation of Table 3.9-20 and associated data.</p>
<p>Section Number: 3.9.3.2. Under cable emplacement and maintenance, note that seafloor preparation to install cables would likely require boulder and obstacle relocation. This could present indirect impacts on fishery operations by altering existing or creating new hangs for which fishing gear can get snagged, resulting in gear damage, gear loss, and safety issues if such boulders/obstacles are not accurately charted. This impact should be noted here and elsewhere in the DEIS, as relevant.</p>	<p>Text has been added to Section 3.9.3.2, similar to text present in Section 3.9.5.</p>
<p>Section Number: 3.9.3.3. Impact conclusions must be supported by supporting information. As noted in our cooperating agency comments, information justifying major impacts from fishery management actions is lacking. Similarly, the case for moderate impacts to party/charter vessels is not supported by previous text in this section. The FEIS must include more information to justify these conclusions relative to the definitions listed in Table 3.9-19. Also, this section should only discuss</p>	<p>Additional supporting information has been added to impact conclusion statements where applicable.</p> <p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. Ongoing activities include permitted offshore wind projects. The EIS also separately analyzes the continuation of all other existing and</p>

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impacts from currently approved projects, not all potential projects. Again, this inappropriately confuses the evaluation of the no action alternative with the cumulative effects analysis. Further, the suggestion that undefined mitigation measures for as yet undeveloped projects could reduce impact levels should be removed from this paragraph.	reasonably foreseeable future activities. Reasonably foreseeable future actions include the buildout of executed renewable energy lease areas. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6 of the Final EIS.
Section Number: 3.9.4. Although the DEIS notes that a bottom trawl survey would be conducted as part of its Fisheries Monitoring Plan, the project principle investigator recently indicated at the June 24, 2022, Responsible Offshore Science Alliance Advisory Council meeting that they would not conduct the intended trawl survey until the COP is signed and protected species coverage, acquired through the Biological Assessment, is completed for the project. This could compromise the ability of the Fisheries Monitoring Plan to collect sufficient baseline data to inform project-specific impacts. We encourage project proponents to collaborate with NMFS to initiate scientific surveys as quickly as possible to maximize the scientific information available to assess impacts of this project on marine resources.	Comment noted. No revision or incorporation into the EIS is required.
Section Number: 3.9.5. Under Noise, insert reference to Hastings and Popper 2005, which notes certain species can have behavioral responses up to 7.54 km miles from the noise source.	Comment addressed. Text has been added to the noise IPF under Section 3.9.5, including reference to the Ocean Wind 1 EFH Assessment, the table, and Hastings and Popper 2005.
Section Number: 3.9.5. Under Port Utilization, identify an impact level for associated vessel traffic and increased demand for shoreside support services (fuel, provisions, repair, etc.), particularly during construction and decommissioning operations. Based on the definitions in Table 3.9-19, these impacts would likely to be moderate to major, depending on the scale of port utilization of construction vessels, as the document concludes the proposed action would contribute a measurable ("noticeable increment") impact to the combined port utilization impacts on commercial fisheries and for-hire recreational fishing. It is unclear how a fishing liaison would affect impacts to shoreside support services.	Text has been added to the EIS noting that the New Jersey Wind Port and the Port of Paulsboro are specifically being improved for the purpose of supporting offshore wind farm development. This is to the overall benefit of the local economy and will help divert certain offshore wind construction and O&M activities (that could include vessel traffic) from existing ports and reduce the potential for space-use conflicts with the commercial fishing industry. Potential impacts on shoreside services are mentioned qualitatively in Sections 3.9.3.2 and Section 3.9.5 under the <i>presence of structures</i> IPF. BOEM acknowledges the importance of the commercial fishing industry, as well as the variety of ports and shoreside businesses related to and within this area. To that end, it has included extensive analysis of commercial fishing revenue exposure within the Ocean Wind 1 Lease Area, and presumably a reduced catch could have an impact on these related shoreside businesses. Use of the commercial fishing revenue exposure as a metric produces a conservative estimate of potential impacts on the

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	industry. However, as the analysis indicates, a small fraction of the amount of fishing activity in New England and the Mid-Atlantic region is affected by the proposed development in the Lease Area, but, depending on the fishery in question, impacts on shoreside support services would be long term and negligible to moderate.
Section Number: 3.9.5. Under Traffic, revise impacts to long term, moderate to major impacts, depending on the scale of disruptions to vessel traffic as a result of this project. Conclusions must be based on the definitions in Table 3.9-19. As noted, structures may be present indefinitely without details on any decommissioning activities and may cause traffic impacts indefinitely.	The impact conclusion already noted “long-term” impacts; however, the Project assumes full decommissioning as required by BOEM regulations, and therefore the impact conclusion was left at moderate.
Section Number: 3.9.5. Under Presence of Structures, please note in the top of PDF p192 (p3.9-44) that cumulative development of other regional wind projects, including the adjacent Atlantic Shores Projects and the New York Bight lease areas, could reduce the ability of commercial vessels from fishing in alternate locations, which could result in impacts that more closely reflect losses associated with fishing revenue exposure estimates in this section.	Text was added to the presence of structures IPF discussion noting that development of offshore wind in adjacent offshore wind lease areas could increase competition for alternative fishing locations.
Section Number: 3.9.5. Under Presence of Structures, insert an evaluation of revenue exposure along the export cable corridor. It is not accurate to say that available data cannot estimate impacts along the cable corridors. While we agree that the fishery footprint data are not of the preferred resolution to precisely evaluate impacts within small areas, such data can and have been used to estimate revenue exposure along the cable corridor for previous projects. Fishing footprint data, along with VMS data, are the best scientific information available and can and should be used to inform decisions relative to project and cumulative impacts.	BOEM has determined that the qualitative analysis provided in Section 3.9.3.2 under the cable emplacement and maintenance IPF is appropriate for temporary cable route disturbance. The text noted in the comment that there is “not enough resolution in the data to allow estimates” has been removed.
Section Number: 3.9.5. Under Presence of Structures, insert an estimate of fishery impacts for species not managed by NMFS that are affected by the proposed action, including the menhaden and whelk/conch fisheries. This section, along with the no-action alternative discussion, is lacking information on such impacts. As noted previously, federal logbook and dealer report data do not accurately characterize these fisheries due to existing reporting requirements. Any estimates of fishery landings and revenue in federal data likely substantially underestimate impacts to these fisheries. Therefore, additional sources such as state fishery data and the federal processed products report	Footnotes were included in Tables 3.9-1 through 3.9-12 to reflect that the analysis is based on fisheries receiving permits from the NMFS Greater Atlantic Regional Fisheries Office. Estimates of revenue exposure are based upon these data, as well. BOEM has determined that the qualitative analysis provided in Section 3.9.3.2 under the cable emplacement and maintenance IPF is appropriate for temporary cable route disturbance.

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<p>should be integrated into the evaluation of impacts in the FEIS. These impacts must be included in this section to provide a complete evaluation of potential impacts from this project.</p>	
<p>Section Number: 3.9.5. Insert a discussion of the party/charter impacts within the project area from our report located at: https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND_AREA_REPORTS/party_charter_reports/Ocean_Wind_1_rec.html#Percentage_of_Angler_Trips_by_Permit. Updated data are available through 2020 upon request. This represents the most accurate and updated information available to describe party/charter impacts from this project and should be integrated into the FEIS to supplement the outdated 2012 data from Kirkpatrick et al. 2017. It is not accurate to say annual revenue exposure for party/charter vessels is not available. This text should be deleted.</p>	<p>A new data request was sent from BOEM to NMFS specific to Ocean Wind 1 on October 13, 2022. The tables in the Final EIS were updated with these data. In addition, a table note, where appropriate, was included to indicate how the averages were calculated.</p>
<p>Section Number: 3.9.5. Update Table 3.9-45 with data from a new data request to NMFS to reflect data through 2020 and additional analysis we've developed.</p>	<p>As there is no Table 3.9-45 in Section 3.9; BOEM assumes the comment pertains to Table 3.9-21 on page 3.9-45 of the Draft EIS. A new data request was sent from BOEM to NMFS specific to Ocean Wind 1 on October 13, 2022, and the tables in Section 3.9 of the Final EIS were updated with these data to the extent possible. In addition, a table note, where appropriate, was included to indicate how the averages were calculated.</p>
<p>Section Number: 3.9.5. Under Cable emplacement and maintenance, note that seabed preparation for cable installation may relocate boulders and other obstructions. Unless removed entirely from the ocean, boulder/obstruction relocation could result in indefinite impacts and could increase gear damage/loss if such relocations are not documented and notified to mariners. Therefore, revise the impact conclusions to moderate to major for consistency with Table 3.9-19.</p>	<p>Language was added to Section 3.9.5 acknowledging that relocation of boulders/obstructions to uncharted or unknown locations could result in damage to gear and equipment.</p>
<p>Section Number: 3.9.5. Costs must be included and quantified throughout all sections whenever possible to present the most accurate estimate of project impacts, particularly considering the socioeconomic impacts discussion will form the basis of any potential fisheries compensation amounts used as mitigation. Examples of such costs can be derived from Northeast Fisheries Observer Program data and NMFS Social Science Branch cost surveys, among other sources, and estimates could be included in the FEIS based on certain operational assumptions.</p>	<p>The EIS provides revenue exposure estimates as part of potential Project development. These were developed using NMFS data combined with proposed wind development areas.</p> <p>Additional analysis to quantify other costs, such as gear loss, equipment damage, increase in fuel costs, etc. that would result from offshore wind projects, have too many unknown factors to develop a reliable estimate of impacts on the commercial fishing industry. However, where possible, Sections 3.9.3 and 3.9.5 have been revised to identify when there may be an associated increase in costs</p>

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	(e.g., under the presence of structures IPF to note that increased fuel costs would accompany increased travel time).
<p>Section Number: 3.9.5.1. This section should consider the impacts of reasonably foreseeable actions, not just environmental trends. Insert an estimate of revenue exposure of federally permitted commercial and party/charter vessels expected from the proposed action and all reasonably foreseeable actions. This is necessary to evaluate the cumulative impacts of this action consistent with NEPA. While the impact category conclusions may not change, the public should be informed about the cumulative impacts to fishery operations and associated communities relative to annual fishery landings and revenues. Such data will demonstrate that fishery-specific impacts from this and other projects is well above the small project-specific impacts relative to regional landings/revenues highlighted in Tables 3.9-5 and 3.9-7.</p>	<p>Note that with the reorganization and separation of the No Action Alternative, cumulative impacts, and the Proposed Action, the new Section 3.9.5.1 is <i>Cumulative Impacts of the Proposed Action</i> and summarizes the impacts of the Proposed Action in combination with other ongoing and planned wind activities.</p> <p>The revenue exposure from offshore wind energy development under the No Action Alternative is included in Table 3.9-20 and discussed under the presence of structures IPF in Section 3.9.3.2, <i>Cumulative Impacts of the No Action Alternative</i>.</p> <p>With this separation of the impacts, the relative impact of a Project-specific impact on regional impacts will be clearer.</p>
<p>Section Number: 3.9.5.1. This concluding paragraph is confusing and inaccurate. It is not clear what BOEM means by suggesting the project impacts are “appreciable”. The paragraph goes on to make unsubstantiated statements related to fishery impacts. Justify or remove conclusions that regulated fishing effort and climate change would continue to be the most important factors affecting the sustainability of fisheries in the area. There is no discussion how fishing regulations affect fishery resources and minimal discussion of climate change on the fishery. For the federal surfclam fishery, the most affected species in the project area, fishery quotas have not changed since 2004. Further, quotas have not limited fishing operations since 2003 (see Table 1: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/627035119cfe5d25371c4ba7/1651520790102/e_2022_SC_FishInfDoc_2022-04-11.pdf). Similarly, the coastwide quota for menhaden has increased since it was first established in 2013 (see https://www.asmfc.org/uploads/file/5e5e84fbAtlanticMenhadenAssessmentsOverview_Feb2020.pdf) and scallop quotas have generally increased 2011-2020 without being exceeded (see Table 18 here: https://s3.amazonaws.com/nefmc.org/210813-Amendment-21-Final-Submission.pdf). Therefore, fishing regulations are not the most important factor facing the three primary fisheries affected within this project area. Further, this paragraph should list any mitigation measures that would support BOEM's</p>	<p>Descriptors such as “undetectable,” “noticeable,” and “appreciable” are defined in Section 3.3 of the EIS and are used to describe the incremental impact of the action alternatives in relation to the combined impacts from all ongoing and planned activities, including both non-offshore wind and offshore wind activities.</p> <p>Note that with the reorganization and separation of the No Action Alternative, cumulative Impacts, and the Proposed Action, the new Section 3.9.5.1 is <i>Cumulative Impacts of the Proposed Action</i> and summarizes the impacts of the Proposed Action in combination with other ongoing and planned wind activities.</p>

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conclusion that fishing regulations and climate change would continue to be the most important impacts to fishery operations, as no measures are listed here. Reference to Section 3.9.9 should be included at a minimum, along with a description of the measures BOEM expects will contribute to offsetting particular impacts.	
Section Number: 3.9.6.1. This section should consider the impacts of reasonably foreseeable actions, not just environmental trends. Given that impacts are “noticeable,” they can and should be quantified using the best scientific information available, including separate runs of the fishing footprint impact reports for each alternative.	<p>This cumulative impact section includes other planned non-offshore wind activities and planned offshore wind activities, as well as environmental trends.</p> <p>Descriptors such as “undetectable,” “noticeable,” and “appreciable” are defined in Section 3.3 of the EIS and are used to describe the incremental impact of the action alternatives in relation to the combined impacts from all ongoing and planned activities, including both non-offshore wind and offshore wind activities. However, despite acknowledging that an overall impact may be noticeable, there may still be too many variables and unknowns to accurately quantify the impact. For the purposes of comparing alternatives, this incremental descriptor is sufficient.</p>
Section Number: 3.9.6.1. This section should consider the impacts of reasonably foreseeable actions, not just environmental trends. Given that impacts are “noticeable,” they can and should be quantified using the best scientific information available, including separate runs of the fishing footprint impact reports for each alternative.	Duplicate comment; see response above.
Section Number: 3.9.7. In the second paragraph, please note that the impacts described within Section 3.9.5 only reflects federally permitted fisheries and do not fully reflect the maximum impacts to the menhaden and conch/whelk fisheries. Therefore, these fisheries may be similarly adversely affected by Alternative C-2 through compression of WTG spacing.	Text was added indicating that “This does not include potential impacts from the compression of WTG spacing on non-federally permitted species, such as menhaden and welk fisheries.”
Section Number: 3.9.7.1. This section should consider the impacts of reasonably foreseeable actions, not just environmental trends. Given that impacts are “noticeable,” they can and should be quantified using the best scientific information available, including separate runs of the fishing footprint impact reports for each alternative.	<p>The cumulative impact section includes other planned non-offshore wind activities and planned offshore wind activities, as well as environmental trends.</p> <p>Descriptors such as “undetectable,” “noticeable,” and “appreciable” are defined in Section 3.3 of the EIS and are used to describe the incremental impact of the action alternatives in relation to the combined impacts from all ongoing and planned activities, including both non-offshore wind and offshore wind activities. However, despite acknowledging that an overall impact may be noticeable, there may</p>

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	still be too many variables and unknowns to accurately quantify the impact. For the purposes of comparing alternatives, this incremental descriptor is sufficient.
Section Number: 3.9.8. Insert a map or reference to the figure depicting Alternative E as well as a discussion of which fisheries may benefit from reductions to SAV impacts from this alternative. That would help the reader understand and appreciate the implications of this alternative relative to affected resources. While the same types of impacts on commercial and for-hire fisheries from the proposed action may apply to Alternative E, Section 3.9.5 of this document does not contain any meaningful description of the types or amount of impacts that may result from the proposed export cable corridor. This section should include a more thorough evaluation of impacts along the cable corridor, including any state-managed fisheries and specific fish species that may be affected within Barnegat Bay.	A reference to Figure 2-12, which depicts Alternative E, has been added to the text. BOEM has determined that the qualitative analysis provided in Section 3.9.3.2 under the cable emplacement and maintenance IPF is appropriate for temporary cable route disturbance. The benefit of Alternative E, which is the reduction of SAV affected by an estimated 14.7 acres, is quantified in the EIS. However, the benefit that the reduction of SAV impacts would provide to fisheries would be negligible.
Section Number: 3.9.8. This section should consider the impacts of reasonably foreseeable actions, not just environmental trends. Given that impacts are “noticeable,” they can and should be quantified using the best scientific information available, including separate runs of the fishing footprint impact reports for each alternative. Specific to Alternative E, discussion should focus on what species might be affected by this alternative in the context of overall impacts to these species from other projects.	The cumulative impact section includes other planned non-offshore wind activities and planned offshore wind activities, as well as environmental trends. Descriptors such as “undetectable,” “noticeable,” and “appreciable” are defined in Section 3.3 of the EIS and are used to describe the incremental impact of the action alternatives in relation to the combined impacts from all ongoing and planned activities, including both non-offshore wind and offshore wind activities. However, despite acknowledging that an overall impact may be noticeable, there may still be too many variables and unknowns to accurately quantify the impact. For the purposes of comparing alternatives, this incremental descriptor is sufficient. BOEM has determined that the qualitative analysis provided in Section 3.9.3.2 under the cable emplacement and maintenance IPF is appropriate for temporary cable route disturbance. The benefit of Alternative E, which is the reduction of SAV affected by an estimated 14.7 acres, is quantified in the EIS. However, the benefit that the reduction of SAV impacts would provide to fisheries would be negligible.
Section Number: 3.9.9. Compensation for gear loss and damage should be applicable throughout decommissioning and possibly	Comment addressed. Text was revised to include through decommissioning and beyond if Project infrastructure is not fully removed.

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indefinitely if project infrastructure (scour protection and turbine structures) are not removed.	
<p>Section Number: 3.9.9. Clarify whether funds set aside commensurate with those in Table 3.9-21 are for average or peak annual revenue exposed from the proposed project. As noted above, Table 3.9-21 does not include all fisheries that are affected by the proposed action and likely underestimates fishery exposure. Further, this table does not include any estimates of fishery impacts from the cable corridor, shoreside support service entities, or any increased costs that may be incurred by affected entities as a result of this project. Therefore, we are concerned that requiring any compensation funds based on the data in Table 3.9-21 will underestimate the funds needed to fulfill any valid compensation claim for lost fishing income and will not be sufficient to address all fishery impacts that may be observed. We disagree with your conclusion that such mitigation would reduce impacts to moderate for all entities and suggest impacts remain listed as major based on the definition in Table 3.9-19. We do not believe that income losses for all entities would be mitigated if funds are based on revenue exposure estimates in Table 3.9-21 for the reasons previously discussed. As noted above and in the document, some entities would experience substantial disruptions to existing fishing operations and may be impacted indefinitely unless all project infrastructure is removed, which is unlikely based on discussions in previous sections. Finally, it is unclear whether this measure would be adopted. Therefore, we expect some vessels could be impacted noticeably and indefinitely, even if compensation is required, as compensation may not continue beyond 5 years post-construction, while impacts may continue long after that date.</p>	<p>By providing revenue exposure within the EIS analysis, not impacts, BOEM is already providing a very conservative estimate of potential revenue losses and potential impacts. Therefore, by providing this overestimation of revenue exposure, the analysis provides a buffer to cover other operating expenses.</p> <p>BOEM has determined that the qualitative analysis provided in Section 3.9.3.2 under the cable emplacement and maintenance IPF is appropriate for temporary cable route disturbance.</p>
<p>Section Number: 3.9.9. Proposed Mitigation Measures should go beyond gear loss/damage and lost fishing income. Per above comment, fishery impacts also need to be addressed and mitigated. For example, fishing entities should be mitigated through compensation for increased travel costs if they choose to avoid navigating through Ocean Wind and adjacent projects to distant fishing grounds. These impacts are not considered through ex-vessel landing exposure analysis as vessels that transit through but don't have historical landings within are not represented. The EIS needs to provide an analysis of these travel cost impacts in order for compensation claims</p>	<p>By providing revenue exposure within the EIS analysis, not impacts, BOEM is already providing a very conservative estimate of potential revenue losses and potential impacts. Therefore, by providing this overestimation of revenue exposure, the analysis provides a buffer to cover other operating expenses, such as increased travel costs and other related impacts.</p>

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to be made by the fishing industry to lessees according to BOEM's draft mitigation guidance. In order to ensure fishermen can make claims on anticipated impacts, BOEM must provide an analysis that includes costs, including travel, permit value loss, insurance premiums.	
Section Number: 3.11.5. The risk of collision focuses on vessel traffic but fails to include risks of collision with structures which should be added as a potential negative impact for each alternative (negatively correlated to the number of turbines).	<p>The presence of structures IPF discussion in Section 3.11.5 (<i>Impacts of the Proposed Action on Demographics, Employment, and Economics</i>) of the EIS includes discussions of both vessel collisions and allisions. Allisions account for a vessel striking any stationary object, which may include offshore structures.</p> <p>The alternatives analysis in Section 3.16 (<i>Navigation and Vessel Traffic</i>) discusses that there may be slightly reduced impacts on navigation and vessel traffic due to WTG positioning compared to the Proposed Action, but impacts would be at the same level of major.</p>
Section Number: 3.11. The potential for increased insurance costs (including but not limited to premiums, deductibles, and foregone revenues while waiting for repairs) due to collisions with other vessels and/or wind equipment and associated damages should also be included in this section. Conversation around compensation mitigation for these potentially incurred costs are especially important for vulnerable vessel owners who may no longer be able to operate creating negative knock on effects.	<p>The EIS does not estimate potential increases in insurance costs due to collisions with other vessels or allisions with offshore wind structures because BOEM does not have a methodology for doing so. BOEM recently published draft guidance for a general compensation fund related to commercial and recreational fishing activities (https://www.boem.gov/renewable-energy/draft-fisheries-mitigation-guidance).</p>
Section Number: 3.11. Please include current or projected locations as well as costs of related job training programs/facilities (when available) to ensure that the feasibility to support current and projected supply chain needs can be evaluated.	<p>A recently released report from NREL (https://www.nrel.gov/docs/fy23osti/81798.pdf) states that the New Jersey Economic Development Authority is providing \$4.5 million in funds to support the wind energy work force, specifically the New Jersey Wind Turbine Technician Training Challenge and New Jersey Offshore Wind Safety Training Challenge. Recent solicitations in New Jersey contained equity provisions that support the development of a local workforce by requiring developers to provide workforce training and support minority-owned businesses. This text has been added.</p>
Section Number: 3.11.3.2. Please clarify in the text that the referenced BVG Associates Limited (2017) study found that the high-energy production scenario for 30GW of offshore wind by 2030 will make additional jobs more likely. The report indicates that this scenario does not lead to a higher proportion of baseline jobs because U.S. companies will still meet significant competition from more established suppliers and U.S. supply cannot be guaranteed. As a result coastal	<p>A sentence stating that “the high-energy production scenario for 30 GW of offshore wind by 2030 will make additional jobs more likely” has been added to EIS Section 3.11.3.2. The discussion of this reference does not only account for East Coast jobs, but jobs across the U.S. that could be created from the offshore wind industry.</p>

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<p>communities will not necessarily see a net increase in jobs - which may not be a benefit to coastal communities that are largely dependent on the fishing industry. This information should be accurately reflected in the DEIS. Reference: https://tethys.pnnl.gov/sites/default/files/publications/NYSERDA-Report-2017-OSW-Jobs.pdf.</p>	
<p>Section Number: 3.11.3.2. Please note in the text findings by Parkison and Kempton in 2022 that indicated “there is an East coast marshalling port shortage that will limit the future of the US OSW industry, impeding efficient and cost-effective OSW project deployment, delaying construction schedules, and constraining logistics. Marshaling ports are difficult to site due to their demanding specifications, and states have thus far depended mostly on re-working existing ports that are much smaller than recommended.” Furthermore, according to a study by the D.O.E. on America’s Strategy to Secure the Supply Chain for a Robust Clean Energy Transition in 2022, investments in specialized port infrastructure and Jones Act-compliant specialized maritime vessels required for offshore wind development are challenged by a lack of certainty in near-term offshore wind demand; uncertainty in demand is exacerbated by the lack of specialized vessels and port infrastructure. These findings contradict the following statement in the EIS which insinuates that the necessary level of investment for all existing and future activities at all stages of offshore wind development is assured: “While simultaneous construction or decommissioning (and, to a lesser degree, operation) activities for multiple offshore wind projects in the geographic analysis area could stress port capacity, it would also generate considerable economic activity and benefit the regional economy and infrastructure investment.” We suggest the text be updated to note that without strong strategies to evaluate cumulative effects of offshore wind development to all surrounding ports and policy securing appropriate levels of investment, the lack of sufficient specialized port infrastructure and vessels could create significant bottlenecks at the major ports associated with Ocean Wind in addition to neighboring ports due to overcrowding.</p>	<p>As noted in the COP, Ocean Wind proposes to use two ports in New Jersey that are being improved specifically to support the offshore wind industry: Port of Paulsboro for foundation fabrication and Hope Creek, New Jersey for WTG pre-assembly. Given the substantial ongoing investment in these facilities as described in Appendix F, BOEM does not concur that the proposed Project is likely to create significant bottlenecks at major ports due to overcrowding.</p>
<p>Section Number: 3.11.3.2. Please insert an explanation for how “considerable benefits” were determined as potential impacts of port modifications. Please clarify the sources of information indicating planned modifications and expansions for each port mentioned in the port utilization section of this page, or remove the following statement:</p>	<p>Supporting reference has been added to substantiate “considerable benefits.” Considerable benefits include the number of new jobs, economic growth and opportunity, and investment in clean energy.</p>

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<p>“While simultaneous construction or decommissioning (and, to a lesser degree, operation) activities for multiple offshore wind projects in the geographic analysis area could stress port capacity, it would also generate considerable economic activity and benefit the regional economy and infrastructure investment.”</p>	
<p>Section Number: 3.11.3.2. Under ‘Port Utilization’, the DEIS should discuss situations where port facilities may experience competition between existing users and wind energy staging activities. The competition for dock space, and thus increase in dock space prices may create negative effects on some local communities.</p>	<p>As noted in the COP, Ocean Wind proposes to use two ports in New Jersey that are being improved specifically to support the offshore wind industry: Port of Paulsboro for foundation fabrication and Hope Creek, New Jersey for WTG pre-assembly. Given Ocean Wind’s proposed use of ports specifically developed or improved to support the offshore wind industry, as described in Appendix F, BOEM does not concur that the proposed Project is likely to create significant competition with other users for dock space.</p>
<p>Section Number: 3.11.3.3. Under ‘Presence of Structures,’ please add text after citing the Hoagland study to elucidate the importance of the likely inequitable distribution of negative impacts on those living outside of coastal communities. Low-income workers found in commercial fishing and supporting industries are especially vulnerable to impacts mentioned in Hoagland et al. as they are more likely to live and contribute to local economies outside of coastal areas due to higher coastal costs of living.</p>	<p>EIS Section 3.11 includes mention of the Hoagland study under the presence of structures IPF, stating that “The study’s authors found that impacts may be most pronounced in areas that are not close to the coastline (Hoagland et al. 2015), highlighting the potential for broad, regional socioeconomic impacts.” The Hoagland et al. study’s stated adjustment of welfare losses to account for “society’s aversion to income inequality” and weighting of impacts to give low-income groups more influence on the net utility impacts is not a commonly applied methodology and may distort the findings, so these additional conclusions have not been incorporated.</p>
<p>Section Number: 3.12. Please include findings of Hoagland et al. (2015) which state that displacement of fishing vessels from Point Judith, RI and New Bedford, MA will impact a wider spatial area than would be expected, including communities inland. This study found communities in MA such as Boston, Fall River and Brockton, MA as well as Pawtucket, RI had highest level of impacts per household (see Figure 5 in article). “The figure reveals that five census tracts (colored in dark red) would bear the largest impacts, which, at ≥\$140 year⁻¹ would be an order of magnitude larger than those of the next group of impacted census tracts. These tracts (circled in Fig. 5) are located in Pawtucket (RI), Fall River (MA), Brockton (MA), between Boston South End and Fenway/Kenmore (MA), and between Mattapan and Roslindale (MA). Without providing analyses that will ensure all impacted communities are evaluated with the best available science, BOEM is not adequately making efforts to understand the impacts to</p>	<p>BOEM’s methodology for associating offshore impacts on commercial fisheries and for-hire recreational fishing to onshore impacts on environmental justice populations involves the use of geospatial data to: (1) identify the location of low-income and minority populations in the geographic analysis area using mapped spatial data obtained from the U.S. Census Bureau or through EJSCREEN, along with state-identified populations if available, (2) assessing the intensity of commercial and recreational fishing engagement or reliance within the same geographic analysis area with mapped spatial data developed by NOAA, and (3) identifying geographic locations in the geographic analysis area where low-income and minority populations are present, that also have high levels of commercial or recreational fishing engagement or reliance, to identify specific environmental justice populations that could be vulnerable to offshore impacts on commercial and recreational fishing. In addition,</p>

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<p>underserved communities (most of the identified communities in this study have high levels of poverty and diversity). https://www.sciencedirect.com/science/article/pii/S0308597X15000871.</p>	<p>BOEM has identified public fishing sites close to Project infrastructure that could be temporarily disrupted during construction and potentially affect subsistence anglers. BOEM believes this methodology is a valid approach to associating offshore impacts to onshore environmental justice populations. The Hoagland et al. 2015 article analyzed a counterfactual scenario where offshore wind would completely displace commercial fishing and no economic impacts from the offshore wind development were considered. Despite these conservative assumptions about how impacts would be generated and attributed, the initial results found that welfare losses would be progressively distributed such that mid- to high-income categories would likely bear the most significant impacts, and therefore low-income populations would not experience disproportionately high and adverse effects. The authors “adjusted welfare losses for society’s aversion to income inequality,” weighting impacts to give low-income groups more influence on the net utility impacts, a methodology untested in EIS applications. Given these issues with the analysis, BOEM has elected not to include this citation in the EIS.</p>
<p>Section Number: 3.12. The Marine Recreational Information Program (MRIP) provides a list of publicly accessible fishing sites. Underserved communities often practice subsistence fishing in low income areas. We appreciate that BOEM included this information in the recreation and tourism section. However, impacts to subsistence fishing is listed in the DEIS as a potential unavoidable adverse impact of the Proposed Action and BOEM should make an effort in this section as well to identify those specific fishing sites that are within areas of environmental justice communities of concern, including a summary of these access sites within these communities. Consider noting which sites will be impacted and overlap with offshore wind infrastructure on land and cable placement during both construction and operation. See the Site Register here: https://www.st.nmfs.noaa.gov/msd/html/siteRegister.jsp.</p>	<p>Reference to publicly accessible fishing sites near inshore cable routes, cable landfalls, onshore export cable routes, and the O&M facility on Atlantic City that are listed in the Marine Recreational Information Program database have been added to Section 3.12 of the Final EIS.</p>
<p>Section Number: 3.12. BOEM has clarified that the analysis only includes VA and SC because the Ocean Wind COP identified these ports. The COP identified these two ports because due to their proximity, VA and SC ports are anticipated to be used during construction. However, BOEM should provide a more comprehensive</p>	<p>BOEM’s methodology for identifying environmental justice populations involves the use of geospatial data to identify the location of low-income and minority populations in the geographic analysis area using mapped spatial data obtained from the U.S. Census Bureau or through EJSCREEN. The environmental justice geographic analysis area, Figure 3.12-1 in the EIS, identifies</p>

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analysis of communities that could be impacted by offshore wind, which may go beyond port facility communities.	environmental justice populations that span beyond port facility communities. While the geographic analysis area does include the communities surrounding the identified ports, it also includes areas with onshore project infrastructure (interconnection points, O&M facility) or cable landings. In regard to Virginia and South Carolina, the identified environmental justice populations go beyond the immediate location of the ports and include a larger geographic area. Analysis of port utilization is carried forward for analysis of disproportionately high and adverse effects under the port utilization and air emissions IPFs.
Section Number: 3.13. As discussed with BOEM previously, we recommend the following categories be used to describe impact duration: short-term (less than 2 years); long-term (2 years to < life of the project); and permanent (life of the project). It is unclear why the Ocean Wind DEIS defines short term impacts as less than 3 years. We recommend this be modified to less than 2 years. We are also concerned that BOEM defines “long term” as lasting for the life of the project, and permanent effects are defined as those that extend beyond the life of the project. This should be modified to be consistent with the EFH duration definitions, as impacts that last the life of the project (30+ years) should be classified as a permanent impact.	The Ocean Wind 1 EIS defines short-term effects as effects that may extend up to 3 years. This duration corresponds to the anticipated duration of 2 to 3 years for construction and conceptual decommissioning activities. Long-term effects are defined as effects that may extend for more than 3 years, and may extend for the life of the Project (35 years). An example would be the loss of habitat where a foundation has been installed that would be decommissioned at the end of the Project. There would also be permanent conversions of habitat for the onshore substations that extend beyond the life of the Project, and the EFH definition of <i>permanent</i> would not capture this longer duration.
Section Number: 3.13. Citing the COP is inappropriate except for elements related to the action (e.g., project design, construction methodologies). Analyses of potential impacts should be independent of the COP and involve thorough reviews of the literature.	Additional literature review and citations have been added to Section 3.13 as noted in response to specific comments below.
Section Number: 3.13. Elements, alternatives, or methodologies that avoid and minimize impacts to resources should be described as such and not mischaracterized as “benefits” or “beneficial.”	One revision to an impact conclusion was made in Section 3.13.6 to restate that Alternative E would reduce impacts on fish and invertebrates. All other occurrences of “benefits” or “beneficial” are within the context of artificial reef effects.
Section Number: 3.13.1. While there is now mention of important prey species such as the two species of sand lance (<i>Ammodytes americanus</i> and <i>A. dubius</i>) and other forage fish in a list, there is no in-depth evaluation of potential impacts to sand lances and other important forage species. This should be corrected and thorough evaluations of potential impacts conducted.	A description of impacts on sand lance was added to Section 3.13.5 and a cross-reference will be added to the EFH Assessment where sand lance is discussed in detail.
Section Number: 3.13.1. Insert a discussion of the status of all species for which established EFH overlaps with the project area, particularly	A discussion of the status of all species with EFH in the Project area is detailed in the EFH Assessment (BOEM 2022a). Cross-reference

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for species important to fisheries that may be affected by this project. This helps establish baseline biomass levels as a means of evaluating impacts of this action.	to the EFH Assessment is made in Section 3.13.1. Additional information on species with EFH in the Project area by life stage is summarized in EIS Table I-6 of Appendix I, <i>Supplemental Information</i> .
Section Number: 3.13.1. In the third paragraph, please note that black sea bass is expanding its population size, but also its distribution northward as a result of warming waters that may offset noted additional pressures that could lead to population decline.	Sea bass was added to the list of species described similarly in a subsequent paragraph in the same section.
Section Number: 3.13.1. In the FEIS, rather than provide information on all ESA listed species (inclusive of whales and sea turtles), please provide a paragraph summarizing the distribution of ESA listed fish species that occur in the geographic analysis area.	The referenced paragraph on ESA-listed marine mammals and sea turtles was deleted and discussion added on the status of the Atlantic sturgeon, primarily from the Atlantic Sturgeon Status Review Team (2007).
Section Number: 3.13.1. While this section includes references to the BA (BOEM 2022b) and its analyses for Atlantic sturgeon, the FEIS should summarize the anticipated effects of the action on ESA-listed fish species. We note that the sea turtle section contains a summary of the findings in the BA (see 3.19.5) and recommend that a similar summary be provided for ESA listed fish with an emphasis on Atlantic sturgeon. If the BA will not be included as an appendix to the final document, we encourage BOEM to make the BA publicly available on the Ocean Wind webpage (not just on the ESA consultation page) so that the information can be easily referenced by the public.	Added as requested.
Section Number: 3.13.1. Table 3.13-1: With these definitions, it is difficult to identify a meaningful difference between “minor” and “moderate” effects to fish species. Both categories seem to indicate that there could be loss of individuals that would not have population level impacts with the only difference being that for minor, “most” impacts would be avoided (but there could still be loss of individuals). Additional clarity should be provided in the FEIS to ensure that there is a clear and meaningful difference between these categories.	Minor impacts would be mostly avoided and otherwise limited to temporary or short term; moderate impacts are unavoidable and may be short to long term or permanent.
Section Number: 3.13.1. At the bottom of the last full paragraph, please note that fishing regulations would result in positive impacts to marine resources through ensuring fishery removals are sustainable over the long term.	Text has been added to Section 3.13.3.1 to describe the relationship of fishing effort to regulations. Most fishing regulations would limit the removal of marine resources but would not necessarily eliminate the removal of or increase marine resources. Fishing regulations are not an IPF in this section, so positive and negative benefits are not analyzed here.

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Section Number: 3.13.3.1. Vessel strikes are missing from this analysis; vessel strikes are documented threats to at least some marine fish species, including Atlantic sturgeon and Giant manta rays.	Discussion of vessel strikes has been added to Sections 3.13.3. and 3.13.5 under the vessel traffic IPF.
Section Number: 3.13.2. Consideration of UXO detonations and vessel strikes are missing from this analysis. Both activities may result in adverse effects to at least some fish species.	Discussion of UXO and vessel strikes has been added to Section 3.13.3 and Section 3.13.5 under the noise and vessel traffic IPFs.
Section Number: 3.13.3.2. As noted earlier in this section, noise may disrupt spawning activity for species with social behavior or that communicate with sound during spawning seasons. This should be noted here for longfin squid and that impacts to multiple spawning seasons may have population level impacts for species such as longfin squid with short lifespans. Previous noise studies on longfin squid, including some mentioned in this document, did not evaluate the impacts of noise during spawning season.	Additional information related to impacts of noise on spawning behavior has been added to Section 3.13.3.2, based on Mooney et al. 2020 and Radford et al. 2014.
Section Number: 3.13.3.2. Please note in this section that changes to the Cold Pool size, distribution, and timing may negatively affect thermal habitats preferred by some species (e.g., Atlantic mackerel, Illex squid, etc.) and may affect the availability of some species to nearshore spawning habitats (longfin squid) and as a source of prey for other species.	Added as requested.
Section Number: 3.13.3.2. Remove mention of “reduction in favorable conditions” when the clear purpose of the statement/section is to describe long-term and permanent reductions in soft bottom habitat for various species. Recommend using appropriate terminology such as “reductions in habitat” or “reductions in spawning habitat” or “reductions in adult habitat.”	Revised as requested.
Section Number: 3.13.5. Consideration of UXO detonations and vessel strikes are missing from this analysis. Both activities may result in adverse effects to at least some fish species, including endangered Atlantic sturgeon.	Discussion of UXO and vessel strike has been added to Section 3.13.3 and Section 3.13.5 under the noise and vessel traffic IPFs.
Section Number: 3.13.5. Accidental releases: This discussion should include effects of anti-corrosive and anti-fouling compounds.	Added as requested.
Section Number: 3.13.5. The narrative on EMF indicates that the science is unsettled on this topic. However, the conclusion is that impacts will be negligible. Please provide a rationale for this conclusion.	Additional explanation of EMF impacts has been added based on Hutchinson et al. 2020 and Harsanyi et al. 2022.

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Section Number: 3.13.5. The conclusions regarding potential impacts of operational noise are dismissed/discounted with little justification. We disagree with this discounting and a thorough analysis of the potential impacts should be undertaken.	The discussion of noise impacts has been expanded in Section 3.13.5 to include results of studies documenting impacts of noise on individual fish species based on Southall et al. 2007, Popper et al. 2014, Popper and Hawkins 2018, and Popper et al. 2022.
Section Number: 3.13.5.1. The impact conclusion does not accurately reflect impact levels in Table 3.13-1, as habitat conversion may be permanent, but would not result in population level impacts to associated species. Recommend revising the EFH impact conclusions to moderate. Habitat conversion is expected to occur over the life of the project and beyond and would not recover naturally over time. In a similar manner, impacts on invertebrates should be classified as moderate or at least minor to moderate to reflect the range of impacts to various species. This impact determination would be consistent with the overall impact conclusions at the bottom of this page. For example, soft bottom habitats that support Atlantic surfclam, ocean quahog, sea scallop, and others will be permanently converted to steel pile (foundation) and rock riprap and would not support these species, thereby reducing colonization and reproductive potential/recruitment.	The impact conclusion was revised to moderate for EFH and to minor to moderate for invertebrates, as suggested.
Section Number: 3.13.6.1. Impact conclusions should differentiate between impacts associated with various activities, particularly for Alternative E. Although Alternative E may result in increased trenching, it would significantly reduce impacts to SAV. Given the previous section suggested minimal difference with cable-laying alternatives, the significant reduction in impacts to SAV suggest that Alternative E is much more effective at reducing overall impacts to important habitat than the proposed action. This should be noted in this section, as the marginal increased negative impacts of additional trenching are of less importance than the benefits of protecting important SAV. Additionally, trenchless cable installation methodologies should be fully considered for the SAV avoidance alternative.	Discussion has been added to Section 3.13.6 that describes the difference in the cable placement methods; impacts on SAV, particularly between the Proposed Action and Alternative E; and an analysis of short-term impacts (in acres for each cable route) of open-cut trenching and HDD for each of the estuarine cable routes. A table of areal extent of impacts has also been added to quantify the differences among export cable routes in Barnegat Bay by cable installation method.
Section Number: 3.13.6.1. There is an odd emphasis on the significance of trenching and other related impacts with little acknowledgement of the more than 14 acres of SAV that would be directly avoided via this alternative. While indirect impacts are difficult to estimate, given the occurrence and density of beds in the original cable location, those are also presumed to be reduced with Alternative E. Furthermore, it remains unclear why less invasive methods (e.g., HDD) could not be used to further avoid and minimize impacts to SAV.	In addition to text noted in the previous comment, information has been added to Section 3.13.6 that describes HDD and corresponding potential impacts of HDD to clarify differences in open cut and HDD cable methods and potential impacts on SAV.

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<p>HDD and other methods should be included, potentially as avoidance and minimization measures. Specifically, the SAV Avoidance alternative should include, at a minimum, HDD at the backside of the barrier island with an exit pit west of the historic SAV beds (SAV habitat) and existing beds. HDD should also be discussed and analyzed as a measure to avoid SAV beds on the land-side landing location.</p>	
<p>Section Number: 3.13.6.1. The current discussion and analysis of the SAV Avoidance alternative (e.g., impact conclusion is “negligible to moderate” for benthic resources) appears to emphasize construction-related impacts to suggest this alternative has more impacts than the proposed action through SAV beds (e.g., impact conclusion minor for benthic resources), which included more than 14 acres of permanent impacts to SAV, a habitat that is extremely difficult to offset in-kind and for which there are extremely limited locations suitable for compensatory mitigation within Barnegat Bay. As mentioned here and in our letter, the document appears to discard the use of HDD in favor of methods that would result in greater impact (open trenching), but only for the new SAV Avoidance alternative. This approach relies on numerous assumptions that are not discussed, but do not appear to consider avoidance and minimization of impacts.</p>	<p>Discussion of avoidance, minimization, monitoring, and mitigation, including reference to the Ocean Wind SAV Monitoring Plan and SAV Preliminary Mitigation Plan, have been added to clarify anticipated impacts, including text from Section 3.6.8.1, e.g., “The anticipated impacts associated with Alternative E would be similar to those of the Proposed Action but impacts on SAV within Barnegat Bay would be greatly reduced.” However, overall impacts on benthic habitats reflect all IPFs and all habitats in the entire Lease Area and, considering all the IPFs together, the overall impacts on finfish, invertebrates, and EFH associated with the action alternatives when combined with the impacts from ongoing and planned activities including offshore wind would be negligible to moderate. References to Section 3.6.8 and the EFH Assessment are included in this section.</p>
<p>Section Number: 3.13.6.1. There is no evaluation or discussion of indirect impacts to SAV, especially those over the life of the project; please add this information to the document.</p>	<p>A discussion of indirect impacts on SAV has been added to Section 3.13.1.</p>
<p>Section Number: 3.13.6.1. Background information on SAV appropriately discusses that it is a difficult-to-replace resource and mitigation is rarely successful; however the conclusions do not align with this.</p>	<p>Additional discussion of long-term habitat loss that can result from cable installation through SAV beds has been added to Section 3.13.3 under the cable emplacement and maintenance IPF.</p>
<p>Section Number: 3.13.7. We appreciate the inclusion of mitigation measures, particularly time of year restrictions to reduce impacts to winter flounder and anadromous fish. However, a time-of-year restriction mitigation measure for SAV/SAV habitat is not mentioned or included, which is common for these types of projects in the Barnegat Bay and is recommended for this project. This time of year restriction extends from April 15 to October 15 of any year to avoid impacts to SAV (and the organisms that rely on this habitat) during the growing season.</p>	<p>Section 3.13.7 has been updated to include a table analyzing mitigation measures identified in Appendix H, Tables H-2 and H-3. EFH Conservation Recommendations issued by NMFS on February 23, 2023, include a time-of-year restriction to avoid construction activities from April 15 to October 15 of any year to avoid impacts on SAV. EFH Conservation Recommendations have been included in Appendix H, Table H-2 and analyzed in Section 3.13.7.</p>

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Section Number: 3.13.7. Monitoring of SAV/inshore route, including areas adjacent to the route, needs to be more robust and occur for the life of the project, especially considering maintenance and other activities that may further impact nearby SAV.	Ocean Wind has developed a SAV Monitoring Plan (Inspire 2022) to document baseline delineations and conditions of SAV beds, assess potential impacts on these SAV beds as a result of construction and operation of the inshore export cable(s) associated with the Project, and track recovery of these SAV beds over time to inform potential mitigation strategies. A summary of the SAV Monitoring Plan has been added to Sections 3.13.5 and 3.6.4.
Section Number: 3.13.3.2. This section describes the No Action Alternative and should only discuss the potential impacts for wind projects already permitted. Evaluating impacts from all potential wind projects listed in Appendix F incorrectly and inappropriately conflates the No Action alternative evaluation with the cumulative impact analysis. Such analyses should be kept separate and distinct to preserve the ability for the public and BOEM to accurately differentiate the impacts of each alternative considered in this action. Otherwise, BOEM risks minimizing the differences between alternatives and undermining the utility of the DEIS.	The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6 of the Final EIS. The No Action Alternative analysis has been reorganized in each resource section in Chapter 3 of the Final EIS to provide separate subsections for ongoing and planned activities.
Section Number: 3.13.3.2. Speculative benefits of anchoring/anchor dragging to cobble-boulder habitat needs to be thoroughly and appropriately contextualized or removed from the document, as it emphasizes the benefits of that action while downplaying adverse impacts.	The statement regarding restructuring of patchy cobble boulder habitat under the anchoring IPF has been deleted.
Section Number: 3.13.5. Insert a discussion that noise may disrupt spawning activity for species with social behavior or that communicate with sound during spawning seasons. This should be noted here for longfin squid and that impacts to multiple spawning seasons may have population level impacts for species such as longfin squid with short lifespans.	Per the earlier response to comment on Section 3.13.3.2, additional information related to impacts of noise on spawning behavior (based on Mooney et al. 2020 and Radford et al. 2014) has been added to Section 3.13.3.2.
Section Number: 3.13.5. Per our previous comments: impact of vibrations, especially related to invertebrates (literature Roberts et al. 2015, Roberts and Elliott 2017, etc.) need to be more thoroughly discussed and potential impacts evaluated. We previously provided information on potential impacts and these need to be more fully integrated into the evaluation within the document.	The discussion of impacts of vibrations on invertebrates has been expanded in Section 3.13.5 based on updates to the Letter of Authorization (Ocean Wind 2022b).
Section Number: 3.13.5. This analysis of noise focuses on sound pressure. Noise can produce sound pressure, particle motion, and substrate vibration. All of these should be discussed separately.	Additional discussion of particle motion and vibration has been added to Section 3.13.5.

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Section Number: 3.13.5. Noise: Please include in discussion of impacts on communication, auditory mating cues, chorusing, masking, etc. These should be included in the analysis.	Text has been revised as requested, incorporating Mooney et al. 2020 and Radford et al. 2014.
Section Number: 3.13.5. It is unclear where and how UXO detonations have been evaluated, if they have been evaluated at all. The impacts of this activity should be integrated into this section and impacts evaluated comprehensively.	Discussion of impacts of UXO detonation has been added to Sections 3.13.1, 3.13.3, and 3.13.5.
Section Number: 3.13.5. Noise impacts, especially those from construction, are noted as being temporary or short-term in various locations that also discuss injury, mortality, and behavioral impacts to organisms. Sections related to noise currently omit important discussions of how the temporary activity of pile driving may result in short-term, long-term and permanent impacts to fish/invert populations and communities, specifically growth, fecundity, recruitment, and future production. This should be corrected and all impacts thoroughly discussed.	Impacts of noise on finfish are anticipated to be short term, temporary, and negligible to minor, and no population-level impacts are anticipated. Additional discussion of noise impacts has been added to Section 3.13.5 to describe peak and cumulative impacts of pile driving on finfish that were modeled by calculating the radius and intensity and type of sound from pile driving with respect to various groups of fish to evaluate the potential for injury and behavioral impacts. Results indicate injury from a single strike is limited to 70 meters from the pile and injury from prolonged cumulative exposure (over 24 hours) can extend as far as 9.35 kilometers from the pile; behavioral effects on fish could occur up to 7.54 kilometers from the pile source during the winter. Some level of behavioral reaction is expected but impacts on fish from pile-driving noise are considered temporary for the duration of the pile driving. No population-level effects are anticipated. Details of the modeling and results are provided in the EFH Assessment (BOEM 2022a).
Section Number: 3.13.5. Noise: The reader is referred to another section for a discussion on G&G impacts of noise. These impacts need to be clearly incorporated into the final conclusion of noise impacts.	Additional information on noise associated with G&G surveys has been added to Section 3.13.5. Adverse effects on benthic habitat and communities are expected to be reversible; no impacts on hard-bottom communities would be anticipated from G&G surveys. Surveys would include equipment operating at less than 180 kilohertz and consist of multibeam depth sounding, seafloor imaging, and shallow- and medium-penetration sub-bottom profiling within the Project area. BOEM's regulations and guidance under 30 CFR 585.626 and 585.627 require the lessee to submit detailed G&G data and analysis, among other data requirements, to establish engineering and other construction parameters.
Section Number: 3.13.5. Noise: Kuesel et al. 2021 examined two pile sizes (8 and 11m). Please indicate how this compares with the pile size in the Proposed Action.	As defined in Appendix E, the maximum design parameter for the monopile diameter at the seabed is 11 meters.

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<p>Section Number: 3.13.5. While the background information provided about ridge and trough complexes and the value they provide is more robust, the impacts to this habitat (even in the evaluation of the ridge and trough avoidance alternative) appear to be inappropriately discounted and minimized. While quantitative information is provided about the reduced benthic impacts of each alternative from removal of WTGs and associated scour protection, the qualitative assessment is still insufficient, as the document essentially still treats removing WTGs in any alternative as being equal. We reject this approach and assumptions therein; this needs to be corrected. The presence of WTGs and scour protection would fundamentally alter the ridge and trough complexes.</p>	<p>Additional discussion of the value of ridge and trough habitat, and that WTGs would alter that habitat, has been added to Section 3.13.5 under the presence of structures IPF based on Byrnes et al. 2000, Slacum et al. 2010, and VIMS 2000. A discussion of Alternative D is presented in Section 3.6.7 and summarized in Section 3.13.5 with a reference to Section 3.6.7.</p> <p>Under Alternative D, impacts would be reduced from the Proposed Action by removal of up to 15 foundations and fewer miles of inter-array cable, resulting in an estimated 728 fewer acres of bottom impacts. Permanent impacts on complex habitat (NOAA habitat complexity category) would be reduced by 1.8 acres and soft-bottom habitat impacts would increase by 11.3 acres under Alternative D (refer to Table 3.6-4 in Section 3.6, <i>Benthic Resources</i>). Overall impacts associated with the presence of structures and conversion of habitat from existing bottom to scour protection would be reduced (both adverse and beneficial).</p>
<p>Section Number: 3.13.5. Presence of Structures: The section (and document as a whole) inappropriately concludes that there is a “moderate benefit” from the presence of structures, which is a value judgement made by the Author, as there is no scientific consensus, support, or evidence for this conclusion. We recommend this be changed to “negligible to minor” benefit throughout the document.</p>	<p>Various impacts on finfish resulting from the presence of new structures associated with the Proposed Action are described in detail in Section 3.13.3.2 and include beneficial impacts as a result of the artificial reef effect associated with WTGs, described in Section 3.13.5.</p>
<p>Section Number: 3.13.5. Presence of Structures: This section should incorporate discussion of new literature on wind wake effects and potential impacts on biological production and larval dispersal.</p>	<p>Discussion of wind wake effects has been added to Section 3.13.5 under the presence of structures IPF.</p>
<p>Section Number: 3.13.6.1. It is unclear how the land-side landing location (in Forked River/Waretown, NJ) SAV impacts are evaluated in Table 3.13-4, especially as two new route options have been added to the document and comprehensive field surveys have not been completed. Any analysis of land-side landing location, especially the two new options, will require current (2022 growing season and pre-construction) and comprehensive SAV surveys of all potential landing locations to further avoid and minimize impacts.</p>	<p>This information has been added to Section 3.13.5.1 and includes a table of impacts on SAV from both HDD and open-cut trenching. The SAV Monitoring and Mitigation Plans are also described in the same section and include pre-, during, and post-construction monitoring.</p>
<p>Section Number: 3.13.6.1. The analysis of the SAV avoidance alternative appears to be limited to considering impacts to the SAV habitat west of Island Beach State Park and does not consider impacts to the SAV bed at the land-side cable landing location. The impacts of</p>	<p>A comparison of SAV impacts for different landside cable connections has been added to Section 3.13.5.1 and includes a table of impacts on SAV from both HDD and open-cut trenching. The SAV</p>

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all land-side landing location options are not clearly presented, making it impossible to draw a straightforward comparison of land-side routing options and associated impacts to SAV beds. The SAV avoidance alternative should limit the cable landing location options to only consider the route with the least impacts to SAV.	Monitoring and Mitigation Plans are also described in the same section and include pre-, during, and post-construction monitoring.
Section Number: 3.13.6.1. All SAV impacts, including direct, indirect, individual, cumulative, and synergistic need to be included in the analysis for both the backside of Island Beach State Park and all land-side landing locations.	The general comment was addressed through responses to specific comments above. SAV impacts are also analyzed in the EFH Assessment.
Section Number: 3.15. The document is inconsistent in identifying what the No Action alternative includes and the structure of the analysis in the action alternatives is equally confusing. Please restructure the document as advised in our letter accompanying these comments. Importantly, as written, it appears the project itself (without consideration of foreseeable actions) would result in a major impact to NARW since the No Action alternative only considering baseline results in only minor impacts to all marine mammals.	For the No Action Alternative analysis in the Chapter 3 resource sections, the Final EIS was updated to present the analysis of the ongoing non-offshore wind and ongoing offshore wind activities under a separate subheading from the planned non-offshore wind and offshore wind activities. Section 3.1 of the Final EIS explains the approach to predicting impacts related to the No Action Alternative. The Proposed Action and action alternative discussions were also updated to present the cumulative impact analysis under a separate subheading. Draft EIS Table S-2 incorrectly noted the No Action Alternative had a rating of “minor.” The table conclusions have been updated in the Final EIS based on the analysis presented in Section 3.15 and the rating for the No Action Alternative has been revised to “negligible to major.”
Section Number: 3.15.1. In their MMPA application, Ocean Wind has requested authorization to take 17 species (but 18 stocks), which contradicts the number presented in the DEIS (20 species). Please ensure that the DEIS accurately reflects the same species listed in the MMPA Authorization application.	Species and stock numbers have been revised to be consistent with those presented in the MMPA Authorization as requested.
Section Number: 3.15.1. See comment above. The species carried forward into BOEM’s analysis need to be listed or provided in a table with recent stock information that was used in BOEM’s analysis to ensure cohesion with the MMPA application. As only some of the species are mentioned in the paragraph above this one, it would provide clarity on which are being carried forward and which are not.	Species and stock numbers in the Draft EIS chapter and Appendix I have been revised to be consistent with those presented in the MMPA Authorization as requested.
Section Number: 3.15.1. The densities used for each marine mammal species should be presented below this section and show where the specific value came from (i.e., which data source). Note that the FEIS	The Draft EIS has been updated to reference the latest Letter of Authorization memo (Ocean Wind 2022b) dated August 2022.

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will need to be updated using the new Roberts densities which will be provided by Orsted soon to NMFS for the proposed rule.	Revised densities and take estimates are provided in the new Final EIS Attachment J-1 and Appendix J has been revised.
Section Number: 3.15.1. Given that the NARW migratory corridor Biologically Important Area (BIA) was described, BIAs for the relevant species in here need to be included as well. Specifically there are foraging BIAs located further north for some of these protected species. Although these areas are outside of the project area and to the north, it is relevant information to include.	Discussion of BIAs for fin, minke, humpback, sei, and NARW has been added.
Section Number: 3.15.1. Ocean Wind's MMPA application should not only be cited as a reference for several points that BOEM makes. Additional peer- reviewed scientific literature should be used in these spaces instead. Relevant and external literature for each species exists and should be incorporated into BOEM's analysis. Furthermore, Protected Species Observer reports from past site characterization surveys exist that could supplement this section.	Ocean Wind 2022b, which is the Letter of Authorization, is only cited once. The protected species observer reports collected in support of the site characterization surveys are outlined in the COP, which is referenced in the EIS.
Section Number: 3.15.5. The FEIS should summarize the anticipated effects of the action on ESA-listed marine mammals. We note that the sea turtle section contains a summary of the findings in the BA (see 3.19.5) and recommend that a similar summary be provided for ESA listed marine mammals. If the BA will not be included as an appendix to the final document, we encourage BOEM to make the BA publicly available on the Ocean Wind webpage (not just on the ESA consultation page) so that the information can be easily referenced by the public.	The BA is incorporated in its entirety by reference, as described in Chapter 1 of the Final EIS. The BA is available on BOEM's website: https://www.boem.gov/renewable-energy/state-activities/nmfs-esa-consultations .
Section Number: 3.15.1. The FEIS must be updated using the new Roberts density data as NMFS will do so in the rule: https://seamap.env.duke.edu/models/Duke/EC/ . Not doing so would not be using the best available science.	The Draft EIS has been updated to reference the latest Letter of Authorization memo (Ocean Wind 2022b) dated August 2022. Revised densities and take estimates are provided in the new Final EIS Attachment J-1 and Appendix J has been revised.
Section Number: 3.15.1. In their LOA application, Ocean Wind has indicated they would not detonate more than 1 UXO per day; therefore, this threshold is not relevant. BOEM should ensure the proposed action in the EIS aligns with that described in the LOA application for this activity (i.e., BOEM shouldn't consider authorizing detonating more than 1 UXO per day).	The EIS only considers one UXO/24 hours and a total of 10 UXOs for the duration of the Project as outlined in the Letter of Authorization. The thresholds used in the Letter of Authorization are outlined in Tables 3.15-2, 3.15-3, 3.15-4, and 3.15-5. The reference to multiple blasting events in Section 3.15.1 under <i>Non-auditory Injury Criteria for Explosives (Unexploded Ordnance)</i> has been removed.
Section Number: 3.15.2. Delete this table as it is only applicable to assessing take from military readiness activities. NMFS has posted all our thresholds for projects like offshore wind in a summary document at	Table 3.15-2 is representative of the thresholds presented in https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance (NMFS 2018). Which

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https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance .	table is being referenced is unclear. The underwater blasting thresholds presented in Tables 3.15-2, 3.15-3, 3.15-4, and 3.15-5 are relevant, as these are the thresholds used in the Letter of Authorization to assess the potential zones of influence for UXO detonations.
Section Number: 3.15-2.1. Significant criteria should be added to this section 3.3. Significant criteria should be added to this section.	Section 3.15.2.1, <i>Impact Level Definitions for Marine Mammals</i> , provides definitions of potential impact levels for adverse effects.
Section Number: 3.15-2.1. The purpose of this table is unclear and unnecessarily complicates the analysis as most of these are ingrained into the definitions in Table 3.15.-6. Moreover, the analyses for each alternative does not always identify these categories so there is inconsistency in the writing.	The table was removed.
Section Number: 3.15.3.1. We are not clear on what tidal energy projects would be occurring in this area. Please identify planned tidal energy projects.	Further information on specific tidal energy projects can be found in Appendix F.
Section Number: 3.15.3.2. It will be important that the EIS does not allude to an interpretation that all these noise sources would produce impacts rising to the level that NMFS would consider it take under the MMPA. While it is not necessary to define this specifically in the NEPA document, the EIS should not define it such that a take, as defined under the MMPA, can be inferred. Sources included in this discussion currently include sources like dredging and cable laying.	Language that implies that noise sources may lead to take was removed from the Final EIS; however, please note that no discussion on take was presented in the assessment of cable laying and dredging.
Section Number: 3.15.3.2. NMFS would like to work directly with BOEM to revise this section to better reflect the statute.	BOEM will follow up with NMFS to address this comment.
Section Number: 3.15.3.2. Because this section addresses other wind development activities, this should include vibratory driving of foundation piles as several other developers are proposing to use vibratory hammers to install foundations, not just for the cable tie-in area work. Some are also proposing drilling to break up obstacles which is also not reflected in the document Please include vibratory driving foundations and drilling at foundations as activities that could occur from other wind projects and the associated analysis.	Vibratory pile installation has been added to the No Action Alternative scenario under the installation of WTG foundations. It is also discussed under the installation and removal of sheet piles for cofferdams or other structures.
Section Number: 3.15.3.2. NMFS does not consider it likely that dredging would result in TTS. Source levels alone are not the sole predictor of TTS. The DEIS does not consider the duration component, receiver behavior, and weighting functions that are critical to a TTS analysis. The EIS should incorporate a complete analysis of the	Similar to the response above, language that implies that noise sources may lead to take was removed from the Final EIS. Text has been revised regarding the potential for TTS from dredging activities.

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potential for TTS from the dredging activity proposed by Ocean Wind. If BOEM continues to conclude there is a real potential for a marine mammal to experience TTS from dredging after consideration of the full context of exposure, NMFS and BOEM should meet to discuss such analysis.	
Section Number: 3.15.3.2. Although “behavior-level effects” are not analogous to take under the MMPA, it should be clear that this is the case. For example, dredging, vessel transit, and cable laying are not expected to cause harassment of marine mammals rising to the level of take under the MMPA and are not thought to cause TTS. The writing should be clear about which sources are likely to have these impacts.	Language that implies that noise sources may lead to take was removed from the Final EIS.
Section Number: 3.15.3.2. There are several statements here that are not supported and are not aligned with previous discussions. For example, the statement that UXO detonations may cause “non-auditory mortality” is not aligned with NMFS impact assessments assuming effective mitigation. We are also not clear on what “non-auditory” mortality means or if it even exists and we request that BOEM provide a definition and extra context. Also, it is not clear why some impacts (e.g., PTS) are omitted from statements like “all noise sources have potential to cause behavior-level effects and some may also cause TTS.” BOEM needs to provide a definition of behavior-level, as we are not sure what that means.	Text has been revised to closer align with what is presented in the BA and definitions of non-auditory mortality and injury and behavior-level effects is included in the Final EIS.
Section Number: 3.15.3.2. There is no justification for the assumption that traffic generated from the proposed action is going to be an appropriate proxy for all other projects. There should be some justification for this assumption or BOEM should find additional information to estimate vessel traffic generated by other projects. This proposed action is not equivalent to the size and scope of other projects given the variation in number of turbines and other factors between projects.	Various levels of estimation of vessel numbers have been incorporated for Vineyard Wind, Atlantic Shores, Sunrise Wind, and Empire Wind. However, if no COP exists, there is not an adequate way to estimate a proxy for vessel traffic generated by other projects. Additionally, the number of turbines proposed for other projects may not yet be known, so a scale could not necessarily be run with proxy numbers. The planned activities scenario does not include vessel traffic of all projects on the East Coast. There is a lower level of certainty around the details of the cumulative analysis. Lastly, available COPs do not always provide the same level of detail on simultaneous vessels for construction or operation.
Section Number: 3.15.3.2. The meaning of “impacts from climate change from other offshore wind activities” is unclear. Please clarify. Also please clarify how impacts from climate change from other wind	The referenced text in Final EIS Section 3.15.3.2 has been revised to clarify the conclusions with respect to impacts from planned offshore wind activities.

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activities would be adverse, as described here (moderate for all marine mammals except NARWs, major for NARWs).	
Section Number: 3.15.5. Ocean Wind has committed to achieving a minimum of 10 dB broadband noise reduction during impact pile-driving operations. As the noise mitigation system selected has not been specified, the document should include an overview of the possible noise abatement systems and information to support that is reasonable to expect that the 10 dB attenuation can be achieved.	This section has been revised to include the possible noise abatement systems and information to support that it is reasonable to expect that the 10 dB attenuation can be achieved.
Section Number: 3.15.5. As written, it appears the Proposed Action Alternative is now also conflating cumulative effects with the impacts of the proposed action against the baseline. It is unclear what this statement means. Because the No Action non-wind activities says major impacts, and No Action wind activities says moderate impacts, it is unclear how the moderate finding here fits in with those two different analyses.	For the No Action Alternative analysis in the Chapter 3 resource sections, the Final EIS was updated to present the analysis of the ongoing non-offshore wind and ongoing offshore wind activities under a separate subheading from the planned non-offshore wind and offshore wind activities. Section 3.1 of the Final EIS explains the approach to predicting impacts related to the No Action Alternative. The Proposed Action and action alternative discussions were also updated to present the cumulative impact analysis under a separate subheading.
Section Number: 3.15.5. BOEM should consider inclusion of the Dorell 2022 paper cited below: Dorrell R.M., Lloyd C.J., Lincoln B.J., Rippeth T.P., Taylor J.R., Caulfield C.C.P., Sharples J, Polton JA, Scannell BD, Greaves DM, Hall RA and Simpson JH (2022) Anthropogenic Mixing in Seasonally Stratified Shelf Seas by Offshore Wind Farm Infrastructure. Frontiers in Marine Science. 9:830927. doi: 10.3389/fmars.2022.83092. The determination of minor impacts is not supported.	Results were incorporated into the Final EIS.
Section Number: 3.16.1. The geographic analysis area is too small and should be expanded to include adjacent lease areas (Garden State, Skipjack, and the NY Bight lease areas) that later discussion on page 3.16-2 acknowledges could increase vessel traffic and navigation impacts within the narrow geographic analysis area. This expansion will substantially change resulting impact descriptions regarding the number of turbines and vessels during project construction and operations, but would ensure the analysis area accurately encompasses all activities that affect navigation for this project.	The EIS navigation and vessel traffic geographic analysis area is of sufficient size to capture current vessel traffic patterns, density, and vessel numbers required for a holistic analysis of Project impacts. The geographic analysis area encompasses the vessel traffic entering and departing Delaware Bay and the Barnegat to Ambrose north-to-south TSS as well as the heavily traveled coastwise traffic area to the west of the Project Lease Area and the waters to the east of the Project Lease Area where deep-draft traffic is shown to transit according to AIS data. As noted in Section 3.16, vessel traffic associated with existing offshore wind lease areas outside of the geographic analysis area is still likely to contribute to increased vessel traffic within the navigable waterways and approaches to New Jersey ports within the geographic analysis area. BOEM confirms

Comment from National Marine Fisheries Service	Response
	that the geographic analysis area is sufficiently broad to describe the full extent of Project impacts, including cumulative impacts.
Section Number: 3.17.1. Please add North Atlantic Right Whale Aerial Surveys and Large Coastal Shark Bottom Long-line Survey to the list of surveys that overlap proposed offshore wind development on pg. 3.17-4. Additionally, the text in the first sentence of the last paragraph should be changed to say “would overlap with offshore wind lease areas in the Mid-Atlantic and Southern New England region”.	Suggested text edits were incorporated into the Final EIS.
Section Number: 3.17.5.1. Please change the Scientific Research and Surveys bullet on pg. 3.17-15 to read as “[Bold: Major] adverse impacts on scientific research and surveys, particularly for NOAA surveys supporting” The description of “generally be major” is inconsistent to other conclusion language and confusing.	Suggested text edits were incorporated into the Final EIS.
Section Number: 3.17.3.3. There is no information to support the conclusion that climate change and fishing will reduce impacts to scientific research and surveys cited earlier in this section from major to moderate. Current scientific research and surveys are already affected by climate change and fishing, but that does not preclude their operation. The impacts associated with non-offshore wind activities on NMFS surveys should not be determined by BOEM; these impacts should be described and evaluated by NMFS. In contrast, an offshore wind farm would preclude existing survey and research operations. The conclusions of “moderate” impacts from non-offshore wind activities is not supported by the analysis provided in Attachment 1 in Appendix F on pg. F-90. BOEM responses to NMFS comments from the cooperating agency review of PDEIS state this was included because it matches South Fork FEIS conclusions. This is not a sufficient reason to repeat this statement as it is unsupported in the South Fork analysis as well and should be corrected going forward based on the information NMFS has provided on this impact.	The impact on scientific research and surveys as a result of ongoing activities has been updated to major due to the impacts of ongoing offshore wind activity including Block Island Wind Farm, Coastal Virginia Offshore Wind pilot project, Vineyard Wind 1, and South Fork Wind Farm.
Section Number: 3.17.1. Scientific Research and Surveys is not sufficiently described. In addition the statement that “sampling methodologies could be needed to maintain surveys conducted in or near the project” should be corrected to “will be needed”. Saying “could be” needed contradicts the analysis of impacts within the DEIS and the work described for BOEM-NMFS mitigation strategy effort.	Suggested text edits were incorporated into the Final EIS.

Comment from National Marine Fisheries Service	Response
<p>Section Number: 3.18. Please update the data from FEUS report to 2019 which was released this spring. Link here: https://www.fisheries.noaa.gov/resource/document/fisheries-economics-united-states-report-2019#:~:text=Fisheries%20Economics%20of%20the%20United%20States%20(FEUS)%20is%20an%20annual%20report%20and%20marine%20related%20businesses.</p>	<p>Data were updated in the Final EIS to reflect the updated 2019 Fisheries Economics of the United States report.</p>
<p>Section Number: 3.18. We appreciate BOEM addressing our comment to include the list of NOAA MRIP fishing sites, which could be impacted during export cable and infrastructure development and impact recreational and subsistence shoreside fishing.</p>	<p>Comment noted.</p>
<p>Section Number: 3.18. An analysis of private recreational angler exposure should be included based on methodologies of Kirkpatrick et al. 2017 with updated data that is publicly available through MRIP. See section 3.1.4.2 and 3.1.4.2 for methodologies. https://espis.boem.gov/final%20reports/5580.pdf</p>	<p>Additional information on private recreational angler exposure has been added to the Final EIS. An analysis of for-hire recreational fishery exposure is included in Section 3.9.</p>
<p>Section Number: 3.18. Consider incorporating the following studies into this analysis: Haughton et al., 2003; Giuffre et al., 2004.</p>	<p>Information from the Haughton et al. 2003 study was incorporated into analysis in Section 3.18.3.2.</p>
<p>Section Number: 3.18. Please consider including information related to the https://www.sciencedirect.com/science/article/pii/S0928765518302902#sec0060 study. This research indicated limited, seasonal economic benefits associated with increased tourism, specifically from private angling. The study found that the construction of the Block Island Wind Farm caused a significant increase in various tourism metrics in Block Island during peak tourism months of July and August, but importantly found it had no effect on other months.</p>	<p>Information from the study referenced in the comment was incorporated into analysis in Section 3.18.3.2.</p>
<p>Section Number: 3.18. Please note that noise from construction can lead to the disbursement of fish in and around construction sites, which, in turn, can lead to spatial competition depending on migrating patterns and negative impacts on recreational trips. This section of the EIS should discuss how impacts of construction may effect catchability and thus impact recreational trips in and around the project area.</p>	<p>Additional analysis was included in Section 3.18.5 on page 3.18-20 to address potential decreased catchability due to construction-related activities.</p>
<p>Section Number: 3.19.1. The description of abundance and distribution of sea turtles is focused on the coastal waters of New Jersey; this approach excludes other areas that may be transited by project vessels and is inconsistent with the geographic analysis area (figure 3.19-1). This section should contain relevant information on the distribution,</p>	<p>The geographic analysis area defines the scope of the NEPA analysis and should not focus only on “the area where individuals may be affected by the Proposed Action.” It encompasses two LMEs: the Northeast U.S. OCS and Southeast U.S. OCS LMEs. Due to the size of the geographic analysis area, for analysis purposes in this</p>

Comment from National Marine Fisheries Service	Response
abundance, and habitat use of sea turtles throughout the area where individuals may be affected by the proposed action.	EIS, the focus is on sea turtles that would likely occur in the proposed Project area and be affected by Project activities. The existing text therefore provides an overview of sea turtles along the eastern coast of the United States. BOEM has reviewed the existing text and made edits to provide additional information about sea turtle occurrences in the Project area, such as observations from HRG surveys. However, reliable, up-to-date abundance information for the entire area affected by boat transits is not available and BOEM has revised the text to generally describe the distribution patterns of sea turtles in more detail.
Section Number: 3.19.1. Table 3.19-1 outlines that the likelihood of Green sea turtle occurrence in the Project Area is unlikely and that Green sea turtles are uncommon in New Jersey. Please see our PDEIS comments on this issue.	The text in Table 3.19-1 has been edited to state that green sea turtles are anticipated to be “likely” rather than “uncommon” in the Project area, as recommended by the Preliminary Draft EIS comments. However, for consistency with the BA and published species occurrence data, BOEM has kept the frequency of occurrence in New Jersey as “uncommon.”
Section Number: 3.19.1. References should be reviewed throughout this section to ensure they are up to date; it is not reasonable to rely on a summary of sea turtle information in an ESA from 2012. More recent, appropriate summaries of sea turtle status are available in recovery plans and 5- year reviews prepared by NMFS and USFWS.	The 2012 BOEM Programmatic EIS is referenced because it summarizes the potential impacts on sea turtles and is not provided as a source regarding sea turtle status. The existing text was reviewed and revised where necessary to provide appropriate summaries of the status of sea turtles. All recent recovery plans and 5-year reviews have been cited in the discussion of each species.
Section Number: 3.19.3.2. The discussion of lighting should be expanded to consider the continuous lighting that is anticipated for work areas during construction and decommissioning.	Text has been added to describe that it is not anticipated that construction lighting would affect sea turtles and supporting literature has been referenced (e.g., Salmon and Wyneken 1990).
Section Number: 3.19.3.2. Information should be added to the consideration of effects of operational noise to support the conclusion that operational noise will not exceed thresholds of concern.	Text has been added to provide more detail about the anticipated operational noise and its potential effects on sea turtles from the operation of ongoing and planned offshore wind projects.
Section Number: 3.19.3.2. The anticipated population level impacts to sea turtles from vessel strikes is inconsistent with the definition of “minor” provided in table 3.19-3.	The existing text has been reviewed and is consistent with the definition of “minor” in Table 3.19-3, which reads that “Impacts on sea turtles would be detectable and measurable, but of low intensity, highly localized, and temporary or short term in duration. Impacts may include injury or loss of individuals, but these impacts would not result in population-level effects.” For reference, the existing text has been revised to describe more clearly that vessel strikes due to ongoing and planned offshore wind projects have the potential to result in injury to or mortality of individual sea turtles; however, it

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	describes that population-level impacts are unlikely given the low densities of each species, occurring only seasonally, and the relatively small increase in vessel traffic.
Section Number: 3.19.3.2. The consideration of impacts of structures should be expanded to address potential impacts to habitats and prey and should incorporate additional literature/references to support conclusions.	Text has been added to the affected environment section to describe the diets of each sea turtle species and explain the reef effect and how the available information suggests that it could increase the prey base for leatherback, loggerhead, and Kemp's ridley sea turtles.
Section Number: 3.19.5. Additional analysis is needed to support the conclusions regarding impacts to sea turtles from the loss of eelgrass habitat from dredging operations within Barnegat Bay, with a focus on consequences to foraging sea turtles.	Text has been added and the existing text has been revised to detail the acreage of SAV that would be potentially affected in Barnegat Bay, including impacts from dredging activities, and how those impacts could affect sea turtles and, in particular, the green sea turtle.
Section Number: 3.19.5. Please add information to support the conclusion that it is reasonable to expect that a 10 dB reduction in pile driving noise can be achieved.	The three noise mitigation system technologies considered for the Project include: (1) big bubble curtain, (2) hydro-sound damper, and (3) AdBm Technologies' Helmholtz resonator. More details about these systems can be found in Section 2.8 of the Project Protected Species Mitigation and Monitoring Plan. Data supporting the 10 dB reduction are presented in Bellman (2021), "Expert opinion report regarding underwater noise emissions during UXO-clearance activity and possible options for noise mitigation," provided to NMFS and BOEM in February 2022 as supporting documentation for the Ocean Wind 1 incidental take authorization application.
Section Number: 3.19.5. It is unclear if the conclusions related to pile driving noise are dependent on the additional mitigation measures identified by BOEM for nighttime pile driving operations. This should be clarified in the FEIS.	Text has been added to clarify that no new piles could be initiated after dark if BOEM and NMFS do not approve the nighttime monitoring plan and the technology proposed. In addition, Ocean Wind is proposing that if during nighttime pile driving a protected species observer is unable to monitor the visual clearance or shutdown zones with available night vision devices (due to light pollution from the platform), nighttime pile driving will not commence or will be halted (as safe to do so).
Section Number: 3.19.5. Consideration of the effects of turbine operational noise should be put in the context of the WTGs proposed for this project and the soundscape/ambient noise conditions in the lease area.	Text has been added in Section 3.19.3.2 to detail the anticipated operational noise and add a reference to the subsequent text for the Proposed Action in Section 3.19.5 under the turbine operational noise IPF. Also, the mitigation measure for an operational sound field verification plan has been added to the list of Applicant-proposed mitigation measures in Section 3.19.9 (<i>Proposed Mitigation Measures</i>). A reference to that proposed plan has been added to the

Comment from National Marine Fisheries Service	Response
	concluding statement about the impacts on sea turtles under <i>Summary of Noise Impacts</i> in Section 3.19.5.
Section Number: 3.19.5. We agree that it is unlikely that all vessel strikes with sea turtles can be avoided. Additional information should be provided on the frequency and severity of vessel strikes anticipated and which species are expected to experience serious injury or mortality. This information is necessary to support the determination that effects will be “minor” and to support the conclusion that there will be no population level effects.	Text has been added about the potential for sea turtle vessel collision, mostly taken from existing text in the BA, which provided a more robust analysis of the issue.
Section Number: 3.19.5. The DEIS contains limited analysis and discussion with respect to nighttime monitoring measures for sea turtles during periods of increased vessel traffic. Information on the anticipated effectiveness of the proposed measures for detecting and avoiding sea turtles at night or in other low visibility conditions should be provided.	<p>Nighttime monitoring is proposed during impact pile driving. In addition to passive acoustic monitoring, Ocean Wind is proposing to use other visual monitoring techniques during nighttime installation or during periods of daytime low visibility, including thermal or infrared cameras, night vision devices, and infrared spotlight. The efficacy of these other monitoring devices is relatively unknown. Therefore, BOEM included a proposed mitigation for Ocean Wind to develop an alternative monitoring plan for NMFS and BOEM review and approval 6 months prior to initiating impact pile-driving activities. The purpose of the plan is to demonstrate that Ocean Wind can meet the visual monitoring criteria for the Level A harassment zone(s)/mitigation and monitoring zones plus an agreed-upon buffer with the technologies Ocean Wind is proposing to use for monitoring during nighttime impact pile driving (Measure No. 22 in Table H-2, BOEM-proposed Mitigation and Monitoring Measures in the NMFS BA as Amended).</p> <p>Text has been added to the Final EIS about the effectiveness of thermal imaging for sea turtle monitoring, including its limitations, as demonstrated by the protected species observer monitoring for the Project’s HRG surveys.</p>
Section Number: 3.19.5. The conclusion that effects of gear utilization (fisheries survey) will be “negligible” is not consistent with the impact definitions in Table 3.19-3 as capture, injury, and mortality are possible. There is no information presented to support this conclusion and details should be added on the anticipated gear types and the consequences to sea turtles that are anticipated (e.g., capture, injury, mortality).	Text has been added describing that the trawl surveys for fisheries monitoring would mostly avoid impacts due to the limited time of each tow, and provided a reference to the BA for further details about this impact. The impact level determination was revised from “negligible” to “minor.”
Section Number: 3.19.5. There is limited consideration being taken for the specific dredge type/equipment proposed within Barnegat Bay. This is problematic because sea turtles may be present in the Bay and are	Text has been added acknowledging that sea turtles would be more vulnerable to suction dredging in inshore places like Barnegat Bay and detailing the short duration and small area affected.

Comment from National Marine Fisheries Service	Response
prone to entrainment by hopper dredges. Please provide further clarification on the gear selection and any mitigation measures being taken.	
Section Number: 3.19.6. Please see other comments regarding the consideration of alternatives. The FEIS should reflect which IPFs would be reduced from a 10-20% reduction in project size, and in particular should explain if any of these alternatives would reduce the amount of anticipated habitat loss or alteration and/or the potential for injury or mortality from pile driving, fisheries surveys, UXO detonation, or vessel strike.	The IPFs that would be reduced are described in sufficient detail. In cases where the amount of anticipated impact is not quantified, the text has been revised to state that there would be a proportional reduction of 10 to 20 percent.
Appendix H – Mitigation and Monitoring. There is no mention of SAV time-of-year restriction in the Barnegat Bay, which extends from April 15 to October 15 of any given year for sedimentation and turbidity generating activities like trenching and plowing. This needs to be corrected and included as a mitigation measure and analyzed in the DEIS. This TOY is routine for all projects that occur in Barnegat Bay and should be included for this project.	See response to comment 1287-0118.
Appendix H – Mitigation and Monitoring. Specific to activities in the Barnegat Bay: open trenching/plowing is an invasive method of cable installation with potential significant adverse impacts. Federal and state agencies, including NMFS, routinely recommend this type of activity not be undertaken in Barnegat Bay and methods such as horizontal directional drilling (HDD) are used to avoid and minimize impacts, especially to habitats such as SAV. This mitigation measure should be addressed in detail in the document and included in the SAV Avoidance alternative.	Ocean Wind includes open cut and trenchless technology (i.e., HDD) within the PDE of the Ocean Wind 1 Project. Ocean Wind has undertaken additional evaluation of the HDD option for the Oyster Creek landfall and has found a high risk of inadvertent return with HDD technology. Therefore, BOEM has not proposed a measure requiring use of HDD for construction of the Oyster Creek landfall in Barnegat Bay.
Appendix H – Mitigation and Monitoring. For all construction activities, please crosscheck all the applicant's proposed measures, with particular attention to zone sizes, with that in the LOA application.	APMs related to shutdowns for impact pile driving, ramp-up (soft start) for HRG surveys, and pre-start clearance for UXO detonations have been updated in Appendix H, Table H-1. Additional review and revisions are pending.

GARFO = Greater Atlantic Regional Fisheries Office

O.4.2 Cooperating State Agencies

O.4.2.1. New Jersey Department of Environmental Protection

Table O.4-5 Responses to Comments from New Jersey Department of Environmental Protection (Letter No. 1203)

Comment	Response
<p>Land Resource Protection. The draft DEIS discusses a series of alternatives, including a “no action” alternative, to the construction, operation, maintenance, and decommissioning of Ocean Wind 1’s intended 1,100 megawatts offshore wind farm proposed to be sited 15 miles southeast of Atlantic City. NJDEP strongly encourages BOEM to select a proposal and/or alternative which results in the least impact to regulated areas and/or environmentally sensitive areas and which is consistent with all applicable land use regulations, including but not limited to the Coastal Zone Management Rules at N.J.A.C. 7:7, the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13, and the Freshwater Wetlands Protection Act Rules at N.J.A.C. 7:7A. A detailed review of the impacts from the proposed project will be conducted during NJDEP’s review of the required state permit applications and the pending Federal Consistency Certification for Ocean Wind 1’s Construction and Operations Plan (COP). The NJDEP’s resource agencies will comment during the review of both the state permit applications and consistency certification as their expertise is critical to the evaluation of the proposed project’s environmental impacts and in determination of the project’s compliance and consistency with the state’s land use regulations and the Coastal Zone Management Plan’s enforceable policies.</p>	<p>Comment noted.</p>
<p>Historic Preservation. On May 31, 2002, the Historic Preservation Office (HPO) provided comments to BOEM regarding the identification of historic properties under Section 106 of the National Historic Preservation Act (see attached correspondence, (HPO-E2022-239). Additionally, the HPO has not provided feedback to BOEM regarding the assessment of effects or proposed mitigation measures; however, we expect to do so once the identification of historic resources is complete. As a result, the HPO cannot concur with the findings of the DEIS regarding the project’s potential impacts on cultural resources at this time.</p>	<p>Ocean Wind has revised these reports in response to consulting party comments on the initial versions of these reports. These revisions were incorporated into the Final EIS and inform the identification and evaluation of historic properties and BOEM’s assessment of these properties within the Project’s APE. We look forward to your further comments regarding BOEM’s assessment of effects and proposed resolution measures to adverse effects including mitigation measures.</p>

Comment	Response
<p>Fish and Wildlife. NJDEP applauds BOEM with effective avoidance mitigation in siting this lease and agrees with the overall assessment that existing fishing effort in the Ocean Wind 1 project area is relatively low. However, NJDEP notes that the DEIS seems to minimize project-specific impacts because the No Action Alternative assumes full development of other leases (and the description of impacts of offshore wind on fisheries was mostly in Section 3.9.3.2, the No Action Alternative). Additionally, NJDEP recommends including a discussion of the menhaden fishery and landings from the lease area. The National Marine Fisheries Service (NMFS) Socioeconomic Impacts of Atlantic Offshore Wind Development website ranks menhaden 1st in total landings and 3rd in total revenue. Also, the effects and potential impacts of pile-driving noise on fish populations is not well understood and more information is needed before impacts can be considered negligible, particularly considering the scale of development on the Outer Continental Shelf. Recreational and commercial fishing may be affected during construction.</p>	<p>The No Action Alternative and cumulative impacts have been reorganized. The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. Ongoing activities include permitted offshore wind projects. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Reasonably foreseeable future actions include the buildout of executed renewable energy lease areas. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6 of the Final EIS.</p> <p>As noted in footnote 4 in Section 3.9.1, the "No Federal FMP" category contains a variety of species that are managed under an FMP but are not federally regulated, such as the smooth and chain dogfish (<i>Mustelus canis</i> and <i>Scyliorhinus retifer</i>, respectively), whelk (Buccinidae), and menhaden. Therefore, the menhaden fishery is included in this analysis, but grouped under the "No Federal FMP" category.</p> <p>Additional discussion has been included acknowledging the importance of the menhaden fishery for commercial fisheries operating in and around New Jersey.</p>
<p>Fisheries Mitigation. NJDEP supports the proposed fisheries mitigation measures outlined in the DEIS, and we encourage BOEM to consider that compensation for economic losses will require extensive, fishery-by-fishery analysis including consultation with fisheries economists and industry. NJDEP further encourages a robust, transparent, and manageable process for engagement with the fishing industry on compensation. The commercial fishing industry should be involved at all stages of compensation, beginning early in the process. The industry can provide unique insight into planning effective engagement, valuation, and distribution that includes secondary industries that will also have economic losses. Additionally, the Responsible Offshore Development Alliance (RODA) December 2021 Report, <i>Impact Fees for Commercial Fishing from Offshore Wind Development: Considerations for National Framework</i> should be leveraged by BOEM to the greatest extent possible as the compensation guidance is developed. Also, recreational fisheries have expressed concern about potential economic losses and should be engaged in compensation development. Additionally, the DEIS should</p>	<p>Comment noted. Consistent with BOEM's Draft Fisheries Mitigation Guidance, BOEM has added a mitigation measure requiring the lessee to submit a shoreside seafood business analysis to further supplement funds available for settling claims of lost (unrecovered) economic activity as a result of offshore wind development to Appendix H, Table H-3, and has analyzed this measure in Section 3.9.9. For Ocean Wind, the mitigation fund would be based on the total revenue exposure for fisheries based out of ports listed in the Final EIS.</p>

Comment	Response
include a detailed description of secondary economic impacts that could result from reduced landings. Landings revenue is a starting point in evaluating loss, however, economic impacts to processors, fuel suppliers, and distributors, must also be considered.	
Navigation Safety. The DEIS Alternative C is favorable in terms of navigational safety because it creates a buffer zone between Ocean Wind and Atlantic Shores. In 2020, the NJDEP facilitated stakeholder meetings regarding transit through the two lease areas, and there was a clear and consistent request for undeveloped space between the leases. The industry has consistently expressed concerns regarding safe transit through the array and fishing within the array. In addition, Alternative C is consistent with the new lease stipulation in the NY Bight that requires a setback between projects that don't have consistent turbine alignments.	Alternative C-2 is incorporated into the proposed action in the Final EIS.
<p>Protected Species. Timing restrictions for sturgeon should be included in the DEIS, and Endangered Species Act-listed fish should be included in the <i>Injured/Protected Species</i> reporting section. Moreover, all injuries to ESA-fish (sturgeon) should be reported.</p> <p>Freshwater Fisheries. In section 3.8.1, <i>Description of the Affected Environment and Environmental Consequences of the No Action Alternative for Coastal Habitat and Fauna</i>, under "Coastal Fauna Special-Status Species, the last paragraph discusses other state special concern species that could potentially occur in the geographic analysis areas and should include "Diamond-backed Terrapin".</p> <p>In section 3.8.3, <i>Impacts of the Proposed Action on Coastal Habitat and Fauna, under "Land disturbance"</i>, in the second paragraph, "Ocean Wind proposes to restore disturbance areas in the Onshore Project area to pre-existing contours (maintaining natural surface drainage patterns) and allow vegetation to become reestablished once construction activities are completed, to the extent practicable" (APM GEN-13; see Table 1.1-2 of the COP Volume II, Section 1.1; Ocean Wind 2021). NJDEP notes that only native vegetation should be allowed to become re-established.</p>	<p>Impacts on ESA-listed fish (i.e., Atlantic sturgeon) are addressed in Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>. BOEM has proposed a time-of-year restriction for Atlantic sturgeon for UXO detonations (see Table H-2 and the Project BA [BOEM 2022b]): "Ocean Wind would extend the APM seasonal restriction of UXO detonations (January to April) to include months of increased Atlantic sturgeon presence in the offshore wind area. No UXOs can be detonated from November to April in the offshore areas greater than three nautical miles offshore. UXO surveys are expected in Fall 2022 which will define the exact location and size of UXO." Reporting requirements for Atlantic sturgeon are incorporated into the NMFS ESA reporting requirements (see Table H-2). Other ESA-listed species are addressed in appropriate sections in the EIS. The diamond-backed terrapin is included in the paragraph referenced.</p> <p>Freshwater (spawning) is addressed in Section 3.8, <i>Coastal Habitat and Fauna</i>, where timing is critical to the species.</p> <p>With respect to the request to revise APM GEN-13, this is an Applicant-proposed mitigation measure, so BOEM cannot change the language. However, BOEM has proposed a new mitigation measure that states that GEN-13 will be modified to clarify that native vegetation will be reestablished.</p>
Migratory Shorebirds. Upon review of the DEIS, NJDEP requests additional details on the Ocean City landfall in order to evaluate	The comment does not specify the additional details requested regarding the landfall at Ocean City and Island Beach State Park.

Comment	Response
<p>potential impacts to state and federally listed species; as well as additional information on the trenchless technology (HDD) to be used in proximity to nesting birds on Island Beach State Park. Additionally, timing restrictions for breeding birds should be adhered to for onshore construction noise, including installation of the cable via trenchless technology (HDD). Further, NJDEP encourages Ocean Wind to consider the use of meteorological radar to detect bird movement and migration through the wind farm on wave buoys set to be deployed. Migration forecast maps can be found here: https://birdcast.info/migration-tools/migration-forecast-maps/, however, limitations of forecast maps may include radar's ability to detect offshore movements as most radar stations are onshore. Therefore, consideration could be given to placing radar stations on structures, like wave buoys, within the lease area to improve accuracy and develop guidelines for triggering lighting alterations when peak migratory movements are detected.</p>	<p>However, all beach habitats, including beach habitats for state and federally listed species, will be avoided at landings and at Island Beach State Park through the use of trenchless technology (HDD). Indicative HDD layouts, configurations, cross sections, and operating rigs can be found in COP figures 6.2.1-3, 6.2.2-1, 6.2.2-2, 6.2.2-3, and 6.2.2-4. In addition, as stated in the BA, the Project would avoid intrusion into any beach or dune habitat from March 1 to August 31, unless otherwise authorized by USFWS and NJDEP. Similarly, the project would avoid conducting activities within 500 feet of any beach or dune habitat from March 15 to August 31, unless otherwise authorized by USFWS and NJDEP.</p> <p>Regarding the consideration of meteorological radar and lighting alterations, lighting on offshore wind structures is required for aviation and vessel movement safety. Ocean Wind proposes to use ADLS, which would dramatically reduce the amount of time obstruction lights are on, significantly reducing the potential impacts on birds. It is estimated that lights would be activated for only 10.9 hours over a 1-year period. In addition, Ocean Wind has proposed an Avian and Bat Post-Constructing Monitoring Framework (COP Appendix AB and BA Appendix B) that outlines an approach to post-construction monitoring that supports advancement of the understanding of bird and bat interactions with offshore wind farms. The scope of monitoring is designed to meet federal requirements (30 CFR 585.626(b)(15) and 585.622(b)) and is scaled to the size and risk profile of the Project with a focus on species of conservation concern. Furthermore, BOEM anticipates the bird and bat mitigation/adaptive management for Ocean Wind to be similar to the Vineyard Wind COP approval conditions for birds and bats (found at https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/VW1-COP-Project-Easement-Approval-Letter_0.pdf). The Avian and Bat Protection Conditions (Condition Section 5.2.3) includes an avian and bat monitoring plan for construction and operations. As part of the monitoring plan, new mitigation measures and monitoring may be imposed by BOEM if impacts deviate substantially from the impact analysis in the EIS.</p>
<p>State and Federal Surveys in Project Area. The list of notification recipients for surveys within the project area should include agencies responsible for research survey activities, such as NOAA, VIMS</p>	<p>NOAA-NMFS and NJDEP are cooperating agencies for the Ocean Wind 1 EIS. Impacts on scientific research and surveys are discussed in Section 3.17 of the Final EIS. NJDEP's Ocean Trawl Survey could</p>

Comment	Response
<p>(NEAMAP survey), and NJDEP. Further, mitigation for research surveys should include NJDEP's Ocean Trawl Survey. This 30+ year old survey supplies data for stock assessment for many of the species managed by ASMFC and regional management councils such as the New England Fishery Management Council and the Mid-Atlantic Fishery Management Council. The loss of survey sampling areas will have a direct impact on the precision and accuracy of future stock assessments.</p>	<p>be affected during construction and operations of the Proposed Action; however, research activities may continue within the proposed Project area, as permissible by survey operators. Mitigation for research surveys discussed in the Draft EIS was associated with the Federal Survey Mitigation Strategy in the Northeast U.S. Region, which is specific to NOAA Fisheries surveys. Because a mitigation measure specifically for NJDEP's Ocean Trawl Survey was not identified in this comment, it could not be analyzed in the Final EIS.</p>
<p>Submerged Aquatic Vegetation (SAV). SAV functions as a blue carbon sink and is a highly productive estuarine habitat for ecologically, commercially, and recreationally important species. Physical damage, removal, increased turbidity, scarring, and bed fragmentation should be minimized. Therefore, DEIS Alternative E is recommended to reduce impacts to submerged aquatic vegetation. This Alternative reroutes the transmission cable as it enters Barnegat Bay from Island Beach State Park through a relic channel, which is a relatively short diversion that avoids denser areas of SAV on the inside shoreline of the island. Avoiding SAV in cable siting will substantially reduce the need for SAV compensatory mitigation, which is costly, time-consuming, and difficult to successfully achieve. Any SAV loss or damage should be documented carefully in a pre- and post-construction survey.</p> <p>Island Beach State Park (IBSP). The DEIS states the target depth of the cable at Island Beach State Park is 4 feet, but it is not clear if this refers to the area where the cable will be direct-buried, or the area that will be installed via horizontal directional drill (HDD) under the beach and dunes. NJDEP notes that during storms, IBSP may lose 6 feet or more in depth at the beach berm. If the cable is at a depth of 4 feet, the cable would become exposed. Exposed cable across the beach would impede vehicle access for park staff and mobile fishing permit holders. Additionally, there are years where the beach berm will not build back up to its pre-storm elevation, which may mean exposed cables during the busy summer season. The depth of the cable on the beachfront berm should be deeper to avoid impacts to travel and tourism as well as normal park operations and post storm work on the beach. Additionally, Ocean Wind will be responsible for maintaining exposed cables post-storm within IBSP, and within the IBSP swimming areas (275 yards into the water). Ocean Wind will also be</p>	<p>The Final EIS has been updated to describe Ocean Wind's SAV Monitoring Plan, which was developed in coordination and discussions with NJDEP to document baseline conditions, assess impacts on SAV beds as a result of construction and operation of the inshore export cables, and track recovery of SAV beds over time.</p> <p>The Final EIS was also updated to describe the export cable installation at Island State Beach Park in more detail. At Island Beach State Park the cable would be installed using HDD under Swimming Beach 2 (both the beach and dunes), as shown on Figure 2-1, at a depth of 30 feet or more. Onshore, the cable would be buried approximately 4 feet deep. As the cable enters Barnegat Bay, it would be installed via trenching.</p> <p>Living shoreline is not proposed by Ocean Wind and therefore is not analyzed in the Final EIS.</p> <p>As described in Section 2.1.2.4, BOEM's regulations at 30 CFR 585 and commercial Renewable Energy Lease OCS-A 0498 require that Ocean Wind remove or decommission all facilities, projects, cables, pipelines, and obstructions and clear the seafloor of all obstructions created by the proposed Project.</p> <p>APM GEN-13 in Appendix H, Table H-1 states that disturbed onshore areas would be restored to pre-existing conditions.</p> <p>Section 3.8, Coastal Habitat and Fauna, has been revised to analyze a measure for revegetation of disturbed areas with species native to New Jersey barrier islands and not allowing the use of fertilizer or lime.</p>

Comment	Response
<p>responsible for maintaining the cable line that will be located on the bayside of IBSP. Regarding this section of cable, DEP notes that the DEIS does not make specific reference to the living shoreline proposed by Ocean Wind for the purpose of protecting the cable. This should be addressed in the Final EIS. Although Ocean Wind plans to remove all above ground structures upon project decommissioning, the cable, including all underground components, will need to be removed from IBSP, including the swimming area and in Barnegat Bay; and any areas of disturbance will need to be restored to the pre-project conditions at IBSP. Finally, NJDEP recommends that areas of temporary disturbance be re-seeded or replanted with species native to New Jersey barrier islands, and efforts to reduce soil erosion and sediment control should not include application of fertilizer or lime.</p>	
<p>Coastal Engineering. The DEIS notes that no exclusion zones will be implemented, except the potential for a safety zone exercised by the United States Coast Guard during construction. NJDEP requests that BOEM and Ocean Wind confirm that there will be no restrictions near/around cables related to marine navigation, anchoring, fishing, or dredging operations. Additionally, the current proposal avoids borrow areas/sand resource areas but there are proposed cable landings that may impact beach replenishment projects, and therefore require coordination & communication with the U.S. Army Corps of Engineers, the Non-federal Sponsor, and local owner (municipal and/or private). NJDEP also recommends that vibration monitoring/structure monitoring be implemented for the onshore construction activities including but not limited to infrastructure, bridges, businesses, homes, and drainage structure.</p>	<p>Information was added to the Final EIS on planned and proposed beach replenishment projects within the area and additional coordination that would be necessary with USACE, the non-federal sponsor, and the local owners.</p> <p>Per APM GEN-18, there will be no permanent exclusion zones within the Lease Area during Project operations. However, standard industry practice is that anchoring within a wind farm should only be undertaken by project-related vessels or in emergency situations, as it is a potentially hazardous activity. To control this risk, Project cables will be buried or protected on the seabed and marked on charts, and their location will be monitored to detect any movement.</p> <p>Section 3.14, <i>Land Use and Coastal Infrastructure</i>, has been revised to analyze a proposed measure for vibration monitoring/structure monitoring, and Appendix H for the Final EIS has been revised to include this measure.</p>
<p>Water Allocation and Well Permitting. The plan calls for the installation of transmission lines from the offshore export cables to the onshore distribution system. The onshore cables and substation construction would require either trenching or directional drilling. These projects may require some form of construction related dewatering authorization from the Bureau of Water Allocation and Well Permitting and are identified in Appendix A, Table A-1 of the DEIS. As indicated in Appendix A, Table A-1 a Temporary Dewatering Permit for each site, which requires the submittal of a hydrogeological report to determine potential impacts from the dewatering activities. These</p>	<p>If BOEM approves the Project and Ocean Wind decides to construct the Project, Ocean Wind would be required to obtain all applicable federal and New Jersey state permits for the protection of water quality. Table 2.2-1 of the COP lists the anticipated federal, state, and local authorizations that would likely be required for the Project. Ocean Wind would be required to implement the terms and conditions of each permit.</p>

Comment	Response
<p>permits typically take between 6-9 months to review and may include a public hearing.</p> <p>Surface Water & Pretreatment Permitting. Based on the information provided in the DEIS, a NJPDES Discharge to Surface Water General Permit will be needed for a surface water discharge from construction related dewatering. If the discharge will be uncontaminated groundwater generated during construction activities, the appropriate NJPDES Discharge to Surface Water General Permit is the B7 - Short Term De Minimis General Permit (http://www.nj.gov/dep/dwq/gp-b7.htm). As per the B7 application checklist, analytical lab data of all the parameters specified in Attachment 1 must be submitted and the results must demonstrate that they are below the effluent standards. If the discharge will be treated groundwater from remediations and dewaterings, the appropriate NJPDES Discharge to Surface Water General Permit is the BGR – General Groundwater Remediation Clean-up Permit (http://www.nj.gov/dep/dwq/gp_bgr.htm). As per the BGR permit application, a summary of the contaminants of concern must be submitted where the data was collected no more than 12 months prior to the submittal of the application. In addition, a Treatment Works Approval (TWA) may be needed for the construction of the treatment system.</p>	
<p>Air Quality - Evaluation and Planning. Section 3.4.1 Description of the Affected Environment for Air Quality. In addition to Ocean, Atlantic, and Cape May counties, the counties of Cumberland, Gloucester and Salem are also in the southern New Jersey nonattainment area (Philadelphia-Wilmington-Atlantic City, PA-NJ- MD-DE) for ozone where activities are taking place for this project. This area is currently classified as marginal nonattainment for both the 2015 8-hour ozone National Ambient Air Quality Standard (NAAQS), and the 2008 8-hour ozone NAAQS. Also, the area designations for carbon monoxide (CO) are incorrect. The counties of Cape May, Cumberland, Gloucester, and Salem are in attainment of CO. The second ten- year maintenance plan for CO for Atlantic and Ocean counties ended on December 31, 2017, therefore General Conformity no longer applies (40 CFR Section 93.102(b)(4)). Therefore, Section 3.4.1 of the Final EIS should be updated to be consistent with the current nonattainment and maintenance area status for New Jersey that are applicable to this project. In addition, a General Conformity Applicability Analysis</p>	<p>The descriptions of county attainment status were updated in the Final EIS.</p> <p>The activities for which BOEM has authority are outside of any nonattainment or maintenance area and therefore not subject to the requirement to show conformity.</p>

Comment	Response
<p>and possibly a Conformity Determination may be required by any federal department or agency that has authority for any portions of the emissions from activities taking place in the nonattainment areas in accordance with the USEPA's Federal General Conformity regulation (40 CFR, part 93, Subpart B, Determining Conformity of General Federal Actions to State or Federal Implementation Plans). Clarification of compliance with the General conformity regulations should be included in the final EIS. Further, a General Conformity Applicability Analysis and possibly a Conformity Determination may be required pursuant to the USEPA Federal General Conformity regulation for any portions of the emissions from activities taking place in the nonattainment areas (40 CFR, part 93, Subpart B, Determining Conformity of General Federal Actions to State or Federal Implementation Plans). Clarification of compliance with the General conformity regulations should be included in the final EIS. Section 2.1.3.1 Affected Environment.</p>	
<p>NJDEP notes that the DEIS should mention that Gloucester County is in the maintenance area for the 2006 PM_{2.5} NAAQS, and also that EPA has revoked the 1979 1-hour ozone standard. Therefore, Section 2.1.3.1 of the final EIS should be updated to be consistent with the current nonattainment and maintenance area status for New Jersey that are applicable to this project.</p>	<p>The descriptions of county attainment status have been updated in the Final EIS.</p>

O.4.2.2. New York State Department of State

Table O.4-6 Responses to Comments from New York State Department of State (Letter No. 1207)

Comment	Response
<p>The Department's public comments which are supportive of appropriate offshore wind development in the New York Bight are intended to place a finer point on the State's interests in the Project's development and ensure that the needs of affected New York stakeholders including the shipping and commercial fishing industries and recreational fisheries are met as these initial formative offshore wind projects are developed. As the largest port complex on the East Coast the NY/NJ Harbor is an economic driver for New York State and the region. New York benefits from the strong maritime ties with the Delaware Bay most directly by important tug-tow coastwise routes along New Jersey that overlap with the Project area and eastward. New York's robust commercial fishing industry is of economic significance to the State. The New York Bight contains important fishing grounds for commercial vessels landing in New York as well as long- established routes to access productive grounds far-afield and onshore processing facilities. To this end New York seeks to ensure that navigational safety is prioritized and that use conflicts between mariners and offshore wind are minimized to the extent possible. Additionally we seek to ensure that impacts to important offshore habitats of the New York Bight are addressed through avoidance and minimization measures wherever possible.</p>	<p>The EIS currently analyzes and evaluates the elements within this comment in both Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, and Section 3.16, <i>Navigation and Vessel Traffic</i>. BOEM acknowledges the importance of both commercial and recreational fishing, as well as the variety of ports, shoreside businesses, and commercial shipping lanes that are important in this area. To that end, it has included extensive analysis on commercial fishing revenue exposure within the Ocean Wind 1 Lease Area.</p> <p>Space-use conflicts are acknowledged within the EIS, both in the Wind Farm Area and related to port utilization. The EIS presents a variety of information, including the number of trips and vessels by port (Table 3.9-9) and revenue by port (Table 3.9-10), both specific to federally permitted vessels in the Ocean Wind 1 Lease Area. These tables indicated, among other things, that Atlantic City, New Jersey is the highest utilized port for federally permitted vessels operating in the Lease Area. It should also be noted that the New Jersey Wind Port and the Port of Paulsboro are specifically being improved for the purpose of supporting offshore wind farm development. This is to the overall benefit of the local economy and will help divert certain offshore wind construction and O&M activities from existing ports and reduce the potential for space-use conflicts with the commercial fishing industry.</p> <p>For additional discussion of navigation and vessel traffic impacts, please refer to Section 3.16.</p>

Comment	Response
<p>Cable burial depth (target of 4-6ft): DOS continues to urge greater transparency and additional details on the Cable Burial Risk Assessment (CBRA) process and the anticipated need for deeper burial depths to minimize risks to commercial vessels operating and transiting within the Project area. Refer to the Kitty Hawk Offshore Wind Project Construction and Operations Plan (COP) Appendix J as a template for how to provide a qualitative CBRA during the COP phase. [Footnote 2: <i>Available at https://www.boem.gov/renewable-energy/state-activities/kitty-hawk-wind-construction-and-operation-plan-commercial-lease</i>] Further refinement to this target burial depth may be needed given BOEM's recommendation for a minimum six (6) foot cable burial depth identified in the Draft Fisheries Mitigation Guidance. [Footnote 3: <i>https://www.regulations.gov/docket/BOEM-2022-0033, posted June 23, 2022, which states, "[a]ll static cables should be buried to a minimum depth of 6 feet below the seabed where technically feasible."</i>]</p>	<p>Section 2.1.2.2.3 of the Final EIS provides details regarding factors considered for target burial depth and notes that further coordination with agencies would occur as part of the development of the CBRA. BOEM's Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585 recommend a minimum burial depth of 6 feet below the seabed where technically feasible. Thermal conductivity is a technical feasibility factor when determining target burial depth.</p>

Comment	Response
<p>Sensitive Benthic Habitats (Alternatives D and E): DOS supports BOEM's analysis of DEIS Alternatives to avoid impacts to sensitive benthic habitats like sand ridge and trough and submerged aquatic vegetation (SAV) habitat. Thoroughly evaluating the immediate and long-term impacts to habitat disturbance and, in some cases, habitat conversion is essential to ensuring these critical habitats can continue to provide structure for important commercial and recreational Mid-Atlantic species such as loligo squid and summer flounder. Notably, SAV known to occur in intercoastal bays also provides an important sanctuary for juvenile species.</p> <p>Sand wave clearance (Section 3.6): The DEIS does not appear to fully address the duration of impacts resulting from clearing 100% of sand waves along the cable corridor routes nor the potential for continued maintenance during operations to prevent cables from becoming overburied. [Footnote 4: <i>COP Volume 1, pg. 104</i>]. The DEIS states "sand ridges and troughs are areas of biological significance for migration and spawning of mid-Atlantic fish species, many of which are recreationally targeted in those specific areas." [emphasis added] [Footnote 5: <i>DEIS pg. 2-24</i>] Research indicates sand waves can take 10 or more years to reform following disturbance. [Footnote 6: <i>References: Campmans et al. (2021) Modeling tidal sand wave recovery after dredging: effect of different types of dredging strategies. Coastal Engineering 165: 103862. Hulscher et al. (2000) Regeneration of dredged sand waves in Marine Sandwave Dynamics, Lille, France. Hayes and Naim (2004) Natural Maintenance of Sand Ridges and Linear Shoals on the U.S. Gulf and Atlantic Continental Shelves and the Potential Impacts of Dredging. Journal of Coastal Research 20 (1): 138–148.</i>] Longer recovery time results in sustained impairment to the habitat and potential impacts to invertebrate communities and fisheries. Furthermore, the DEIS should analyze the anticipated need for sand wave clearing during maintenance activities to prevent cables from overburying and identify whether the resulting impacts may be longer-term and not as transient as initially contemplated.</p>	<p>Text has been added in Section 3.6.5 to address potential impacts on sand waves. Sand waves are also distinguished from sand ridges in Section 3.6. Sand waves are mobile with respect to wave energy and in the New York Bight, the prevailing wave energy pushes sand west along the south shore of Long Island and north along the New Jersey shore, forming sand waves. Reference to NYSEDA 2019 has been added to the Final EIS.</p> <p>In contrast, sand ridges are geologic formations, i.e., sand and gravel ridges in offshore areas that are the eroded and reworked remnants of barrier islands that formed during the early Holocene. Sand ridges are included in the analysis of Alternative D.</p> <p>Sand waves and clearance are included under all the alternatives because their clearance may be required to install cables at a sufficient depth that they would not be uncovered as a result of sand wave mobility (as noted by the commentor).</p> <p>In Section 3.6.5, the following text has been added to expand the analysis of potential impacts due to sand wave clearance: "Cable emplacement and maintenance activities may flatten depressions and small sand waves, temporarily reducing benthic habitat suitability for species such as red and silver hake within the cable footprint. Prey organisms that use these habitats would also be displaced, potentially affecting habitat suitability for fish species. Trenching may leave behind temporary depressions. The extent of these natural features is difficult to quantify, as they are continually reshaped by natural sediment transport processes. Natural recovery from anthropogenic disturbance is likely to occur within several months of the disturbance, depending on timing relative to winter storm events."</p> <p>As already stated in Draft EIS Section 3.6.5, "Despite unavoidable mortality, damage, or displacement of invertebrate organisms, the area affected by the construction footprint for cable emplacement would be just 4 percent of the Wind Farm Area and the area affected within the export cable routes would similarly represent a small fraction of available benthic habitat."</p>

Comment	Response
<p>Fisheries economic exposure (Section 3.9): A quantitative analysis of fisheries economic exposure along the export cable corridors should be provided. Both Vineyard Wind and South Fork Wind included quantitative exposure analyses of the wind farm area and cable corridors, which set the appropriate precedent of analyzing the entire project area. The same should be done for this and future offshore wind reviews. BOEM's commendable release of draft fisheries mitigation guidance articulates the importance of developing accurate revenue exposure estimates in order to evaluate the potential for income losses to fishing industries and the need for compensation. Omitting the cable corridors from this analysis would undervalue the revenue exposure estimate.</p>	<p>BOEM has determined that the qualitative analysis provided in Section 3.9.3.2 under the cable emplacement and maintenance IPF is appropriate for temporary cable route disturbance.</p>
<p>Transit and fishing industries (Sections 3.9 and/or 3.16): DOS recommends updating the analyses of Offshore Wind Activities and the Proposed Action to include potential fishing vessel route detours and whether direct and indirect impacts could occur to fishermen, fishing ports, seafood processing facilities, and other shoreside support industries, like those in Atlantic City and Cape May, New Jersey. While the Coast Guard determined that formal routing measures for fishing vessels are not required through this region, [Footnote 8: <i>U.S. Coast Guard. 2021. USCG-2020-0172 Port Access Route Study: Seacoast of New Jersey including offshore approaches to the Delaware Bay.</i>] it is important to evaluate impacts to the fishing industry and port approaches in the EIS so these can be considered when determining appropriate avoidance, minimization, and mitigation measures. The DEIS acknowledges that many factors depend on project- specific information that is unknown at this time; [Footnote 9: <i>DEIS pg. 3.9-32 (and elsewhere)</i>] however, a suite of reasonable assumptions could be made based on the currently proposed projects in the New Jersey and New York Wind Energy Areas and BOEM's own efforts to develop a Programmatic EIS for the New York Bight lease areas. [Footnote 10: <i>87 FR 42495 [July 15, 2022]</i>] Existing transit patterns are well documented in the New York Bight. [Footnote 11: <i>NYSERDA, NYSDEC, and RODA. 2020. New York Bight Transit Lanes Surveys, Workshop, and Outreach Summary. Available at: https://www.nyftwg.com/wp-content/uploads/2020/06/NY-Bight-Transit-Lanes-Workshop-and-Outreach-Summary_-Final-Draft.pdf</i>] A key driver of transit patterns for New York State fishermen stems from New York ports not having adequate docking and unloading facilities, seafood processing capacity,</p>	<p>Space-use conflicts are acknowledged within the EIS, both in the Wind Farm Area and related to port utilization; however, as the comment indicates, there are many variables and factors that dictate where fishing vessels may off-land their catch. To address this, the EIS presents a variety of information, including the number of trips and vessels by port (Table 3.9-9) and revenue by port (Table 3.9-10), both specific to federally permitted vessels in the Ocean Wind 1 Lease Area. These tables indicated, among other things, that Atlantic City, New Jersey is the highest utilized port for vessels operating in the Lease Area.</p> <p>In addition, text has been added to the EIS noting that the New Jersey Wind Port and the Port of Paulsboro are specifically being improved for the purpose of supporting offshore wind farm development. This is to the overall benefit of the local economy and will help divert certain offshore wind construction and O&M activities from existing ports and reduce the potential for space-use conflicts with the commercial fishing industry.</p>

Comment	Response
<p>or land-based transportation networks to efficiently get the seafood to market. For example, seafood logistics and distribution systems, including last mile delivery, is often challenging due to workforce shortages and supply chain bottlenecks (e.g., access to refrigerated trucks). [Footnote 12: <i>NYS Department of Agriculture and Markets. 2019. Senate Bill S7300, Seafood Roundtable Meetings Written Report. Dated September 30, 2019. Available at: https://agriculture.ny.gov/system/files/documents/2019/12/2019seafoodreport.pdf.</i>] This has resulted in New York fishermen choosing to land in other states, like surfclam fishermen landing in New Jersey because New York does not have an appropriate processing facility. Where a fisherman chooses to land their catch also depends on market price, proximity to fishing grounds, permit requirements, among other factors. Because of these existing challenges, BOEM's EIS should consider whether Offshore Wind Activities and the Proposed Action could make it more challenging or costly for New York fishermen and others to land their catch in New Jersey and whether this impacts the shoreside industries.</p>	
<p>Radar Interference (Section 3.9): Update Section 3.9 to more accurately characterize the anticipated radar interference, as was done in Section 3.16, Navigation and Vessel Traffic. The commercial fishing impacts analysis in the DEIS states, “[s]ome fishing vessels operating in or near offshore wind facilities may experience radar clutter and shadowing.” [Footnote 13: <i>DEIS, pg. 3.9-31</i>] DOS recommends this be rephrased to more closely align with the assessment in Section 3.16 which states that, “O&M of the Proposed Action would likely affect marine vessel radar performance near or within the Wind Farm Area.” [Footnote 14: <i>DEIS, pg. 3.16-15</i>].</p> <p>Mariner Communication and Outreach Plan (Appendix H): Develop and implement a Mariner Communication and Outreach Plan that covers all project phases from pre-construction to decommissioning. There is a proposed fisheries outreach plan (See ID CFHFISH-02), and this should be expanded to include coordination with other mariners, including the commercial shipping industry and other recreational users who would also benefit from this coordination and may not be captured in the currently proposed fisheries plan. The Oyster Creek route specifically presents an increased risk to ocean users because two parallel cables would be constructed and maintained to occupy a heavily trafficked route with relatively shallow burial depths, and with multiple cable sections that</p>	<p>Text within Section 3.9.5 for the presence of structures IPF has been updated with additional text from Section 3.16 related to radar interference for large and small vessels.</p> <p>In addition, reference to Ocean Wind's Fisheries Communication and Outreach Plan (COP Volume III, Appendix O; Ocean Wind 2023) has been added to this section of the EIS noting that it will provide a mechanism for communication and coordination with the commercial fishing industry. However, this communication and outreach plan is specific to the fishing industry and, although elements may overlap with the commercial shipping and other mariners, this plan has a defined scope and purpose. Also, as noted in Section 3.16, <i>Navigation and Vessel Traffic</i>, there are additional mitigation measures and equipment being implemented for other resources.</p> <p>In addition, APM GEN-14 includes the development and implementation of a communication plan to inform USCG, DOD headquarters, harbor masters, the public, local businesses, and commercial and recreational fishers, among others, of construction and maintenance activities and vessel movements, as coordinated by the Ocean Wind Marine and Helicopter Coordination Center, which could potentially cover most of the information noted within</p>

Comment	Response
<p>would not achieve even target depth because of existing asset crossings (telecommunications cables). Additionally, if periodic cable exposures occur, New York and New Jersey's shipping industries could be directly affected by the increased risk of interactions, maintenance and remedial burial activities, and vessel congestion and delays during maintenance. DOS recommends the following as components of an effective mariner communication plan to ensure existing uses are accommodated to the maximum extent possible:</p> <ul style="list-style-type: none"> a. Pre-COP consultation with potentially affected stakeholders on initial routing and results of the draft Navigation Safety Risk Assessment; b. During Project design, coordinating in-water construction activities to avoid and minimize disruptions; c. At least 90 days prior to commencing in-water construction activities in any construction season, consultation with stakeholders on an approximate schedule of activities and existing uses within the Project area. Make good faith efforts to accommodate those existing uses. The results of these good faith consultations can be summarized in a report and submitted to the federal agency(ies) prior to the start of each construction season; d. Following COP approval, notice of proposed changes which have the potential to impact fishing or maritime resources or activities; e. Notices to commence construction activities, conduct maintenance activities, and commence decommissioning; f. Status reports during construction with specific information on construction activities and locations for upcoming activities in the next 1-2 weeks; g. Post-construction notice of: (i) all cable protection measure locations (including protection type and charted location); (ii) any areas where the identified burial depth is less than target burial depth; and (iii) other obstructions to navigation created by the Project; and h. Post all notices described above to the Project website with information on how to opt-in for alerts. 	<p>the comment. The Marine and Helicopter Coordination Center is a fully staffed operations center (24/7 staffing) that would coordinate construction vessel traffic and operations and manage communications with vessels on site. It was established in 2019 and manages all direct and immediate on-scene communications (e.g., radio, satellite phone, instant messaging, email) with project vessels and other mariners. Once a wind farm is operational, control is passed from the Marine and Helicopter Coordination Center to the respective operations center. Ørsted is still in the planning phase for developing the operations center; however, the center will be open and operational before the commissioning of Ocean Wind 1.</p> <p>Ocean Wind is also developing a Navigational Safety and Training program, where eligible commercial, charter, and for-hire fishing vessels operating in and around Ocean Wind 1 would be reimbursed for new radar equipment and training to help in mitigating navigation and radar concerns. Reference to this program has been added to Section 3.9.4, and it has been incorporated into the analysis as applicable.</p>

Comment	Response
<p>Incident reporting (Appendix H): DOS looks forward to further coordination with BOEM, the Bureau of Safety and Environmental Enforcement (BSEE), the U.S. Army Corps of Engineers, and other interested parties on how to best address reporting of fishing gear and/or anchor strike incidents that fall below or are simply not captured by the regulatory thresholds outlined in 30 CFR §§ 585.832 and 585.833. The purpose is to increase awareness of the frequency and circumstances surrounding these incidents and assess whether any actions are needed to address them. DOS supports a process whereby standardized, routine reports are filed that identify incidents. Ideally, the reports would be annual during construction and decommissioning, then have an adjusted timeframe (e.g., every 5 years) during operations.</p>	<p>BOEM will continue to coordinate with NYSDOS on establishing processes for reporting fishing gear and anchor strike incidents that fall below regulatory thresholds.</p>

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O.5. Responses to Lessee Comments on the Draft EIS

Table O.5-1 Responses to Comments from Ocean Wind LLC (Letter No. 1190)

Comment	Response
<p>Benefits of Offshore Wind; The burgeoning offshore wind industry in the United States is poised to benefit consumers, the economy, and the environment in at least five key areas, including:</p> <p>Delivering significant economic benefits to the United States and the State of New Jersey. To construct, operate, and service offshore wind farms along the east coast, improvements to port and harbor infrastructure will also be undertaken. To support development, construction, and operation of offshore wind projects, as well as related infrastructure improvements, it is estimated that the offshore wind industry could create up to 83,000 new, well-paying jobs by 2030. [Footnote 1: American Clean Power. U.S. Offshore Wind Power Economic Impact Assessment, March 2020. [Embedded Hyperlink Text (https://supportoffshorewind.org/wp-content/uploads/sites/6/2020/03/AWEA_Offshore-Wind-Economic-ImpactsV3.pdf)]],</p> <p>Diversifying the nation's overall energy strategy and helping to balance the domestic portfolio with the added benefit of displacing or supplementing generation from non-renewable sources, thereby supporting energy security and independence in the United States while displacing generators that contribute to climate change. Use of renewable energy technologies will reduce demand for domestic and imported fossil fuels while using clean, renewable domestic energy sources.</p> <p>Helping the United States meet its renewable energy goal of 30 gigawatts ("GW") from offshore wind by 2030, facilitated by state offshore wind procurement targets. [Footnote 2: American Clean Power. Offshore wind power facts. [Embedded Hyperlink Text (https://cleanpower.org/facts/offshore-wind/)]] Development of the Project will support the priorities established by the Biden Administration to deploy 30 GW of offshore wind by 2030 and accelerate clean energy siting and permitting in an environmentally sustainable manner. [Footnote 3: Currently, the Purpose and Need in the DEIS references one Executive Order. This Executive Order, issued in 2021, determined a need to "increase renewable energy production ... in those waters,</p>	<p>Comment noted.</p>

Comment	Response
<p>with the goal of doubling offshore wind by 2030 while ensuring robust protection for our lands, waters, and biodiversity and creating good jobs” and “to accelerate the deployment of clean energy and transmission projects in an environmentally stable manner” (Executive Order 14008, Tackling the Climate Crisis at Home and Abroad).The FEIS should also reference Executive Order 13990 (Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis) “to accurately determine the social benefits of reducing greenhouse gas emissions when conducting cost-benefit analyses of regulatory and other actions.”]</p> <p>Helping New Jersey meet its offshore wind goal of 7.5 GW by 2035, [Footnote 4: Department of Environmental Protection. About offshore Wind. [Embedded Hyperlink Text (https://www.nj.gov/dep/offshorewind/about.html)]] as well as the state’s goal of a 100 percent clean energy economy by 2050, [Footnote 5: New Jersey Economic Development Authority. Offshore Wind. [Embedded Hyperlink Text (https://www.njeda.com/offshorewind/),] and</p> <p>Developing energy projects in an environmentally responsible manner that will ultimately deliver greenhouse gas reductions.</p> <p>While relatively new to the United States, the offshore wind industry has been developing in Europe for more than 25 years and has become an important part of the global economic and energy portfolio. [Footnote 6: In 1991, Ørsted built the world’s first offshore wind farm in Denmark. Twenty-five years later, Ørsted built America’s first offshore wind farm. To date, Ørsted has constructed 5.6 gigawatts (GW) of offshore wind capacity, nearly 30 percent of globally installed offshore wind capacity, with another 4.3 GW under construction. In addition to the Block Island Wind Farm already operating in Rhode Island, the states of New York, New Jersey, Virginia, Maryland, and Connecticut have each entrusted Ørsted to deliver their first offshore wind farms.] Europe’s experience with offshore wind demonstrates that collaboration with public officials and other stakeholders can ensure that offshore wind facilities grow the economy while being constructed and operated compatibly with the fishing industry and successfully accommodating vessel navigation and other important marine uses.</p> <p>The United States is well-positioned to experience growth that allows for co-existence of multiple uses of the Outer Continental Shelf (“OCS”). BOEM’s role will be instrumental in fostering the responsible</p>	

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development of renewable energy resources on the OCS while maintaining environmental safeguards, conservation of natural resources, and compatibility with other uses of the OCS.	
<p>Benefits of the Project; Ocean Wind strongly agrees that offshore wind will provide the long-term benefits identified throughout the DEIS and believes the benefits of the Project should be evaluated and considered as prominently as the evaluation of impacts. Ocean Wind suggests that BOEM expand the discussion of these positive findings in the FEIS to emphasize and balance those benefits in comparison to the impacts. Several benefits are described in detail below.</p> <p>The Project will bring significant economic and environmental benefits to the communities along the New Jersey shore, the State of New Jersey, and other states that will be part of the offshore wind installation and operation supply chain. The Project will generate enough clean energy to power more than 500,000 New Jersey homes annually. Through displacement of conventional generation, the Project is expected to displace over 100 million tons of carbon emissions over its operational life, the equivalent of removing 21.6 million cars from the road, leading to overall cleaner air and water directly because of the Project.</p> <p>The Project will also contribute to local climate initiatives and community investments, such as the Ocean Wind Pro-NJ Grantor Trust ("Trust"). The \$15 million trust offers small, women-owned and minority-owned business support to re-tool their business to participate in the offshore wind industry. The Trust also provides funding for infrastructure resiliency improvements in Atlantic, Ocean, and Cape May counties. Ocean Wind was also pleased to give back to the New Jersey community through the Ørsted Cares program by providing financial assistance to electric customers in Atlantic, Cape May, and Ocean counties facing financial crisis, as well as participating in a 12-week training course for high school students in Atlantic City.</p> <p>In addition to supporting the clean energy goals of New Jersey, the Project will create new high-paying jobs and provide economic and infrastructure improvements to New Jersey and surrounding states. Specifically, the Project will result in the creation of thousands of direct construction jobs, major investments in infrastructure, including port facilities and the first U.S.-based monopile manufacturing facility, increased property tax revenue associated with onshore substation development, and increased income associated with local construction</p>	<p>Economic benefits of the Project are described in Section 3.11.</p>

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employment. The Project will also create long-term operations and maintenance jobs based out of an operations and maintenance facility to be developed in Atlantic City, which will serve as a hub facility for the Project and other offshore wind projects.	
Ocean Wind is also investing nearly \$13 million to implement fisheries monitoring surveys in collaboration with Rutgers, the State University of New Jersey, Delaware University, and Monmouth University. This work will support local universities while also advancing our understanding of the marine environment through the collection of valuable data on important commercial and recreational species. Additionally, Ocean Wind is supporting the development of a first-of-its-kind program which will enable Stockton University to train individuals to be Protected Species Observers (PSOs) thus preparing students to participate in the offshore wind industry.	Ocean Wind's programs and commitment to minimize impacts on commercial fisheries and for-hire recreational fishing through the development of a Fisheries Communication and Outreach Plan as well as a Fisheries Monitoring Plan are both noted within Section 3.9.4.
Finally, artificial reefs created through the placement of the wind turbine generator ("WTG") foundations will create hard substrate habitats for a more diverse community of finfish and invertebrates in the offshore Lease Area. These artificial reefs are expected to result in increased opportunities for recreational anglers in the region. Number of trips is expected to increase for private recreational anglers as well as charter and party vessels. Additional revenues are expected for charter and party vessels as a result of the Project.	Creation of artificial reefs with the construction and installation of foundations for the WTGs and OSS has been acknowledged and included in Section 3.9, including the beneficial impact associated with for-hire recreational fishing.
It is important to note that, in addition to the BOEM-led National Environmental Policy Act ("NEPA") process, The Project is also being reviewed through a robust state permitting process before the New Jersey Department of Environmental Protection ("NJDEP") and its various offices including: Division of Land Resource Protection, Division of Water Allocation and Well Permitting, Division of Water Quality, Bureau of Tidelands Management, Green Acres Program, Division of Parks and Forestry Natural Heritage Program, and the Historic Preservation Office.	Comment noted.
1. Comments, 1.1 Alternatives; Ocean Wind appreciates the NEPA alternative screening criteria that BOEM highlighted in the DEIS and that BOEM subsequently further elaborated upon in published guidance. [Footnote 7: BOEM, Process for Identifying Alternatives for Environmental Reviews of Offshore Wind Construction and Operations Plans pursuant to the National Environmental Policy Act (June 22, 2022), Embedded Hyperlink Text	Comment noted.

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<p>(https://www.boem.gov/sites/default/files/documents/renewable-energy/BOEM%20COP%20EIS%20Alternatives-2022-06-22.pdf)] In particular, the guidance emphasizes that in developing the Purpose and Need for the EIS, the lead agency should consider “the goals of affected states, including state laws that establish renewable energy goals and mandates, where applicable.” [Footnote 8: Id. at 3.] The guidance also highlighted the appropriateness of considering the project developer’s goals, including “awarded contracts for offtake and/or the MW nameplate capacity for the proposed project; the proposed area within the lease.” [Footnote 9: Id. at 3.] As a result, in weighing whether a proposed alternative is reasonable, and warrants further consideration, the agency must consider whether the alternative would result in the development of a project that would not allow the developer to satisfy contractual offtake obligations. As discussed below, Ocean Wind provides additional detail for how several of the proposed alternatives are not technically or economically feasible and thus are not reasonable alternatives.</p>	
<p>1.1.1 Alternatives B and D; Alternatives B and D as proposed by BOEM in the DEIS involve a reduction in the number of turbines. The Project would like to clarify that a reduction in turbines will prevent the Project from delivering the 1,100- megawatt (“MW”) target generation, and as such, Alternatives B and D do not meet the stated Purpose and Need of the Project.</p>	<p>BOEM’s purpose as stated in Section 1.2 to determine whether to approve, approve with modifications, or disapprove Ocean Wind’s COP is needed to fulfill BOEM’s duties under the lease. Although a reduction in expected annual energy production would affect Ocean Wind’s Project goals, reduced energy generation would not prevent the Project from meeting BOEM’s purpose and need. BOEM sought feedback from BPU regarding the potential implications of the alternatives analyzed in detail in relation to the 1,100-MW nameplate capacity and annual OREC allowance to fulfill Ocean Wind’s contractual obligations with BPU in accordance with its application of 40 CFR 1508.1(z) (“Reasonable alternatives means a reasonable range of alternatives that are technically and economically feasible...”). In its analysis BOEM found that a Project with fewer than 98 turbines could potentially meet these obligations.</p>
<p>The New Jersey Board of Public Utilities (“BPU”) June 21, 2019 Order (“OREC Order”) referenced by BOEM in Section 1.2 “Purpose and Need for the Proposed Action” of the DEIS does not merely specify the annual production capacity expected by the state—it also gives Ocean Wind an “Annual OREC Allowance” of 4,851,489 Megawatt-hours (“MWh”) per year, and identifies in which years that electricity is to be delivered. The OREC Order envisions the Project coming online in three phases: May,</p>	<p>Comment noted.</p>

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<p>September, and December 2024 (or no later than six months after each date). While BPU may, in its discretion, adjust the commercial operation dates, the BPU anticipates the Project to be completed by late 2024 or early 2025 to begin delivering on New Jersey’s clean energy goals.</p> <p>On September 19, 2019, Ocean Wind selected GE Renewable Energy as the preferred turbine supplier for the Project. The BPU issued an order approving that selection on November 13, 2019. GE Renewable Energy provided the world’s first commercial deployment of GE’s Haliade-X 12 MW offshore wind turbine, which were the world’s most powerful turbines at the time of the BPU’s approval. In May 2020, Ocean Wind submitted a petition to the BPU seeking authorization to increase the number of turbine positions from the number that the BPU had assumed when approving use of the Haliade-X turbine that such an increase would be necessary for the Project’s actual generation to be able consistently to on the basis achieve the Annual OREC Allowance in the OREC Order. On July 15, 2020, the BPU issued an order granting Ocean Wind’s petition to increase the number of turbines, finding that such an increase order to be in a better position to achieve the Project’s Annual OREC Allowance was reasonable in light of the goals of New Jersey’s offshore wind solicitation, and that “achieving the Annual OREC Allowance [would] enable the residents of New Jersey to realize the maximum clean energy benefits expected from the Project.” [Footnote 10: BPU, Order Authorizing Ocean Wind’s Petition for an Increase in Turbines , Docket No. QO18121289 (July 15, 2020), available at [Embedded Hyperlink Text (https://nj.gov/bpu/bpu/pdf/boardorders/2020/20200715/8A%20-%20ORDER%20OSW%20Petition.pdf)]]. The BPU acknowledged that increasing the number of turbine positions would also increase the Project’s nameplate capacity, but that the increased nameplate capacity was reasonable in order to achieve the benefits associated with consistent achievement of the Annual OREC Allowance. [Footnote 11: Id.] It also noted that the number of turbine positions was “still well below the number proposed in Ocean Wind’s December 2018 Application,” thanks to the use of the Haliade-X turbine. [Footnote 12: Id.].</p>	
<p>Alternatives B and D, however, include scenarios in which fewer than 98 turbines are proposed. BOEM states that removing nine or fewer turbines from the design would still result in “meeting the proposed 1,100-MW nameplate capacity,” [Footnote 13: DEIS at 2-27] but this</p>	<p>Project goals, including Ocean Wind’s annual OREC allowance, are described in Section 1.2. Given that Project nameplate capacity (i.e., 1,100 MW) may not account for capacity factor, further explanation was provided in the footnote on page 2-3 regarding how BOEM</p>

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<p>overlooks the fact that, in order for the Project to achieve the goals set for it by the State of New Jersey, it must be capable of actually generating enough MWh of electricity to achieve its Annual OREC Allowance on a consistent basis, and may not simply rely on having a nameplate capacity of 1,100 MW. In other words, BOEM has modified the proposed number of turbines proposed by Ocean Wind in its Construction and Operations Plan (“COP”) without consideration of the relationship between the number of turbines, the energy generated, and the collective energy output of the system. While BOEM notes that it is continuing to assess the energy production impacts associated with exclusion of WTG positions, the DEIS continues to evaluate alternatives which would not enable the Project to meet its Purpose and Need. Ocean Wind stresses that meeting the Project’s Purpose and Need is not as simple as dividing the target generation by the turbine nameplate capacity (12.4 MW), and thereby deducing that a number of turbines can be removed for a calculated nameplate capacity exceeding 1,100 MW, as described in the DEIS.</p>	<p>developed alternatives that would reduce the number of WTGs. Descriptions of each alternative also state that the final number of WTGs excluded may be fewer than the maximum number to ensure consistency with an 1,100-MW nameplate capacity and annual OREC allowance to fulfill Ocean Wind’s contractual obligations with BPU.</p>
<p>As the BPU itself has indicated, a more accurate and appropriate metric for the Project to meet the BPU requirements and Purpose and Need, is to evaluate the energy produced per year, which is how the BPU award to the Project measures energy delivery. The New Jersey Offshore Wind Economic Development Act of 2010 (“OWEDA”) defines an offshore wind renewable energy credit (“OREC”) as representing the environmental attributes of one MWh of electric generation from an offshore wind project. For each MWh delivered to the transmission grid, an offshore wind project will be credited with one OREC. As stated, Ocean Wind’s Annual OREC Allowance is 4,851,489 MWh per year (after transmission losses). There is not a linear correlation between the Annual OREC Allowance and the nameplate capacity of the WTG, meaning that, as stated above, dividing the target generation by the turbine nameplate capacity is not an accurate method for defining alternatives that meet the stated Purpose and Need.</p>	<p>Comment noted.</p>
<p>Further, a key component of the Project’s Purpose and Need and the BPU OREC award to Ocean Wind, is that the Annual OREC Allowance shall not be subject to reduction or modification during the term of the award unless otherwise agreed to by the BPU and Ocean Wind or its successor. To reach the Annual OREC Allowance as proposed under Alternatives B and D, with a 1,100 MW nameplate capacity and a</p>	<p>Chapter 2 of the Final EIS has been updated to note that any changes to the stated MW-hour allowance in the June 2019 order would need both BPU and Ocean Wind’s consent.</p>

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<p>reduction to only 89 turbines x 12.4MW, the capacity factor would need to be 50.3 percent. The DEIS states that the capacity factor "...for the Project would most likely vary between 45 percent and 63 percent" (DEIS page 2-3). However, when accounting for both energy production efficiency and transmission losses, the Project's actual capacity factor is percent. As a consequence, 89 turbines at 12.4 MW at that capacity factor would result in an annual energy production percent below the Annual OREC Allowance of 4,851,489 MWh per year. Again, consistent achievement of the Annual OREC Allowance was the basis on which the BPU authorized Ocean Wind to increase the number of turbine positions from what had been contemplated when the Haliade-X was first approved. And the Project as proposed by Ocean Wind with the full 98 turbines as authorized by the BPU, is required to deliver 4,851,489 MWh per year to the grid on a consistent basis.</p>	
<p>When considering which technologies within the Project envelope could support alternatives, BOEM is required to provide a "reasonable range of alternatives framed by the purpose and need..." and BOEM further clarifies that: "The alternatives should be "reasonable," which the Department of the Interior has defined as those that are "technically and economically practical or feasible and meet the purpose and need of the proposed action (DEIS page 2-27)" Therefore, BOEM should only consider those technologies that are commercially available and within timing constraints of the Project to procure delivery of WTGs to meet the schedule outlined in the Section 1.2 of the DEIS. For example, alternative B-2 includes larger turbines which are currently unavailable. As such, alternative B-2 would not satisfy the BPU Order to deliver offshore wind energy to the transmission grid beginning in 2024 and does not satisfy the BOEM definition of a "reasonable alternative". In addition, the alternatives that could result in Project delays of up to 2 years (Alternatives C-1- and E) are also not feasible, as they do not meet the Project purpose and need and do not meet the BOEM requirement of "reasonable" as well.</p> <p>Therefore, the full number of turbines proposed by the Project (98 turbines) are necessary to enable Ocean Wind to produce the specified OREC allowance and meet the goals set for it by the BPU.</p>	<p>The proposed Project, as described in the COP, includes WTG dimensions that would allow for a 240-meter rotor diameter WTG. As such, BOEM analyzed larger turbines consistent with Ocean Wind's PDE parameters.</p> <p>BOEM's purpose as stated in Section 1.2 to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP is needed to fulfill BOEM's duties under the lease. The reduction in energy generation and Project delays expected to result from adoption of the alternatives would not prevent the Project from meeting BOEM's purpose and need.</p>
<p>1.1.2 Alternative C-1; Under Alternative C-1, the DEIS states on page 2-18 that "Additional site investigations may be needed for alternatives that would relocate WTG positions or compress the WTG layout.</p>	<p>BOEM's purpose as stated in Section 1.2 to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP is needed to fulfill BOEM's duties under the lease. Although</p>

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<p>Collecting and processing the additional survey data could lead to a Project delay of up to 2 years.” The Project would like to emphasize that adding 2 years to the schedule prevents the Project from meeting the stated Purpose and Need to deliver offshore wind energy to the transmission grid beginning in 2024. Indeed, in its OREC Order the BPU reserved the right to penalize offshore wind projects for delays of more than six months to the scheduled start of deliveries, reflecting the importance to the State of minimizing delays to the extent practicable. As such, Alternative C-1 is not within a range of “reasonable” alternatives as defined by BOEM and should be removed from consideration. Furthermore, Alternative C-1 considers relocating eight turbines, four of which would be located closer than 13 nautical miles (“nm”) to shore which would increase visual impacts to affected communities. Ocean Wind has spent considerable efforts to avoid and minimize visual impacts from the Project by siting WTGs 13 nm from shore.</p>	<p>delays to the Project schedule would affect Ocean Wind’s Project goals, potential delays to the Project schedule alone would not prevent the Project from meeting BOEM’s purpose and need. BOEM considered the potential schedule delay concerns raised here relevant to its application of 40 CFR 1508.1(z) (“Reasonable alternatives means a reasonable range of alternatives that are technically and economically feasible...”) in the EIS but did not find sufficient support to dismiss Alternative C-1 from analysis in detail. The potential consequences to the Project from Alternative C-1 in terms of reduced expected annual energy production and the potential for up to a 2-year delay are disclosed in Final EIS Section 2.1.4.</p>
<p>1.1.3 Alternative C-2; Ocean Wind is fully committed to ensuring navigational safety and clearance as well as effective search and rescue in and around the wind farm. Therefore, Ocean Wind supports, in part, Alternative C-2 to the proposed action, which provides navigational clearance between the Ocean Wind Lease Area and the Atlantic Shores South Lease Area. To that end, Ocean Wind requests that BOEM adopt Alternative C-2, 0.81-nm buffer option, to promote navigational clearance by creating a buffer along the north-eastern boundary of the Ocean Wind Lease Area. Ocean Wind and Atlantic Shores Offshore Wind, LLC (“Atlantic Shores”) have worked constructively with the U.S. Coast Guard (“Coast Guard”) on this issue and as a result of the conversations, the Coast Guard has proposed measures for both Ocean Wind and Atlantic Shores to undertake in order to create a minimum spacing distance between the two lease areas. These measures include adjusting WTGs in column A of Ocean Wind’s WTG layout to maintain a minimum distance of 1,500 meters (0.81 nm) between the Project and the western most column of the Atlantic Shores WTGs, as well as aligning WTGs in column A equidistant to those in column B at 1 nm. Furthermore, to meet this alternative, Atlantic Shores would need to microsite one WTG and remove two WTGs that fall within the minimum spacing distance (Exhibit A). Both Ocean Wind and Atlantic Shores have agreed to these measures in collaboration with the Coast Guard in</p>	<p>Subsequent to publication of the Draft EIS, Ocean Wind submitted an updated COP incorporating an array layout compression scenario analyzed under Alternative C-2, Wind Turbine Layout Modification to Establish a Buffer Between Ocean Wind 1 and Atlantic Shores South. This array layout compression scenario, depicted on Figure 2-9 of the Draft EIS, would modify the WTG array layout by compressing the WTG array layout to create a minimum 0.81-nm buffer between each project’s WTGs. The Final EIS notes that a joint letter has been signed by Ocean Wind and Atlantic Shores Offshore Wind, LLC for this compressed array layout scenario. The impacts of Alternative C-2 on navigation and vessel traffic are analyzed in Section 3.16 of the Final EIS.</p>

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<p>the interest of facilitating navigation safety and effective search and rescue. Alternative C-2 would significantly enhance navigational safety by providing vessel traffic a clear and consistent buffer between the two lease areas.</p>	
<p>1.2 Aircraft Detection Lighting Systems; The DEIS includes a discussion of aircraft detection lighting systems (“ADLS”) in relation to cultural resources, demographics, employment, and economics, land use and coastal infrastructure, recreation and tourism, and scenic and visual resources. ADLS is a mitigation measure used to reduce the impacts of nighttime WTG lighting on nearby communities by only activating certain lights when aircraft is detected approaching a wind farm. Ocean Wind appreciates that the duration of ADLS activation (less than 1 percent of the normal operating time of the WTGs) appears to have been considered in the impact analysis. However, there are inconsistencies within the DEIS, as to how ADLS is assessed as detailed below:</p> <p>Page 3.11-20 of the DEIS states “Such a system may reduce the amount of time that the lights are on, thereby potentially minimizing the visibility of the WTGs from shore and related effects on the local economy.” Ocean Wind disagrees that ADLS ‘may’ reduce the amount of time the lights are on and asserts that ADLS ‘will’ reduce the amount of time that the lights are on and ‘will’ minimize the visibility of WTGs from shore.</p>	<p>Phrasing of “Such a system may reduce the amount of time that the lights are on, thereby potentially minimizing the visibility of the WTGs from shore and related effects on the local economy” on page 3.11-21 of the EIS has been updated to reflect “will” rather than “may.”</p>
<p>Page 3.20-17 of the DEIS also states “It is anticipated that the reduced time of FAA hazard lighting resulting from an implemented ADLS would reduce the duration of potential impacts of nighttime aviation lighting to less than 1 percent of the normal operating time that would occur without using ADLS, although ADLS would have major impacts on viewers when activated”. However, the duration of impacts with the implementation of ADLS could be characterized as fleeting, as shown in the ADLS simulation on BOEM’s website. [Footnote 14: [Embedded Hyperlink Text (https://www.boem.gov/nighttime-aircraft-detection-lighting-system-adls-simulation)]] ADLS activates when an aircraft flies within three nautical miles of the wind facility area at an altitude of less than 2,000 feet. According to the simulation, when a jet flying at 1,900 feet approaches and flies over the wind farm, the lights are on for less than 6 minutes. This suggests that it would likely be missed by most viewers and would not last long enough to result in visual distraction (similar to passing ships, buoys, air traffic, etc).</p>	<p>Viewers’ perception is variable, ranging from high to low acuity and awareness of the visual environment. The most conservative case in NEPA analyses considers those viewers with a high level of acuity and likelihood of project awareness. Although, when lit, the nighttime impacts of FAA navigation lighting would fall within BOEM’s major impact definition, BOEM has concluded that the limited timeframe of ADLS-activated lighting would reduce the impacts from major to negligible. Moonlit nighttime views would increase the impacts from negligible to minor. This has been clarified in Section 3.20.3 and Section 3.20.5 of the Final EIS, and the impact level for KOP-13 (Atlantic City Beachfront – Nighttime) has been revised from major to minor in Table 3.20-12, Table 3.20-14, and in multiple tables in Appendix M.</p>

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<p>Appendix M of the DEIS states “ADLS would reduce nighttime impacts levels from major to moderate or moderate to minor, due to substantially limited hours of lighting.” Ocean Wind is committed to the use of ADLS to minimize impacts of nighttime lighting on nearby communities and recommends that the FEIS address ADLS as reducing nighttime lighting impacts to negligible, since impact duration should be an important factor in the characterization of impacts.</p>	
<p>1.3 Air Quality; Appendix G on page 3.4-2, of the DEIS states that “The activities for which BOEM has authority are outside of any nonattainment or maintenance area and therefore not subject to the requirement to show conformity.” Although the offshore components of the Project technically are not located in a nonattainment or maintenance area, 40 CFR Part 55 requires that the Project follow requirements for the [Italics: corresponding onshore area] (“COA”), which in the case of the Project, is New Jersey (which is a designated nonattainment area). As such, the Project must comply with nonattainment new source review (“NNSR”) and is subject to requirements such as lowest achievable emission rates (“LAER”) and emissions offsets. Per 40 CFR 93.153, General Conformity may apply to emissions which are not covered under the OCS air permit, such as transit emissions outside the 25-nm radius OCS air permit circle, emissions from vessels while in port, or other onshore construction emissions. Some of these emissions may occur in nonattainment or maintenance areas or in offshore areas that are treated as nonattainment or maintenance areas. Ocean Wind suggests that BOEM include a basis in the FEIS for the statement that General Conformity will not apply to the Project or provide an analysis to determine if applicable emissions exceed General Conformity de minimis thresholds.</p>	<p>The activities for which BOEM has authority are outside of any nonattainment or maintenance area and therefore not subject to the requirement to show conformity.</p>
<p>1.4 Bats; Appendix H of the DEIS as well as in the Ocean Wind Offshore Wind Farm Biological Assessment for the United States Fish and Wildlife Service, Table 2-2 (“USFWS”) includes Applicant Proposed Measure (“APM”) BAT-01 which states that “Onshore, the Project will avoid potential impacts by conducting tree clearing during the winter months, to the extent practicable” and APM BAT-02 which states “If tree clearing is required in areas with trees suitable for bat roosting during the period when northern long-eared bats may be present, develop avoidance and minimization measures in coordination with USFWS and NJDEP and conduct pre-construction habitat surveys.”</p>	<p>BOEM acknowledges that Ocean Wind recently conducted acoustic bat surveys in potential northern long-eared bat habitat where tree clearing may occur during roosting periods. The results of the survey indicate that there is probable absence of northern long-eared bat in the locations where tree clearing may occur. BOEM notes that the survey locations in potentially suitable habitat were along Ocean Wind’s preferred Oyster Creek onshore export cable route (i.e., the Holtec Route). Should Ocean Wind elect to construct an onshore export cable route option other than the Holtec route, Ocean Wind will coordinate with USFWS to develop conservation</p>

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<p>The Project may require tree clearing during the non-winter periods and as such, the Project is conducting pre-construction acoustic monitoring in areas where tree clearing may be necessary (at the onshore substations and along the onshore cable routes) to determine if northern long-eared bat and Indiana bat are present. If northern long-eared bat or Indiana bat are detected, Ocean Wind will develop avoidance and minimization measures in coordination with USFWS and NJDEP.</p>	<p>measures to be implemented to avoid take of northern long-eared bats. Measures may include conducting all tree clearing between October 1 and March 31, acoustic surveys, and habitat assessments.</p>
<p>1.5 Benthic Habitat; With regard to potential impacts on benthic habitat mentioned in the DEIS, Ocean Wind urges BOEM and the cooperating agencies to:</p> <p>Include in the FEIS site-specific data and characterization of the sand ridges conducted during summer 2022 that suggest impacts to troughs may be less than anticipated in the DEIS because the troughs in the Lease Area may contain coarser grain sediments than generalized reports predict;</p> <p>Reconsider proposed mitigation through micro-siting and inter-array cable placement, especially as new cable placement would frustrate the purpose and need to deliver power to New Jersey by late 2024 and result in 30 kilometers of new cable, expanding impacts in other areas; and;</p> <p>Avoid using geophysical backscatter returns as a proxy for micro-siting decisions, given the nuances in how data is normalized.</p>	<p>The vast majority of the impacts on habitats would be on soft bottom, with a small portion of impacts on complex (inclusive of coarse) habitats. Except for SAV habitat, the composition of benthic habitats in potential permanent and temporary impact footprints was similar to the composition in the Project area, indicating little difference among alternatives with respect to overall composition of benthic habitats affected by the Project. The Draft EIS reported the same number of acres of permanent/temporary impacts on complex habitats for the Proposed Action and Alternative D; new surveys and calculations (October 2022) indicate similar acres of impacts on complex habitats under Alternative A.</p> <p>Backscatter data are widely recognized as a valid tool in evaluating benthic habitats. BOEM will consider how they will be used in mitigation measures.</p>
<p>Ocean Wind respectfully requests that the FEIS incorporate site-specific data and characterization of the sand ridges from sampling conducted during summer 2022 as the Project believes the current characterization does not accurately represent the Lease Area. A description of the Offshore Project Area on page 3.6-3 of the DEIS states: "Troughs are characterized by finer sediments and higher organic matter, while ridges are characterized by relatively coarser sediments. Differences in benthic invertebrate assemblages, likely driven by differences in sediment characteristics, have been observed that include increased diversity and biomass within troughs (Rutecki et al. 2014)." The DEIS also states on page 3.6-27 that "These characteristics subsequently influence infauna and meiofaunal assemblages, which subsequently may influence assemblages of higher trophic-level fish and shellfish. These features aid in trophic interactions, linking planktonic communities and higher-level predators." Ocean Wind notes that additional site-specific sampling</p>	<p>Text was expanded in Section 3.6.1 to include: "A 2022 survey (Inspire 2022a) of the ridge and trough habitats in the northeastern portion of the Lease Area also indicated physical and biological differences between the crests (ridges) and troughs of these habitats; however, compared to the regional study, ridge crests were more homogeneous than troughs, and the sediments on the crests were primarily fine to medium sands compared with troughs that exhibited greater variation in sediments, ranging from very fine sand to sandy gravel."</p> <p>The following text was added to Section 3.6.5: "In the Mid-Atlantic Bight, infaunal assemblages and productivity differ between ridges and troughs (Byrnes et al. 2000; Slacum et al. 2010); for example, sand dollars were found to be more prevalent on shoal crests than in troughs (VIMS 2000). Similarly, the average numbers of sand dollars were distinctly higher on crests in a site-specific study of the</p>

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<p>was conducted within the sand ridge area during the summer of 2022. In August 2022, data results and a complete description of the resources in this area will be provided in an updated Benthic Habitat Mapping and Benthic Assessment to Support Essential Fish Habitat (“EFH”) Consultation report. Preliminary data results indicate that the crests of the ridges are composed of fine to medium sand while coarser sands with shell fragments and hash are found within the troughs. Survey data collected in-situ for the explicit purpose of characterization of the sand ridges at the Ocean Wind Lease site differ, in fact are opposite, of that cited in the DEIS. The DEIS cites a reference report that provides generalized descriptions of sand ridges on the Atlantic and Gulf Coasts outer continental shelves. [Footnote 15: Rutecki D, Dellapenna T, Nestler E, Scharf F, Rooker J, Glass C, Pembroke A. 2014. Understanding the habitat value and function of shoals and shoal complexes to fish and fisheries on the Atlantic and Gulf of Mexico outer continental shelf. Literature synthesis and gap analysis. Herndon (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. Contract # M12PS00009. BOEM 2015-012. 176 pp.] The site-specific data and characterization of the sand ridges in the Ocean Wind Lease site to be provided in the updated report in August 2022 will provide BOEM with the opportunity to update the characterization of the sand ridges provided in the DEIS and associated documents.</p>	<p>Lease Area (Inspire 2022). In addition, the trough portions (or flat bottom) of the habitat generally have greater abundance, species richness, and species diversity, as well as greater abundance of benthic finfish, pelagic finfish, and pelagic invertebrates than ridges (or shoals); ridges with steeper elevation gradients had greater abundance than those with more gradual elevation changes (Slacum et al. 2010).”</p>
<p>The first proposed mitigation listed within Section 3.6.9 (page 3.6-30) of the DEIS states: “Minimize adverse impacts on sand ridge and trough habitat features by micro siting the placement of two WTGs (D06 and E05) out of the sand ridge or trough centerline buffer areas. The buffer area extends 500 feet on both sides of the centerline of each ridge and trough. Micro siting would reduce benthic impacts on the most unique and spatially limited components of the ridge and trough features. While this would provide an incremental reduction of impacts on sensitive habitats, it would not reduce the impact rating for any of the Proposed Action’s IPFs.” It is a not clear from the data Ocean Wind has collected why WTGs D06 and E05 have been identified as being within the particularly “unique and spatially limited components” of the sand ridge area of the Ocean Wind lease site. The DEIS text refers to the sand ridge area as sensitive habitat however, there is little to no evidence in the literature that supports this statement, nor is there any reported</p>	<p>WTGs D06 and E05 are at the western edge of the steeper portions of the ridge and trough habitats in the Lease Area and directly adjacent to the 15 WTGs proposed to be removed under Alternative D. The two WTG locations are soft-bottom habitat, which is the dominant habitat type in the region. Micrositing WTGs to these locations (based on low backscatter) would reduce the extent of construction impacts on complex habitat.</p> <p>Literature supporting the sensitive nature of the habitat is briefly summarized in the previous NMFS finfish/benthic responses (and added to Section 3.6.5 of the Final EIS): “In the Mid-Atlantic Bight, infaunal assemblages and productivity differ between ridges and troughs (Byrnes et al. 2000; Slacum et al. 2010); for example, sand dollars were found to be more prevalent on shoal crests than in troughs (VIMS 2000). Similarly, the average numbers of sand dollars were distinctly higher on crests in a site-specific study of the Lease Area (Inspire 2022). In addition, the trough portions (or flat</p>

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evidence to indicate that these features would be significantly impacted by construction of WTGs and installation of inter-array cables.	bottom) of the habitat generally have greater abundance, species richness, and species diversity, as well as greater abundance of benthic finfish, pelagic finfish, and pelagic invertebrates than ridges (or shoals); ridges with steeper elevation gradients had greater abundance than those with more gradual elevation changes (Slacum et al. 2010)... Therefore, impacts on ridge and trough habitats may be greater in the northeastern portion of the Lease Area."
Additional proposed mitigation (inter-array cable placement) includes minimizing perpendicular crossings of sand ridge and trough areas by inter-array cables, in which an additional 30 kilometers of cable would be required, which would require additional surveys that would result in at least a two-year delay. This delay would result from the need for additional geophysical surveys, archaeological assessment, and potential unexploded ordnance ("UXO") inspection prior to any ground-disturbing activities. As stated under Sections 1.1.1 and 1.1.2, alternatives or measures that result in delays of two years to the schedule prevent the Project from meeting the stated purpose and need to deliver offshore wind energy to the transmission grid beginning in 2024.	Comment noted.
The final proposed mitigation measure for impacts on benthic resources as described in Section 3.6.9 (page 3.6-30) recommends that WTG positions should be microsituated to avoid areas with high geophysical backscatter returns. Ocean Wind notes that this recommendation is problematic and should not be carried forward as a proposed mitigation measure for the following reasons; Multibeam backscatter collects data on the relative seafloor hardness and surficial sediment characteristics, however before the collected data are incorporated into a mosaic image, the data are normalized to account for slight differences in the off-nadir angle while maintaining changes in the backscatter amplitude that indicate differences in the morphology of the seafloor. The resulting data product is then normalized to maximize the differences in data, however slight those may be. For areas containing both soft sediments as well as rocky outcroppings, these differences are both visually stark in their contrast of the mosaic image and physically stark in their habitat characteristics. However, this is not the case within the Ocean Wind Lease Area. Benthic habitat surveys including benthic grabs as well as SPI-PV imagery show that the relatively "high" backscatter areas are	Comment noted. Backscatter data are widely recognized as a valid tool in evaluating benthic habitats. BOEM will consider how they will be used in mitigation measures.

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<p>typically shell hash and/or coarser grained materials with limited gravelly sand composed of washed pebbles/granules in ripple troughs. [Footnote 16: INSPIRE Environmental. 2020. Sediment Profile and Plan View Imaging Benthic Assessment Survey in Support of the Ocean Wind Offshore Wind Farm Site Assessment Data Report. Prepared for Fugro USA Marine, Houston, TX and Ocean Wind. Submitted by INSPIRE Environmental, Newport, RI. January 24, 2020; INSPIRE Environmental. 2021. Ocean Wind Offshore Wind Farm Benthic Habitat Mapping and Benthic Assessment to Support Essential Fish Habitat Consultation. Prepared for HDR Engineering. Submitted by INSPIRE Environmental, Newport, RI. June 28, 2021] Seafloor disturbance activities related to the construction, operation, and decommissioning of the Project are not expected to affect these benthic habitats in a manner that significantly differs compared to areas of low backscatter, which are typically characterized as fine to medium sands. Micrositing WTG locations based on backscatter would be overly restrictive and minimally protective given the nature of these areas within the Ocean Wind lease site. The Ocean Wind lease site has been well designed by BOEM to avoid complex habitats and minimize disturbances to biologically sensitive resources.</p>	
<p>In addition to the limited value that micrositing would provide, relocating a WTG requires a significant investment in additional geophysical and geotechnical sampling, marine archaeological analysis, engineering design, and logistical accommodation. A relocation based on backscatter may place a WTG in an alternatively sensitive area (e.g., archaeological concerns), potentially impacting resources of concern that would require subsequent consultations and mitigations. Additionally, there are significant lead times necessary to secure geophysical and geotechnical vessels, in addition to the multiple months needed to process and finalize the data. These geotechnical data are then used to inform engineering design and installation. Therefore, a micrositing decision could result in delays of years for the installation of a WTG. Given the physical and biological attributes of the seafloor, which have been well-characterized by geophysical and ground-truth sampling, micrositing WTGs for mitigation is not warranted given that these actions would offer little resource protection and result in potentially significant delays and costs. As stated under Sections 1.1.1 and 1.1.2, alternatives or measures that result in delays of two years to</p>	<p>Comment noted.</p>

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<p>the schedule prevent the Project from meeting the stated purpose and need to deliver offshore wind energy to the transmission grid beginning in 2024.</p>	
<p>1.6 Birds; Appendix H, Table H-2 includes a BOEM-proposed Bird and Bat Mitigation Measures (#2) that states “Install bird deterrent devices to minimize bird attraction to operating turbines and on the OSS, where appropriate and where Ocean Wind determines such devices can be safely deployed”. Consistent with industry best practice, Ocean Wind will install bird perching deterrent devices (e.g., spikes or similar) in areas where perching may create a health and safety risk for workers and where such devices can be safely deployed. Ocean Wind is not considering other methods of deterrence, such as visual, auditory, or frightening device systems at this time because they are highly susceptible to habituation by birds, do not have well established efficacy, and are impractical for deployment offshore. [Footnote 17: BOMEL Ltd/John Burt Associates Ltd. 2000. Bird guano accumulations and their effect on offshore helicopter operations. Prepared on behalf of BOMEL Consortium for the Health and Safety Executive. Offshore Technology Report No. 2000/131. Available online: [Embedded Hyperlink Text (https://www.hse.gov.uk/research/otopdf/2000/oto00131.pdf)]; Seamans, T.W. and A. Gosser. 2016. Bird dispersal techniques. Wildlife Damage Management Technical Series. USDA, APHIS, WS National Wildlife Research Center. Ft. Collins, Colorado. Available online: [Embedded Hyperlink Text (https://www.aphis.usda.gov/wildlife_damage/reports/Wildlife%20Damage%20Management%20Technical%20Series/Bird-Dispersal-Techniques-WDM-Technical-Series.pdf)]; and Sulaiman, I. Babawuya, A., Adedipe, O., Salihu, B.A., Adeoti, M.O., and Saraki, Y. 2021. A review of bird pest repellent systems in farms. 1st International Business and Management Conferences, Wukari, Taraba State., 19-21 February 2020. Available online: [Embedded Hyperlink Text (https://www.researchgate.net/publication/355927809_A_Review_of_Bird_Pest_Repellent_Systems_in_Farms)]] Ocean Wind respectfully requests that BOEM clarify the wording of Bird and Bat Mitigation Measures #2 to specify “bird perching deterrent devices” or “anti-perching devices.”</p>	<p>BOEM has revised Bird and Bat Mitigation Measure #2 in Appendix H and EIS Section 3.7.8 to clarify the deterrent as a “perching” deterrent.</p>

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<p>1.7 Burial Depth; Ocean Wind fully supports BOEM's dismissal of the "Alternatives for cable construction methods and protection including burying the cable deeper and remote monitoring of cables", discussed in Table 2-3, in Section 2 of the DEIS. Cables will be buried, where possible, and Ocean Wind is committed to a target burial depth of 4 to 6 feet (1.2 meters ["m"] to 1.8 m) for offshore export cables and inter-array cables. Where burial is not possible, sufficient depth cannot be achieved, or protection is required due to cables crossing other cables or pipelines, additional armoring or other cable protection methods may be used. Cable protection methods may include rock placement, concrete mattresses, frond mattresses, rock bags, and seabed spacers. The maximum amount of cable protection needed is not expected to exceed 10 percent of the total cable length. Cable burial depth will be monitored throughout the life of the Project.</p>	<p>Comment noted.</p>
<p>The target burial depth is determined based on an assessment of seabed conditions integrated from geophysical and geotechnical surveys, seabed mobility, and the risk of interaction with external hazards such as fishing gear and vessel anchors as contained within the cable burial risk assessment ("CBRA"), while also considering other factors such as maintained navigational channels and thermal conductivity. Increasing the burial depth of a cable, increases the thermal insulation surrounding it (i.e., reduce the ability of the soil to dissipate the heat away from the cable). This in turn, can lead to the cable overheating with the only mitigating factor to reduce the current (amps) that can be passed through the cable. Changes in burial depth from 3 feet to 10 feet show the largest reduction in current carrying capability, therefore mandated burial depths greater than what are necessary based on the assessment described above, will jeopardize the Project's ability to meet its required energy output and purpose and need. Ultimately, the final burial depth will be based on a post-COP approval, Cable Burial Plan to be reviewed and approved by the Certified Verification Agent ("CVA") and BOEM.</p>	<p>The text in Section 2.1.2.2.3 has been updated to include the identified feasibility concerns related to increased cable burial depth.</p>
<p>1.8 Cultural Resources, 1.8.1 Avoidance Buffers; Attachment A to Appendix N of the DEIS, page 4, states that "Ocean Wind will avoid potential shipwrecks and potentially significant debris fields previously identified during marine archaeological surveys by a [Italics: distance of no less than 300 meters from the known extent of the resource, unless the buffer would preclude the installation of facilities at their engineered</p>	<p>BOEM's approach for avoidance of potential shipwrecks and potentially significant debris fields previously identified in marine archaeological surveys specifies the 300-meter buffer or 100-meter buffer from the center of a detected anomaly (marine archaeological resource) when there are insufficient data to characterize the maximum extent of the magnetic signature and visibility.</p>

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<p>locations, but in no event would the buffer be less than 100 meters from the known extent of the resource].” Ocean Wind does not believe that the use of a 300-meter buffer is beneficial as the resources are defined by the maximum extent of their magnetic signature and maximum visible extent in the side scan sonar data. Ocean Wind proposes to avoid known or possible shipwrecks using a 50-meter avoidance buffer measured from maximum extent of the magnetic signature and visibility. Ocean Wind provides the following reference, as cited on page 114 of the Marine Archaeological Resources Assessment (“MARAs”) (Appendix F-1 to Ocean Wind’s COP) in support of a 50-meter avoidance buffer. “A Minerals Management Service (precursor to BOEM) 2006 study assessed avoidance criteria for both known shipwrecks and potential shipwrecks represented by magnetic anomalies and acoustic contacts (Enright et al. 2006). The study considered survey trackline spacing, water depth, instrument layback and positional accuracy, contouring limitations, and the presence of magnetic anomalies versus acoustic contacts when assessing the effectiveness of avoidance buffers. Most importantly, the study determined that ‘avoidance from an anomaly’s margins virtually guarantees that its source is encompassed by the avoidance zone’ (Enright et al. 2006:144).”</p> <p>Furthermore, Ocean Wind notes that marine archaeologists have used a 50-meter avoidance buffer for decades for oil and gas projects developed under the Minerals Management Service. If any unknown resources are encountered, Ocean Wind will implement its Unanticipated Discoveries Plan to avoid and mitigate impacts to unknown resources.</p> <p>For the reasons listed above, Ocean Wind requests that BOEM consider the 50-meter buffer sufficient to protect shipwrecks and potentially significant debris fields and waive the requirement for a 100 and 300-meter buffers.</p>	<p>BOEM has reviewed the recommendations submitted in the revised Marine Archaeological Resource Assessment (COP Volume III, Appendix F-1, September 2022) prepared by Ocean Wind and finds the data provided are sufficient to justify 50-meter avoidance buffers measured from the maximum extent of the magnetic signature and visibility. This requested revision is reflected in the Final EIS.</p>
<p>1.8.2 Appendix H; Appendix H, Table H-2, of the DEIS, under “Other Agency-proposed Mitigation Measures”, #10 states that “No later than 90 calendar days after COP approval, the Lessee would contact the federally recognized tribal nations in government-to-government consultations with BOEM for the Project in order to solicit their interest in participating as active monitors on board vessels during construction and/or maintenance activities...”</p>	<p>BOEM will consult with tribes participating as Section 106 consulting parties to confirm tribal monitoring onboard vessels during construction and maintenance activities is a desired measure to support avoidance, minimization, and mitigation of adverse effects on ancient submerged landforms. All avoidance, minimization, and mitigation measures to resolve adverse effects are codified as stipulations in the Memorandum of Agreement and those stipulations, if included, will specify activities and areas to be</p>

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<p>Ocean Wind does not object to soliciting interest from federally recognized Tribal Nations in participating as active monitors onboard vessels during construction and/or maintenance activities. Additional information will be required from the interested federally recognized Tribal Nations to best accommodate any concerns or designate which activities are to be monitored.</p>	<p>monitored. In addition, processes for coordinating future submerged cultural resource monitoring activities with tribal monitors can be specified in Ocean Wind's Post-Review Discovery Plan for Submerged Archaeological Resources and in Ocean Wind's Treatment Plan for Ancient Submerged Landform Features.</p>
<p>Ocean Wind is committed to providing a safe working environment and strives to minimize and mitigate all potential hazards. The offshore working environment presents a unique set of circumstances and specialized training is required to ensure the safety and well-being of all persons present at the work site. As such, Ocean Wind's ability to grant requests for access to construction and/or maintenance vessels would depend upon a number of constraints, including Health, Safety, and Environment ("HSE") requirements, vessel berthing availability, and applicable insurance liabilities for Project owned vessels and/or contracted vessels. Furthermore, HSE requirements that apply to those aboard a construction and/or maintenance vessel would include, at minimum, Project-approved trainings for sea survival and a physical examination by a licensed physician. Additional trainings would be required for access to WTGs or to transfer onto the construction vessel itself. Any onboard monitors would also have to commit to the anticipated duration at sea for the vessel's activity (which can be up to 4 weeks) and be limited to the available berthings so as to not impact the availability to construction personnel.</p>	<p>Comment noted.</p>
<p>1.9 Fisheries; Page 3.9-43 of the DEIS states that "Some fishing vessel operators unwilling or unable to travel through or deploy fishing gear in the Wind Farm Area may be able to find suitable alternative fishing locations and continue to earn revenue, although it is difficult to predict the ability of fishing operations displaced by the Project to locate alternative fishing grounds that would allow them to maintain revenue targets while continuing to minimize costs, and some vessel operators may choose not to seek alternate fishing grounds." While each WTG structure itself does of course need to be avoided by vessel traffic, Ocean Wind believes there is sufficient room for nearly all commercial fishing vessels to transit safely through the Lease Area with only minor adjustments and course corrections. The statement above regarding fishing vessel operators being "unwilling" or "unable to travel</p>	<p>Many variables enter into the decision for commercial fishing vessels to enter the Wind Farm Area or navigate around the area. It is acknowledged that some vessels may be less affected; however, some would most likely choose not to enter the area. This section and paragraph present both scenarios for completeness and indicate that recreational fishing vessels, which are typically smaller, would likely be able to navigate the Wind Farm Area without issue.</p>

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<p>through” may wane as mariners and fishermen learn and adjust to the WTG layout, as has been the case at the Block Island Wind Farm and in Europe. Ocean Wind has taken action to ensure navigational safety throughout the Wind Farm. [Footnote 18: Smythe T, Bidwell D, Tyler G. 2021. Optimistic with reservations: The impacts of the United States’ first offshore wind farm on the recreational fishing experience. Marine Policy, Volume 127, 104440. [Embedded Hyperlink Text (https://doi.org/10.1016/j.marpol.2021.104440))] This includes an Ocean Wind specific full-mission navigation simulator at the Maritime Institute of Technology and Graduate Studies (“MITAGS”), which the Project has offered to commercial fishermen. The navigation simulator and other actions taken to ensure navigational safety are further described in Section 1.11 Navigation and Vessel Traffic.</p>	
<p>Additionally, Ocean Wind does not expect navigation through the Wind Farm Area to generate significant increases in fuel costs or time spent in transit. Furthermore, the Ocean Wind Lease Area has been well designed to avoid the areas of highest commercial fishing activity through the BOEM Planning and Analysis phase, which included input from commercial fisherman, thereby reducing impacts to the overwhelming majority of the commercial fisheries offshore of New Jersey. As such, Ocean Wind asserts the long-term impacts of the Project on commercial fisheries would be less than major on all commercial fisheries.</p>	<p>If a commercial fishing vessel chooses to navigate through the Wind Farm Area, there would likely not be a significant increase in operating costs. However, if a commercial fishing vessel chooses to navigate around the Wind Farm Area and find alternative fishing grounds, it is likely that operating costs would increase, which could thereby reduce the operator’s overall revenue. While the Ocean Wind 1 Lease Area was designed to avoid certain commercial fishing activity, certain fisheries and fishing operations would still be affected and those impacts were determined to be long term and to range from minor to major.</p>
<p>Additional marine-based business and for-hire and recreational fishing industries are expected to see increases in revenue generated by additional vessel trips to the Lease Area, both for tourism as well as for increased fishing habitat generated by the WTG foundations. A recent study at the Block Island Windfarm has shown an increase in fish populations near the WTG locations. [Footnote 19: Wilber DH, Brown L, Griffin M, DeCelles GR, Carey DA. Demersal fish and invertebrate catches relative to construction and operation of North America’s first offshore wind farm. ICES Journal of Marine Science, Volume 79, Issue 4, May 2022, Pages 1274– 1288, [Embedded Hyperlink Text: https://doi.org/10.1093/icesjms/fsac051))] These beneficial effects are expected to translate to an increase in spending at marine-related businesses. Additionally, the DEIS does not attribute benefits from the artificial reef effect to commercial or for-hire fishing, even though many commercial or for-hire targeted species will benefit undoubtedly from</p>	<p>Minor beneficial impacts for certain commercial fisheries and for-hire recreational fishing operations due to the artificial reef effect have been included in Section 3.9.</p>

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<p>future artificial reefs. Two of the primary commercial fisheries that occur or are expected to occur within the lease are black sea bass and conch (whelk). As these are predominantly fixed-gear fisheries, the impacts of WTG foundations are expected to be beneficial to populations and gear interactions minimal. The FEIS should acknowledge anticipated benefits of the artificial reef effect.</p>	
<p>Further, New Jersey has a large artificial reef program intended, in part, to support the for-hire industry. The Project will augment that beneficial program. Fisherman will also benefit from the increased opportunities presented within the wind farm. This has been demonstrated at the Block Island Wind Farm, which has realized an increase in boating traffic and fishing activity since its installation. Finally, the DEIS recognizes that unmitigated climate change and the effects of fishing regulations will have a bigger impact than the Project on the potential adverse impacts on both fisheries and fisherman. The Project is part of the solution to minimizing the effects of a 'business as usual' climate change scenario.</p>	<p>Minor beneficial impacts for some for-hire recreational fishing operations due to the artificial reef effect have been included in Section 3.9.</p>
<p>For immediate impacts to commercial fishing gear, any direct losses will be mitigated by Ørsted's Fishing Gear Conflict Prevention Loss Compensation Program.</p>	<p>Compensation for gear loss is acknowledged within Section 3.9.4 of the EIS.</p>
<p>1.10 Marine Mammals; Page 3-15.34 of the DEIS states that "Activities associated with the Proposed Action that could cause underwater noise effects on marine mammals are impact pile driving (installation of WTGs and OSS [foundations]), vibratory pile driving (installation and removal of cofferdams at landfall sites), geophysical surveys (HRG surveys), detonations of UXO, vessel traffic, aircraft, cable laying or trenching, and dredging during construction and WTG operation. Decommissioning activities related to noise would likely be similar to those outlined for construction activities. Project construction activities could generate underwater noise and result in injury, behavioral disturbance, and masking effects on marine mammals. WTG operations have the potential to result in long-term behavioral disturbance and masking effects on marine mammals. Decommissioning activities related to noise would likely be similar to those outlined for construction activities."</p> <p>Data from existing farms in Europe and the U.S. indicate that WTG operations produce broadband low- frequency noise of low amplitude that is relatively localized.</p>	<p>Text related to the potential effect of operational wind turbines has been updated to reflect the analysis presented in Tougaard et al. 2020 and the constraints to the analysis conducted by Stöber and Thomsen 2021. As stated in Section 3.15, "Based on the currently available data, underwater noise from turbine operations from offshore wind activities (without the Proposed Action) are likely to reach ambient noise levels within relatively short distances of the foundations. It is unlikely operational noise would cause PTS or TTS in marine mammals but could cause behavioral and masking effects. at relatively short distances from the foundations (Miller and Potty 2017; Tougaard et al. 2009b, 2020). However, more acoustic research is warranted to characterize SPLs originating from large direct-drive turbines."</p> <p>Madsen et al. 2006 are already cited within the EIS.</p>

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<p>Ocean Wind concurs that there is a lack of data confirming these results for the proposed direct-drive GE Haliade-X 12-MW WTGs, but long-term behavioral impacts on marine mammals should not be necessarily inferred from the absence of information and we ask that BOEM revise the bolded sentence in the FEIS above to as these effects are highly unlikely.</p> <p>[Footnote 20: Evans, P. (2008). Offshore Wind Farms and Marine Mammals: Impacts and Methodologies for Assessing Impacts. Paper presented at European Cetacean Society's 21st Annual Conference, San Sebastian, Spain; HDR. 2019. Field Observations during Wind Turbine Operations at the Block Island Wind Farm, Rhode Island. Final Report to the U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs. OCS Study BOEM 2019-028. 281pp; Madsen, P., Wahlberg, M., Tougaard, J., Lucke, K., & Tyack, P. (2006). Wind turbine underwater noise and marine mammals: implications of current knowledge and data needs. Marine Ecology Progress Series, 309, 279–295. [Embedded Hyperlink Text (https://doi.org/10.3354/meps309279)]; Mooney, T. A., Andersson, M. H., & Stanley, J. (2020). Acoustic Impacts of Offshore Wind Energy on Fishery Resources. Oceanography, 33(4), 14; Scheidat, M., Tougaard, J., Brasseur, S., Carstensen, J., van Polanen Petel, T., Teilmann, J., & Reijnders, P. (2011). Harbour porpoises (Phocoena phocoena) and wind farms: a case study in the Dutch North Sea. Environmental Research Letters, 6(2), 025102. [Embedded Hyperlink Text (https://doi.org/10.1088/1748-9326/6/2/025102)]; Wilhelmsson, D., Malm, T., Thompson, R., Tchou, J., Sarantakos, G., McCormick, N., Luitjens, S., Gullström, M., Patterson Edwards, J.K., Amir, O. and Dubi, A. (eds.) (2010). Greening Blue Energy: Identifying and managing the biodiversity risks and opportunities of off shore renewable energy. Gland, Switzerland: IUCN. 102pp.] These noise characteristics make injury, sustained behavioral disturbance, and/or masking highly unlikely.</p> <p>[Footnote 21: Bailey, H., Brookes, K. L., & Thompson, P. M. (2014). Assessing environmental impacts of offshore wind farms: lessons learned and recommendations for the future. Aquatic Biosystems, 10(1), 8. [Embedded Hyperlink Text (https://doi.org/10.1186/2046-9063-10-8)]; Madsen et al 2006, Tougaard, J. & Michaelsen, M. (2018). Effects of larger turbines for the offshore wind farm at Krieger's Flak, Sweden. Assessment of impact on marine mammals. Aarhus University, DCE –</p>	

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Danish Centre for Environment and Energy, 112 pp. Scientific Report No. 286. [Embedded Hyperlink Text (http://dce2.au.dk/pub/SR286.pdf); Verfuss, U. K., Sparling, C. E., Arnot, C., Judd, A., & Coyle, M. (2016). Review of Offshore Wind Farm Impact Monitoring and Mitigation with Regard to Marine Mammals. In A. N. Popper & A. Hawkins (Eds.), The Effects of Noise on Aquatic Life II (pp. 1175–1182). [Embedded Hyperlink Text (https://doi.org/10.1007/978-1-4939-2981-8_147)].]	
Additionally, Ocean Wind respectfully disagrees that decommissioning activities related to noise would likely be similar to those outlined for construction activities. Based on available data and previous NMFS authorizations, decommissioning activities related to the removal of monopiles via cutting below the seabed will result in substantially lower noise levels and smaller ensonified zones than those associated with construction activities such as impact pile driving. [Footnote 22: Issued IHA for Fuel Pier Inboard Pile Removal Project at Naval Base Point Loma in San Diego Bay, California (2021): [Embedded Hyperlink Text (PointLoma_2021_final_IHA_OPR1.pdf (noaa.gov))]; and Federal Register notice for Pier Replacement Project at Naval Base Point Loma in San Diego Bay, California (2014): [Embedded Hyperlink Text (https://www.govinfo.gov/content/pkg/FR-2014-11-04/pdf/2014-26195.pdf))] As one example, NMFS authorized the Navy in 2022 to remove piles with clippers, chainsaws, diamond saws, and vibratory hammers, all of which had reported Level A harassment zones of < 1 m and Level B harassment zones of < 600 m, as compared with 450 m/2,500 m Level A/B zones for installation of the same piles via impact piling. [Footnote 23: Naval Facilities Engineering Command Southwest (NAVFAC SW). 2020. Compendium of Underwater and Airborne Sound Data During Pile Installation and In-Water Demolition Activities in San Diego Bay, California. October 2020. Prepared by Tierra Data, Inc. Available at: [Embedded Hyperlink Text (https://s3.amazonaws.com/media.fisheries.noaa.gov/2020-12/NAVFAC%20SW%20%282020%29-NBPL_Acoustic%20Compendium_OPR1.pdf?null=))] It is, however, a reasonable expectation that the noise generated by Project vessels during the decommissioning phase will be similar to vessel noise produced during the construction phase of the Project.	Final EIS text was revised to clarify that impacts from underwater noise from decommissioning activities will not exceed those outlined for construction and would likely be less than those presented for the Proposed Action during construction.
1.11 Navigation and Vessel Traffic; Section 3.16, Navigation and Vessel Traffic, states that information in the Section is drawn primarily from the project’s Navigation Safety Risk Assessment (“NSRA”). Ocean Wind	Additional information about the NSRA contents and findings was incorporated into the second paragraph of Section 3.16 in the Final EIS.

Comment	Response
<p>suggests that a fuller description of the NSRA be included in the FEIS so that readers are provided a more complete understanding of its relevance, highlighting that it:</p> <p>Conforms to the Coast Guard's comprehensive guidance on conducting such assessments (beyond a simple referral to the Coast Guard's NVIC 01-19),</p> <p>Estimates that the modeled increase in risk, with no mitigations applied, is 0.4 accidents per year, with three-fourths of that risk attributable to pleasure vessels, not commercial or fishing vessels.</p> <p>Finds the Project "poses very little risk" to navigation and vessel traffic.</p> <p>Finds no evidence that the Project would impact navigation and vessel traffic "to a degree beyond what is normally acceptable, including potential loss of vessels and life."</p> <p>Has been reviewed and accepted by the Coast Guard</p>	
<p>Ocean Wind further recommends that Section 3.16 in BOEM's consideration of the impact rating on the Project's effects on navigation and vessel traffic be considered in the context of the significant mitigations that will be implemented as permit conditions to facilitate navigation safety, including but not limited to:</p> <p>Enhanced marking, lighting, and sound signaling of all Project structures in accordance with recently issued guidance by both BOEM and the Coast Guard.</p> <p>Inclusion of Automatic Identification System ("AIS") signals and information on key structures.</p> <p>Real-time monitoring of the Project site to assist in searching for and locating mariners in distress.</p> <p>The Project's active full-mission simulator program hosted by MITAGS that provides a near-real- life experience of navigating within the Project area.</p>	<p>APMs were already considered in the analysis of impacts for the Proposed Action and other action alternatives. APMs NAV-03 and NAV-04 were specifically called out in the Draft EIS and specific reference to APMs GEN-07, NAV-01, and NAV-02 have been added to Section 3.16 of the Final EIS. Appendix H has no information about real-time monitoring of the Project site to assist in searching for and locating mariners in distress or information about the full-mission simulator program. It is unclear how the full-mission simulator program hosted by the Maritime Institute of Technology and Graduate Studies will directly influence/affect the navigation of vessels within the Project area.</p>
<p>In addition, it is noted that the Section describes "reasonably foreseeable environmental trends" as those actions that may, in BOEM's opinion, adversely impact navigation and vessel traffic. Ocean Wind believes further consideration should be made where reasonably foreseeable actions may have a positive impact on navigation and vessel traffic. For example:</p>	<p>Discussion of the Port Access Route Study has been added to Final EIS Appendix F (<i>Planned Activities Scenario</i>) and Final EIS Section 3.16.3.1. BOEM coordinated with USCG as a cooperating agency during development of the EIS and has reviewed and referenced the USCG Port Access Route Studies within the EIS.</p> <p>Impacts of the Proposed Action on navigation and vessel traffic are considered to be adverse. Planned development of offshore wind</p>

Comment	Response
<p>In section 3.16.1 (page 3.16-2), an assertion is made that “Existing lease areas...and recent lease sales...could contribute to increased vessel traffic...” Ocean Wind respectfully request that BOEM provide supporting information for this statement in light of the discussion included in the U.S. Coast Guard Port Access Route Studies, which recommend various routing measures to enhance navigation safety and safely guide vessel traffic in the proposed project area and beyond, as that these measures, which will likely be implemented, will have a positive impact on navigation and vessel traffic.</p> <p>In that same section (page 3.16-5) the DEIS discusses AIS vessel data from the NSRA, again making an assertion that “the NSRA data likely exclude most vessels less than 65 feet.” The DEIS then concludes that fishing vessel traffic in Table 3.16-1, which is not from the NSRA, is under- represented, suggesting the NSRA data/review is incomplete. But a holistic reading of the NSRA will show that all vessel traffic, combining both actual AIS transits and a conservative estimate of non-AIS transits, is included in all model calculations.</p>	<p>leases would add vessel traffic to the geographic analysis area during construction, O&M, and decommissioning of planned offshore wind projects that rely on vessels to facilitate these activities. The establishment of shipping safety fairways as defined in 33 CFR 166.105 would not negate the increased navigational complexity within lease areas where offshore wind development is planned.</p> <p>The NSRA makes a conservative estimate of non-AIS transits precisely because the AIS data under-represent this vessel population. The information shown in Table 3.16-1 is directly transferred from Table 2-2 of the NSRA. Because the information is from 1 year of AIS data, fishing vessel traffic is under-represented as described in the text immediately above the table. The transits added to AIS data for modeling are not included in this table. The added fishing vessel transits are discussed further down in the same section (3.16.1) within the <i>Ports, Harbors, and Navigation Channels</i> subsection where accident frequencies within the Lease Area are provided for the base case (case 0). Table 11-1 of the NSRA indicates the assumed number of commercial fishing vessel transits added into the base case for the modeling.</p>
<p>Lastly, Ocean Wind notes that in the FEIS for South Fork Wind Farm and South Fork Export Cable Project, August 2021, BOEM determined cumulative navigation and vessel traffic impacts would be moderate (page 2-24).</p> <p>It is for the reasons listed above that Ocean Wind requests BOEM reconsider its “major” impact rating for section 3.16 Navigation and Vessel Traffic for the proposed action and all subsequent potential alternatives.</p>	<p>The scale of the South Fork Wind Farm and South Fork Export Cable Project as discussed in the Final EIS for that project (August 2021) is significantly less than for the Ocean Wind 1 Project (15 versus 98 WTGs for Ocean Wind 1). Impacts of the Proposed Action on non-Project vessels would include changes in navigation routes, delays in ports, degraded communication and radar signals, and increased difficulty of offshore SAR or surveillance missions within the Wind Farm Area, all of which would increase navigational safety risks and the potential for marine accidents, which may result in injury, loss of life, property damage, and potential disruptions for other ocean users in the geographic analysis area. BOEM concluded and confirms that these impacts would be major because vessel traffic would experience unavoidable disruptions to a degree beyond what is normally acceptable, including potential loss of vessels and life.</p>
<p>1.12 Sea Turtle Monitoring; Ocean Wind notes that the “DRAFT Ocean Wind 1 Offshore Wind Farm Biological Assessment for National Marine Fisheries Service” dated June 2022 includes both pre- and post-</p>	<p>As noted in this comment, Ocean Wind’s APMs include post-construction passive acoustic monitoring. Section 3.19.4 notes that APMs are proposed in the Protected Species Mitigation and</p>

Comment	Response
<p>construction visual monitoring for sea turtles which was not included in the DEIS Appendix H. Ocean Wind has committed to post-construction passive acoustic monitoring in the Wind Farm Area. If required by NMFS, Ocean Wind will conduct sea turtle specific monitoring, which Ocean Wind suggests could be comprised of tagging and telemetry studies which are more informative on sea turtle behavior.</p>	<p>Monitoring Plan (COP Volume III, Appendix AA) and that Appendix H, Table H-1 provides a full list of the committed measures in greater detail.</p>
<p>1.13 Cable Protection; Ocean Wind notes that the DEIS includes conflicting recommendations related to the cable protection specifications. Section 3.6.9 of the DEIS includes the proposed mitigation measure: “Avoid the use of concrete mattress as cable protection (in all areas, but most critically within sand ridge/trough habitat features) to the extent possible; and minimize the installation of scour protection, especially within the sand ridge and trough habitat features”. However, DEIS Section 3.9.9 recommends that “cable protection measures should be trawl-friendly with tapered/sloped edges. Ocean Wind requests that BOEM confirm that both concrete mattresses and rock placement are suitable protection options where cable burial alone is not feasible or sufficient protection.</p>	<p>The proposed measures related to cable protection in Sections 3.6.9 and 3.9.9 were analyzed in the Draft EIS so that BOEM could choose to incorporate one or more of these additional mitigation measures in the preferred alternative.</p>
<p>1.14 Winter Flounder - Time of Year Restrictions; Page 3.13-38 of the DEIS states “Winter flounder time of year restriction. Avoid construction activities during winter flounder seasonal spawning activity from January 1 through May 31 of each year within Barnegat Bay. Winter flounders lay demersal, adhesive eggs on the bottom of Barnegat Bay, which can be crushed or destroyed via trenching and dredging. Additionally, winter flounder egg hatching success can be greatly reduced with as little as 2 to 3 millimeters of sediment via sedimentation. This stock is not making adequate rebuilding progress due to low productivity. Recruitment (i.e., survival of eggs to the juvenile and adult stages) has been declining despite low fishing mortality rates for the past 10 years. Therefore, it is important to minimize impacts on spawning success and egg/larval survival to rebuild this stock and achieve a sustainable commercial and recreational fishery for this stock.”</p> <p>Ocean Wind requests consideration to allow limited sediment-disturbing activities associated with cable installation during the winter flounder time of year restriction (January 1 through May 31). Ocean Wind has reviewed its planned construction and installation schedule and construction methodologies in an effort to limit sediment disturbing activities to the maximum extent practicable from January 1 through</p>	<p>BOEM coordinated with Ocean Wind regarding feasibility concerns related to winter flounder time-of-year restrictions, and Ocean Wind indicated that adherence to winter flounder time-of-year restrictions was feasible.</p>

Comment	Response
<p>June 30 to reduce impacts on both winter flounder eggs and anadromous fish. As a result of this review, Ocean Wind has revised its construction schedule to split cable installation activities into two separate seasons including: season 1 to occur from September 2023 to March 2024 and season 2 to occur from September 2024 to December 2024 for works within and adjacent to Barnegat Bay. As a result of this modification to the Ocean Wind construction schedule, the bulk of sediment disturbing activities in Barnegat Bay will occur from September through December in 2023 and 2024.</p> <p>The exception is in-water work associated with the Horizontal Directional Drill (HDD) operations for the landfall on the western side of Barnegat Bay which must be completed in the first season to enable cable installation to occur in the second season. Construction activities for which an exemption is being requested include dredging for the HDD exit pits and ultra-shallow areas needed to enable the HDD marine spread to access the HDD exit point, as well as all HDD operations, and ultimately the pull through of the conduit, within which the cable will be installed, upon completion of drilling. These activities would occur between December 2023 through the end of March 2024 within 2,000 feet of the shoreline.</p> <p>Ocean Wind has identified best management practices (“BMPs”) to avoid and minimize the impacts of these construction activities on winter flounder eggs. Potential BMPs under consideration for these works include the installation of silt curtains and/or a coffer dam surrounding the HDD exit pit during HDD operations. Additionally, during dredging for the HDD exit pits and ultra-shallow areas, a mechanical dredge fitted with a closed environmental bucket could be used to reduce turbidity and sediment resuspension.</p> <p>Finally, potential delays as a result of weather and equipment downtime may result in installation schedule overruns and/or delays in which flexibility would be necessary to enable Ocean Wind to complete the installation of the offshore export cable across Barnegat Bay, a critical element needed to allow the Project to meet the operational first power date in 2024.</p>	
<p>1.15 Vessel Speed; Ocean Wind has provided a Vessel Strike Avoidance Plan (revised June 2022) that differs from the Vessel speed restriction section on page 3.15-63 of the DEIS. The DEIS states “All vessels, regardless of size, would comply with a 10-knot speed</p>	<p>A more comprehensive description of the most current Vessel Strike Avoidance Plan has been added to the Final EIS.</p>

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<p>restriction in any Seasonal Management Areas, Dynamic Management Areas, or visually triggered Slow Zones.” Ocean Wind is requesting that, when passive acoustic monitoring (“PAM”) systems are operational as outlined by the Plan A of the Vessel Strike Avoidance Plan, all underway vessels (regardless of size) be permitted to travel at speeds greater than 10 knots in Dynamic Management Areas except when an active [Italics: action zone] is triggered by Ocean Wind’s PAM network created by a localized North Atlantic right whale visual or acoustic detection. Ocean Wind’s Vessel Strike Avoidance Plan (revised June 2022) does not address Slow Zones, however Ocean Wind has committed to an analogous, but more area-specific, action zone system as outlined above and described in-depth within the Vessel Strike Avoidance Plan.</p>	
<p>Additionally, Ocean Wind would like to clarify that it proposes to adhere to Plan A of the Vessel Strike Avoidance Plan. Ocean Wind would revert to Plan B only in situations where real-time marine mammal detection systems are not operational. Finally, Ocean Wind will comply with the Ship Strike Reduction Rule; as such, vessels 65 feet and greater will comply with the 10-knot speed restriction in Seasonal Management Areas.</p>	<p>Acknowledged. Compliance with the Ship Strike Reduction Rule has been included in the Final EIS. However, according to the Vessel Strike Avoidance Plan, there are no “real-time marine mammal detection systems” proposed for the Standard Plan (Plan A). Therefore, their being “offline” cannot cause a reversion to the Adaptive Plan (Plan B). It was made clear that the Adaptive Plan would only be employed if there is a risk to crew safety, and/or labor restrictions, vessel availability, costs to the project, or other unforeseen circumstances make the Standard Plan impracticable.</p>
<p>1.16 Visual Resources; Ocean Wind assessed several options for interconnection points, turbine layout, offshore and onshore substations, and export cable routes. These options were reviewed relative to the Project’s purpose and need, schedule, and geographic requirements, as well as avoidance and minimization of potential impacts during construction, operation and maintenance, and decommissioning – including potential impacts to scenic and visual resources. Ocean Wind considered several turbine layouts and project boundary options within the confines of the Lease Area and selected a turbine layout a minimum 13 nm from shore to minimize visual impacts.</p> <p>Ocean Wind notes that while there are major visual impacts identified in the DEIS, the finding of major is limited to specific points within BOEM’s analysis. Three Key Observation Points (“KOPs”) are identified as having a major visual impact, including: KOP-13 Atlantic City Beachfront—Nighttime; KOP-31 Recreational Fishing, Pleasure, and Tour Boat Area; and KOP-32 Cruise Ship Shipping Lanes. Ocean Wind</p>	<p>Due to the ADLS limited time period, BOEM has reduced the previous major effect to a negligible effect. Moonlit nighttime views would increase the impacts from negligible to minor. Section 3.20 and Appendix M of the Final EIS have been updated to include this reduction in impact level from major to moderate.</p>

Comment	Response
<p>respectfully disagrees with the finding of major impact associated with these KOPs for the following reasons.</p> <p>With respect to KOP-13, Ocean Wind disagrees that the occasional lighting from the WTGs and offshore substations (equipped with ADLS) would have a major effect on the experience of someone enjoying the Atlantic City boardwalk or that the occasional lighting would cause a major character change to the boardwalk and its immediate surroundings or would have a dominant level of visual prominence within the boardwalk viewing area. The ambient light levels along the boardwalk (from large-screen advertising monitors, street-lights, and commercial lighting) are such that the additional lights from the Project are anticipated to not be noticeable. In addition, Appendix M of the DEIS states “ADLS would reduce nighttime impacts levels from major to moderate or moderate to minor, due to substantially limited hours of lighting.” Since ADLS will be used, and the lights should be visible for less than 1 percent of the normal operating time without the use of ADLS, Ocean Wind believes the impact rating for the nighttime view from Atlantic City should be considered minor to moderate.</p>	
<p>Ocean Wind also notes that the visual effect of the WTGs would be variable depending on the distance from the observer; as such, the rating should indicate the effect would be negligible to major, depending upon viewer distance. In review of other offshore wind visual impact analyses (“VIAs”), the consensus of those VIAs is that under optimal viewing conditions, WTGs within 13± miles can be considered a high degree of visual impact; within 13 to 22± miles the impact can be considered moderate; within 22 to 30± miles the impact can be considered minor; and beyond 30 miles the impact is usually negligible. As such, Ocean Wind believes the impact ratings for these KOPs should be revised from major to moderate to address the variability of visual impact dependent on distance to a WTG.</p> <p>Based on the level of impact of all other KOPs, found in section 3.20 Scenic and Visual Resources of the DEIS, and with the request to reconsider the impact level of the three KOPs listed above, all impacts to scenic and visual resources would range from minor to moderate. It is for this reason, Ocean Wind respectfully requests that BOEM reconsider the minor to major alternative impacts rating for the proposed action and all alternative actions to minor to moderate.</p>	<p>KOP-31 and KOP-32 views range from less than 0.5 mile (0.8 kilometer) to greater than 39.6 miles (63.7 kilometers), based on boat and cruise ship heights, on the heretofore undeveloped ocean. At these distances and heights, consideration of horizontal and vertical FOVs, size, prominence, and contrasts (as described in EIS Appendix M) results in a designation of major effects at the view distances associated with KOP-31 (Commercial and Recreational Fishing and Tour Boat Area) and KOP-32 (Commercial and Cruise Ship Shipping Lanes).</p> <p>In addition, BOEM considers distance, noticeable elements, horizontal and vertical FOVs, visual contrasts, size, and prominence to determine the overall impact level (rather than distance alone) and confirms that the variability of effects for KOP-31 and KOP-32 would range from major to negligible and result in an overall impact on viewer experience of major as reported in Table M-12.</p>

Comment	Response
<p>2. Clarifications; Ocean Wind is providing the following clarifications on the DEIS:</p> <p>Page S-3, Figure S-1 and page 1-4, Figure 1-1, shows an outdated array cable layout in the wind farm area. Ocean Wind recommends this figure be updated in the FEIS to reflect the correct array cable layout to be consistent with the COP (i.e., COP Vol. I, Figure 4.1-2)</p>	<p>Figures S-1 and 1-1 have been updated to depict the correct inter-array cable layout.</p>
<p>Page 2-7, Figure 2-1 incorrectly shows the inshore cable routes on the bay side of Island Beach State Park. The export cable route is shown correctly in the DEIS and in Figure 3.22-2 (DEIS page 3.22-14). Ocean Wind recommends this figure be updated in the FEIS to reflect the correct export cable routes.</p>	<p>Figure 2-1 has been revised to correctly show the export cable routes.</p>
<p>Page 3.4-2 of the DEIS states that “Atlantic City and Repauno/Paulsboro also are in areas designated as maintenance for CO.” Ocean Wind would like to clarify that the Atlantic City Area, Penns Grove Area, and Philadelphia-Camden County area were redesignated to maintenance on 02/05/1996. EPA policy provides that 20 years after an area is designated maintenance, the area reverts to nonattainment (see EPA letter to CALDOT dated March 21, 2018 and 73 Fed. Reg. 4434- 4435 [January 24, 2008]). Since it has been more than 20 years from the maintenance designation, these areas automatically reverted to normal attainment as of February 5, 2016.</p>	<p>The descriptions of county attainment status have been updated in the Final EIS.</p>
<p>Page 3.4-10, the DEIS states that “Preliminary results of air dispersion modeling of emissions conducted in support of the OCS air permitting are provided in Table 3.4-4 and Table 3.4-6”. The Project would like to clarify that the information contained in tables 3.4-4 and 3.4-6 compares estimated Project emissions to the total inventory of emissions on a county level and is not related to air dispersion modeling conducted in support of the OCS permit application. However, results from the air dispersion modeling analysis were submitted to the U.S. Environmental Protection Agency (EPA) on July 18, 2022. Ocean Wind requests that the FEIS include reference to the submitted modeling results, which show compliance with applicable National Ambient Air Quality Standards (NAAQS) and Prevention of Significant Deterioration (PSD) allowable concentration increments</p>	<p>As the commenter notes, Ocean Wind performed NAAQS and Air Quality-Related Values analyses as part of its OCS air quality permit application to USEPA. A summary of these analyses has been added to the Final EIS.</p>
<p>Page 3.4-13 of the DEIS states “Emergency generators on the WTGs and the substations would operate only during emergencies or testing, so emissions from these sources would be small and transient.” Ocean</p>	<p>The description of emergency and temporary backup generators has been corrected in the Final EIS.</p>

Comment	Response
<p>Wind would like to clarify that per Section 6.1.1.2.1 in the COP and Section 2.3.2 of the OCS permit application, the WTG design for Project does not include permanently installed diesel emergency generators at each WTG, rather a temporary backup diesel generator may be installed at the turbine during the commissioning phase until the grid connection is made. During the operations and maintenance phase, only the three offshore substations will be equipped with permanently installed emergency diesel generators</p>	
<p>Page 3.6-6 of the DEIS states “Sparse to moderate seagrass was identified near the proposed Peck Bay crossing during the 2019 aerial survey but additional characterization was not conducted. SAV does not appear at this location in historical imagery (NJDEP 1979).” The crossing at Peck Bay will be performed by HDD and therefore will have no expected impacts to SAV. This area has not been included in additional mapping or survey efforts as the cable will be installed underneath the habitat with no adverse impacts expected.</p>	<p>The Draft EIS (Section 3.22, <i>Wetlands</i>) includes a statement: “Impacts on tidal wetlands would be avoided and minimized by the proposed use of HDD at export cable landfalls and to cross waterbodies and the associated wetlands such as Oyster Creek and Crook Horn Creek/Peck Bay.”</p> <p>The Draft EIS addresses Peck Bay crossing under Section 3.14.5, <i>Impacts of the Proposed Action on Land Use and Coastal Infrastructure</i>, and indicates HDD would be used under Peck Bay. The COP addresses Peck Bay crossing in greater detail (Appendix 1, Table 1): “Assessment of eastern black rail and saltmarsh suitable habitat...” The COP notes, “After making landfall in Ocean City, the BL England route would follow local roads west, cross Peck Bay at Roosevelt Boulevard Bridge, a currently undeveloped area, via trenchless technology methods, and then continue on existing county road right-of-way to the substation property....” HDD entrance and exit will occur outside of wetlands and will not affect wetlands or SAV. Appendix A, Figure 4 in the COP, notes: “Export cable route will pass under Crook Horn Creek to the south of Roosevelt Boulevard Bridge. Entry/Exit pits will be entirely within previously disturbed areas of the Roosevelt Boulevard right of way. Export cable will then be installed within the Roosevelt Boulevard right of way northwest to North Shore Road.”</p> <p>Phase 2 SAV surveys were targeted to focus on areas where the routes are likely to cross back bay areas where SAV habitat is present and, therefore, were only conducted in Barnegat Bay.</p>
<p>Page 3.7-13 of the DEIS states “Bird collisions with turbines in the eastern United States is estimated at 6.86 birds per turbine per year (USFWS 2018). Based on this mortality rate, an estimated 20,210 birds could be killed annually from the 2,946 WTGs that would be added for offshore wind development. This represents a worst-case scenario and</p>	<p>BOEM agrees that the suggested edit provides further clarification on BOEM’s conclusion that bird collisions with WTGs offshore would be anticipated to be lower than with WTGs onshore, given the much lower occurrence of birds in the offshore environment. Edits have been made in the Final EIS to provide this clarification.</p>

Comment	Response
<p>does not consider mitigating factors, such as landscape and weather patterns, or bird species that are expected to occur. Given that the relative density of birds in the OCS is low, relatively few birds are likely to encounter WTGs (see Figure 3.7-2)." Ocean Wind recommends that the last sentence be revised as follows (new text is in red): "Given that the relative density of birds in the OCS is low, relatively few birds are likely to encounter WTGs (see Figure 3.7-2) [Red: and annual per turbine mortalities are likely lower offshore than onshore]." Ocean Wind requests this change because onshore mortality estimates do not necessarily represent potential mortality offshore for the following reasons: offshore habitat is substantially different than onshore and supports different species groups; onshore mortality estimates are primarily songbirds and raptors, [Footnote 24: Allison TD, Diffendorfer JE, Baerwald EF, Beston JA, Drake D, Hale AM, Hein CD, Huso MM, Loss SR, Lovich JE, et al. 2019. Impacts to wildlife of wind energy siting and operation in the United States. <i>Issues In Ecology</i>. 21:24. [Embedded Hyperlink Text (https://www.esa.org/wp-content/uploads/2019/09/Issues-in-Ecology_Fall-2019.pdf))] which only occur offshore during migration [Footnote 25: Brust V, Hüppop O. 2022. Underestimated scale of songbird offshore migration across the south-eastern North Sea during autumn. <i>Journal of Ornithology</i>. 163(1):51–60. doi:10.1007/s10336-021-01934-5. [Embedded Hyperlink Text (https://doi.org/10.1007/s10336-021-01934-5)].]; onshore mortality of songbirds are often dominated by relatively common breeding songbirds [Footnote 26: Erickson WP, Wolfe MM, Bay KJ, Johnson DH, Gehring JL. 2014. A Comprehensive Analysis of Small-Passerine Fatalities from Collision with Turbines at Wind Energy Facilities. <i>PLOS one</i>. 9(9):18. doi:10.1371/journal.pone.0107491. [Embedded Hyperlink Text (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0107491)].]; raptor mortalities are dominated by soaring raptors, [Footnote 27: Hanssen F, May R, Nygård T. 2020. High-Resolution Modeling of Uplift Landscapes can Inform Micrositing of Wind Turbines for Soaring Raptors. <i>Environmental Management</i>. 66(3):319–332. doi:10.1007/s00267-020-01318-0.] which generally do not occur offshore [Footnote 28: Kerlinger P. 1985. Water-crossing behavior of raptors during migration. <i>Wilson Bulletin</i>. 97(1):109–113.]; and onshore mortality generally does not include any seabirds. [Footnote 29: Allison et al. 2019.] For these reasons, studies on bird mortality due to collisions with onshore and offshore wind turbines are evaluated separately.</p>	

Comment	Response
<p>[Footnote 30: Band W. 2012. Using a collision risk model to assess bird collision risk for offshore windfarms. SOSS-02. Report to The Crown Estate Commission, London UK. 62 pp. [Embedded Hyperlink Text (https://www.bto.org/sites/default/files/u28/downloads/Projects/Final_Report_SOSS02_Band1ModelGuidance.pdf)]; Skov H, Heinanen S, Norman T, Ward RM, Mendez-Roldan S, Ellis I. 2018. ORJIP Bird Collision and Avoidance Study. Final Report - April 2018. Report by NIRAS and DHI to The Carbon Trust, U.K. 247 pp.]</p>	
<p>Page 3.10-13 of the DEIS states “However, the Project would encroach on the 50-meter avoidance buffers of two submerged archaeological resources in the BL England export cable route corridor.” Ocean Wind is committed to avoiding any cultural resources to the extent practicable and through consultation under Section 106 of the National Historic Preservation Act (“NHPA”) (Title 54 U.S.C. § 306108), Ocean Wind is working closely with all participants in this process across federal, state, and local governments, federally recognized tribes, as well as nongovernmental organizations or groups to minimize and/or mitigate any impacts to cultural resources where avoidance is not practicable. Ocean Wind would like to clarify that the Project will avoid construction related impacts within a 50-meter buffer around both target 13 and target 15, thereby avoiding any adverse impacts. This is reflected in the MARA.</p>	<p>BOEM has reviewed the recommendations submitted in the revised Marine Archaeological Resource Assessment (COP Volume III, Appendix F-1, September 2022) prepared by Ocean Wind and finds the data provided are sufficient to justify 50-meter avoidance buffers measured from the maximum extent of the magnetic signature. In addition, BOEM implemented the request to revise the Final EIS to specify the Project will avoid the 50-meter buffer around target 13 and target 15 to avoid impacts on those cultural resources under NEPA and adverse effects on those historic properties under Section 106. These revisions were implemented across Final EIS Section 3.10 and Appendix N, including the attached Memorandum of Agreement.</p>
<p>Page 3.16-17 of the DEIS states “Collision frequencies are also anticipated to increase (increase of 0.027 accident per year), which would be largely a result of the 23-percent increase in ship-miles due to vessels transiting around the Wind Farm Area.” The NSRA does not suggest that the 23- percent increase in ship-miles is due to vessels transiting around the Wind Farm Area. The NSRA does not specify a precise cause of an increase in ship-miles, but a common reading of the entire relevant section of the NSRA (Section E.4) indicates that transits around the wind farm may contribute to additional ship miles, but so too do additional pleasure tour and recreational fishing vessels. It should be noted that the vessel traffic evaluated, and ship-miles calculated, relate to the entire NSRA study area, not the much smaller Project footprint. That distinction should be clarified in the FEIS</p>	<p>The NSRA modeled a Future Case (Case 2 and Case 3) that incorporated Project structures, traffic redistribution due to the Project, and any anticipated increases in traffic due to the Project (page E-19). The nature of the traffic redistribution is described in Section E.2.4 of the NSRA, <i>Traffic data</i>, in the subsection titled <i>Modification of traffic routes in the Future Case</i>. Modified traffic routes (specified in text and shown on Figures E-7 and E-9) are “deep draft ships were routed to the east of the Project Area and the adjacent wind farm lease area to the northeast” and that “tugs and tugs-with-tows are routed to the west of the Project Area and the adjacent wind farm lease area.” In Section 11, <i>Collision, Allision, and Grounding Assessment</i> (page 131), the risk changes in the northwest sub-area shown on Figure 11-3 are “related to re-routing of deep draft and tug vessels around the lease areas.” Section E.4.2 (comparing future Case 2 to Case 1, which uses unmodified Base Case traffic patterns plus including the Project structures) attributes</p>

Comment	Response
	the increase in collision frequency to 23 percent more ship-miles in the geographic analysis area. Section E.5.1, Project risks difference: comparing Case 2 to Case 0 (no Project structures) also attributes the increase in collision frequencies to 23 percent more ship miles in the assumed Future Case. The EIS accurately reports this information, and no clarification is considered necessary.
Page 3.22-13, Section 3.22.8 Proposed Mitigation Measures - Ocean Wind would like to clarify that the Project is fully committed to providing mitigation for all permanent wetland impacts associated with the Project scope. As mentioned in Section 3.22.4.1, wetland mitigation options are being coordinated with the applicable state and federal agencies and may include wetland banking credits, onsite restoration, or a combination of these options.	Comment noted. BOEM understands that impacts on jurisdictional wetlands would need to comply with federal and state permitting and mitigation requirements.
Appendix H, Table H-1. The following APM was included in Ocean Wind's June 14, 2022 COP submittal to BOEM, but was not included in the DEIS. APM CUL-06 should be incorporated into the FEIS. "CUL-06: Develop an anchoring plan for vessels prior to construction to identify avoidance/no anchorage areas."	Appendix H, Table H-1 of the Final EIS was updated to include this APM.
Appendix N, Attachment A, pdf page 1256, 1258-1259 (of 1408) of the DEIS, show the Marine Archaeological Resources Area of Potential Effect ("APE"), which does not match the preliminary APE defined and shown in the COP (Volume II Figure 2.4-1 to 2.4-4) and the MARA. Ocean Wind recommends the DEIS figure be updated to reflect the expanded APE.	Marine archaeological resources APE figures were updated in the Final EIS to reflect the expanded analysis area in the in the approved COP.
The "DRAFT Ocean Wind 1 Offshore Wind Farm Biological Assessment for National Marine Fisheries Service" dated June 2022, includes the following text in Table 1-9 "Mitigation Monitoring, and Reporting Measures – Committed to be the Developer" No. 44 "Ramp-up will continue once the animal(s) has been observed exiting its respective clearance zone or until an additional time period has elapsed with no further sighting (i.e., 15 minutes for small odontocetes, 30 minutes for all other marine mammal species, and 60 minutes for sea turtles" Ocean Wind proposes 30 minutes for sea turtles, not 60 minutes. Ocean Wind notes the clarification email from BOEM dated 25 April 2022 which outlines clearance times for ESA-listed species.	Measure No. 43 (Ramp-up (soft start) for HRG surveys) in the NMFS BA (revised September 2022), previously identified as Measure No. 44 in the NMFS BA dated June 2022, states that, "Ramp-up will continue once the animal(s) has been observed exiting its respective clearance zone or until an additional time period has elapsed with no further sighting (i.e., 15 minutes for small odontocetes, 30 minutes for all other marine mammal species, and 30 minutes for sea turtles)."
The "DRAFT Ocean Wind 1 Offshore Wind Farm Biological Assessment for National Marine Fisheries Service" dated June 2022, includes the	Measure No. 26 (Shutdowns for impact pile driving) in the NMFS BA, revised September 2022, states that, "If a marine mammal or

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<p>following text in Table 1-9 “Mitigation Monitoring, and Reporting Measures – Committed to be the Developer” No. 26: “If a marine mammal or sea turtle is sighted within the shutdown zones during a pause in piling, piling will be delayed until the animal(s) has moved outside the SZ and no marine mammals are sighted for a period of 30 minutes or sea turtles for 60 minutes”. Ocean Wind proposes 30 minutes for sea turtles, not 60 minutes, in line with BOEM’s recommendations for high-resolution geophysical (“HRG”) surveys and as noted in the clarification email from BOEM dated 25 April 2022.</p>	<p>sea turtle is sighted within the shutdown zones during a pause in piling, piling will be delayed until the animal(s) has moved outside the SZ and no marine mammals are sighted for a period of 30 minutes or sea turtles for 30 minutes.”</p>
<p>Page H-9 of the DEIS states that for marine mammals and sea turtles “Visual PSOs should begin surveying the monitoring zone at least 60 minutes prior to the start of pile driving.” However, the “DRAFT Ocean Wind 1 Offshore Wind Farm Biological Assessment for National Marine Fisheries Service” dated June 2022, includes the following text in Table 1-9 “Mitigation Monitoring, and Reporting Measures – Committed to be the Developer” No. 24 “Prior to the beginning of each pile driving event, PSOs and PAM operators will monitor for marine mammals and sea turtles for a minimum of 30 minutes and continue at all times during pile driving.” Ocean Wind has committed to a pre-start clearance duration of 30 minute for sea turtles in the Protected Species Mitigation and Monitoring Plan (“PSMMP”) and notes that the 60 minutes included in the DEIS should be revised to 30 minutes.</p>	<p>Draft EIS Appendix H, Table H-1, “Pre-start clearance for impact pile driving” (identified as Measure No. 24 in the June 2022 NMFS BA) states that, “Prior to the beginning of each pile driving event, PSOs and PAM operators will monitor for marine mammals and sea turtles for a minimum of 30 minutes and continue at all times during pile driving.”</p>
<p>Subsequent to our January 10, 2022, letter to you regarding a setback area—a minimum spacing distance at the common boundary between Lease Area OCS-A-0498 and Lease Area OCS-A-0499—the undersigned Lessees of the Lease Areas, Ocean Wind, LLC (OCW) and Atlantic Shores Offshore Wind, LLC (Atlantic Shores), respectively, have continued to have constructive conversations with the U.S. Coast Guard (Coast Guard) on this issue. The Cost Guard has proposed the following measures, as depicted in the attached graphic, Exhibit A:</p> <p>Adjust wind turbine generators (WTGs) in column A of the OCW array so that they align equidistant to column B at 1 nautical mile (nm) (indicated by letter “A” in Exhibit A).</p> <p>Maintain a minimum distance of 1,500 meters between column A of OCW and the westernmost column of Atlantic Shores (indicated by letter “B” in Exhibit A).</p>	<p>Alternative C-2 in the Draft EIS analyzes no surface occupancy along the northeastern boundary of the Ocean Wind 1 Lease Area to allow for a 0.81-nm to 1.08-nm buffer between the WTGs in the Ocean Wind 1 Lease Area and WTGs in the Atlantic Shores South Lease Area. Figure 2-9 of the EIS depicts the adjustment of the WTGs in column A of the array layout so that they align equidistant to column B at 1 nm.</p>

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<p>Microsite one Atlantic Shores WTG, so that it is at least 1,500 meters from the nearest OCW WTG (indicated by letter “C” in Exhibit A).</p> <p>Remove two Atlantic Shores WTGs, one within the setback area and one in front of the western entrance of the setback area (indicated by letter “D” in Exhibit A).</p> <p>Both OCW and Atlantic Shores agree to the Coast Guard’s setback area proposal in the interest of facilitating navigation safety and effective search and rescue.</p> <p>As requested in our January 2022 letter, we ask that BOEM provide us with written concurrence that the contemplated setback area described herein and in Exhibit A is acceptable for inclusion in the Draft Environmental Impact Statement for each respective project, and would otherwise provide the framework, as allowed under the National Environmental Policy Act review process, in order to allow each of OCW and Atlantic Shores to adequately plan for the construction, operations, and business case of our respective projects</p> <p>[See original comment for Exhibit A “Ocean Wind 1 Marine Traffic at Lease Boundary 1NM Row A to B” graphic.]</p> <p>Your prompt response to this request would be greatly appreciated.</p>	

O.6. Responses to Other Agency, Stakeholder, and Public Comments on the Draft EIS

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O.6.1 Purpose and Need

Table O.6.1-1 Responses to Comments on the Purpose and Need

Comment No.	Comment	Response
0007-0008	<p>Purpose and Need for Project: The DEIS should address changes that have occurred since the Programmatic EIS was prepared by BOEM in 2007. The purpose and need for the proposed project should be evaluated based on these changes. World peace has suffered due to a shortage of available energy supplies and its future security is threatened if energy can be used to influence war and peace decisions. The shortage of natural gas in Europe resulting from the war in Ukraine has led to the restarting of coal fired power plants in Germany France and the Netherlands with higher emissions of greenhouse gas emissions than previously when natural gas was used. The U.S. was recently energy independent due to the increased supply of natural gas. The increased use of natural gas in power generation replacing coal and oil has resulted in significant reductions in emissions of greenhouse gas emissions below 1990s levels. In addition as noted above there are other renewable carbon free technologies that have advanced since the Programmatic EIS was prepared including use of hydrogen as a fuel for transportation and power generation and anaerobic digestion of organics for power generation. So if the purpose and need of offshore wind is to provide needed power and to reduce greenhouse gas emissions that has already been done or started or is in the process of happening. That fact needs recognition in the DEIS.</p>	<p>The action analyzed in BOEM's <i>Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf</i> was the establishment of the Marine Minerals Management Service Alternative Energy and Alternate Use Program on the Federal Outer Continental Shelf. Changes to BOEM's renewable energy program are outside of the scope of this environmental review and would be analyzed through a separate process.</p> <p>Ocean Wind submitted a COP for Lease Area OCS-A 0498. BOEM's regulations require BOEM to analyze Ocean Wind's COP. As described in Section 1.2, <i>Purpose and Need for the Proposed Action</i>, of the Draft EIS, the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP.</p>
0011-0001	<p>BOEM begins its discussion of the purpose and need of the draft EIS as the need to follow the President's Executive Order 14008 "Tackling the Climate Crisis at Home and Abroad". As inferred by the Supreme Court in its decision <i>West Virginia v. EPA</i> the Executive Branch has no authority to regulate carbon dioxide without a law passed by Congress. As the purpose of the offshore wind project is to reduce carbon dioxide emissions the Executive Order is irrelevant and these comments should be removed from the DEIS</p>	<p>The purpose and need section of chapter 1 appropriately recognizes that Executive Order 14008 states one of the policies of the United States is to "spur[] well-paying union jobs and economic growth, especially through innovation, commercialization, and deployment of clean energy technologies and infrastructure." So, BOEM does not agree that the Executive Order is irrelevant. BOEM has authority under the OCSLA to authorize renewable energy activities on the OCS. The purpose of BOEM's action is</p>

Comment No.	Comment	Response
		to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP. BOEM's decision on Ocean Wind's COP does not regulate sources of CO ₂ emissions.
0984-0040	There are major changes in the project specifications since the publication of the draft EIS that alter the purpose and need. These major changes require a new public process inclusive of the new standards of removal of systemic racism contained in the actions previously used by BOEM and the applicant in the past.	BOEM issued a Technical Correction on July 22, 2022, regarding the updated Inshore Export Cable Route Option associated with the Bay Parkway Landfall. As noted in the Technical Correction, impacts resulting from cable emplacement and maintenance were not anticipated to change as a result of the update. On October 14, 2022, Ocean Wind submitted an updated COP, which included updates to the proposed Project. The updates to the COP do not alter BOEM's purpose and need. BOEM reviewed the updates and found that the changes to the Proposed Action relevant to environmental concerns are not substantial and do not require a supplemental EIS.
0984-0046	Atlantic Technical Resource The fact that BOEM refused to accept (Musical et al. 2016) scenario that the Industrial Offshore Wind lease sites will produce more energy than can be procured as unfeasible is a catalyst for misrepresentations. The self-serving job preserving actions by BOEM require the United States Attorney General to investigate the actions of this rogue federal agency that has already been sanctioned. It is important to note that Musical is the chairman of AWEA currently engaged in writing the standards for the United States Offshore Wind Industry. Any reasonable person (who has not been manipulated) would not discard his work as "unfeasible". The EO says there has to be a need. The applicant has failed to show a need that only exists to further their companies interest. There is no current need for additional electricity at a higher price than current clean energy and that creates more pollution and economic strife. The applicants EIS fails to meet the economic and environmental needs and should be denied any permits to proceed.	The 2016 Offshore Wind Energy Resource Assessment for the United States "refines and reaffirms that the available wind resource is sufficient for offshore wind to be a large-scale contributor to the nation's electric energy supply. Experience from other renewable technologies, such as land-based wind and solar energy, indicates that offshore wind site development will likely be highly selective. Therefore, the resource potential needs to significantly exceed the anticipated deployment to allow for siting flexibility. When developers and regulators have more siting options, projects can be built in the most economical and least conflicted

Comment No.	Comment	Response
		<p>areas. Therefore, an abundant wind resource is one of the essential building blocks that compose the value proposition for offshore wind."</p> <p>New Jersey's demand for electricity generation from offshore wind continues to increase with OREC awards issued through the New Jersey BPU. OREC awards of 1,100 MW and 2,658 MW were issued in 2019 and 2021, respectively, to current lease holders. New OREC awards of at least 1,200 MW are anticipated to be awarded in 2023, 2025, and 2027. Governor Phil Murphy's Executive Order 307, signed in September 2022, increased the state's current goal of a 7,500 MW target to 11,000 MW by 2040, likely resulting in additional OREC awards.</p>
0984-0047	Resource Potential BOEMs persisting model for self preservation by including a research set aside lease site is inconsistent with the EO. BOEM use of a set aside to validate the actions of lease sales is backwards. A set aside lease site should be developed first before any large commercial sites are sold and developed.	<p>BOEM is actively studying the effects of small-scale wind facilities such as the Block Island Wind Farm and has completed a series of studies examining the impacts from the wind farm construction and early operation such as sound, scour, and artificial reef effects. The research was conducted as part of a BOEM-funded program called Realtime Opportunity for Development Environmental Observations. BOEM is actively incorporating study results from this program where relevant into the EIS and into the environmental and technical reviews of larger projects currently under review.</p>
0984-0110	The purpose of the project is to develop an offshore wind generation project within the BOEM Lease Area to deliver competitively priced renewable energy and additional capacity to meet political state and regional renewable energy demands and goals. The project will not meet the competitiveness pricing	BOEM's purpose—as stated in Section 1.2 of the Final EIS is to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP—is

Comment No.	Comment	Response
	<p>requirements without major public and ratepayer financial support and thus should be discontinued immediately. The political nature of the project should be seen a destructive and not maintainable. A investigation should be conducted on the money "lobbying" to get this project this far already.</p>	<p>needed to fulfill BOEM's duties under the lease. The 1,100-MW solicitation and a corresponding OREC allowance of 4,851,489 MW-hours per year were awarded to Ocean Wind via BPU on June 21, 2019. A copy of the OREC award, which includes information regarding OREC prices and ratepayer impacts, is available at: https://www.njcleanenergy.com/files/file/6-21-19-8D.PDF.</p>
1012-0003	<p>[Bold: The draft environmental impact statement (DEIS) Comments - Summary]1. [Bold: Its purpose and need] statements are misleading inconsistent with the current Administration's NEPA policy and rulemaking of April 20 2002 and make no sense.It is misleading in that it states climate change as a broad objective when it fact the project will have no discernable effect on that based on BOEM's own conclusions in Appendix A of the Vineyard Wind EIS and the sea level rise analysis presented in our comments on the Notice of Intent (NOI) that showed the only effect on future sea level rise was a delay on the order of days. Therefore reference to climate change benefit should be deleted.The purpose and need statement is based only on the applicant's application and therefore relies on National Environmental Policy Act (NEPA) rule provisions from the previous administration which have been explicitly removed and/or changed by the Biden administration in its rulemaking of April 20 2022.In removing that part related to the applicant's objectives the Council on Environmental Quality (CEQ) expressed concern that that provision could be interpreted to unduly constrain the discretion of agencies leading to the development of unreasonably narrow purpose and need statements which was inconsistent with many court decisions including several it cited. Yet that is exactly what the BOEM has done in this DEIS.</p>	<p>Executive Order 14008, Tackling the Climate Crisis at Home and Abroad, Sec. 207, Renewable Energy on Public Lands and in Offshore Waters, states that the "Secretary of the Interior shall review siting and permitting processes on public lands and in offshore waters to identify to the Task Force steps that can be taken, consistent with applicable law, to increase renewable energy production on those lands and in those waters, with the goal of doubling offshore wind by 2030 while ensuring robust protection for our lands, waters, and biodiversity and creating good jobs."</p> <p>BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0498. The purpose and need statement in the EIS reflects BOEM's requirement under those regulations. Section 1.2 of the EIS states that the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP and that BOEM's action is needed to fulfill BOEM's duties under the lease.</p>

Comment No.	Comment	Response
		<p>Consideration of Ocean Wind's goals is one of several factors on which BOEM's purpose and need is based. CEQ acknowledged in the 2022 rulemaking (87 <i>Federal Register</i> 23453) that, "Consistent with longstanding practice and to ensure informed decision making, agencies should have discretion to base the purpose and need for their actions on a variety of factors, which include the goals of the applicant, but not to the exclusion of other factors." BOEM does not believe that its purpose and need is too narrow.</p>
1012-0018	<p>[Bold: B. The Applicant's Purpose.]The alternatives to be presented in an EIS must obviously be tied to the purpose of the proposed federal action. The only clear purpose and need mentioned is that of the applicant's whose obvious need is to have their application approved. But this is a federally approved project a federally prepared EIS and the federal government must have its own purpose and need here. That federal purpose in the broad sense is to implement a fiscally and environmentally sound offshore wind program which may or may not coincide with the applicant's need which is rooted in financial gain. The DEIS describes some broad substantive national objectives such as addressing climate change environmental justice and air quality problems Although the degree to which this proposed action addresses those can be questioned they are at least plausible objectives to be examined and the EIS does not establish a connection between this proposed project and those goals. It says that the purpose of BOEM's actions is to determine whether to approve disapprove or approve with modifications the applicant's COP but that is an action not a purpose. This is also contrary to current Administrations NEPA policy and rules. The BOEM continues to exploit the rule language put in place by the previous administration that considered the goals of the applicant in determining purpose and need. But the current administration removed that in its rulemaking of April 20 2022. Yet the BOEM persists to try to exploit that deleted provision. In removing that part related to the applicant's objectives the CEQ expressed concern that that provision could be interpreted to unduly constrain the discretion of agencies leading to the development of unreasonably narrow purpose and need statements which was inconsistent with many court decisions. It cited a decision where the Court found that it would be contrary to NEPA for</p>	<p>BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0498. The purpose and need statement in the EIS reflects BOEM's requirement under those regulations. Section 1.2 of the EIS states that the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP and that BOEM's action is needed to fulfill BOEM's duties under the lease. Consideration of Ocean Wind's goals is one of several factors on which BOEM's purpose and need is based. CEQ acknowledged in the 2022 rulemaking (87 <i>Federal Register</i> 23453) that, "Consistent with longstanding practice and to ensure informed decision making, agencies should have discretion to base the purpose and need for their actions on a variety of factors, which include the goals of the applicant, but not to the exclusion of other factors." BOEM does not believe that its</p>

Comment No.	Comment	Response
	<p>agencies to "contrive a purpose so slender as to define competing reasonable alternatives out of consideration or even existence and that constricting the definition of the project purpose could exclude truly reasonable alternatives making the EIS incompatible with NEPA requirements. But that is exactly what the BOEM has done here. It has excluded all truly reasonable alternatives from NEPA review and has contrived a purpose and need so narrow that in fact there is no option left as explained below. but to approve the project as proposed by the applicant Now the purpose and need in the CEQ NEPA rule Section 1502.13 simply states that the statement shall briefly specify the underlying purpose and need to which the agency is responding and proposing the alternatives including the proposed action. In BOEM's desire to limit the range of alternatives in these EIS's it engages in double talk. The current statement in the DEIS that the federal purpose is only to approve or disapprove an application makes no sense. It's true that that is the decision to be made but then what BOEM is saying is that the purpose of its decision is its decision which makes no sense. It should be the reverse. The approval of a project should serve some substantive federal purpose.[Bold and Italics: In addition you cannot have a purpose that proposes two diametrically opposite things] either your purpose is to approve or it is to disapprove. If the BOEM persists with this nonsense then since its proposed action requires approval of the COP it should at least be honest and say its purpose is to approve the COP. The BOEM needs to enlighten us as to exactly what that federal purpose is so that alternatives can be properly crafted. Since the BOEM is apparently conflicted over its purpose we try to help below by showing that the real purpose here is to implement the State's offshore wind energy program for 7500 mw of power by 2035 and within that framework there are several reasonable EIS alternatives to consider that meet that program's energy goal. Those alternatives are described below and should have been included in this DEIS.</p>	<p>purpose and need is too narrow.</p>
1086-0002	<p>BOEM's Purpose and Need The mission of the Bureau of Ocean Energy Management is to manage development of U.S. Outer Continental Shelf energy and mineral resources in an environmentally and economically responsible way. [Footnote 3: BOEM's Mission Statement [Embedded Hyperlink Text (https://www.boem.gov/about-boem#:~:text=OUR%20MISSION%20environmentally%20and%20economically%20responsible%20way))] BOEM is not however bound by any arrangement made by state or private party and therefore has the authority to require modifications to the project that may not satisfy Ocean Wind's contract with the State of New Jersey or the New Jersey Board of Public Utilities (BPU). In the Draft Environmental Impact Statement</p>	<p>BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0498. The purpose and need in the EIS reflect the requirement per those regulations, whereas BOEM's purpose as stated in Section 1.2—to determine whether to approve, approve with modifications, or disapprove Ocean Wind's</p>

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	(DEIS) BOEM states that it rejects alternatives that would result in a project with less nameplate capacity (Appendix C). The County asserts that BOEM's rejection of alternatives is without merit and should not be used to justify the dismissal of alternatives which may result in reduced nameplate capacity relocation of the project area or a significant modification of the Proposed Action especially if the Proposed Action is environmentally or economically unsound or interferes with reasonable uses of the ocean such as fishing.	COP—is needed to fulfill BOEM's duties under the lease. BOEM considered reasonable alternatives during the EIS development process that would avoid or minimize adverse impacts in accordance with NEPA implementing regulations. BOEM's screening criteria are presented in Appendix C, <i>Additional Analysis for Alternatives Dismissed</i> , of the Final EIS. Under the NEPA regulations at 40 CFR 1508.1(z), "reasonable alternatives means a reasonable range of alternatives that are technically and economically feasible, and meet the purpose and need for the proposed action." In the case of Ocean Wind, an alternative that cannot meet the requirements of the offtake agreement that was awarded on a competitive basis would be economically infeasible. Offshore wind projects rely on offtake agreements to obtain upfront financing for the capital costs of constructing the project. Without its existing offtake agreement, Ocean Wind would not be able to construct its proposed Project or any of the action alternatives described in the Draft EIS.
1188-0003	The Ocean Wind 1 DEIS includes a lengthy purpose and need section. We recommend that the FEIS include a short purpose and need statement supported by additional background information. The purpose and need statement should indicate that renewable energy goals should be met while also avoiding risks to the health of marine ecosystems ecologically and economically sustainable fisheries and ocean habitats. To the extent that these risks cannot be avoided they should be minimized mitigated and compensated for.	BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0498. The purpose and need section of the EIS reflects BOEM's requirement under those regulations. NMFS and USACE are serving as cooperating agencies and intend to adopt the Final EIS after independent review and analysis to meet their NEPA compliance requirements; therefore, Chapter 1 of the

Comment No.	Comment	Response
		Final EIS includes their respective purpose and need statements.
1188-0004	We are concerned that including the New Jersey Board of Public Utilities procurement of 1100 MW as a component of the purpose and need limits BOEM's ability to approve a smaller project than that proposed by the developer. This will limit BOEM's ability to avoid and minimize negative impacts of the project while still meeting the purpose and need. In addition the DEIS does not indicate if all action alternatives can generate 1100 MW of electricity either independently or when combined. For example it appears that under a combination of Alternatives B C and D the number of turbines would be reduced from 98 to as few as 61. Without knowing the minimum number of turbines necessary to meet the purpose and need it is challenging to provide recommendations on how Alternatives B through E should be combined either partially or to their full extent.	The BPU Order is a contractual obligation of Ocean Wind and is acknowledged as such in Chapter 1. Reduction of the Annual OREC Allowance must be agreed to by BPU and Ocean Wind. Chapter 2 of the Final EIS describes alternatives developed to avoid and minimize resource impacts, noting that the combination of alternatives or sub-alternatives is subject to the combination meeting the purpose and need. The impacts of each alternative on expected annual energy production are also provided in Chapter 2. Under the NEPA regulations at 40 CFR 1508.1(z), "reasonable alternatives means a reasonable range of alternatives that are technically and economically feasible, and meet the purpose and need for the proposed action." In the case of Ocean Wind, an alternative that cannot meet the requirements of the offtake agreement that was awarded on a competitive basis would be economically infeasible. Offshore wind projects generally rely on offtake agreements to obtain upfront financing for the capital costs of constructing the project. Without its existing offtake agreement, Ocean Wind would not be able to construct its proposed Project or any of the action alternatives described in the Draft EIS.
1192-0013	This Draft EIS was prepared in accordance with the requirements of the National Environmental Policy Act (42 United States Code 4321-4370f) and implementing regulations of the Council on Environmental Quality and the Department of the Interior. The purpose of this DEIS is "to inform the U.S. Department of the Interior Bureau of Ocean Energy Management (BOEM) Office of Renewable	BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0498. The purpose and need in the

Comment No.	Comment	Response
	<p>Energy Programs" (as well as the mentioned below Cooperating and Participating Federal Agencies and Cooperating State Agencies) decision on whether to approve approve with modifications or disapprove the Project's Construction and Operations Plan (COP). The purpose of the DEIS is to ensure agencies [Bold: consider the environmental impacts of their actions] - [Italics: not to inform the lead agency about a construction plan.][See original comment for image of 40 CFR 1502.1 Purpose of environmental impact statement.]- This is [Underlined: fatal flaw #1] and requires a new or supplemental EIS. Under NEPA the purpose of an environmental impact statement is inform decision makers and the public of reasonable alternatives that would [Bold: avoid or minimize adverse impacts] or enhance the quality of the human environment by identifying the proposed action purpose and need. Once a [Italics: preferred] alternative is identified it is then compared to other alternative(s) including the no action alternative searching for the final [Italics: preferred] alternative which should be the one that has a less deleterious impact on the environment - [Italics: not one that was prematurely chosen in another action with no notice and ability for the public to participate.]</p>	<p>EIS reflect BOEM's requirement under those regulations. Section 1.2 of the EIS states that the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP, and that BOEM's action is needed to fulfill BOEM's duties under the lease.</p> <p>BOEM considered reasonable alternatives during the EIS development process that would avoid or minimize adverse impacts, analyzed the No Action Alternative, and identified the preferred alternative in the Final EIS in accordance with NEPA implementing regulations.</p>
1192-0014	<p>The purpose need and proposed action is inadequate as the mission of the Lead Agency is limited -- the Bureau of Ocean Energy Management (BOEM) mission is to manage the energy in the Ocean. BOEM's purpose need and proposed action is based on decisions on the lessee's plans to construct and operate commercial-scale offshore wind energy facility within the Lease Area -- only concerns the Ocean. Therefore the DEIS neglects to fully explain the action not in the ocean but on the bay and the land. Cable placement in non-Ocean waterways under and on land not the mission of the BOEM is the concern of NOAA NMFS and USACE. This requires the purpose and need for the cable route under water land or on top to be described so as to identify the proposed action by NOAA and USACE. There is little or no documented evidence that these other agencies have participated in this DEIS. As evidenced by the comments of NOAA NMFS this agency has plenty to say on the reasons for rejecting alternatives which was [Italics: arbitrary and capricious] and rejected by BOEM despite scientific proof in the DEIS (see Appendix B) that the impact of ripping and anchoring across the bay on eelgrass is permanently irreversible and irretrievable.</p>	<p>As described in Section 2.1 of the Final EIS, BOEM's regulations (30 CFR 585.620) require that the COP describes all planned facilities that the lessee would construct and use for the Project, including onshore and support facilities and all anticipated Project easements. The impacts associated with construction and use of those facilities are analyzed in the EIS. As a result, those federal, state, and local agencies with jurisdiction over nearshore and onshore impacts are able to adopt, at their discretion, those portions of BOEM's EIS that support their own permitting decisions. NMFS and USACE are serving as cooperating agencies and intend to adopt the Final EIS after independent review and analysis to meet their NEPA compliance requirements.</p>
1192-0019	<p>The DEIS neglects to describe the electric grid and its electric-shed (like watershed or sewershed) for each of the on-land sites. A review the two maps</p>	<p>The proposed Project described in Ocean Wind's COP and analyzed in the EIS as</p>

Comment No.	Comment	Response
	<p>(below) that the Monmouth / Ocean County JCPL has less power plants and there is no proof they need of more electricity. In fact the renewable energy to replace is petroleum energy of only 13MW (see second table: Bayville and Seaside Heights); and even though Oyster Creek Nuclear Power Plant has closed its 660 MW - that did not serve the Ocean County Electric-shed for the the franchise service territories of the four investor-owned electric utilities (IOUs) the EDCs Atlantic City Electric (ACE) Jersey Central Power and Light (JCP&L) Public Service Electric and Gas (PSE&G) and Rockland Electric Company (RECO).NJ Electric Utilities Territory Map of New Jersey [Footnote 20: https://njogis-newjersey.opendata.arcgis.com/datasets/d23845cc51454ee59affd226cff3fcd5_10/explore?location=40.412223%2C-74.277574%2C8.00][See original comment for NJ Electric Utilities Territory Map of New Jersey]The draft "Guidehouse" study entitled Grid Modernization Study: New Jersey Board of Public Utilities (Grid Modernization Study) [Footnote 21: Grid Modernization Study: New Jersey Board of Public Utilities (Grid Modernization Study) https://nj.gov/bpu/pdf/publicnotice/DRAFT%20Grid%20Modernization%20Report%206-20-22.pdf] is "designed to establish a baseline assessment for existing NJ resource interconnection processes gather stakeholder feedback and set a course for ongoing improvements to interconnection processes. ... Grid modernization improvements reach beyond the narrow scope of interconnection reforms. This report provides information that can be leveraged for subsequent phases of the ongoing NJ BPU Grid Modernization program." [Footnote 22: Ibid page 7]</p>	<p>the Proposed Action includes WTGs and all infrastructure required to transmit power generated by the WTGs to two interconnection points with the PJM electric transmission system or power pool. BOEM sought feedback from BPU during the development of the Draft and Final EIS. BOEM's authority under the OCSLA to approve certain activity on the OCS does not include authority to regulate the electrical grid. Moreover, none of the information provided in this comment indicates that Draft EIS failed to analyze any particular impact of BOEM's action. Generally, analysis of the electric grid is outside of the scope of this EIS.</p>
1192-0022	<p>The proposed action is ocean energy. The purpose need and proposed action is flawed as the mission of the Lead Agency is limited -- the Bureau of Ocean Energy Management (BOEM) mission is to manage the energy in the Ocean.</p>	<p>BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0498. The purpose and need in the EIS reflect BOEM's requirement under those regulations. Section 1.2 of the EIS states that the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP, and that BOEM's action is needed to fulfill BOEM's duties under the lease.</p>
TRANS-0069-	<p>The DEIS states offshore wind will take fossil fuel projects offline but where is</p>	<p>The Draft EIS states that the electricity that</p>

Comment No.	Comment	Response
0002	the evidence for this statement. I don't see it in the DEIS. There are many new fossil fuels facilities already proposed and moving forward in this region as we speak.	would have been generated by offshore wind would likely be provided by fossil fuel-fired facilities, and that the power generation capacity of offshore wind development could potentially lead to lower regional air emissions by displacing fossil fuel plants for power generation. The <i>New Jersey Energy Master Plan</i> (State of New Jersey 2020) states that successful implementation of strategies within the plan, including the accelerated deployment of renewable energy (including offshore wind), will result in a drastic reduction in New Jersey's demand for fossil fuels.
1241-0002	Finally the purpose and need for action under this section of OCSLA differs vastly from public messaging by BOEM OSW developers and states which cite climate change and job creation as the main justifications for OSW projects. If these are central to the purpose of the project they should be stated as such and thoroughly evaluated in this and other DEIS documents. If not they should not be cited in public statements as primary rationales for permitting.	BOEM's purpose and need references BOEM's authority under the OCSLA and its duties under Renewable Energy Lease Number OCS-A 0498 and also references Executive Order 14008 and the shared goals of the federal agencies to deploy 30 GW of offshore wind energy capacity in the United States by 2030.
1241-0002	Since states' OSW goals and private power purchase agreements are signed prior to (and outside of) environmental review predicated such review on their terms inherently predisposes its outcome. The only time sufficient planning flexibility exists to modify project plans to [Italics: avoid or minimize] fishing impacts is at the lease planning phase. Once lease boundaries are drawn [Italics: mitigation] is possible through project design but power procurement contracting greatly limits the flexibility to achieve such a goal. Thus BOEM's sequencing of its project review under NEPA significantly weakens any weight the agency has committed to afford robust and consequential mitigation for fisheries if it only reviews mitigation alternatives after these opportunities are lost. This regulatory sequence also prematurely limits environmental mitigation options such as siting in areas with low conflicts with fisheries or marine mammals. An agency policy to review fisheries considerations at the latest stages of project planning once projects are locked in to lease boundaries and procurement terms frustrates attempts to incorporate meaningful mitigation measures and we therefore again urge BOEM to reconsider its treatment of	BOEM's purpose and need for this environmental review are based on BOEM's authority under the OCSLA, Executive Order 14008, and the shared goals of the federal agencies to deploy 30 GW of offshore wind energy capacity in the United States by 2030. Alternatives and potential mitigation measures were developed in response to issues raised during the public scoping comment period, which include the exclusion of WTGs in sand ridge and trough habitat under Alternative D, measures to mitigate impacts on commercial fishing and for-hire recreational fishing analyzed in Section 3.9, and measures to mitigate impacts on

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	fisheries under NEPA. If anything the NEPA environmental analysis should inform power purchase contracts not the inverse. [Footnote 19: This shortcoming also highlights the need for a Programmatic EIS for the U.S. offshore wind leasing program.]	<p>marine mammals analyzed in Section 3.15.</p> <p>BOEM delineated the New Jersey lease areas through consultation with the BOEM New Jersey Task Force (federal agencies and elected state, local, and tribal officials or their designated representatives), public input, and data available at that the time. BOEM utilized these to identify appropriate areas for wind development with the intent of protecting ecologically sensitive areas and minimizing user conflicts. As indicated in the New Jersey Call for Information and Nominations for Commercial Leasing Federal Register Notice (76 <i>Federal Register</i> 22130), BOEM identified numerous factors that that affected BOEM's decision-making in planning for the lease sale. Those factors included fishing hotspots and other uses of the area. BOEM considered comments received in response to the Call for Information as well as the Proposed Notice of Sale.</p>
1241-0002	An appropriate purpose and need statement for this action would lead BOEM to prioritize OCSLA and NEPA's focus on environmental safeguards and eliminating damage to the environment. An agency cannot circumvent its NEPA obligations "by adopting private interests to draft a narrow purpose and need statement that excludes alternatives that fail to meet specific private objectives" nor can it "craft a purpose and need statement so narrowly drawn as to foreordain approval of" a project proposed by a private party. [Footnote 18: Nat'l Parks & Conservation Ass'n v. Bureau of Land Mgmt. 606 F.3d 1058 1072 (9th Cir. 2010).] Yet the Ocean Wind DEIS evidences how the combination of BOEM's new policy and its current sequencing of NEPA lead to exactly that unsavory result.	Section 1.2, <i>Purpose and Need for the Proposed Action</i> , of the EIS describes BOEM's purpose and need. While goals of the Applicant are a consideration, BOEM's decision will be made after weighing the factors in subsection 8(p)(4) of the OCSLA. These factors include protection of the environment, conservation of the natural resources of the OCS, and consideration of other uses of the sea or seabed.
1241-0002	B. [Bold: The "Purpose and Need" must not predetermine the agency's decision] BOEM's recently-announced policy to identify NEPA alternatives directly contradicts the suggestions from RODA and fishing industry representatives	Section 1.2, <i>Purpose and Need for the Proposed Action</i> , of the EIS describes BOEM's purpose and need. While goals of

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	<p>across the country for nearly a decade to improve its approach to environmental analysis. [Footnote 14: BOEM has never responded to these requests directly or indirectly and its subsequent issuance of a new opposing policy outside of the notice and comment process is especially discouraging.] NEPA must be approached to fulfill the agency's purpose and need not that of a project applicant (although the applicant's interests and objectives may be taken into account). [Footnote 15: See 40 C.F.R. &sect; 1501.7(h).] The purpose of NEPA is "to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation." [Footnote 16: 42 U.S.C. &sect; 4321.] Typically a purpose and need statement must incorporate this overarching purpose in conjunction with action-specific legislation which in this case is the Outer Continental Shelf Lands Act (OCSLA). [Footnote 17: Such an approach is evidenced by BOEM's 5-year plan for oil and gas which has the stated purpose to implement requirements of OCSLA Sec. 18(a)(3) to "balance the potential for environmental damage the potential for the discovery of oil and gas and the potential for adverse impacts to the coastal zone." Following from this correctly framed purpose and need the 5-year plan then provides a thorough analysis of relevant energy demands and future needs forecasts. BOEM Outer Continental Shelf Oil and Gas Leasing Program: 2017-2022 Final PEIS (Nov. 2016) p. 1-2.]</p>	<p>the Applicant are a consideration, BOEM's decision will be made after weighing the factors in subsection 8(p)(4) of the OCSLA. These factors include protection of the environment, conservation of the natural resources of the OCS, and consideration of other uses of the sea or seabed.</p>

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O.6.2 Proposed Action and Alternatives

Table O.6.2-1 Responses to Comments on the Proposed Action and Alternatives

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No Action		
0837-0005	Within the DEIS BOEM prepared a [Italics: Summary and Comparison of Impacts Among Alternatives with No Mitigation Measures] identified as Table S-2 (Table). [Footnote 6: BOEM. Ocean Wind 1: Draft EIS S 10-14.] The Table presents a No Action Alternative along with proposed actions labeled Alternative A through Alternative E. The first column No Action Alternative lists a predetermined range of impacts and serves as the baseline against which all other action alternatives are compared. This baseline is created based on Alternative Impacts (AI) and Alternative Combined with Other Foreseeable Impacts (ACFI). While I credit BOEM for exploring AI and ACFI the actual baseline should not incorporate projections. BOEM should redefine a true baseline that reflects the current state of Resources based on definitive factual data barring assumptions.	The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6 of the Final EIS.
0837-0010	A review of the totality of BOEM's [Italics: Summary of Comparison of Impacts Among Alternatives with No Mitigation Measures] (Table) provides evidence to support BOEM's strategy of downplaying the effects of the proposed offshore wind farms. There are no impacts under the No Action Alternative that rise to a level higher than proposed Alternatives A through E. As previously noted the Alternative Combined with Foreseeable Impacts column was introduced to achieve that desired result. It is noteworthy that activities introduced under the No Action Alternative would occur notwithstanding the addition of construction offshore wind projects. Examples include military operations emplacement of submarine cables dredging and port improvements. Based on this combination of activity it is reasonable to acknowledge that impacts proposed for Alternatives A through E should be elevated to one higher adverse level (e.g. minor to moderate moderate to major). The Table would require a modification to insert a major+ or severe impact level . This is a moderate rational approach considering the details of the wind farm projects as described within the draft EIS. Briefly BOEM proposes that industrializing the offshore New Jersey ocean will have no greater impact on New Jersey's resources than if industrialization did not occur. This claim has been refuted in Resource categories such as Navigation and Vessel Traffic Recreation and Tourism Commercial Fisheries Employment and Economics and Marine Mammals. The request by the vested party to take	Detailed information regarding reasonably foreseeable offshore wind projects is provided in Appendix F, <i>Planned Activities Scenario</i> . BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific environmental consequences section in Chapter 3 of this Final EIS. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline. Impact levels are defined in each resource section, and conclusions drawn for each alternative align with the respective impact level. The analysis of the No Action Alternative has been reorganized to provide better clarity and impact-level conclusions for the No

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	marine mammals without liability is one realistic example of the forthcoming ramifications. The mortality rate of North Atlantic Right Whales will rise due to increased vessel strikes. According to the North Atlantic Right Whales Coalition only 350 remain in the world today. Considering the facts a foreseeable impact can be the extinction of this species. Unfortunately it is difficult to measure the impact of temporary and irreversible hearing loss to all marine mammals until after the damage is done. Environmental studies will be conducted; however they will be funded by the Project and conducted [<i>Italics: contemporaneously</i>].	Action Alternative have been reviewed and revised in the Final EIS.
1071-0002	The DEIS also dramatically overstates the negative impact of the no project scenario.	The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6 of the Final EIS.
1259-0029	B. Lack of a Fair Presentation and Assessment of Alternatives. The "Alternatives" section of the Draft EIS and accompanying analysis are not full nor fair as they are skewed and inaccurate for two reasons. First the "No Action Alternative" presented by BOEM in the Draft EIS is not a true "no action" alternative. In fact the so-called "No Action Alternative" in the document actually presumes that offshore wind energy will definitely continue to be developed at other BOEM lease sites in the area. As a result the "No Action Alternative" repeatedly described throughout the Draft EIS in fact involves quite a lot of industrial action-just not by Ocean Wind 1 specifically. The contrast that this document is supposed to make between the "No Action Alternative" and the other alternatives all of which involve industrial-scale offshore wind energy development at Lease Site OCS-A 0498 thus hardly appears to be much of a contrast at all to many readers. Consider for example that the Draft EIS classifies some impacts of the Proposed Action (i.e. construction and operation of Ocean Wind 1) as lower overall than the impacts of the "No Action Alternative" provided. [Footnote 12: In Table S-2 the summaries and comparisons of impacts among alternatives shows these questionable assessments: Birds (page S-10) - impacts under 'No Action' are alleged to be minor while impacts for the "Proposed Action" are characterized as negligible to minor; Coastal Habitats (S-11) - impacts of "No Action" are projected to be moderate while impacts for the "Proposed Action" are classified as minor; Commercial Fisheries (S-11) - the consequences of "No Action" are shown to be	The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. Ongoing activities include permitted offshore wind projects. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Reasonably foreseeable future actions include the build-out of executed renewable energy lease areas. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6 of the Final EIS. Further clarification of ongoing activities contributing to impacts of the No Action Alternative and planned activities contributing to cumulative impacts has been included in the Final EIS. BOEM has reviewed and revised impact-level conclusions, as appropriate.

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	<p>moderate to major but those of the "Proposed Action" are described as minor to major; Finfish (S-12) - no action is minor to moderate but proposed action is negligible to moderate; Marine Mammals (S-12) - no action is minor but proposed action is negligible (to major); Sea Turtles (S-14)- no action is minor but proposed action is negligible to minor.] Such an outcome is plainly absurd. How can introducing infrastructure to an area of the ocean where it did not previously exist cause fewer impacts than not building it at all? Instead of the analysis presented in this Draft EIS BOEM should be required to re-submit the Draft EIS for public review and comment with an analysis that reflects a "No Action Alternative" which actually involves no offshore wind energy development. Or in the alternative the EIS for Ocean Wind 1 must include a more narrowly tailored analysis that does not obfuscate the likely impacts of development at this site by only presenting them against a background of widespread offshore wind growth across the region.</p>	
0984-0010	<p>S.5. Environmental Impacts. The greenwashing of the cumulative Environmental impacts of the Sand Ridge are a [Bold: Major Impact] and does not meet the environmental safeguards (43 USC :1332(3)). The Trough Avoidance has significant economic impacts to other marine users: A direct conflict with the policy of the United States to produce clean and safe domestic energy (EO 13783 of March 28 2017) does not take into consideration natural resources and existing ocean uses to the extent necessary to receive any action; therefore the environmental and socioeconomic impacts and benefits of the action alternatives would should not occur with a decision of [Bold: NO Action Alternative]</p>	<p>BOEM describes the estimated reduction to annual energy production resulting from each action alternative in Section 2.1.5 of the Draft EIS and analyzed the impacts, both adverse and beneficial, of each alternative in Chapter 3.</p>
0984-0061	<p>Any of the applicants denial stating there is "No Action Alternatives Impacts" is unacceptable. It show the lack of sincerity to the environment that the applicant seeks to industrialize and destroy in current form.</p>	<p>Impacts of the Proposed Action and action alternatives are evaluated in comparison to the No Action Alternative.</p>
1012-0021	<p>[Bold: DEIS Presentation Problems][Bold: 1. The Comparative Presentation of the No Action and Proposed Action] NEPA regulations at §1502.14 call for a comparison of the "environmental impacts of the proposed action and the alternatives" The no action alternative is one. The presentation throughout the DEIS of the no action impact versus the proposed action and alleged alternative action impacts especially in the alternative comparative tables is not logical and not in accord with those EIS requirements. Using marine mammals as an example there is no doubt that bad things will happen to marine mammals in the future without this project. However the addition of the project can only add to those things it does not occur in isolation without them as the comparative Tables portray. So the impact of the proposed action [Bold: must always be</p>	<p>Under the No Action Alternative, impacts from the proposed Project would not occur as proposed; however, impacts from past, present, future non-offshore wind, and future offshore wind activities would still occur. BOEM recognizes that the environment is not static and changes overtime and therefore uses the approach as outlined by Magee and Nesbit (2008) and Eccleston (2011) of examining in the EIS what happens if the Ocean Wind 1</p>

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	<p>greater] than the impact of no action. But this is not what the Tables show. In a number of cases it shows the impact of the project to be less than the impact of no action. This makes no sense and appears to be another attempt to minimize the impact of the project. To further muddy the water here the BOEM is using two different base cases from which to measure no action and the proposed action. It's no action impacts are apparently measured from a current base case to a future situation. But its proposed action impacts are measured from one future situation to another. You simply cannot compare two things measured against a different starting yardstick.</p> <p>Finally the BOEM's logic here is backwards. It implies for example that because a large number of right whales may die in the future from vessel strike and entanglements that it's not so bad if a smaller number die from noise a new stress. But rather a responsible decision maker would look at it the other way in context that because bad impacts are happening over which the decision-maker has little or no control then he/she should be especially concerned with adding any additional impact to that situation. This would be especially important e.g. regarding endangered species where the addition of an added stress even if smaller in magnitude than ongoing ones can be quite detrimental to the species. If the BOEM wants to make the case that a particular impact of one thing is less or more than the impact of another thing it can do so in a separate Table. But that is a comparison of different impacts which is very different than a comparison of alternatives which is what the NEPA rules require. The BOEM should dispense with this presentation of the no action alternative in the comparative tables and roll that discussion into the affected environment section current and future and then just show the new impact of the proposed action and the other alternatives on that affected environment.</p> <p>Therefore the BOEM needs to restructure its discussions and clarify these distinctions throughout the document and redo the alternatives comparison Tables.</p>	<p>Project is not built.</p>
1012-000	<p>It's comparative presentation of alternatives is logically flawed the impact of the proposed action and alternatives can never be less than the impact of no action.</p>	<p>Under the No Action Alternative, impacts from the proposed Project would not occur as proposed; however, impacts from past, present, future non-offshore wind, and future offshore wind activities would still occur. BOEM recognizes that the environment is not static and changes overtime and therefore uses the approach as outlined by Magee and Nesbit (2008)</p>

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		and Eccleston (2011) of examining in the EIS what happens if the Ocean Wind 1 Project is not built.
Alternative B		
0984-0009	S.4.3 Alternative B-No Surface Occupancy at Select Locations to Reduce Visual Impacts. The alternative of "No Surface Occupancy" should NOT be limited in cause to "Visual Impacts" especially the reduction of. This alternative exemplifies the conflict of interest BOEM has within the permitting process. As the financially benefited agency and employees the leasee is purposely reducing the options to the commenters on the EIS. BOEM has a prolific documented criminal past and should be investigated by the United States Attorney General for conflicts of interest. Specifically for taking money from leases for development sites with promises to assist in the awards of permits during the permitting process. The Depart of Interior (BOEMs') parent has additional conflicts since they also have a fee structure in place based on water depth length of cable and electric output. In any small town or big city in the USA this type of pay-to-play permitting process is a criminal offense.	BOEM developed alternatives to address issues raised during the public scoping process. Visual impacts of the Project were raised as a concern during public scoping; therefore, Alternative B was developed to reduce visual impacts of the Project. Three action alternatives that would reduce the number of WTGs were assessed in the EIS. As described in Section 1.2, <i>Purpose and Need for the Proposed Action</i> , the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP.
1252-0003	Alternative B: 3. No Surface Occupancy at Select Locations to reduce Visual Impacts. Atlantic Shores asserts that an alternative that removes 9 WTG Positions (Alternative B-1 smaller turbine model) or 19 WTG Positions (Alternative B-2 larger turbine model) simply based on proximity to shoreline is unjustified. The Ocean Wind 1 DEIS provides no justification for why a universally applied setback is necessary or preferred under the circumstances. A well-established and practiced approach for assessing visual impacts is through the selection of representative viewpoints where the project would be prominently visible often called key observation points (KOPs). KOP identification is important as they are either from historic areas designated scenic areas and/or other visually significant resources. KOPs also represent typical views of a project to representative viewer/user groups and are also illustrative of typical views of a proposed project. KOPs typically represent the worst-case and most conservative approach to assessing viewsheds. A universally applied setback is reflective of an unorthodox methodology of approaching assessments and determinations of Visual Impacts. A universally applied setback and the significant removal of turbines could significantly burden ratepayers with increased energy costs as well as jeopardize the federal and state government's policy goals related to meeting clean energy targets as expressed in the Purpose and Need in the Notice of Intent for the Ocean Wind 1	BOEM developed alternatives to address issues raised during the public scoping process. Visual impacts of the Project were raised as a concern during public scoping; therefore, Alternative B was developed to reduce visual impacts of the Project. While visual impacts are assessed from KOPs consistent with BOEM's <i>Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States</i> , exclusion of WTG positions nearest to coastal communities is an equitable method of developing an alternative to reduce visual impacts on coastal communities.

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	<p>project. Well-accepted strategies demonstrate a clear path to reducing and minimizing potential visual impacts while maintaining technical and economic feasibility practicality and flexibility in consideration of the multitude of other environmental factors. As such appropriate alternatives for reducing visual impacts to be considered by BOEM should: 1.Clearly indicate the target level of visibility impact mitigation or acceptable threshold for visibility impact. 2.Include within its analysis whether a combination of WTG size reduction select removal of turbines and/or a combination of the two could achieve the same or improved result. These standards provide a more targeted assessment of visual impacts and effective mitigation measures instead of the blunt instrument of imposing a blanket setback. Prior to making a decision to impair the buildout of a leasehold interest it is imperative that BOEM considers other options that are less disruptive to the original design of the Project which is feasible here based on the techniques identified above.</p>	
Alternative C		
1247-0005	<p>Alternative C. The Network recognizes that the lack of provisions requiring setbacks within the BOEM lease agreements for Atlantic Shores South and Ocean Wind 1 has created potential safety and navigation concerns with the spacing and alignment of the Proposed Action and the adjacent project. The Network encourages the developers and the USCG to find a satisfactory solution that satisfies all parties including BOEM. Should an agreement fail the Network suggests BOEM examine an alternative that does not add to the project's overall timeline. BOEM suggests that any relocation or compression could result in an two-year delay that could harm supply chain formation - numerous contracts have already been signed persons hired and investments made assuming a timeline previously laid out by BOEM and the developer. The Network suggests that BOEM examine further the compression (as long as such actions can be accomplished without the two-year delay offered by BOEM) as an option that may be possible by the developer and eliminate the options which reduce the number of WTG locations. Given the extensive studies completed and ongoing throughout the lease area it seems likely that these options could be examined in an expedited manner. The Network recommends that BOEM address alignment and buffer concerns in the leasing process overall as well as within agreements under development.</p>	<p>Subsequent to publication of the Draft EIS, Ocean Wind submitted an updated COP incorporating an array layout compression scenario analyzed under Alternative C-2, Wind Turbine Layout Modification to Establish a Buffer Between Ocean Wind 1 and Atlantic Shores South. This array layout compression scenario, depicted on Figure 2-9 of the Draft EIS, would modify the WTG array layout by compressing the WTG array layout to create a minimum 0.81-nm buffer between each project's WTGs. The Final EIS notes that a joint letter has been signed by Ocean Wind and Atlantic Shores Offshore Wind, LLC for this compressed array layout scenario. The Final EIS analyzes this compressed array layout scenario documented in a joint letter signed by Ocean Wind and Atlantic Shores Offshore Wind, LLC and coordinated with USCG under the Proposed Action.</p>

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1252-0003	Alternative C: Wind Turbine Layout Modification to establish Buffer between Ocean Wind 1 and Atlantic Shores South. Ocean Wind 1 and Atlantic Shores have had constructive conversations with the U.S. Coast Guard (Coast Guard) on the issue of the common boundary between Lease Area OCS-A-0498 and Lease Area OCS-A- 0499. The Coast Guard proposed a series of measures that Ocean Wind 1 and Atlantic Shores agreed to in a memorandum issued to BOEM via electronic mail on July 14 2022. This memorandum directly addressed the Coast Guard's setback area proposed in the interest of facilitating navigation safety and effective search and rescue. Atlantic Shores requests that BOEM confer with the Coast Guard to obtain the document. The Alternative C2 with a 0.81 nm buffer and relocation of turbines per Figure 2-9 in the Ocean Wind 1 DEIS most closely aligns with the collaborative efforts between Coast Guard Atlantic Shores and Ocean Wind as defined in the signed memorandum. Atlantic Shores supports the Alternative C2 and requests that BOEM give no further consideration to Alternative C1 as it goes beyond what was determined to be necessary to meet the needs of the Coast Guard.	Subsequent to publication of the Draft EIS, Ocean Wind submitted an updated COP incorporating an array layout compression scenario analyzed under Alternative C-2, Wind Turbine Layout Modification to Establish a Buffer Between Ocean Wind 1 and Atlantic Shores South. This array layout compression scenario, depicted on Figure 2-9 of the Draft EIS, would modify the WTG array layout by compressing the WTG array layout to create a minimum 0.81-nm buffer between each project's WTGs. The Final EIS notes that a joint letter has been signed by Ocean Wind and Atlantic Shores Offshore Wind, LLC for this compressed array layout scenario.
Alternative D		
1222-0002	[Bold: Choice of Alternatives:] Surfside Foods LLC favors Alternative D: Sand Ridge and Trough Avoidance. The 15 eliminated turbines overlap with historical surfclam fishing grounds. The following plots show heat maps of Atlantic surfclam activity within the Ocean Wind 1 lease area. This was taken from a Fishing Route Analytics Report done for the surfclam / ocean quahog fleet of vessels using VMS data from 2009 to 2019 [Footnote 1: Last Tow LLC - Fishing Route Analytics Report: Ocean Wind / Azavea 03/21/2020]. This is the only alternative that would allow for even minimal surfclam fishing within the wind energy area. [See original comment for images pulled from Draft Environmental Impact Statement]	The commenter's preference for Alternative D, due to the minimization of overlap with historical surfclam fishing grounds, is noted.
1247-0005	Alternative D. The Network recommends that BOEM carefully consider any WTG position removals for Ridge and Trough Avoidance to evaluate whether the loss of generation capacity is balanced by documentable ecosystem benefits. The analysis in the DEIS does not provide sufficient benefits to justify elimination of WTG positions. The ridge and trough environmental impacts through the project duration from OSW installations will be isolated and dispersed. Only the structures and surrounding scour protection (up to 73' at each location) would displace existing seabed. Cables will be buried resulting in only temporary seabed impacts. BOEM's study of existing research literature and knowledge gaps [BOEM 2015-012] highlights the variability in geologic	Alternative D was developed to minimize impacts on sand ridge and trough habitat. Ecosystem impacts of Alternative D are analyzed in the Final EIS. BOEM will consider expected annual energy production of each alternative when selecting an alternative or combination of alternatives in the ROD. The benthic monitoring proposed in

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	<p>formation and physical dynamics of different systems emphasizing that modeling of effects to one system may not apply to others. It also highlights that biologic studies to date have been sporadic and varied and that a holistic approach to future study design is needed. The BOEM study was considerably related to BOEM's responsibilities managing OCS sand gravel and shell resources - extensively used for beach replenishment particularly following Tropical Storm Sandy. The dredging of Sand from within Ridge and Trough habitats is potentially a much larger concern for ecosystem management than OSW development. Instead BOEM could engage Before and After Control Impact (BACI) studies are recommended in order to properly evaluate the effects that result from projects in ridge and trough environments. Rather than commit to extensive avoidance measures BOEM could request that suitable BACI studies be conducted to evaluate the actual impacts and benefits of structures within this region. These studies related to the OSW projects could help BOEM fill these knowledge gaps. The lease term (35 years nominal) is a reasonable amount of time to evaluate the impacts from the structures. If at the end of the lease it is determined that significant harm has occurred the leases could expire and decommissioning would return the seabed to near preconstruction conditions or the leases could be extended and additional mitigation measures imposed.</p>	<p>Ocean Wind's Benthic Monitoring Plan (Inspire 2022) will include focused surveys within the Wind Farm Area along the inter-array cables, specifically where sand ridges exist in the northeastern portion of the Wind Farm Area, to track any changes and recovery along segments of the inter-array cables that traverse the sand ridge features prior to and following Project construction.</p>
1252-0003	<p>Alternative D: Sand Ridge and Trough Avoidance. This alternative proposes the removal of up to the stated 15 WTG Positions from an area defined roughly as "ridge and swale complex" that are "found throughout the OCS in the mid-Atlantic." This alternative should not be adopted and a relocation alternative should be pursued to better comport with NEPA standards for the development of alternatives. Specifically the record does not reflect that the turbines and associated equipment will pose a "significant issue" for existing habitat in the ridge and swale complex nor is there a sufficient scientific basis supporting the need for removal of said equipment. Under BOEM's recently issued NEPA guidance for identifying alternatives for offshore wind (June 22 2022) an alternative should address a significant issue related to the proposed project which involves a significant effect has a cause-and-effect relationship with the proposed action and is susceptible to scientific analysis and not conjecture. Furthermore there must be scientific evidence that the removal of WTGs avoids or substantially lessens that significant effect. Alternative D does not meet these standards. Atlantic Shores also notes that the prior NEPA review for the designation of the New Jersey Wind Energy Area (WEA) [Footnote 2: Mid-Atlantic Final EA 2012] stated that the area was developed using the boundary of the Ocean/Wind Power Ecological Baseline Studies (OWPEBS) which</p>	<p>BOEM developed alternatives to address issues raised during the public scoping process. During the alternatives development process, BOEM evaluated the alternatives and dismissed from further consideration alternatives that did not meet the purpose and need, did not meet the screening criteria, or both. BOEM's alternatives development process for the Project occurred prior to the June 2022 Alternatives Screening Criteria. Screening criteria used for the Ocean Wind 1 alternatives development process are provided in Appendix C, <i>Additional Analysis for Alternatives Dismissed</i>.</p> <p>Exclusion of areas from the proposed WEAs utilized benthic mapping available at that time. As part of the site</p>

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	<p>previously considered and excluded areas from development for the preservation of Shoals and Fishing Hot Spots. As part of this process the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) responded to the assessment of impacts to essential fish habitat (EFH) and provided conservation recommendations including the recommendation that 6 fishing hotspot locations be excluded from the proposed WEAs including Old Grounds Mussel Bed Inside Mud Hole Middle Mud Hole Triple Wrecks and Outer Mud Hole. The siting of the current Ocean Wind and Atlantic Shores Lease Areas were carefully selected during a robust NEPA process which included the Commerce Department and most notably the process did not identify a ridge and swale area as significant or remove the areas identified by NMFS from development consideration. It is unclear why now there is concern being raised about habitat areas within the Ocean Wind 1 leasehold area and why such concern was not raised earlier. Based on the foregoing Atlantic Shores respectfully requests that BOEM not select any of the problematic alternatives identified in the Ocean Wind 1 DEIS as there are effective mitigation measures that can address impacts ensuring responsible development of the Project in furtherance of state and federal clean energy targets in the fight against climate change.</p>	<p>characterization for OCS-A 0498 additional HRG survey was conducted, allowing for a finer-scale identification of ridge and swale features.</p> <p>The scope of the of 2012 Mid-Atlantic Environmental Assessment for Commercial Wind Lease Issuance analyzed the impacts from two distinct activities: (1) lease issuance (including reasonably foreseeable consequences associated with shallow hazards and geological, geotechnical, and archaeological resource surveys); and (2) site assessment activities (including reasonably foreseeable consequences associated with the installation and operation of a meteorological tower or meteorological buoys). The scope and analysis of the Environmental Assessment did not cover construction or operational activities associated with a commercial wind facility, which the 2022 Mid-Atlantic indicated would be covered under a site-specific NEPA analysis once a COP was submitted. The Ocean Wind 1 EIS analysis is utilizing the site-specific data provided as part of Ocean Wind 1's COP. This site-specific data includes HRG data, geotechnical data, and photo/video documentation.</p> <p>NFMS did recommend the removal of the several fishing grounds as part of its review of BOEM's 2012 Environmental Assessment. While BOEM shared NMFS's concern with impacts on fishery resources, BOEM deferred a decision on their removal until specific data on the benthic habitat and fish abundance were</p>

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		collected during site characterization activities pursuant to 30 CFR 585.626(3) and submitted with a COP. The results of these site characterization are incorporated into the Ocean Wind EIS 1 and informed BOEM's alternatives and potential mitigation measures.
Alternative E		
1087-0003	ANJEC is supportive of further considerations of BOEM's proposed Alternatives E to minimize the impacts of submerged aquatic vegetation by altering the export cable route and / or Alternative D reducing the number of turbines in the sand ridge / trough habitat zone because of its biological significance for benthic communities and for migrating and spawning fish species - with the contingency of using some larger turbines to compensate for any reduced energy production.	Use of a larger turbine with a 240-meter rotor diameter, and otherwise having dimensions that fall within the Project PDE, is dependent upon this alternative being commercially available when BOEM issues its ROD as well as its technical and economic feasibility, and consistency with the purpose and need.
General Alternatives		
0984-0037	Alternatives. The EIS have not proven why the United States standard requirements of fixed structure in and around shipping lanes in the Gulf of Mexico should not be consistent with the Atlantic. "No structure may be placed within two Nautical miles of any shipping lane". That goes for transit lanes also. The developer wanting to maximize the development site for electric generation should not be at the cost of life and property. The standards for placement of structures to the proximity of shipping lanes should be consistent in all US waters.	USCG's Marine Planning Guidelines, as published in enclosure 3 to Navigation and Vessel Inspection Circular 01-19, January 2019, recommend a 2-nm distance between offshore structures and the parallel outer or seaward boundary of a traffic lane be considered to achieve a low level of navigation safety risk. This recommended distance assumes size of the vessels between 300 and 400 meters in length. USCG recognizes that larger or smaller distances may be considered depending on the predominant size and type of the vessel traffic transiting in the area. While the safe distances provided in the Marine Planning Guidelines are highly recommended, smaller or larger distances may be acceptable depending on the structures, vessel traffic, and risk tolerance.

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		<p>During the initial planning process for the New Jersey lease areas, the TSS in the approaches to New York and a traditional transit route (approximately 7 nm along the New Jersey coast) used by tug and barge operators was removed from leasing consideration. Additional information on these areas was requested from the maritime community to ascertain the need for additional refinements through the New Jersey Call for Information and Nominations <i>Federal Register</i> Notice (76 Federal Register 22130).</p> <p>Based on input from the maritime community (e.g., USCG, American Waterways Operators) and analysis of vessel traffic data, OCS blocks directly south of the Ambrose to Barnegat traffic lane were removed from leasing consideration. OCS blocks where high navigation safety concerns remained and could be subject to potential future restrictions based on a lessee's project design and site-specific analysis were identified in subsequent leasing notices. Those OCS blocks are identified in the Atlantic Wind Lease Sale 5 for Commercial Leasing for Wind Power on the Outer Continental Shelf Offshore New Jersey—Final Sale Notice (80 Federal Register 57862). Neither Ocean Wind's COP nor any alternatives in the Draft EIS contain offshore structures in these identified areas.</p>
1012-0019	[Bold: Conclusions and Recommendations.][Bold: EIS Structural Issues][Bold: 1. Need for A Clear Federal Purpose and Need.] 2. [Bold: The scope of the EIS Needs to be expanded to include reasonable alternatives per 40CFR §1508.1(z)]	BOEM considered a reasonable range of alternatives during the EIS development process that emerged from scoping,

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	and "Connected Actions" per 40 CFR §1501.9 (e)(1)(iii).] The Biden administration recently adopted new NEPA rules that retained the language in 40 CFR 1502.14 to "evaluate reasonable alternatives to the proposed action" and amended section 1508.1 (z) to define reasonable alternatives as "a reasonable range of alternatives that are technically and economically feasible and meet the purpose in need for the proposed action". Assuming that the purpose and need is to further an offshore wind program and facing such technically economically feasible options in other lease areas and with different power levels the alternatives in this DEIS are not consistent with that definition.	interagency coordination, and internal BOEM deliberations. Alternatives were reviewed using BOEM's screening criteria, presented in Appendix C, <i>Additional Analysis for Alternatives Dismissed</i> . Alternatives that met the screening criteria (i.e., were found to be infeasible or did not meet the purpose and need) were dismissed from detailed analysis in the Draft EIS. Alternatives considered but dismissed from detailed analysis and the rationale for their dismissal are described in Section 2.1.7 and Appendix C.
1012-0021	[Bold: 5. No True Alternatives Presented in the DEIS] Instead of presenting any real meaningful alternatives the DEIS merely attempts to give the appearance of having considered a range of alternatives. It concocts several that place a few turbines one way or the other which have the same power level and results in virtually no change in environmental impact as shown in the comparative tables in the DEIS. Therefore for NEPA purposes they are identical to the proposed action do not represent a "reasonable range" of options and serve no environmental purpose. They are window dressing not real NEPA alternatives. That leaves the no action alternative as the only option. And since BOEM isn't willing to consider any other proposals in alternate areas outside the lease area or modification to the power level (essentially determining the number of turbines) to allow for siting within only sections of the lease area it has left itself no choice but to approve the COP in order to further its program goals. So from BOEM's perspective the no project alternative cannot be reasonable and to cement its anticipated approval of the project BOEM despite its extensive scoring of impacts presents no environmental criteria under which the project would be disapproved. This leaves us with an EIS that includes no reasonable alternatives which is exactly what the Act and its attendant case law forbids. This must be rectified.	BOEM considered a reasonable range of alternatives during the EIS development process that emerged from scoping, interagency coordination, and internal BOEM deliberations. Alternatives were reviewed using BOEM's screening criteria, presented in Appendix C, <i>Additional Analysis for Alternatives Dismissed</i> . Alternatives that met the screening criteria (i.e., were found to be infeasible or did not meet the purpose and need) were dismissed from detailed analysis in the Draft EIS. Alternatives considered but dismissed from detailed analysis and the rationale for their dismissal are described in Section 2.1.7 and Appendix C.
1012-0021	In addition to the New Jersey program alternatives described above in section 4 the DEIS must include other reasonable mitigating alternatives such as: A. Turbine exclusion zones from shore based on visual impact adverse impact on historic properties and local climate changes at the shore and B. Turbine exclusion zones away from the primary migration corridor of the right whale to	Alternative B was developed through the scoping process for the Draft EIS in response to public comments concerning the visual impacts of the Project. This alternative includes no surface occupancy

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	allow its migration to continue in compliance with the Endangered Species Act and the Marine Mammal Protection Act.	at select WTG positions to reduce the visual impacts of the proposed Project. BOEM is consulting with NMFS under ESA and will incorporate mitigation measures that come out of the ESA consultation and the final MMPA Letter of Authorization. BOEM is incorporating measures to protect marine mammals, including NARW, through ESA consultation and through adoption of Letter of Authorization requirements into the COP decision.
1125-0002	While I realize that BOEM is following NEPA's avoid/minimize/mitigate mantra together with your interpretation of the necessary level of alternatives analysis I think the document is lacking in an upfront assessment of the broad environmental and economic benefits against some specific modest well mitigated impacts.	In the Final EIS, BOEM analyzes the potential biological, socioeconomic, physical, and cultural impacts of the Project through IPFs. Table S-2 in the Executive Summary presents a summary of the anticipated impacts and comparison among the alternatives.
1125-0005	While there are locational and project specific factors which should be addressed it would seem that the level of detail could be reduced in many instances based on findings of negligible to minor impacts in prior analysis. Similarly much of the rote repetition in the alternatives analyses could be reduced or eliminated by focusing on the core impacts which each alternative seeks to reduce (for example eliminating 9 to 19 WTG positions to reduce potential visual impacts). As an aside this potential reduction represents eliminating the potential for as much as 250MW of OSW generation a step that should not be taken lightly given the tremendous needs of the East Coast.	The Final EIS discusses impacts in proportion to their significance, in accordance with NEPA implementing regulations. The impacts of each alternative on expected annual energy production are provided in Chapter 2 and were evaluated by the decision-maker when identifying the preferred alternative.
1188-0005	[In recognition of the wide range of adverse impacts on fisheries fishery species and habitats across all action alternatives as described in the DEIS we recommend approval of a combination of Alternatives B-E to minimize the footprint of the project and therefore reduce the magnitude of adverse impacts. Specifically we recommend approval of a combination of Alternatives B-2 (remove up to 19 turbine locations to reduce visual impacts) Alternative C-1 (remove 8 turbine locations to create a buffer between this project and the Atlantic Shores South project - without compressing the layout to maintain the same number of turbines) Alternative D (remove all 15 turbine locations in sand ridge and trough habitat as identified under this alternative) and Alternative E	BOEM will consider all comments received on the Draft EIS during development of the preferred alternative. Section 3.13 of the Draft EIS stated that the HAPC that could be directly affected by Project activities is specific habitat for both juvenile and adult summer flounder. The summer flounder HAPC includes all native species of macroalgae,

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	<p>(limit the export cable route traversing Island Beach State Park to the northern option to minimize impacts to SAV). As noted above it is unclear if the full extent of each of these alternatives could be combined while achieving the purpose and need. If the full extent of these alternatives cannot be combined we support approval of Alternatives D E and C prior to consideration of Alternative B as visual impacts are outside the realm of the mission of the Councils. We strongly support all efforts to avoid impacts to SAV. The Mid-Atlantic Council has designated all native species of macroalgae seagrasses and freshwater and tidal macrophytes in any size bed as well as loose aggregations as habitat areas of particular concern (HAPC) for summer flounder. In defining this HAPC the Council also noted that if native species of SAV are eliminated then exotic species should be protected because of functional value; however all efforts should be made to restore native species. SAV also provides important habitat for many other species.</p>	<p>seagrasses, and freshwater and tidal macrophytes (i.e., SAV) in any size bed, as well as loose aggregations, within currently designated adult and juvenile summer flounder EFH. No change to the Final EIS in response to this comment is warranted.</p>
1192-0002	<p>The purpose need and proposed action is flawed as the mission of the Lead Agency is limited-- the Bureau of Ocean Energy Management (BOEM) mission is to manage the energy in the Ocean. The Alternative Analysis is fatally flawed because it selected the most impacted site for the cable connection in Barnegat Bay and on land both at Island Beach State Park and Oyster Creek.</p>	<p>BOEM's purpose as stated in Section 1.2—to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP—is needed to fulfill BOEM's duties under the lease. BOEM analyzed the proposed Project as it was described in Ocean Wind's COP. Alternatives were developed in response to issues raised during the public scoping comment period. BOEM identifies the preferred alternative in the Final EIS and will select an alternative(s) in the ROD.</p>
1192-0012	<p>Alternative analysis could be on the site or sites infrastructure types or other actions. If the study finds no alternative with less deleterious impacts from the [Italics: preferred alternative] and if the preferred alternative has identified irreversible and irretrievable impacts then the lead agency is compelled to take the [Italics: "hard look"] and reconsider choosing an alternative with a [Italics: lesser impact]. It's hard to change the preferred alternative if there is only one alternative (albeit modified). In this case the Lead Agency did not take the hard look for the siting of the route to the land at the Oyster Creek Nuclear Power Station including use of Island Beach State Park.</p>	<p>BOEM analyzed multiple alternatives for the Oyster Creek export cable route, including an alternative that would avoid making landfall on Island Beach State Park. Information regarding BOEM's evaluation and dismissal of alternatives is provided in Table 2-3 and Appendix C, <i>Additional Analysis for Alternatives Dismissed</i>.</p>
1192-0015	<p>This makes the Alternative Analysis [Underlined: fatal flaw #3] as it chose the wrong alternative that is the one with the most impact -- one that has irreversible and irretrievable loss in natural resources.[See original comment for image of 40</p>	<p>BOEM analyzed the Proposed Action (i.e., the proposed Project as described in Ocean Wind's COP), as well as a</p>

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	<p>CFR 1502.16 Environmental consequences]Instead of doing the right thing the Lead Agency chose a plan that takes parkland destroys trees with no plans for native tree replacement (their plan is to buy plants within 250 or so mile radius?) on Island Beach State Park builds in a power plant substation on wetlands at Oyster Creek submarines through the Bay's most fragile areas of eelgrass and based on old stormwater rules. NOAA NMFS USACE and NJDEP need their own EIS to consider a reasonable range of alternatives that can accomplish the purpose and need (for a 40-mile-long cable through parkland and through an estuary) and a substation (to link to the grid) of the proposed action (to build a power plant in a coastal community). The irreversible and irretrievable commitments of resources was never described and address. This is [Underlined: fatal flaw #4] and there should be a new or supplemental EIS. The alternative analysis should review the project site in the ocean AND delivery routes to landfall and project site on the land including the size of each facility the impacts to the environment and the amount of renewable electricity produced and/or needed. In terms of climate change it is critical to replace and decommission the existing polluting power.</p>	<p>reasonable range of alternatives.</p>
1192-0020	<p>Why is this important? Well it would seem that the Bureau of Public Utilities (BPU) has approved Ocean Wind to use the interconnection to the grid at Oyster Creek in 2018. Now it seems that was premature and violates the idea that an EIS should be started as early as possible. There may be other alternatives to review which can achieve the goals of the project in an area that protects the connection from severe storms. (A complete discussion of the Oyster Creek Nuclear Power Plant during Superstorm Sandy is found in section 6 below.)Power Plants of New Jersey by NJDEP [Footnote 23: https://gisdata-njdep.opendata.arcgis.com/datasets/njdep::power-plants-of-newjersey/explore?location=40.125837%2C-74.305328%2C8.00][See original comment for Power Plants of New Jersey by NJDEP]Table from map of Power Plants of New Jersey in Monmouth and Ocean County [Footnote 24: https://gisdata-njdep.opendata.arcgis.com/datasets/njdep::power-plants-of-newjersey/explore?location=40.110763%2C-74.305328%2C8.00&showTable=true][See original comment for Map of Power Plants of New Jersey in Monmouth and Ocean County Table] Continued table to show the primary source[See original comment for Map of Power Plants of New Jersey in Monmouth and Ocean County Table] Interestingly the NJ 2019 Energy Master Plan (EMP) focuses on Grid Modernization to adapt for future energy needs that is off shore wind renewable energy resources including community solar and zero emission Distributed Energy Resources (DER). This</p>	<p>Renewable Energy Lease Number OCS-A 0498 only authorizes the submission of a COP for offshore wind energy. Information regarding BOEM's evaluation and dismissal of alternatives, including alternatives for alternate energy sources, is provided in Table 2-3 and Appendix C, <i>Additional Analysis for Alternatives Dismissed</i>.</p>

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	is instead of the "prior paradigm where the output of large energy centers (power plants) to load centers." 9Footnote 25: Ibid. page 4]If the BPU wants to generate use and manage energy in ways "consistent with economic climate and societal demands to realize EMP goals" [Footnote 26: Ibid.] then why not look at additional alternative sites inland and protected from sea level rise. Suggested sites that meet the energy "weather test" does not fill wetlands cut down trees and does not disturb the natural resources of Island Beach State Park and Barnegat Bay (see the Barnegat Bay section herein) are: Ciba Gigeys Heritage Minerals	
1192-0023	The Alternative Analysis is fatally flawed as it selected the most impacted site for the cable connection the on-land contact both at IBSP and Oyster Creek.	BOEM analyzed a reasonable range of alternatives in the EIS and will not select an alternative until the ROD. The EIS describes the environmental consequences of the alternatives in accordance with the NEPA implementing regulations.
1192-0027	Finally this DEIS is severely deficient in analyzing the impact of Barnegat Bay's ecosystem and economy by not considering alternate routes and methods of laying the cable. There is no data on the impact of the cables' heat on SAVs clams and oysters. There is no reason given for the cable to be deeper in the Bay bed not 4' in silt. What consideration was given to hang the cables from any of the bridges over the water?	As noted in Section 2.1.2.2.3, target cable burial depth is determined based on an assessment of seabed conditions, seabed mobility, and the risk of interaction with external hazards such as fishing gear and vessel anchors, while also considering other factors such as maintained navigational channels and thermal conductivity. Details regarding BOEM's coordination with the New Jersey Department of Transportation regarding the feasibility of attaching export cables to the Route 72 bridge can be found in Section C.2.3.
1252-0003	Atlantic Shores appreciates BOEM's consideration of many (26) alternatives when preparing the Ocean Wind 1 DEIS and the screening criteria consistent with law and regulations technical and economic feasibility environmental impact and geographic considerations in the selection of the six (6) alternatives being carried forward for further analysis. However we have concerns with specific alternatives and the potential precedent these alternatives could set for offshore wind development. We strongly encourage BOEM to consider the consequences of these alternatives on current and future projects in the New Jersey and New	This EIS analyzes a reasonable range of alternatives framed by BOEM's purpose and need and the definition from 40 CFR 1508.1(z) ("Reasonable alternatives means a reasonable range of alternatives that are technically and economically feasible..."). Details regarding BOEM's purpose and need are provided in Section

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	York Bight and collectively how these alternatives could restrict BOEM's ability to reach the Biden Administration's offshore wind goals.	1.2.
Proposed Action / Project Design Envelope		
0007-0010	Security Terrorism War: When compared to onshore energy facilities hundreds of wind turbines and several substations located 10 miles or more from shore are more vulnerable to attack by terrorists and war time adversaries. The Coast Guard will not have the resources to protect this vast infrastructure and the Navy will be preoccupied with battles elsewhere. If developed how will this electric infrastructure on which we will be so dependent be secured and protected. It is not sufficient to say in the DEIS (Section 2.2) that such actions are unlikely (so was the attack on the World Trade Center in 2001) and impacts would be the same as outcomes already described for severe weather or seismic activity (short term natural events) therefore not further analyzed. I ask is it wise to have such a vital resource so vulnerable to deliberate destruction be relied upon so heavily. This issue needs to be studied and addressed in the DEIS from the perspective of national security. What is the backup system that would provide reliable and secure energy? Appendix L.3 of the DEIS says that a long term goal of the Proposed Action is to promote reliable safe and secure clean energy. This concern for security is further heightened when one looks at the cumulative impact from all the offshore wind projects proposed off the East Coast.	Terrorist attacks are identified in Section 2.2 as a non-routine event. Impacts from terrorist attacks would be similar to impacts from other non-routine events in that they would result in safety concerns and economic damage through loss in electricity transmission. Security in regard to utility system regulation is under the purview of BPU. Section 3.4.3.1 notes that in 2020, the generation mix of the PJM Interconnection, the regional grid that serves New Jersey, was approximately 40 percent natural gas, 34 percent nuclear, 19 percent coal, 3 percent wind, 2 percent hydroelectric, and 2 percent other sources, on an annual average basis (Monitoring Analytics 2021).
0984-0002	Figure S-1 Ocean Wind 1 Project The cables from any lease sight should be laid and maintained within the leaseholders site and subsequent lease sites until the cable can be redirected directly towards the site of landfall. Public outreach by BOEM during the lease sale process did not include the use of the sea floor outside of the lease areas. Areas of the sea floor to be disturbed or removed from use by other existing marine industries needed to be fully disclosed during the leasing process. The placement of cables along the ridgeline on the seafloor is disturbing essential fish habitat (EFH). The ridge line is where most fish congregate and travel. Underwater ridgelines provide shelter from currents and is used as an area for predation by foraging fish. The placement of cables along the ridgeline as proposed will increase the impacts on marine life increase the disruption of fishing grounds and increase mitigation costs. The applicant needs to reconfigure the cable route to be inside their lease area to avoid interactions with other marine uses outside of their lease site and avoid EFH. The placement of cables along the ridgeline outside of the lease site is a [Bold: Major Impact.]	BOEM's regulations at 30 CFR 585.200(b) state that a lease issued under this part confers on the lessee the right to one or more project easements without further competition for the purpose of installing gathering, transmission, and distribution cables; pipelines; and appurtenances on the OCS as necessary for the full enjoyment of the lease. Impacts of the proposed export cables on benthic resources, commercial fisheries and for-hire recreational fishing, and finfish, invertebrates, and EFH are analyzed in the Final EIS.
0984-0004	Three Maximum 275 kv Alternating current export cables The proposed cable area is not adequate to supply the name plate of the build out. Cable failure is	The description of the Proposed Action in Chapter 2 of the EIS includes a

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	imminent over the lifespan of the project. Cable replacement and removal needs to be included in the EIS. The continued placement and removal affects impacts identified within the applicants EIS. The continued "walking down the same path" increases the environmental impact exponentially. Mitigating the prolonged "same path" process is not included in the EIS. The placement of second and third cable routes during the lifespan of the development site needs to be included in the EIS. The replacement of a cable failures is a [Bold: Major Impact.]	description of cable installation, O&M, and removal (decommissioning). The Final EIS includes an expanded description of anticipated maintenance activities. The impacts of these activities are analyzed in Chapter 3 of the EIS.
0984-0005 & 0006	<p>Final Burial Depth The lack of the applicant to finalize the burial depths in any realistic detail emphasizes the need to reject the EIS as being incomplete. The burial depths of the cables have overwhelming scientific proven effects on marine life. A incomplete EIS requires the applicant to resubmit the EIS and re-start the public comment period. The cable burial depth is a [Bold: Major Impact.]</p> <p>Inter-Array Cables A preliminary layout of inter-array cables is helpful to the applicants engineering department but is unacceptable in a EIS. The amount of scientific evidence on the impacts of cables on marine life is what an Environmental Impact Statement is to disclose. The public process is so the developer can gain knowledge about potential impacts that have not been foreseen. The applicants rush to produce this document and start the public process in advance of providing the required information necessary to provide comprehensive commentary can only be viewed as an attempt to intentionally reduce exposures of environmental impacts. The applicant clearly states that the application is incomplete in the EIS. BOEM needs to reject the EIS for being incomplete and require the applicant to resubmit the EIS and re-start the public comment period. The cable layout has is a [Bold: Major Impact.]</p>	Consistent with BOEM's draft guidance, ¹ Ocean Wind's COP proposes the Project using a PDE concept. This concept allows Ocean Wind to define and bracket proposed Project characteristics for environmental review and permitting while maintaining a reasonable degree of flexibility for selection and purchase of Project components. The EIS assesses the impacts of the PDE described in the Ocean Wind COP using the "maximum-case scenario." The maximum-case scenario is composed of each design parameter or combination of parameters that would result in the greatest impact for each physical, biological, and socioeconomic resource. If the COP is approved, the Project must be implemented within the defined PDE. If there are future changes to the Project design that are outside the PDE, additional review could be required.
0984-0038	Transfer stations outside of the Industrial Energy Development Zones and their impacts have also been left out of the public comment opportunities. The applicant and many of the offshore wind industry bidders along with BOEM have purposely left out transfer stations in their presentations and have cut them out of pictures shown. The placement of residences on these platforms and the	BOEM is unfamiliar with transfer stations outside of the Industrial Energy Development Zones; however, the description of the Proposed Action in Chapter 2 of the EIS includes a

¹ BOEM's draft guidance on the use of design envelopes in a COP is available at: <https://www.boem.gov/sites/default/files/renewable-energy-program/Draft-Design-Envelope-Guidance.pdf>.

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	<p>need to run additional cables and utility lines to the individual stations is an impact that should have been documented and contained in scoping process prior to the draft EIS. The mere fact that BOEM and the developers have purposely omitted transfer stations is another reason to reject this application and deny the permit. They have not acted in good faith or within the scope necessary to achieve good will and public trust.</p>	<p>description the onshore substations with connections to the existing electrical grid. Export cables would be buried onshore until they reach the vicinity of the substation. Visual simulations of the onshore substations are provided in Volume III, Appendix L of the COP.</p>
0984-0087	<p>Sediment deposition impacts are known within the multiple scientific reports that can be used to do computer generated calculations. The applicant is aware of the major impacts that the maintenance of the cables require. The constant reburial process will have permanent [Bold: major impact]. The failure of the applicant to disclose such calculations within the EIS is an act in violation of public trust. The EIS should be rejected. The applicant does admit that the construction and development of industrial energy offshore site will contribute to climate change contrary to those whom are advocates for the industrialization. The statement within the application of not being able to do the calculations is an admission of failure to provide the required information within the application. The applicant did find the impacts to climate change of the energy industrialization of the Atlantic to be minor to moderate without the supporting documentation. This is unacceptable. If the applicant is found to be paying individuals or companies to advocate inclusive of multi-media campaigns the need for offshore wind turbine industrialization zones to reduce climate change the application should be denied on the premiss of violation of the public trust for misleading advertisements "Greenwashing". The United States Attorney General and the FCC should investigate the claims to the rate payers and the tax payers made by the industry as a whole.</p>	<p>Section 2.1.2.3.2 of the Draft EIS included a description of anticipated cable monitoring and maintenance activities, and an expanded description has been provided in the Final EIS. Cables would be monitored during operation and after major storm events. The impacts of these activities are analyzed in Chapter 3 of the EIS.</p> <p>The net energy gain from an offshore wind project is evident when looking at life cycle emissions, which, when harmonized across other generation technologies, comes out as one of the most efficient commercial-scale generator technologies. The emissions from construction would quickly be offset by the emissions avoided by the facility's energy generation. Section 3.4 provides an analysis of air quality impacts during construction, O&M, and decommissioning.</p>
0984-0113	<p>The disposal of ammunition during at sea construction should be part of the EIS. BOEM's policy of permitting contractors of programs funded by a government agency is unacceptable. BOEM has a responsibility to safely remove and destroy ammunition found by recipients of federal funds and permits. A protocol needs to be contained in the EIS on how the applicant will dispose of the ammunition other than throwing it back in the water.</p>	<p>Site preparation activities include UXO/ MEC risk mitigation, as described in Section 2.1.2.2.1 of the Final EIS.</p>
1012-0022	<p>Regarding its use under NEPA the PDE requires that the parameter having the maximum impact for a given resource be used in the analysis. This is not specified now in the COP but if and when that identification is done and the PDE is the proposal it means that the BOEM is proposing an action that will have the</p>	<p>BOEM provides lessees, including Ocean Wind, the option to use the PDE approach. The PDE parameters and identification of which parameters are</p>

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	<p>worst environmental impact possible. Assuming the BOEM would never select this then it is proposing something that it will never choose which makes little sense. The BOEM needs to separate the PDE concept from the proposed action. The PDE may have some use to show a maximum impact and possibly avoid supplemental analyses but it should not be used as the proposal. They are two different things and the use of a PDE does not absolve the BOEM of presenting an actual proposal under NEPA rules. Further the PDE proposed thus far is not an envelope at all because it does not specify which parameter will be used to determine the maximum impact for a given resource. In addition vague terminology like "up to 200 turbines" does not create an envelope. The PDE stated also does not include key parameters like the plan for the northern portion of the lease area and the turbine power and drive type which are essential to analyzing maximum impacts. It also presents as options parameters that have already been decided through the State's project approval like the use of monopile foundations and Vesta-236 turbines.</p>	<p>relevant to the analysis for each resource section in Chapter 3 are provided in Appendix E of the Final EIS.</p>
1116-0008	<p>The DEIS has failed to ensure safety and protection of the environment and conservation of the natural resources of the outer Continental Shelf because no structural analysis of the Haliade wind turbines was done or reviewed in the DEIS. No offshore wind turbine that exists today can survive a Category 3 or greater Atlantic hurricane. The DEIS has failed to examine any safety or engineering issues with respect to the untested and unbuilt Haliade wind turbines planned for the Project and failed to take a hard look at the impact of oil and contaminant spills from the wind turbines.</p>	<p>Section 2.2, <i>Non-Routine Activities and Events</i>, of the Draft EIS described how WTGs are designed to sufficiently withstand storm events and actions that would be taken in the event of a spill or release.</p>
1154-0002	<p>With these points in mind in addition to the points we made in a letter dated today with our partners we urge you to consider the following as well: BOEM should require Ocean Wind I wind turbine obstruction lighting or FAA L-864 aviation lights which appear as red flashing strobe or pulsed obstruction lights to activate only with low passing aircraft in the evening hours after sunset. BOEM should require Ocean Wind to provide an AIS Automatic Identification Systems on turbines to allow for better navigation for recreational and commercial fisherman around and within wind farms. Ensure that there are responsible plans and policies for sustainably decommissioning transmission lines and turbines once they have surpassed their usefulness. Thank you for your careful consideration of our comments on this important DEIS.</p>	<p>Ocean Wind has indicated that it will implement ADLS on WTGs and equip select structures with strategically located AIS transponders, and the implementation of ADLS and AIS transponders is analyzed in the Final EIS. BOEM's regulations at 30 CFR 585 and commercial Renewable Energy Lease OCS-A 0498 require that Ocean Wind remove or decommission all facilities, projects, cables, pipelines, and obstructions and clear the seafloor of all obstructions created by the proposed Project.</p>
1188-0006	<p>[Bold: Additional Terms and Conditions] The recommendations outlined in our</p>	<p>BOEM's draft Guidelines for Mitigating</p>

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	<p>offshore wind energy policies referenced above should be reflected as terms and conditions for approval of the US Wind 1 project. We provided a separate comment letter on the draft Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries. [Footnote 3: Available at https://www.mafmc.org/correspondence.] We support many of the mitigation measures recommended in that draft guidance. We recommend that all final mitigation guidelines be reflected in terms and conditions for BOEM's approval of the Ocean Wind 1 project. For example the project design envelope for Ocean Wind 1 includes burial depths of 4 to 6 feet for inter-array and substation interconnection cables. BOEM's draft fisheries mitigation guidelines recommend a minimum cable burial depth of 6 feet. Although the Councils have not endorsed a specific cable burial depth to minimize impacts to fisheries we strongly support the draft guidance recommending a minimum burial depth of 6 feet. We recommend that BOEM not approve any cable burial depths of less than 6 feet for US Wind 1 or any other wind projects.[Bold: Conclusion]We appreciate the opportunity to provide comments to ensure that issues of social and ecological importance are considered in the final EIS for Ocean Wind 1. We look forward to working with BOEM to ensure that wind development in our region minimizes impacts on the marine environment and can be developed in a manner that ensures coexistence with our fisheries.</p>	<p>Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585 recommend a minimum burial depth of 6 feet below the seabed where technically feasible. Thermal conductivity is a technical feasibility factor when determining target burial depth.</p>
1234-0007	<p>[Bold: Transmission] While we understand the goals and timelines laid out by the BOEM process there is still a lack of transparent information on power generation pricing and economic impacts. This information would help identify the number of turbines necessary to meet the capacity goal. It also could impact cabling site layout and many other possible issues including impacted habitat. Recent federal rulings also call the entire projects wind turbines into question. And this this question must be addressed before project approval. Current plans also call for separate transmission infrastructure for each project which should be negotiated to minimize the potential impact to commercial and recreational fishing grounds. Existing projects have already shown the problems that can arise when cables are only minimally buried. The need for deep cable burial suggests that a 6foot burial depth be maintained and micro-siting with fishers' input is required in order to build these projects with limited impacts on fishing. The most recent BOEM fisheries mitigation program call for a 6 foot burial but that is not represented in this COP/DEIS proposal. The COP proposes connecting the project to shore via three cables along two distinct cable routes one 72 miles and other 32 miles to reduce impacts to the onshore power grid. The EIS should explain why the use of multiple cables is necessary and</p>	<p>BOEM's purpose as stated in Section 1.2—to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP—is needed to fulfill BOEM's duties under the lease. The 1,100-MW solicitation and a corresponding OREC allowance of 4,851,489 MW-hours per year were awarded to Ocean Wind via BPU on June 21, 2019. A copy of the OREC award, which includes information regarding OREC prices and ratepayer impacts, is available at: https://www.njcleanenergy.com/files/file/6-21-19-8D.PDF. BOEM's regulations at 30 CFR 585.200(b) state that a lease issued under this part confers on the lessee the right to one or more project easements</p>

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	<p>acknowledge that the use of two cable routes greatly increases offshore impacts including habitat disturbance and modification as well as safety concerns for fisheries that use bottom tending mobile gear and cost to consumers. Also the project must remove cables. Leaving cables in place as proposed in section 3.8 is unacceptable to the GSSA. We appreciate the opportunity to provide these thoughts and concerns. We look forward to our organizations continued work with BOEM to ensure the needs of our fishing communities are considered and addressed.</p>	<p>without further competition for the purpose of installing gathering, transmission, and distribution cables; pipelines; and appurtenances on the OCS as necessary for the full enjoyment of the lease. Impacts of the proposed export cables on benthic resources, commercial fisheries and for-hire recreational fishing, and finfish, invertebrates, and EFH are analyzed in the Final EIS.</p> <p>Section 2.1.2.4 describes decommissioning activities, and that, per BOEM regulations, Ocean Wind would be required to remove all cables and clear the seafloor of all obstructions created by the proposed Project. Ocean Wind would need to obtain separate and subsequent approval from BOEM to retire in place any portion of the proposed Project. Approval of such activities would require compliance under NEPA and other federal statutes and implementing regulations.</p>
1252-0002	<p>To counteract climate change and to realize the economic opportunities forthcoming we encourage BOEM to consider two key things: 1. to move expeditiously and deliberately in finalizing the Ocean Wind Environmental Impact Statement (EIS) and issuing a Record-of-Decision (ROD); and 2. to select an alternative that maximizes energy potential from the lease sites and adopts reasonable mitigation measures obviating the need for significant changes in the design or layout of the Project. Reducing buildable lease acreage for Ocean Wind 1 is counter to the policies set forth by the Biden Administration the prior selection of these Lease Areas as fit for offshore wind development based on prior National Environmental Policy Act (NEPA) review and the use of carefully-crafted mitigation measures can address impacts to species and other protected resources as well as other marine users in an effective manner. Furthermore NEPA alternatives must be feasible and practical-which is not the case with alternatives that reduce buildable acreage jeopardizing the deliverability of the projects and their ability to meet state commitments. Atlantic Shores appreciates</p>	<p>After consideration of the public comments on the Draft EIS and analysis of those comments and other information (including the adverse and beneficial impacts of each alternative), BOEM has identified a preferred alternative in the Final EIS.</p>

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	<p>the rigorous environmental standards that BOEM and the cooperating agencies apply to offshore wind projects that has guided the formation of these projects' Project Design Envelopes (PDEs) and the siting decisions brought forward in the associated Construction and Operations Plans (COPs). We recommend that BOEM consider the same rigor to applying economic and climate benefits that these projects bring in the review of the alternatives carried forward for further analysis in the Ocean Wind 1 DEIS. Going forward Atlantic Shores encourages BOEM to recognize the collaborations that exist between developers like Orsted and us through both state and regional initiatives to ensure the collection and evaluation of sound science and data to support the socially and environmental responsible development of offshore wind. These efforts are also aimed at protecting biodiversity and promoting ocean co-use that align with BOEM's authority under the Outer Continental Shelf Lands Act (OCSLA) to authorize renewable energy activities.</p>	
1259-0193	<p>Operations & Maintenance Impacts Not Addressed. Of additional concern and importance is operation and maintenance of the turbines. BOEM and Ocean Wind 1 claim that the project will generate over 1100 MW of electricity. However this is based on the rated capacity of the wind turbine rather than the actual output. This information prevents a meaningful analysis of how much fossil fuel usage will actually be displaced by Ocean Wind 1 as the actual output of offshore turbines is around 50% or possibly 60%. For example three miles off Rhode Island the Block Island Wind Farm has five 6 MW turbines that are said to produce 30 MW of electricity. However they actually produced far less and on average less than 12.5 MW per month according to data from the Energy Information Administration from January 2017 to May 2022. [Footnote 195: Electricity data browser U.S. Energy Info. Admin. (last accessed Aug. 23 2022) https://www.eia.gov/electricity/data/browser/#/plant/58035?freq=M&start=201612&end=202205&ctype=linechart&ltype=pin&columnchart=ELEC.PLANT.GEN.58035-ALL-ALL.M&linechart=ELEC.PLANT.CONSUMPTION.TOT_BTU.58035-WND-WS.M~ELEC.PLANT.GEN.58035-WND-WS.M~ELEC.PLANT.CONSUMPTION.EG_BTU.58035-WND-WS.M&motype=0&pin=.] This is approximately less than 42% actual generation. What is the proven reliability commitment of the energy to be produced by the proposed project? Transparency and accountability is critical as alternatives to fossil fuels are developed. What are the actual reliability factors over time as studies suggest larger turbines lose efficiency over time? In fact large turbines (12 MW and above) have been found to lose up to 4.5% efficiency per year which calls into question the reliability for energy production.</p>	<p>Section 1.2 of the Draft EIS noted that 1,100 MW is the nameplate capacity of the Project and the Ocean Wind's annual OREC allowance is 4,851,489 MW-hours per year per the 2019 award by BPU. Furthermore, footnote 1 in Table 2-1 notes that capacity factor plays a role in estimating the expected annual energy production, and for the Project would most likely vary between 45 percent and 63 percent.</p>

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1259-0194	Moreover the turbines are also prone to fires [Footnote 196: Craig Richard Siemens Gamesa and Ørsted probe offshore wind turbine fire at Borssele I & II WindPower Monthly (last accessed Aug. 23 2022) https://www.windpowermonthly.com/article/1731732/siemens-gamesa-orsted-probe-offshore-wind-turbine-fire-borssele-i-ii .] which can make them dangerous to fishermen boaters first responders and commerce. This is also significant for those ships containing dangerous cargo as well as the lives of those servicing the turbines and those on the ships and boats. The DEIS fails to address these concerns regarding operations and maintenance. A carefully developed and implemented pilot project would enable an assessment of turbine reliability and potential risks for fishermen boaters and commerce.	Section 2.2 of the Final EIS has been updated to assess the potential for fires. In the Draft EIS, BOEM considered but dismissed from further consideration an alternative to build a much smaller pilot facility to confirm the benefits and impacts before building out the complete Project as proposed. Additional detail is provided in Table 2-3, <i>Alternatives Considered but not Analyzed in Detail</i> , in the Final EIS.
1267-0004	The Draft Environmental Impact Statement and the Construction and Operation Plan both mention the Joint Transition Bay/Vault which are needed for transition from the Ocean Export Cable to the Onshore Cables. The structure depicted in Figure 6.2. 1-4 of the Construction and Operation Plan is sixteen foot tall twelve foot wide and 70 feet long and would be placed at the landward end of the Horizontal Drill operations. During the drilling operations a dike or sheeting will be needed to control drilling fluids with the sixty foot long drill rig extending landward all not more than 29 to 35 feet from the adjacent dwellings. The Draft Environmental Impact Statement on Page 2-10 states "Installation of the Onshore export Cable would require up to a 50-foot wide construction corridor and up to a 30 foot wide permanent easement excluding landfall locations and cable splice locations. The EIS does not say what the exception is. The existing public Right-of-Way is fifty foot wide. The project is then limited to a maximum of fifty feet for all facilities and the required setback and safety areas required for the construction and operation of the proposed export cable. This fifty foot wide area may need to be reduced further to maintain access to the properties. Any encroachment onto the adjacent property owners is a taking (SCOTUS 458 U.S. 419(1982)). Obstructing access can also be seen as a taking. The Joint Transition Bay/Vault cannot be placed on the beach or in the dunes as its mass would reflect waves. Traffic Safety and property access concerns would limit the location of the Joint Transition Vault with the least harmful locations between Central Avenue and Asbury Avenues or Asbury Avenue and West Avenue. One Year will be needed for permanent utility relocation and one for the Directional Drill and Joint Transition Vault Construction. A discharge pipe to the Bay will be necessary for the discharge from the sump pump in the Joint Transition Vault. To allow water to remain in the vault will cause corrosion. Provision for cooling the vault will also be needed. None of which is discussed in the Draft	Figure 6.2.1-4 of the COP depicts the indicative onshore transmission cable splice vault, while Figure 6.2.2-5 depicts the indicative 275-kV TJB design. Section 2.1.2.2.2 of the Final EIS has been updated to provide an expanded discussion of TJB construction and to note that permanent easements are expected to be larger at splice vaults and TJB locations.

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	Environmental report or the Construction and Operations Plan.	
1267-0007	The Oyster Creek Export Cable is shown in Figure 2-1 at a scale of 1:3600 with the nearest structure 1900 feet from the proposed cables. The ratio of the measurement over the map scale is 5.2/10The Onshore Cable Route Options to BL England Substation (Ocean City) is shown on Fig 2-3 at a scale of 1:50000 with the nearest dwellings 29 feet from the proposed cable. The ratio of the measurement over the map scale is 5.8/10000. One Thousand fold less readable.	Figures 2-2 and 2-3 in Chapter 2 are scaled to depict the onshore Project components in one figure.
1275-0007	I heard at one of the public hearings that I attended that the analysis you completed was based on a smaller footprint of a Wind Turbine Generator or WTG. If that is the case you need to evaluate your findings across the board to account for the proper dimensions of these systems which are much larger stand taller and require larger/deeper sea floor support structures.	The Draft EIS analyzed the dimensions of the WTGs proposed in Ocean Wind's COP as the Proposed Action. The Proposed Action is described in Section 2.1.2 of the EIS.
1275-0012	[Bold: Backup system analysis]: has the EIS looked at the emissions from all the backup systems required to support the offshore wind farm to continue energy production when there is little no wind or too much wind? Will we need to build more traditional generation to support Ocean 1? Will they be coal diesel or other? What will the emissions look like for the backup systems and how do those backup systems compare if the project is not undertaken? Have you calculated shutdowns during a typical extreme storm event? Since storms are increasing in frequency and impact has that increase been incorporated in those calculations? At what wind velocity do these systems shut off? Have you looked at the frequency of those exceedances and added in the emissions calculations from backup systems?	Potential emissions from construction and operation of the Proposed Action and alternatives are analyzed in Section 3.4, <i>Air Quality</i> . Estimated emissions include those from diesel engines associated with backup power/emergency generators.
1278-0006	In fact I could not even find the general coordinates of the Wind Turbine Generator Area that forms a rough rectangle (4 corners) as shown on the Executive Summary S-3 in the DEIS. Obviously any DEIS that does not include even the rough coordinates of the primary wind farm area is deficient. I would think that would be the first and most important information in a DEIS. Was this an oversight?	Section 1 of the Draft EIS noted that the Project is sited 15 miles southeast of Atlantic City, New Jersey, within the area of Renewable Energy Lease Number OCS-A 0498. Appendix G of the COP provides coordinates for the WTGs and OSS.
1281-0006	[Bold: NEPA AND BOEM'S OWN MISSION STATEMENT AND RULES AND REGULATIONS ENACTED THEREUNDER REQUIRE A FAR MORE COMPREHENSIVE COST BENEFIT ANALYSIS OF ENVIRONMENTAL AND ECONOMIC RISKS WITH DEFENSIBLE CALCULATIONS ARISING THEREUNDER.]As per comments rendered at the virtual hearing conducted as to the within proposal of "Ocean Wind 1" the Draft Environmental Impact	Impacts on commercial fishing and for-hire recreational fisheries have been analyzed and were described in Section 3.9 of the Draft EIS. Chapter 3 of the Draft EIS provided an analysis of the direct, indirect, and

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	<p>Statement contains woefully inefficient calculations or in many instances not even references to the vast economic and environmental value of the tracks of ocean involved the commercial and recreational fisheries and indeed the value of the ocean environment and certain species in and of themselves. Such a comprehensive scientific cost benefit analysis is required under NEPA as well as BOEM's own Mission Statement. Similarly the DEIS does not include the previously referenced NEPA valuation and the potential diminution of value in cumulative and indirect impacts of the project. Again as I have argued previously at various BOEM related forums the value of the fisheries from an environmental standpoint and simply as a current and future life generating food source for future generations has been seriously discounted if not totally ignored. The statutory outlines enacted under the National Environmental Policy Act (NEPA) and BOEM's own Rules and Regulations require such an economic analysis. The current DEIS contains a paucity of such information and barely attempts calculations necessary to reference the vast risks involved in the current proposals and collateral damage and quantifiable defensible true values associated therewith. As difficult as this process might be a comprehensive evaluation process must be engaged in. This area of valuable ocean eco-system along with its current value a cost benefit analysis of various risks to fisheries our commercial and recreational fishing industry the values of species themselves our tourism industry and the impact upon the shore and shipping all should be factored into such assessments and conclusions. Such an evaluative cost benefit analysis of the cumulative and indirect impacts the various risks and current values of the eco-system and the species of fishes involved is an essential undertaking in order to appropriately consider the within narrow yet massive proposal along with the other eleven (11) other projects proposed off the New Jersey/New York coastline. Additionally as per testimony rendered on the virtual record the current DEIS factually ignores the inevitable impact from at least one devastating hurricane or storm event during the construction operation and dismantling/decommissioning phase of even one of these gigantic industrial projects. Absent such a study I would again urge BOEM to reconsider the current proposal as configured. I would respectfully urge BOEM thoroughly to consider the numerous reasonable alternatives including but not limited to more readily achievable already scientifically vetted faster and safer onshore land-based energy alternatives. In the rush to judgment and zeal in fueling the non-scientific rubber stamp of the within windfarm project I fear that this proposal if granted even with minor modifications will once again run the risk of making the precious ocean off the New Jersey Shore an industrial pollution generating dumping ground.</p>	<p>cumulative impacts of the proposed Project.</p> <p>Section 2.2, <i>Non-Routine Activities and Events</i>, of the Final EIS describes how WTGs are designed to sufficiently withstand severe storm events.</p> <p>BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Lease Area.</p>

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TRANS-0003-0004	Construction and operations of Ocean Wind 1 will require ships that are specifically suited for these purposes but no such vessels have been built in the U.S. to date. In fact 27 special ships will be needed to be built to support offshore wind in New Jersey. Given these requirements and production constraints how can Ocean Wind 1 possibly meet the timeline that's been proposed in its COP.	Ocean Wind is not required to use vessels built in the U.S. to support the construction, O&M, and decommissioning of the proposed Project. Chapter 2, Section 2.1.2.2.3, describes how the Project would make use of both construction and support vessels.
TRANS-0010-0002	A delay in the project is not in our interest. Therefore to the extent possible we ask BOEM to work with the project to incorporate the minor relocation of the substation to the location preferred by the township the project and the current property owners and ongoing environmental review without causing an impact to the project schedule. The change in location is only a matter of approximately 500 feet. The township does not see any environmental impact by permitting a relatively limited change to the substation location. In fact there appears to be less environmental impact including less wetlands impact at the new proposed site. We are confident that without regulatory hurdles these changes could be accommodated without significant delay to the overall project.	Ocean Wind submitted an updated COP to BOEM on October 14, 2022, which included the shift of the BL England substation approximately 500 feet northwest within the same parcel. The description of the Proposed Action and impact analysis in has been updated in the Final EIS.
TRANS-0069-0005	How is moving forward with such large scale industrial development with all these identified uncertainties as well as the major and moderate impacts identified in the DEIS responsible and reasonable. There needs to be more transparency and due process. It's estimated that facilities will last 20 to 25 years in the harsh offshore conditions. What is the decommissioning plan for this project. There are clearly environmental impacts that will be associated with decommissioning when will decommissioning get assessed and considered in this whole review process.	Section 2.1.2.4 of the Final EIS describes decommissioning of the proposed Project. The conceptual decommissioning plan, as proposed by Ocean Wind, is analyzed in the Final EIS. BOEM would require Ocean Wind to submit a decommissioning application for technical and environmental review.
TRANS-0069-0008	In addition there is much focus that needs to be made overall on energy waste and the alternatives. How is energy waste being addressed by the Ocean Wind 1 project. According to the Energy Information Administration or EIA 66 percent of the primary energy used to create electricity is wasted by the time the electricity arrives at the customer meter. No matter what energy is created so much is wasted. Offshore wind is no different as a name plate energy promise is not what will reach customers. Can we need less energy generating facilities and less environmental impacts by focusing and reducing waste and improving efficiency. In many cases efficiency investments are the cheapest way to control electricity costs and needs.	Section 1.2 of the Final EIS notes that 1,100 MW is the nameplate capacity of the Project and the Ocean Wind's annual OREC allowance is 4,851,489 MW-hours per year per the 2019 award by BPU. Furthermore, footnote 1 in Table 2-1 notes that capacity factor plays a role in estimating the expected annual energy production, and for the Project would most likely vary between 45 percent and 63 percent.

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Alternatives Considered but Not Analyzed		
1048-0008	I also am shocked that you would consider using old technology- there are floating turbines that can be placed further out do not blast the sea bed! Sea bed blasting will be detrimental to the ocean ecosystem and marine mammals! I ourpose the ide of floating turbines if this project moves foward AND at minimal push this back into the ocean as we are no different then the folks in the Hampton's- you sited adverse visual impact on the scenic water shed! There are no other projects such as this using this gigantic turbines in close proximity to thriving coastal communities!	Alternative wind turbine foundations were considered by Ocean Wind, but were not suitable for development of the Project due to local site conditions as well as technical and supply chain considerations. BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Renewable Energy Lease Number OCS-A 0498. Additional detail is provided in Table 2-3, <i>Alternatives Considered but not Analyzed in Detail</i> .
1259-0003	The Draft EIS fails to consider a true No Action Alternative which would focus on energy-use reduction through conservation and efficiency land-based renewables and improvements to transmission nor a pilot-sized alternative to the massive industrial complex proposed.	BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Lease Area.
Relocate Project Outside the Lease Area		
0658-0008	Advocate for a superior alternative gov't approved Hudson South Call Area at 30-57 mi out will produce MORE WIND & be SAFER for our marine life and recreational visitors.	In the Draft EIS (Chapter 2, Table 2-3), BOEM considered but dismissed from further consideration alternatives for alternate locations for the wind energy facility outside of the Lease Area. Additional information regarding the feasibility of the Great Egg Harbor inlet export cable route has been added to the Final EIS in Appendix C. BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Lease Area. This alternative would effectively be the same as selecting the No Action Alternative.
1048-0010	Consider the Hudson south site as an alternative compromise to elucidate some of the adverse impacts this will have both on the whales and the coastal communities irises- but also co sister floating turbines as a replacement for this already antiquated technology.	
1183-0002	I respectfully request that strong consideration is given to Hudson South Call Area - already approved by the federal government for wind turbines as a more appropriate location for a wind farm of this magnitude. The proposed plan is the most dense tallest and closest wind farm in the world.	
1187-0001	[Italics: The DEIS Does Not Analyze Relocation Outside the Lease Area] Another alternative is listed as "considered by not analyzed in detail": moving the project further offshore. Moving the wind energy facility further offshore would mitigate its visual impact on the ocean shoreline beach and dune areas as well as the seascapes with national state or local designations listed in Table 3.20-4 which include the Ocean City Boardwalk Wonderland Pier and Ocean City's beaches jetties and piers. All of these assets are designated as high-sensitivity	

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	seascapes areas and as such are "highly vulnerable to the type of change proposed distinctive and highly valued by residents and visitors." DEIS page 3.20-6 The DEIS indicates that BOEM's regulations require it to analyze the proposal to build within the lease area. By failing to evaluate the degree to which the negative impacts of the proximity of this project to Ocean City could be mitigated or eliminated through an extension or modification of the lease area BOEM tacitly accepts the negative impacts as inevitable. BOEM's DEIS cannot be considered to be complete until BOEM has considered the benefits of moving this project further out to sea and balancing those benefits against the negative impact of having the WTG's offshore of Ocean City for 25 years.[Underlined: Conclusion] The construction of the Ocean Wind 1 project is treated in the DEIS as a foregone conclusion regardless of its impact on Ocean City and its natural resources. Ocean City requests that BOEM perform a comprehensive evaluation of the utilization of the Great Egg Harbor route between the WTGs and BL England and a comprehensive evaluation of the benefits of shifting the entire project further away from Ocean City's shoreline.	
Pilot Project		
TRANS-0042-0002	I also repeat Clean Ocean Action's request for a pilot project off the New Jersey coast before you rush ahead with industrial scale offshore wind development off our shores	In the Draft EIS, BOEM considered but dismissed from further consideration an alternative to build a much smaller pilot facility to confirm the benefits and impacts before building out the complete Project as proposed. Additional detail is provided in Table 2-3, <i>Alternatives Considered but not Analyzed in Detail</i> , in the Final EIS.
1259-0015	COA urges BOEM to select an alternative not considered by the Draft EIS- "Alternative F"-involving a pilot OSW off the NJ coast which will avoid the risks and harms posed by Ocean Wind 1 as currently proposed to NJ and the region.	
1259-0013	Moreover there is no demonstrated need to rush straight into industrial-scale OSW off the NJ coast without a local pilot project.	
1259-0023	In light of the foregoing reasons especially the lack of due process and lack of analysis concerning cumulative impacts to which this project will contribute Clean Ocean Action urges BOEM to pursue a pilot-scale offshore wind development project before allowing Ocean Wind 1 to move forward at the proposed industrial scale.	
1259-0028	Finally no reasonable pilot project has been conducted to make meaningful comparisons for the large-scale offshore wind development of the Proposed Action. Despite assurances that data from OSW in Europe or the five-turbine project off Rhode Island can justify the safety of Ocean Wind 1 near New Jersey these claims are not appropriate for reasons expanded upon below in Section 2. Given the scientific uncertainty lack of transparency and extensive onshore and offshore impacts of Ocean Wind 1 as well as the size scope and scale of this	

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	new industrial development of a public resource Clean Ocean Action recommends BOEM consider a new alternative: Alternative "F" a pilot-scale sized project. A pilot project would allow the information needed to understand the risks and impacts of this development on resources and communities before large-scale development such as the Proposed Action would occur.	
1243-0004b	During all three public hearings on Ocean Wind 1 many commenters requested that the development of Ocean Wind 1 proceed slowly with a pilot project first before constructing all 98 of the proposed turbines. Responses from BOEM have stated that there are 2 pilot studies being conducted now one off VA (Dominion Energy) and the other off RI (Block Island Sound) but the BOEM responses fail to state the failures being experienced at the Block Island Sound site where only 1 of the 5 turbines (6.5 MG) is operable since the transmission cable was incorrectly installed and became unearthed from the sea bottom. The RI rate payers are now having to finance the correct installation of the main transmission cable at considerable cost. I have heard of no problems with the Dominion Energy site perhaps they have learned from the catastrophe that occurred off Block Island.	
1259-0197	Additionally BOEM failed to consider an "Alternative F" whereby a pilot OSW project is performed off the New Jersey coast before moving ahead with industrial scale development which unnecessarily forecloses the most effective path for resolving the many outstanding environmental logistical and economic unknowns that continue to persist with respect to OSW off NJ. Both of these omissions in BOEM's Alternatives analysis must be fully incorporated and addressed in the Final Environmental Impact Statement ("Final EIS") for Ocean Wind 1.	
1259-0030	The Draft EIS wrongfully fails to consider a pilot project. Clean Ocean Action suggests an "Alternative F" that would require a pilot offshore wind energy project to be conducted off the New Jersey coast before rushing into industrial-scale development. This is a reasonable alternative and should be fully evaluated in the DEIS. Experience with this new industry is lacking not only in New Jersey and New York but across the United States as well. Thus there are simply too many remaining unknowns associated with offshore wind development of this scale in this area. The cost and economic viability of offshore wind energy for example is actively undergoing much scrutiny around the country [Footnote 13: Sarah Vogelsong What's 'reasonable and prudent' when it comes to Dominion offshore wind project's costs? Virginia Mercury (May 16 2022) https://www.virginiamercury.com/2022/05/16/whats-reasonable-and-prudent-when-it-comes-to-dominion-offshore-wind-projects-costs/ .] while	In the Draft EIS, BOEM considered but dismissed from further consideration an alternative to build a much smaller pilot facility to confirm the benefits and impacts before building out the complete Project as proposed. Additional detail is provided in Table 2-3, <i>Alternatives Considered but not Analyzed in Detail</i> , in the Final EIS. The Final EIS assesses impacts that could result from construction, O&M, and conceptual decommissioning of the proposed Project using reliable existing data and resources in accordance with 40

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	<p>uncertainty also continues to abound with respect to the degree to which offshore wind-related development in coastal areas will exacerbate local sea level rise.</p> <p>One of the main reasons why so much remains unknown about Ocean Wind 1's true environmental and economic impacts is because the project is being justified based on studies from the wind farm at Block Island Rhode Island and others from European projects. However neither of these are appropriate comparisons for offshore wind energy development off the New Jersey coast. These projects and their local environments are not comparable to the Ocean Wind 1 lease site or the NewYork/New Jersey Bight more generally. In fact recently studies on OSW development in the Mediterranean Sea have observed that North Sea or Baltic Sea OSW may not be comparable due to changes in ocean bathymetry and other factors. [Footnote 14: See Josep Lloret et al. Unravelling the ecological impacts of large-scale offshore wind farms in the Mediterranean Sea 824 Science of the Total Environment 153803 (2022) https://www.sciencedirect.com/science/article/pii/S0048969722008956.]</p> <p>This supports COA's opinion that the NY-NJ OSW region must be viewed as its own entity and studied more thoroughly. To start the waters of the North Sea and Northern Europe do not have nearly as much variety of marine mammals including the critically endangered North Atlantic Right Whale. Second New Jersey has warmer waters than Northern Europe or Rhode Island ("RI") and turbines placed off the NJ coast will realistically need to be able to withstand Category 3 or Category 4 hurricanes. Offshore turbines have not had to withstand weather events of that magnitude in Europe or Rhode Island. Similarly studies from Europe or Block Island are inapt because they involve different technology than the type that will be used by Ocean Wind 1. Block Island Wind Farm for example uses six (6) megawatt ("MW") turbines with brace-jacket foundations which plainly contrast with the twelve (12) MW turbines using monopile foundations expected to be found at Ocean Wind 1.</p> <p>BOEM must recognize that a pilot project offers value for more than matters of quantitative scientific observation-which is why the logistic importance of a local pilot project cannot be overstated. Siting five 6-MW turbines off the coast of Rhode Island for the wind farm at Block Island is hardly the same as siting nearly 100 12-MW turbines in the waters off New Jersey which include vital shipping lanes for one of the busiest ports in the country. Studies such as the one by Strobach et al. (2018) on the impacts of inland terrain on offshore wind development in Maryland for example reconfirm that a lot of factors remain unknown and need to be investigated in greater depth and detail in the proposed</p>	<p>CFR 1502.23.</p> <p>Section 2.2, <i>Non-Routine Activities and Events</i>, of the Final EIS describes how WTGs are designed to sufficiently withstand severe storm events.</p> <p>Impacts of the proposed Project on navigation and vessel traffic are described in Section 3.6 of the Final EIS.</p>

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	<p>WEA and this Project. While there are definitely some aspects of the Rhode Island process that would benefit the development of offshore wind near NJ such as the creation of a Special Area Management Plan before completing the BOEM review process neither it nor the European studies are appropriate scientific or logistical stand-ins for New Jersey's uniquely busy coast.</p> <p>A small local pilot project that uses the proposed technology and can be robustly evaluated before during and after construction is the only way to address the shortcomings identified above and begin the path toward responsible development of offshore wind energy in these waters through a process that reflects fair responsible and good governance.</p>	
0948-0002a	<p>POINT IIPRIOR TO ANY FURTHER REVIEW AS TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT A COMPREHENSIVE SCIENTIFICALLY DEFENSIBLE PILOT PROJECT SHOULD BE PROPOSED AND IMPLEMENTED WITH THOROUGH SCIENTIFIC REVIEW IN THE VETTING PROCESS. If BOEM elects to proceed with the current far too limited comment period available I would again respectfully request that the Draft Environmental Impact Statement be redirected toward the implementation of a useful pilot project from which numerous scientific economic studies could also be generated. Such a pilot project would then facilitate comprehensive review scientific scrutiny and a true economic cost benefit analysis of the more extensive project proposed and the eleven (11) other pending projects off the New Jersey Coast. While wind power and perhaps even some proposals entailing offshore wind energy combined with onshore projects may ultimately become part of a vital environmentally acceptable component and aspect of New Jersey and the nation's energy needs the within project simply is too much too fast! (emphasis added).</p> <p>As commented upon during the virtual public hearings there does not exist a full reliable and realistic pilot project from which accurate scientific conclusions could realistically be drawn. The mere five (5) windmills of less dimensions existing off the Rhode Island Coast in no way adequately can compare to the large industrial project of ninety-eight (98) turbines as tall as New York's Chrysler Building which are now proposed for industrialization just off the Coast of Atlantic City. With blades taller even than the Statue of Liberty the turbines for these ninety-eight (98) turbines proposed for Ocean Wind 1 must be reviewed with a realistic scientific eye to take into account the cumulative impact of the other nine hundred (900) turbines also currently pending for construction off the Coast of New Jersey. Not only is the Rhode Island site inadequate for scientific review and transferable studies of impact so too the European sites referred to</p>	<p>BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Lease Area. In the Draft EIS, BOEM considered but dismissed from further consideration an alternative to build a much smaller pilot facility to confirm the benefits and impacts before building out the complete Project as proposed. Additional detail is provided in Table 2-3, <i>Alternatives Considered but not Analyzed in Detail</i>, in the Final EIS.</p>

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	<p>in the Orsted and PSE&G's industrial proposal are not constructed in such a valuable biologically diverse economically vital section as the magnificent Coastal waters off the State of New Jersey. In no way does the diversity of marine life the wealth of commercial and recreational fishing industries the vast economic wealth of tourism and the precious food sources and ocean areas which currently have threatened species all off of New Jersey's Coast compare to what the applicant has wrongfully characterized as existing "Pitot Projects." Besides the above referenced numerous vital concerns and inadequately studied impacts the Ocean Wind 1 project is proposed for construction in one of the most vulnerable areas of massive hurricane and storm events as exists in the world. Inevitable pollution generating impacts will take place during the construction operation and decommissioning stages of this gigantic industrial project proposed along with the currently pending eleven (11) additional projects off our most valuable New Jersey Coast.</p> <p>Accordingly a true and exact pilot project must be envisioned by all "Stakeholders" to learn of the numerous unexplored and even unknown impacts of the current proposal.</p> <p>Comprehensive independent scientifically proven review and research are critical. This project should technically receive a "no further action" option unless and until an adequate pilot project has been envisioned proposed and subjected to prereview and scientific scrutiny.</p>	
1281-0002	<p>[Bold: PRIOR TO ANY FURTHER REVIEW AS TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT A COMPREHENSIVE SCIENTIFICALLY DEFENSIBLE PILOT PROJECT SHOULD BE PROPOSED AND IMPLEMENTED WITH THOROUGH SCIENTIFIC REVIEW IN THE VETTING PROCESS.]If BOEM elects to proceed with the current far too limited comment period available I would again respectfully request that the Draft Environmental Impact Statement be redirected toward the implementation of a useful pilot project from which numerous scientific economic studies could also be generated. Such a pilot project would then facilitate comprehensive review scientific scrutiny and a true economic cost benefit analysis of the more extensive project proposed and the eleven (11) other pending projects off the New Jersey Coast.</p> <p>While wind power and perhaps even some proposals entailing offshore wind energy combined with onshore projects may ultimately become part of a vital environmentally acceptable component and aspect of New Jersey and the nation's energy needs the within project simply is [<u>Underlined: too much too fast!</u>] (emphasis added)As commented upon during the virtual public hearings</p>	<p>BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Lease Area. In the Draft EIS, BOEM considered but dismissed from further consideration an alternative to build a much smaller pilot facility to confirm the benefits and impacts before building out the complete Project as proposed. Additional detail is provided in Table 2-3, <i>Alternatives Considered but not Analyzed in Detail</i>, in the Final EIS.</p>

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	<p>there does not exist a full reliable and realistic pilot project from which accurate scientific conclusions could realistically be drawn. The mere five (5) windmills of less dimensions existing off the Rhode Island Coast in no way adequately can compare to the large industrial project of ninety-eight (98) turbines as tall as New York's Chrysler Building which are now proposed for industrialization just off the Coast of Atlantic City. With blades taller even than the Statue of Liberty the turbines for these ninety-eight (98) turbines proposed for Ocean Wind 1 must be reviewed with a realistic scientific eye to take into account the cumulative impact of the other nine hundred (900) turbines also currently pending for construction off the Coast of New Jersey.</p> <p>Not only is the Rhode Island site inadequate for scientific review and transferable studies of impact so too the European sites referred to in the Orsted and PSE&G's industrial proposal are not constructed in such a valuable biologically diverse economically vital section as the magnificent Coastal waters off the State of New Jersey. In no way does the diversity of marine life the wealth of commercial and recreational fishing industries the vast economic wealth of tourism and the precious food sources and ocean areas which currently have threatened species all off of New Jersey's Coast compare to what the applicant has wrongfully characterized as existing "Pilot Projects." Besides the above referenced numerous vital concerns and inadequately studied impacts the Ocean Wind 1 project is proposed for construction in one of the most vulnerable areas of massive hurricane and storm events as exists in the world. Inevitable pollution generating impacts will take place during the construction operation and decommissioning stages of this gigantic industrial project proposed along with the currently pending eleven (11) additional projects off our most valuable New Jersey Coast.</p> <p>Accordingly a true and exact pilot project must be envisioned by all "Stakeholders" to learn of the numerous unexplored and even unknown impacts of the current proposal. Comprehensive independent scientifically proven review and research are critical. This project should technically receive a "no further action" option unless and until an adequate pilot project has been envisioned proposed and subjected to pre&shy; review and scientific scrutiny.</p>	

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Great Egg Harbor Inlet Alternate Route		
1187-0001	<p>DEIS page 2-35. BOEM has ignored the requests to consider the alternative Egg Harbor inlet route for reasons which are specious despite the undisputed facts that the preferred path directly impacts Ocean City's beaches and wetlands and that this impact would be eliminated but for Ocean Wind's refusal to use the Great Egg Harbor inlet for the export cable route. Two of the conditions cited as insurmountable in Great Egg Harbor inlet exist in Barnegat Bay yet Ocean Wind has devised means of dealing with them.</p> <p>First Ocean Wind claims that sediments in the Great Egg Harbor inlet are dynamic requiring additional cable protection such as cable mattresses which would result in additional impacts on natural resources. Ocean City acknowledges that the Great Egg Harbor inlet contains dynamic sediments. The same is true of Barnegat Bay which tradition says was originally named "Barendegat" or "inlet of the Breakers" in recognition of its shoals and breakers [Footnote 1: Lloyd John Baily. "Eighteen Miles of History on Long Beach Island." p. 42. 1994 Down The Shore Published and The SandPaper Inc.]. It is to be expected that additional cable protection would be required in these inland waterways. Ocean Wind deems this condition which could require additional cable protection such as cable mattresses to be fatal to the use of the Great Egg Harbor inlet route. Yet in its plan to cross through the Barnegat Bay for the Oyster Creek project Ocean Wind proposes to develop a Cable Burial Risk Assessment and "in the event cables cannot achieve proper burial depths or if cables would cross existing infrastructure" Ocean Wind has options including (1) rock placement (2) concrete mattress placement (3) frond mattress placement (4) rock bags or (5) seabed spacers. ([Italics: emphasis added]). Page 2-14 BOEM should question why the use of cable mattress is unacceptable in Great Egg Harbor inlet but acceptable in Barnegat Bay.</p>	<p>Alternatives to onshore export cable routes, including use of Great Egg Harbor Inlet for the export cable route, were considered but dismissed from further consideration, as discussed in Table 2-3, <i>Alternatives Considered but not Analyzed in Detail</i>, in the Final EIS. Additional information regarding the feasibility of the Great Egg Harbor inlet export cable route has been added to the Final EIS in Appendix C.</p>
1187-0001	<p>Ocean Wind's second basis for rejecting the Egg Harbor inlet route is that the access to the inlet by other vessels would be restricted during construction. Construction in Barnegat Bay would similarly interfere with normal navigation yet this is not a disqualifying problem for the preferred route to Oyster Creek. Further elsewhere in the DEIS this concern is addressed and dismissed: Anchoring vessels used in the construction of offshore wind energy projects would pose a navigational hazard to fishing vessels. All impacts would be localized (within a few hundred meters of anchored vessel) and temporary (hours to days in duration). Although anchoring impacts would occur primarily during project construction some impacts could also occur during O&M and conceptual decommissioning. Therefore the adverse effects of offshore wind</p>	

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	<p>energy-related anchoring on commercial fisheries and for-hire recreational fishing are expected to be long term and minor though periodic in nature. (emphasis added) DEIS page 3.9-29</p> <p>Additionally restriction of other vessels during construction in this wide inlet does not equate to a closure of the inlet. Navigation would continue during the temporary period of construction as it did during the construction of the Ocean City-Longport Bridge in and around 2002. By contrast the preferred route would traverse a much much narrower but equally heavily traveled Peck's Bay. The impact on navigation would arguably be much greater in this preferred bay crossing. The reduced distance between the WTGs and BL England utilizing the preferred route likely translates to lower costs for Ocean Wind however it requires disturbance of the barrier island beach and wetlands. This disturbance would be eliminated by utilizing the Great Egg Harbor route. A comprehensive evaluation comparing the preferred route to the Great Egg Harbor inlet route is necessary.</p>	
1187-0001	<p>The third and final reason listed in the DEIS for abandoning the Egg Harbor inlet route is the existence of an USACE borrow area at the mouth of the inlet. The US Army Corps of Engineers borrow area is on the Ocean City shoreline of this wide inlet. There has been no analysis of whether this inlet could be used as a path between the WTGs and BL England without impacting the borrow area through strategic placement of the cable. It should be noted that this allegedly disqualifying condition did not prevent the 2000 to 2002 project for the reconstruction of the Ocean City-Longport bridge which spans the Great Egg Harbor inlet. Ocean City objects to BOEM's apparent acceptance of Ocean Wind's excuses for eliminating the Great Egg Harbor inlet route. BOEM's DEIS cannot be considered to be complete until BOEM has evaluated the Great Egg Harbor inlet route.</p>	

O.6.3 Air Quality

Table O.6.3-1 Responses to Comments on Air Quality

Comment No.	Comment	Response
0007-0012	Impact on Global Climate Change: The DEIS makes it clear in Appendix L.3 that one of the objectives of the Proposed Action is to combat climate change. The DEIS further makes it clear that the Proposed Action in itself will have negligible impact on global climate change. I concur. When compared to the increase in global emissions of greenhouse gases resulting from expanded use of coal by China and India and more recently a return to coal in Europe the Proposed Action will have no noticeable impact on climate change. When BOEM addressed impact on climate change did they take into consideration the increased use of coal by several European countries and by China and India which is likely to be both short and long term. Such use has eliminated all the gains in the U.S. as it switched from coal to natural gas for electric generation. Globally there are increases in greenhouse gas emissions that far exceed any small reductions resulting from the Proposed Action. Increased use of coal oil natural gas and other fossil fuels short term and continued long term use of these fossil fuels by China India and other countries should be considered as part of Foreseeable Impacts for each of the environmental issues and scenarios analyzed in the DEIS for the Proposed Action and for the No Action Alternative.	BOEM expects the Proposed Action to lead to reductions in fossil fuel usage in the U.S. The Proposed Action would not affect fossil fuel use in other countries. Any increased use of fossil fuels in other countries would add to the overall human impacts on climate.
0222-0011	I have yet to see a [Bold: definitive statement on the Carbon Neutrality] of the project?	The Project over its lifetime would be carbon negative because the reduction in carbon emissions from fossil fuels would be greater than the increases from Project construction, operation, and decommissioning.
0658-0004	Unsupported Science & Math. Paltry climate impact. Alternative energy benefits of this destructive project will likely delay future sea level rise by about 9 days in 2100.	BOEM concurs that the Project would have a beneficial impact, even if small, on global climate change.
0658-0007	Turbines reduce shore breezes & increase air temperatures in surrounding areas.	Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures downwind depending on local meteorological

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		<p>conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 15 miles), substantial effects on wind speed and temperature are unlikely to occur over land.</p>
0837-0003	<p>"In reference to the Project Ocean Wind 1 has been awarded a commercial Renewable Energy Lease OCS-A-0498 for the purpose of an offshore wind energy farm. The legal basis for the development of this Project is cited as Executive Order (EO) 14004 [Italics: Tackling the Climate Crisis at Home and Abroad]. One of the primary goals of EO 14008 is to conserve our lands waters and biodiversity through clean energy technologies and infrastructure. While wind energy is presented to the general public as clean energy the details of the Project present a counterargument to the basic tenets of EO 14008. ""Each WTG will contain approximately 1585 gallons (6000 liters) of transformer oil and 146 gallons (553 liters) of general oil (for hydraulics and gearboxes). Use of other chemicals would include diesel fuel coolants/refrigerants grease paints and sulfur hexafluoride. COP Volume I Section 8.1 provides additional details related to proposed chemicals and their anticipated volumes (Ocean Wind 2022)"" [Footnote 2: BOEM. Ocean Wind 1: Draft EIS 2-10.] Spillage of oils in the WTGs can occur during transportation construction maintenance and decommissioning. In addition to the oils WTGs contain sulfur hexafluoride (SF6). This is noteworthy because the Environmental Protection Agency (EPA) identifies SF6 as the [Italics: most potent] greenhouse gas known to date. ""Over a 100-year period SF6 is 22800 times more effective at trapping infrared radiation and an equivalent amount of carbon dioxide (CO2). SF6 is also a very stable chemical with an atmospheric lifetime of 3200 years. As the gas is emitted it accumulates in the atmosphere in an essentially un-degraded state for many centuries. Thus a relatively small amount of SF6 can have a significant impact on global climate change.""[Footnote 3: United States Environmental Protection Agency (EPA) ""Sulfur Hexafluoride (SF6) Basics"" accessed August 2022 https://www.epa.gov/eps-partnership/sulfur-hexafluoride-sf6-basics.] Further the EPA addresses the circumstances that could result in a spillage of SF6. ""SF6 containing equipment is designed to avoid emitting any of this gas into the atmosphere. However SF6 gas can inadvertently escape into the atmosphere as leaks develop during various stages of the equipment's lifecycle. In some cases significant leaks can occur from aging equipment. Gas can be</p>	<p>The EIS analyzes the potential impacts of chemical spills and sulfur hexafluoride. Section 3.21, <i>Water Quality</i>, discusses chemical spills and Section 3.4, <i>Air Quality</i>, discusses sulfur hexafluoride leakage.</p>

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	<p>released at the time of equipment manufacturing installation maintenance and services and de-commissioning." [Footnote 4: EPA "Sulfur Hexafluoride"]</p> <p>Due to the scale of installing maintaining and decommissioning 1370 WTGs the likelihood of spillage is a credible threat to the environment. Moreover this example is just one viable danger raised by the instant Project. All projects will require offshore substations offshore export cables offshore substations interconnector cables onshore substations onshore export cables and onshore interconnector cables. The combination of these activities will impact the plethora of resources discussed within the DEIS such as Marine Mammals Birds Vessel Navigation Commercial Fisheries Birds and Tourism."</p>	
0984-0011	<p>Table S-2 Summary and Comparison of Impacts Among Alternatives. [Bold: That need Mitigation Measures] 3.4 Air Quality</p> <p>The manufacturing production placement maintenance and decommissioning all has a direct impact and indirect impact on air quality that needs to be captured in unrelated carbon credits by the applicant. The intentional "Greenwashing" by the applicant and quite frankly by BOEM in the analysis of the application is with intent to fraud the public. A criminal investigation by the US Attorney General should be initiated. The applicant and BOEM should be held accountable. The suggestion that the United States needs to create more air pollution to build a temporary Industrial wind utility energy site at sea to reduce air pollution is a fraud on the American People. The applicant has failed to provide the effects of all the air pollution created by the additional vessels needed to develop the energy industrial site. Most of the Jersey Shore municipalities already suffer from ozone alerts for air quality. The construction of an Industrial site that adds to the air pollution will where food deserts and the largest population in an area where minorities of color live is a violation of the states Environmental Justice legislation. There is also scientific evidence that the manufacturing of steel in Pennsylvania is the number one non-direct contributor to water pollution in Barnegat Bay NJ. The additional air born pollutants from the manufacturing of the industrial turbine masts will have a [Bold: Major Impact] on the estuary.</p>	<p>As discussed in EIS Section 3.4, <i>Air Quality</i>, the analysis accounts for the impacts of vessels and equipment used to construct the Project. Once operational, the wind energy generated by the Project will displace fossil-fueled power and the associated emissions, which will result in a net reduction in pollutant emissions that will benefit regional air quality.</p>
0984-0058	<p>BOEM is aware of future wind activities that are being and should be forthcoming with any conversations that have not been put as formal applications. The applicants acknowledgment of the impacts of GHG on coastal fauna is stated but fails to quantify the increased GHG the manufacturing of the components installation maintenance of the industrial offshore wind Development site will generate. The applicant has also failed to address the sale of the carbon credits or the deductions of carbon output by investors in the project. By not including the cumulative impact of GHG on the fauna it leaves the</p>	<p>EIS Section 3.4, <i>Air Quality</i>, discusses and quantifies GHG emissions from construction and maintenance of the Project.</p> <p>The Project would, by displacing fossil-fueled electricity generation, lead to reductions in regional GHG emissions.</p>

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	door open to increase the value of the sale of GHG carbon credits. By reducing the value of the GHG carbon credits the economic valuation of the industrial wind development zone may not be economically feasible and in direct violation of the EO BOEM uses to further this applicants request.	Such reductions are not, in themselves, carbon credits. Ocean Wind currently does not plan to create carbon credits based on the Project.
0984-0077	The reference to Climate change by the developer does not but should be in regards to the impact of the mixing of the three stratus of air by the turbines during slack tide in the cold water pool area. Wind wave development will take place and is scientifically proven to do so. This additional moisture coming to land during the sea breeze after a tide change in the mornings will have a [Bold: major impact] on tourism. Even if the wind waves don't make it to land How much is seeing the sun rise worth? On the occasions that they do make it to land [Bold: major impact] to Agricultural will be felt. There is already a study being conducted to identify what farms will be affected and the reduction in crop selection. Depending on the additional moisture levels and the salinity a buy out program maybe required by the developer for properties. A president has already been established in the courts where properties around cogeneration plants had to be purchased due to the increased moisture levels and reduction in sunlight that increased the mold count on the properties. A closer analysis of the [Bold: major impacts] on land based tourism animals and agriculture from wind waves needs to be conducted.	Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines do not affect visibility nor the amount of sunlight reaching the Earth's surface. Wind turbines increase vertical mixing in the atmosphere and thus can affect meteorological conditions downwind. Increased mixing near the ocean surface can take up moisture from the ocean, increasing the humidity and salinity of the air. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 15 miles), substantial effects on tourism, animals, and agriculture are unlikely to occur.
0984-0097	The representation that the warmer water temperatures impacts "are expected to be localized" is unsupported. The Industrial energy offshore wind zone in this EIS combined with other call sites in the Northeast is over 1500 square miles. I guess if you consider the size of the Atlantic Ocean 1500 square miles could be consider localized; but not in this EIS format. Avoidance of the overwhelming impacts of at sea industrial energy development zones negative climate change impacts that effect many states and industries by foreign investors of an outdated dying industry grasping at any last dollar before they go bankrupt is should be addressed in the EIS. There is no posable reason to approve this application with so many environmental economic and social [Bold: major impacts].	The Draft EIS covers the effects from the presence of wind turbines on water quality under the <i>Presence of Structures</i> IPF in Section 3.21.3.2 and 3.21.5; the analysis includes effects on water temperature. The analysis is based on extensive modeling BOEM conducted in the mid-Atlantic Bight— <i>Hydrodynamic Modeling, Particle Tracking and Agent-Based Modeling of Larvae in the U.S. Mid-Atlantic Bight</i> —cited in Section 3.21 as BOEM 2021c. Details can be found in the report here: https://espis.boem.gov/final%20reports/BOEM_2021-049.pdf . The referenced report indicates the change is less than the natural variance in thermocline depth (40-meter range).

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		Modeled hydrodynamic modeling temperature stratification results showed a relative deepening in the thermocline of approximately 1 to 2 meters and a retention of colder water inside the offshore wind farm area through the summer months compared to the situation where the offshore wind structures were not present.
1012-0017	<p>[Bold: A. Climate Change.] The purpose and need section for the proposed action links the proposed action to Executive Order 14008 titled "Tackling the climate crisis at home and abroad" January 27 2021 and states that the proposed action will "increases resilience to the impacts of climate change". It's not clear exactly what that means but it implies some benefit of the project to climate change. But that is inconsistent with statements in the final environmental impact statement for the Vineyard Wind project which states in Appendix A Table A.8-1-1 that ([Bold: emphasis added]) "Therefore the Proposed Action would have negligible impacts on climate change during these activities and an overall minor beneficial impact on GHG emissions compared to the generation of the same amount of energy by the existing grids. Because GHG emissions spread out and mix within the troposphere the climatic impact of GHG emissions does not depend on the source location. Therefore regional climatic impacts are a function of global emissions.</p> <p>Development of offshore wind projects and the construction implementation operation maintenance and the eventual decommissioning activities would cause some GHG emissions increases primarily through emissions of CO2. However these contributions would be minuscule compared to aggregate global emissions. In context of reasonably foreseeable environmental trends the combined GHG emissions on air quality from ongoing and planned actions including the Proposed Action would likely result in a minor beneficial impact from the net decrease in both GHG emissions and criteria pollutants including ozone precursors such as NOx as fossil-fuel-type facilities reduce operations as a result of increased energy generation from offshore wind projects.</p> <p>[Bold: Overall it is anticipated that there would be no collective impact on global warming as a result of offshore wind projects including the Proposed Action alone] though they may beneficially contribute to a broader combination of actions to reduce future impacts from climate change". In support of this as shown in our comments on the NOI this project will have no appreciable effect</p>	EIS Section 3.4, <i>Air Quality</i> , discusses and quantifies the GHG emission reductions associated with the Project. No single project can reduce GHG emissions enough to produce a measurable climate impact. The Project's GHG emission reductions would make an incremental contribution to reducing climate change.

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	on future sea level rise other than to delay whatever is coming by about 9 days. Therefore reference to a climate change benefit in the Purpose and Need Section should be removed. If it is retained the comment should be supported with numbers quantifying the impact.	
1125-0003	First and foremost the primary environmental benefit of the Project the elimination of an estimated 110 million tons of CO2 over a 25 year operating life is completely lost in the weeds. This is the primary purpose of the Project and the benefit against which the Project's modest and well mitigated impacts must be weighed and balanced.	EIS Section 3.4, <i>Air Quality</i> , discusses and quantifies the GHG emission reductions associated with the Project.
1192-0004-1	"A discussion of Climate Change belongs in every renewable energy project. The DEIS neglects to protect against Climate Change.	EIS Section 3.4, <i>Air Quality</i> , discusses and quantifies the GHG emission reductions associated with the Project.
1192-0010	Based on these facts the Applicant should do everything possible to lower the GHG. This would mean they would not build on wetlands at Oyster Creek (OC) and take state parkland and down 73 trees on Island Beach State Park (IBSP) and build a facility on natural areas. Instead this would be the worst possible siting presentation.[Underlined: Recommendation:] Present the carbon budget for the proposals at Oyster Creek and Island Beach State Park. Explain in detail how this project will contribute to less GHG. Describe the sinks.	The export cable route options on Island Beach State Park were designed to affect previously disturbed areas, such as parking lots, roads, and a maintenance yard, to the extent possible. As stated in Final EIS Section 3.22, <i>Wetlands</i> , impacts on wetlands must be avoided, minimized, and then mitigated. Ocean Wind is proposing purchase of wetland bank credits to compensate for wetland impacts.
1192-0025	Climate Change belongs in every renewable energy project - it is not in this DEIS. Are all of the parts to be used recyclable?	EIS Section 3.4, <i>Air Quality</i> , discusses and quantifies the GHG emission reductions associated with the Project. Project components would be reused where possible. Much of the remaining material would be recycled. Certain components typically are not recyclable and would be disposed of in an appropriate licensed disposal facility.
1259-0103	3. Large offshore wind farms could have an impact on the regional microclimate and likely impact the marine boundary layer and downstream impacts. [Footnote 74: See S.K. Seidersleben Micrometeorological impacts of offshore wind farms as seen in observations and simulations 13 Enviro. Res. Letters 124012 (2018) https://www.nrel.gov/docs/fy19osti/73183.pdf .]	Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures downwind

Comment No.	Comment	Response
		<p>depending on local meteorological conditions. However, these effects dissipate with distance downwind. The referenced paper discusses modeling results indicating that these impacts are only observed in cases of strong stable stratification of the atmosphere at rotor height, allowing the rotor blades to mix warmer air downward. Because of the distance of the Project from land (approximately 15 miles), substantial effects on microclimate are unlikely to occur over land.</p>
1259-0189	<p>Undocumented CO2 Emissions Reduction Clean Ocean Action supports responsible and reasonable offshore wind which must include a local pilot-scale project. However the impacts of offshore wind projects or any industrial development in the ocean must be clearly identified and evaluated. Offshore wind energy is not emissions-free. Renewable energy facilities will result in impacts including emissions that contribute to climate change and affect public health in nearby communities.. The emissions from the activities necessary to prepare build operate maintain and decommission offshore wind energy facilities should not be discounted and must be both included and evaluated in the Draft EIS and Final EIS. The Draft EIS claims the benefits of Ocean Wind 1 will be the reduced exposure to and the displacement of fossil fuel-generated power plants. The Draft EIS claims "the Project would provide beneficial impacts on the air quality near the proposed activities and the surrounding region to the extent that energy produced by the Project would displace energy produced by fossil-fueled power plants." [Footnote 193: DEIS at 3.4-10.] How is this assessed by BOEM? Where is the evidence that offshore wind energy facilities will displace fossil fuel facilities and prove a net reduction in air emissions? The Draft EIS provides no evidence that fossil fuel plants will be taken offline anywhere in the geographic analysis area let alone in all of New Jersey or the United States from the completion of the Proposed Action. Further there is no public commitment by the State of New Jersey NJ Governor NJ Department of Environmental Protection ("NJDEP") or the federal government to close or stop building fossil fuel facilities. Without the proof of fossil fuel facilities being displaced by Ocean Wind 1 how are the impacts of the Proposed Action - as outlined in the DEIS and in Clean Ocean Action's comments - justified and acceptable?</p>	<p>EIS Section 3.4, <i>Air Quality</i>, discusses and quantifies the air quality and GHG impacts from project construction, operation, and decommissioning, including GHG emission reductions from the Project's displacement of electricity generated by fossil fuel combustion.</p> <p>The price at which the Project would sell electricity to the regional grid is expected to be lower than the prices offered by operators of fossil-fueled power plants. Therefore, market forces would lead to less higher-priced electricity purchased from fossil-fueled power plants in favor of lower-priced electricity purchased from the Project. BOEM used its Wind Tool software to calculate the amount of fossil-fuel emissions the Project would displace. It is unlikely that fossil fuel plants would be taken offline or that no new power plants would be built. Rather, existing fossil-fueled power plants would reduce their output or hours of operation. Wind Tool accounts for these changes in calculating the emissions reductions.</p>

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1259-0190	Also the Draft EIS mentions Europe as a cable staging location for the project but the Draft EIS does not include the impacts of shipping components in the calculations of emissions for the project. Does the Draft EIS include the emissions from the production of turbines and components and the activities associated with extracting and processing materials (e.g. steel rare earth elements) in the life cycle analysis for the Proposed Action? If not the Draft EIS and Final EIS must cover these aspects of Ocean Wind 1's environmental impacts.	The EIS includes the impacts of transporting components between ports, staging areas, and the wind turbine area. The EIS does not include a full life cycle analysis including resource extraction and component manufacturing. Text has been added to the EIS noting this and providing references to recent life cycle analyses of offshore wind.
1259-0191	Despite the unsubstantiated claim of displacing fossil fuel facilities Ocean Wind 1 will still have local adverse impacts. The new local ports required for vessel activity from the project will add construction and traffic both on- and offshore as well their associated emissions plus impacts to water quality and public health in local communities. In addition with twenty-four (24) other projects and leased areas for offshore wind energy in the region the Draft EIS does not address the cumulative impacts of emissions from this widespread offshore wind development. According to the Draft EIS "the largest magnitude air quality impacts and largest spatial extent would result from the overlapping operations activities from the multiple offshore wind projects within the air quality geographic analysis area." [Footnote 194: Id. at 3.4-16.]	Section 3.4.5.1 of the EIS assesses cumulative impacts of offshore wind development based on the predicted emissions from the projects.
1259-0192	To conclude the Draft EIS fails to substantiate the claim that the completion of the Proposed Action will displace and close fossil fuel facilities especially in the geographic analysis area. Additionally the cumulative impacts from the combined offshore wind projects that are in various stages of development off the mid-Atlantic region must be identified considered and mitigated to the fullest extent possible in the Draft EIS and Final DEIS.	EIS Section 3.4, <i>Air Quality</i> , discusses and quantifies the air quality and GHG impacts from Project construction, operation, and decommissioning, including GHG emission reductions from the Project's displacement of electricity generated by fossil fuel combustion. The price at which the Project would sell electricity to the regional grid is expected to be lower than the prices offered by operators of fossil-fueled power plants. Therefore, market forces would lead to less higher-priced electricity purchased from fossil-fueled power plants in favor of lower-priced electricity purchased from the Project. BOEM used its Wind Tool software to calculate the amount of fossil-fuel emissions the Project would displace.

Comment No.	Comment	Response
		<p>It is unlikely that fossil fuel plants would be taken offline or that no new power plants would be built. Rather, existing fossil-fueled power plants would reduce their output or hours of operation. Wind Tool accounts for these changes in calculating the emissions reductions.</p> <p>Section 3.4.5.1 of the EIS assesses cumulative impacts of offshore wind development based on the predicted emissions from the projects.</p>
1267-0005	It has been documented that the air temperatures down range of a wind farm are elevated. The ASHRAE Psychrometric Chart No 1 notes the additional pounds of water that will be retained by the warmer air. The project design data held as proprietary is the source of how warm the air will be and the frequency that a location is down range during operations. It was asked during the scoping for this EIS to quantify the expected reduction in rainfall. This question remains unanswered.	Wind turbines increase vertical mixing in the atmosphere and thus can affect meteorological conditions downwind. Increased mixing near the ocean surface can take up moisture from the ocean, increasing the humidity and salinity of the air. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 15 miles), substantial effects on microclimate are unlikely to occur over land.
1275-0003	I wish we could take more time and look closer at the holistic impacts to what we are doing beyond this EIS/COP. When you account for the emissions from the back up generation and marine vessels to build and operate and maintain the WTGs what is the net benefit toward the goal of reducing greenhouse gases and at what financial cost?	EIS Section 3.4, <i>Air Quality</i> , accounts for emissions from generators and marine vessels and discusses and quantifies the GHG emission reductions associated with the Project.
1275-0011	[Bold: Emissions]: have you provided an assessment of the emissions associated with marine vessels needed to service this Offshore Wind Farm the emissions created during construction when they are not operating and backup systems used and performed a life cycle analysis which would compare emissions doing the project and not doing the project? What is the net reduction in GHG's after that evaluation?	EIS Section 3.4, <i>Air Quality</i> , accounts for emissions from marine vessels and discusses and quantifies the GHG emission reductions associated with the Project.
1278-0017	Regarding pollution there is pollution during construction and after construction. During construction the building of up to 98 WTGs up to 900 feet tall per structure and the associated construction barges and support vessels will lead to	EIS Section 3.4, <i>Air Quality</i> , discusses and quantifies the emissions from construction, O&M, and decommissioning.

Comment No.	Comment	Response
	inevitable pollution	
TRANS-0041-0010	Where is the true evidence that offshore wind will take fossil fuel projects offline. This statement is also in the DEIS with no proof of evidence. Offshore wind is touted as an emission free energy where is the evidence that the lifecycle of offshore wind is going to significantly reduce carbon dioxide emissions and at what cost to the ocean	<p>EIS Section 3.4, <i>Air Quality</i>, discusses and quantifies the air quality and GHG impacts from project construction, operation, and decommissioning, including GHG emission reductions from the Project's displacement of electricity generated by fossil fuel combustion.</p> <p>The price at which the Project would sell electricity to the regional grid is expected to be lower than the prices offered by operators of fossil-fueled power plants. Therefore, market forces would lead to less higher-priced electricity purchased from fossil-fueled power plants in favor of lower-priced electricity purchased from the Project. BOEM used its Wind Tool software to calculate the amount of fossil-fuel emissions the Project would displace. It is unlikely that fossil fuel plants would be taken offline or that no new power plants would be built. Rather, existing fossil-fueled power plants would reduce their output or hours of operation. Wind Tool accounts for these changes in calculating the emissions reductions.</p>
0941-0001	<p>Climate Change and Sea Level Rise</p> <p>It is unclear if the plan takes sea level rise (SLR) during the proposed lifetime of the project into account for siting landfalls/TJBs. Certain climate change features (i.e. larger and more frequent storms and SLR) have been recognized to have significant impacts to coastal communities and vulnerable infrastructure including utility facilities.</p>	<p>Additional discussion of how the design for onshore facilities accounts for erosion, more frequent high-intensity storm events, tidal surge, and sea level rise associated with climate change has been added to the Final EIS in Chapter 2, <i>Alternatives</i>, and in Appendix I.</p>

O.6.4 Bats

Table O.6.4-1 Responses to Comments on Bats

Comment No.	Comment	Response
0984-0012	<p>3.5 BatsBats at the Jersey Shore are one of the most necessary animals that contribute to safe tourism. Zika Virus and the West Nile Virus have both been found in mosquitoes along the Jersey Shore. The applicant has failed to properly conduct an audit of the states bat population along the states salt marshes and how the population frequents areas over water especially during a west wind. The use of NJDEP data on the state bat population was developed to identify land based interactions and never analyzed the populations on the states barrier islands. The feeding patterns of the Jersey Shore bats population is not comparable to the land based bat population. The EIS fails to take into consideration the potential [Bold: Major Impacts] on the shore based bat population and the secondary [Bold: Major Impact] of the speed of viruses to Tourists at New Jersey's Beaches.</p>	<p>BOEM addressed the potential impacts on bats in Draft EIS Section 3.5, including both offshore and onshore impacts. As stated in Section 3.5.1, nine bat species occur in New Jersey and eight may be present in the Project area (offshore and onshore [including barrier islands]), and bat activity is relatively low offshore compared to onshore. As stated in the Draft EIS, onshore activities (land disturbance IPF) would result in limited impacts on bats due to the limited habitat removal and implementation of APMs that would avoid and minimize impacts on bats. BOEM looked at the habitats in the onshore environment, including forested habitats and foraging habitats. EIS Section 3.5 has been revised to provide details on the forested habitat acres that would be permanently and temporarily affected. Draft EIS Section 3.22, <i>Wetlands</i>, Table 3.22-3 provides the potential impacts on wetlands, including saline marshes (which could be used for bat foraging). A total of 5.44 acres of saline marsh would have short-term impacts (i.e., the impact would last fewer than 3 years). Other wetland types may have long-term impacts (see Draft EIS Table 3.22-3). The amount of wetland impact compared to all wetlands present within the geographic analysis area is generally less than 1% for the different wetland types (see Draft EIS Table 3.22-3). BOEM does not anticipate</p>

Comment No.	Comment	Response
		<p>whole bat populations to be affected by the Proposed Action. The BA further analyzed impacts on federally listed bats and concluded that the Project <i>may affect, but is not likely to adversely affect</i> federally listed bats.</p> <p>Insectivorous bats have often been touted as a biological control from mosquito populations; however, mosquitoes generally represent only a small proportion of bat diet (Gonslaves et al. 2013). In addition, Joe Conlon, an entomologist with the New Jersey-based American Mosquito Control Associations, states that using bats to control mosquitoes is unrealistic because bats are poor predators of mosquitoes, prefer moths and beetles, and expend far more calories trying to catch mosquitoes than they get from eating them; and mosquitoes make up less than 1% of their foodstuffs (Edgar 2016; Hudak 2018). As such, BOEM does not anticipate the Proposed Action's effect on bats would have any notable impact on mosquitos or viruses mosquitos may be carrying.</p>

O.6.5 Benthic Resources

Table O.6.5-1 Responses to Comments on Benthic Resources

Comment No.	Comment	Response
0390-0019	One of the more overlooked issues associated with OW1 is the introduction of non-indigenous and invasive species which presents a threat to biodiversity. Artificial structures (including Ocean Wind Farm's oil rigs breakwaters and ports) are known to promote the spread of no-indigenous species which can disrupt trophic webs and cause shifts in the populations of native species normally with a negative impact on the overall ecosystem.	Text has been added in Sections 3.6.3 through 3.6.7 to address this comment based on reviews of Bray et al. 2017, Wilding et al. 2017, Adams et al. 2014, Causon and Gill 2018, Krone et al. 2017, and Taormina et al. 2018.
0941-0001	Our review of the Draft Environmental Impact Statement (DEIS) was primarily limited to the activities proposed within the BBP's study area namely the northern landfall of the offshore export cable route the inshore export cable route across the Barnegat Bay and the onshore export cable route substation and connection at Oyster Creek. We were disappointed that a project alternative that solely makes use of uplands and avoids any impacts to the bay's aquatic resources (i.e. SAV shellfishes) was not presented. Two living resources impacted by the proposed project (i.e. eelgrass and hard clams) are identified as holistic ecosystem targets in the BBP's 2021 CCMP and will face continuing and increasing threats as the human population and associated development continue to grow.	As described in EIS Appendix C, Section C.2.3 (<i>SAV Avoidance Alternative E-3</i>), BOEM did consider an alternative for the export cable route that would have made landfall in Ship Bottom and then utilize a bridge crossing via the Route 72 Bridge and a longer onshore cable route to reach the Oyster Creek Point onshore substation. However, through coordination with the New Jersey Department of Transportation, BOEM found that the proposed export cables could not be attached to the Route 72 Bridge due to issues with weight and integrity. In addition, while Alternative E-3 would have resulted in substantially less SAV impacts compared to the Proposed Action, Alternative E-3 would result in substantial adverse impacts on other resources as described in EIS Section C.2.3.1. Therefore, BOEM determined that the alternative was not feasible and dismissed the alternative from further consideration.
0941-0001	Determination of impacts The export cables crossing beneath Barnegat Bay are identified in various maps throughout the DEIS (i.e. S-1 2-1) as "inshore export cables" but the text and tables throughout the document solely reference "offshore" and "onshore"	Impacts of mapped inshore export cables are assessed as part of the offshore export cable that runs from the Lease Area to the cable landfall.

Comment No.	Comment	Response
	<p>impacts (i.e. Appendix E - Project Design Envelope). The same is true between Volumes 1 and 2 of the COP. It is not clear if disturbances to the environment associated with these routes are included in the discussions of "offshore export cable route" "onshore export cable route" or omitted completely. For example in the "Onshore Export Cable Parameters" section of DEIS Appendix E (PDE) the table appears to show no impacts to "benthic resources" or "finfish invertebrates and EFH" associated with the cables traversing Barnegat Bay even though impacts to these resources are identified in Table 2-4 in the DEIS and in DEIS Chapters 3.6 3.9 and 3.13.</p>	
0941-0001	<p>Recommendations</p> <p>The decreased hard clam population in the Barnegat Bay and the slow trajectory of its recovery have led stakeholders to identify hard clam restoration as a high priority within the BBP's 2021 Comprehensive Conservation and Management Plan. The impacts to high and medium density beds from inshore export cable placement and maintenance would have an appreciable negative effect on the resource and therefore the recreational fishery in the bay. Both impacts should be clearly identified and mitigated. We recommend that a hard clam monitoring and mitigation plan be included in any project approvals. Because of the importance of the blue crab resource to the recreational fishery in Barnegat Bay potential project impacts to blue crabs and its fishery should be determined and a monitoring plan implemented with mitigation thresholds developed.</p>	<p>Shellfish beds will be avoided. These and other fisheries are also addressed in EIS Appendix F (Section F.2.10.2): "Four shellfish leases (37 acres) and one research lease occur in the vicinity of Oyster Creek with the primary shellfish growout of oysters and hard clams; however, these areas would be avoided (Ocean Wind 2023)."</p> <p>Blue crabs and hard clams are included in Section 3.13; status and trends in hard clams (Bricelj et al. 2017) are also reported.</p> <p>The EFH assessment for the Project states that blue and horseshoe crab species are known to occur within the Project area. Adults may use the habitat for spawning. Dredging impacts could include increased local total suspended solids, loss of larvae due to suction dredging, or short-term displacement of individuals. However, these impacts are either short term, limited in spatial extent, or insignificant to the success of the species.</p> <p>Hard clams are mapped and evaluated in the EFH assessment.</p> <p>Commercial fisheries are addressed in Section 3.9.</p>

Comment No.	Comment	Response
	<p>With most of New Jersey's remaining seagrass beds located within the Barnegat Bay there is great scrutiny on any projects that would potentially impact them. To accurately assess the impacts of the proposed inshore export cable placement any project approvals should require that SAV surveys be conducted along the entirety of the proposed route(s) in late spring to ensure that the survey captures the maximum density and extent of the seagrass beds and that any future disturbances within the selected inshore corridor over the life of the project are preceded by an adequate survey. While the applicant has proposed to "restore" any damage to seagrass beds (APM Benth-03) the DEIS does not include any information regarding the means of restoration. Any project approvals should include a detailed restoration/mitigation plan that includes active adaptive management. The variable success rates which have been reported in recent seagrass restoration projects (e.g. NJDOT Route 72 project mitigation) lead us to recommend application of the maximum compensatory mitigation ratio and extension of appropriate monitoring so that maintenance restoration can be extended throughout the projected lifetime of the wind project.</p>	<p>SAV surveys completed for the HDD will be used to avoid SAV where practicable, e.g., Peck Bay and Oyster Creek. Ocean Wind developed a SAV Monitoring Plan (June 2022) and SAV Preliminary Mitigation Plan (December 2022) that includes pre- and post-monitoring of SAV along the inshore cable and restoration for impacts that cannot be minimized or avoided.</p> <p>Restoration is anticipated for portions of the Oyster Creek inshore export cable corridor that transits through Barnegat Bay and adjacent to Island Beach State Park, informed by historic distributions of SAV, sediments, and water quality. The plan includes a 3:1 mitigation ratio consisting of mapping efforts, monitoring activities, restoration of documented impacts at an in-situ 1:1 ratio, and additional research to improve SAV mitigation in the future.</p> <p>No impacts on SAV are anticipated along the Roosevelt Avenue/Peck Bay HDD crossing for the BL England portion of the route; therefore, no restoration there is proposed.</p>
0941-0001	<p>Lastly we note that shorelines and associated intertidal habitats will be adversely impacted. The details of the wetland mitigation plan should also be included in any project approvals. We strongly encourage BOEM to require that wetland mitigation activities occur within the same HUC14 as the disturbance when practicable followed by adjoining HUC14s. This practice is consistent the BBP's CCMP which identifies the maintenance of existing wetland extent and buffers as additional ecosystem targets.</p>	<p>Ocean Wind proposes to purchase wetland credits from the Great Bay Wetland Mitigation Bank through Evergreen Environmental, LLC, the mitigation banker. The proposed wetland impacts are entirely within the Geographic Service Area of the Great Bay Wetland Mitigation Bank. The Great Bay Wetland Mitigation Bank is a federally approved mitigation bank with available credits.</p>
0984-0013	<p>3.6 Benthic Resources This is one of the most agrestic sections of the EIS. The intentional carpet bombing and intentional killing of all marine benthic animals for</p>	<p>Impacts of the Proposed Action on benthic resources (SAV and fauna) are expected</p>

Comment No.	Comment	Response
	<p>a one mile radius around each wind turbine is a [Bold: Major Impact].The elimination of benthic sealife that is yet to be documented as endangered or threatened is comparable to the documentary's on the destruction of the South American Rain Forests. The basis for life in the sea is the food chain that starts with thees tiny animals. Scientists have discovered a potentially catastrophic loss of life in our oceans. An Edinburgh-based research team fears plankton the tiny organisms that sustain life in our seas has all but been wiped out after spending two years collecting water samples from the Atlantic. The landmark research blames chemical pollution from plastics farm fertilizers and pharmaceuticals in the water and now Industrial offshore wind development sites. Previously it was thought the amount of plankton had halved since the 1940s but the evidence gathered by the Scots suggest 90% has now vanished. The sea water samples examined by the team were taken from the equatorial Atlantic. The scientists from the Global Oceanic Environmental Survey Foundation warn there are only a few years left before the consequences become catastrophically clear when fish whales and dolphins become extinct with grave implications for the planet. In the report the researchers state: "An environmental catastrophe is unfolding. We believe humanity could adapt to global warming and extreme weather changes. It is our view that humanity will not survive the extinction of most marine plants and animals." The destruction of a resource that is not fully identified but is known to be the basis for all marine life is a [Bold: Major Impact.]</p>	<p>to result primarily from new cable emplacement, noise from pile driving, anchoring (particularly where it may affect SAV), and the presence of structures. Acres of impacts on benthic habitats are listed in Table 3.6-2 in the EIS.</p> <p>Impacts on benthic resources primarily from anchoring, cable emplacement, and presence of structures (and associated invasive species opportunities) include physical disturbance, injury, mortality, short-term to permanent habitat modification/loss, and behavioral changes. Restoration of SAV for impacts that cannot be avoided would be implemented, per the SAV Monitoring Plan and Preliminary Mitigation Plan. Impacts are not expected at a population level. Adverse impacts are anticipated to range from negligible to moderate and adverse.</p> <p>Plankton are addressed in Section 3.13.</p>
0984-0057	<p>Along the Jersey shore there are a variety of species that rely on the sea breeze sand and the different temperate climate. The "Cold Water Pool" creates this environment and has recently been documented to travel into the applicants industrial energy development site. The blending of different atmospheric stratus by wind turbines in the New York bight will have an affect on the choice of fauna that will survive and die.</p> <p>The Federally endangered species Seabeach Amaranth is one that will be at risk along with the other with the change in salinity moisture and heating degree days. The area known as the mud hole is unique there is no other area like it in the world. It has and will continue to be considered for declaration as a United Nations World Heritage Environmental Sight. For its impacts not only at sea but on land such as the Fauna. The failure to acknowledge the scientifically proven and assessable information on wind waves in the cumulative area of the New York Bight the construction any Industrial energy wind Development zone in the area where the cold water pool exists.</p>	<p>Text has been added in Final EIS Section 3.13.3.2, along with additional citations, to address potential impacts on the cold pool. Potential impacts on seabeach amaranth are addressed in EIS Section 3.8 and Appendix G, and in the BA.</p>

Comment No.	Comment	Response
0984-0072	Also the applicant is failing to discuss the [Bold: major impact] of cable failures from webbing within cables if they are buried too deep. This has become a consistent cause of cable failure around the world because of the intent to mitigate marine life damages by burring the cables deeper than the manufacturer intended. The cost of changing the cable manufacturers designs and splicing them together to account different environments Rivers Streams Estuaries Bays Coastal state territorial and federal waters and the sediments associated with them make the cable more susceptible to failure and massive power outages. The east Coast of the United States and the contour of the continent shelf makes the commutative Development of the east coast significantly higher than around the world and has greater anticipation of failure. The applicants claim that seabed alterations will "be short term and would have little impact" on coastal habitat is as far from accurate representation.	Impacts of dredging due to the Proposed Action are addressed for each identified resource in Sections 3.4 to 3.22. BOEM recognizes the importance of subsea cable infrastructure and the non-destructive (for example, Nicholls-Lee et al. 2022) identification and repair of damaged or degraded cables.
0984-0075	Sediment deposition and burial will have major impacts on coastal habitats and require action. The EIS already sites the decrease in submerged aquatic vegetation (SAV) eel grass populations. Studies have proven at an extreme cost that eelgrass cultivation and relocation has over a ninety percent failure rate. The applicant notes that eelgrass bed will be affected. The eel grass is important too many economically valuable species in the coastal states. Grass shrimp snails and crabs all rely on not just the eel grass but waterfowl rely on the widgeon grass that will also be impacted. The American CanvasBack and muted swan whom rely on the eel grass and widgeon grass for their food source will be adversely affected a [Bold: major impact].	Potential impacts of the Proposed Action on SAV and benthic invertebrates are discussed in Sections 3.6 and 3.13 for each of the Project components (e.g., cable installation, WTG presence). Impacts on benthic habitats are considered to be minor to moderate in the EIS. Impacts on birds are analyzed in Section 3.7.
0984-0080	There has already been [Bold: major impacts] on benthic resources. The secondary impact on a large variety of valuable species during surveys have been adversely affected during spawning. The [Bold: major impacts] of lack of benthic resources have decreased the survival rate of this years classes of mackerel bluefish squid and monkfish. Other species will need to be mitigated as well since BOEM continues to grant permits beyond the scope of work approved.	Potential impacts on benthic invertebrates and fish are analyzed in Section 3.13 (<i>Finfish, Invertebrates, and Essential Fish Habitat</i>). Primary factors affecting finfish, invertebrates, and EFH would be noise, cable emplacement, and presence of structures. These are expected to result in short- and long-term, permanent changes to faunal behavior, and habitat modification or loss, but not at the level of population impacts. Adverse impacts would, therefore, range from negligible to moderate on finfish, with the primary impacts on finfish occurring as a result of noise during construction and operation.

Comment No.	Comment	Response
0984-0082 & - 0083	The total benthic resource mortality impact is outrageous. Carpet bombing acres by pile driving acres of capping acres of cables acres of lost anchorage acres of cable placement acres of cable maintenance Plus Plus Plus all has a [Bold: major impact] on micro to small organisms. The basis of the seafood industry will be destroyed for decades and will not recover because BOEM admits that the "Benthic communities forming after disturbances will be of different species than disturbance". BOEMs' reference to the commercial fishing industry and its impacts to the benthic resources has no place in any EIS since the applicant is not from a traditional marine industry. The [Bold: major impact] of the EIS in a nascent industry needs to stand on its own merits.	The impacts on benthic resources (SAV and fauna) are expected to result from primarily new cable emplacement, noise from pile driving, anchoring (particularly where it may affect SAV), and the presence of structures. Acres of loss of benthic habitats are listed in Table 3.6-2 in the EIS. Impacts on benthic resources primarily from anchoring, cable emplacement, and presence of structures (and associated invasive species opportunities, scour, and water column mixing) include physical disturbance, injury, mortality, or short-term to permanent habitat modification/loss, and behavioral changes. Restoration of SAV for impacts that cannot be avoided would be implemented per the SAV Monitoring Plan and Preliminary Mitigation Plan. Impacts are not expected at a population level. Adverse impacts are anticipated to range from negligible to moderate and adverse. WTG structures would benefit some benthic fauna by providing new habitat.
0984-0085	The expansion of aquaculture into the oceans industrial energy zones has been part of the plans to offset the food security issues the question is is how much is BOEM going to permit. The long term goals of aquaculture is a [Bold: major impact] and needs to be included in the EIS.	Four shellfish leases (37 acres) and one research lease are near Oyster Creek; the aquaculture lease may be temporarily affected by cable installation and anchor lines. There is potential for more aquaculture gear utilization to meet growing demand for fish as a food source (Costello et al. 2020), as described in the EIS (Section 3.9).
0984-0086	The proposed development will alter the overall character of benthic resource. The action on benthic resources will be a permanent impact; [Bold: major impact]. The EIS fails to address the utilization of ports that will need to be upgraded secondarily creating additional [Bold: major impact] on benthic	Impacts of the Proposed Action on benthic resources are addressed for each IPF in Section 3.6. Impacts on benthic resources are expected primarily from new cable

Comment No.	Comment	Response
	<p>resources in the port areas and having secondary [Bold: major impact] on marine ecosystems in the estuaries. The benthic resource mortality assumed of 9.7 acres around each of stationary turbines is a excessive and permanent impact when done in the short timeframe established by the offshore wind industry as a whole. The impact will be permanent. The impact of invasive species will be moderate to permanent by the cumulative changes in using non-native materials creating habitat for invasive species by the applicant. The co-existence intrusion banter by the partially foreigner country owned companies whom also have financial interest in seafood and aquaculture are misleading. There is no evidence to support the claim by the applicant on the impacts of the commercial fishing industry on benthic resource and the information that does exist should not be part of the EIS. The applicants EIS and the impacts that are documented must stand alone as permanent impacts that are not mitigable by displacement of the commercial fishing industry.</p>	<p>emplacement, noise from pile driving, anchoring (particularly where it may affect SAV), and the presence of structures. Modifications of ports would likely cause temporary and localized impacts on finfish, invertebrates, and EFH, likely resulting in behavioral responses, such as avoiding the area during port modification activities. Presence of WTGs would benefit some benthic invertebrates by providing habitat and would have adverse impacts due to opportunities for invasive species dispersal, scour of benthic habitat, and water column mixing. The impacts of fishing on benthic habitats will continue in the Lease Area; the presence of structures may also attract more fish and result in more fishing. No population-level impacts are anticipated and adverse impacts are anticipated to range from negligible to moderate and adverse.</p>
0984-0088	<p>BOEM has a financial conflict of interest in bringing forward energy options since the individuals whom work there are dependent on funding from lease sites and the creation of work. The [Bold: major impacts] of economically unfeasible stationary wind turbines littering the ocean is a real scenario that was left out of the EIS because it would be in direct violation of the EO. Marine impacts broken down into zones to avoid impacts is a land based equation being implemented in a marine environment. Avoiding a couple area on a chart that humpbacks are know to be does not take into account how the whales get there. They swim! When whales swim to the area of concern they will transit the many areas being leased. The [Bold: major impacts] of interference with migration patterns is speculative and can be easily adopted to a permanent impact when corralling is considered.</p>	<p>All proceeds from lease sales go to the US Treasury. Federal agencies such as BOEM are funded by congressional appropriations. Whales are addressed in Section 3.15 along with other marine mammals. The greatest impacts on marine mammals would occur due to underwater noise from UXO detonations and pile driving, which could cause temporary impacts during WTG construction (98 days over 2 years); and increased vessel traffic, which could lead to injury or mortality from vessel strikes. Impacts would range from negligible to moderate for baleen whales except for the NARW, which would range</p>

Comment No.	Comment	Response
		from negligible to major. Impacts would range from negligible to moderate for odontocetes and pinnipeds and could include beneficial impacts. Beneficial impacts for odontocetes and pinnipeds are expected to result from the presence of structures.
0984-0090	The overall safety of the individual existing ocean users should comparatively equal to the benthic resource mortality rates. There is a calculated mortality rate of ocean users that was omitted from the EIS.	Potential impacts on other ocean users are addressed in Section 3.17, <i>Other Uses (Marine Minerals, Military Use, Aviation)</i> .
0984-0093	The acknowledgment of invasive species and the creation of nontraditional habitats resulting in the expansion of invasive species in the development area should be recognized as a [Bold: major impact]. Biologically significant impacts on fin fish invertebrates and EFH have been documented. The impacts of EMFs on a variety of species including spiders is of extreme importance. It is alarming that studies that exist have not been reflected in this EIS. Such as the changes it feeding habitat and range of large coastal sharks. The impacts of burrowing sea life like crabs and the ecosystems dependent horseshoe crabs. The studies also seem to always leave out the EMFs before the cable reaches its burial depth. Especially because the impacts on the habitat creation that the industry claims is so beneficial has an even higher rate of biomass removal than artificial reefs. Unfortunately many of these studies are considered proprietary by the industry. I would suggest by not releasing the studies that may prove to be in contradiction to the success of the applicants licensing is in violation of the EIS as a whole and that is a criminal offense that the United States Attorney General should be investigating. A good example of why both need to be contained in the EIS is the American Lobster. The applicant highlights habitat creation and has taken the time to look at historic landing but fails to provide the reference to EMF interference with the American Lobsters recruitment. The distance between cables during installation is misrepresented with in the report. Installers try to keep the cables close together and the need for replacement of the cables occurring on the average of two times during the life span of the industrial zone would suggest that need exists. The web of cables hanging from structures and lining the seafloor even a football field apart for acres emitting a EMF and the heat associated with it would have some affect. Such as the benthic resources which is the foundation of the many fish species found in all the oceans including the endangered humpback whale. The corralling of whales into the shipping lanes is a scenario that is relative. As is the noise the EMFs	Text and citations have been added to Sections 3.6 and 3.13 to address potential impacts of invasive species as a result of the Proposed Project. The effects of EMF on invertebrate species have not been extensively studied, and studies have mostly been limited to commercially important species such as lobster and crab. Information available (and reviewed in the EIS) indicates EMF impacts on finfish, invertebrates, and EFH would be biologically insignificant, highly localized, and limited to the immediate vicinity of cables, undetectable beyond a short distance, but persistent as long as cables are in operation. Most exposure is expected to be of short duration, and the affected area would represent an insignificant portion of the available habitat for finfish and mobile invertebrate species; therefore, impacts on finfish, invertebrates, and EFH would be expected to be negligible.

Comment No.	Comment	Response
	omit. We don't hear it but the whales do as many other marine species. It is suspect that the studies on the noise levels generated by EMFs have been removed from this EIS.	
0984-0094	The secondary whale interaction is the reduction of forage. A sizable mortality rate of the squid is not contained in the EIS. The decrease in the squid population will devastate not only the whales but many of the commercially harvested fin fish. The killing area for squid is 2-3 miles from the impact zone. Squid is the most consumed seafood in the world and one of the most economic viable fisheries. During the corona virus squid is one of the fisheries that became extremely important because of the shelf life through freezing processes. Another secondary impact on a multitude of fish that will be effected by noise is the avian population who relies on a large spawning body of fish. There is an overwhelming amount of primary and secondary impacts with the industrial energy construction site and the location to the most fertile reproduction area for over 200 species of fish. Frankly there is so much information on the impacts on the variety of fish and the mortality rate for each species it is callous of the applicant not to provide the information in the EIS.	The EIS recognizes the potential impacts of the Proposed Action on natural resources. Whales are addressed in Section 3.15 along with other marine mammals. Potential impacts on squid and fish are included in Section 3.13. Impacts on birds are included in Section 3.7.
0984-0095	The cold water pool that so many fish are dependent on will be adversely affected. Wind generated energy will increase the water temperature creating greater hurricane strength when traditionally storms are reduced in strength before hitting the coastal states. The warming of the surface waters by the applicants industrial energy development is not contained in the EIS and is a [Bold: major impact].	Text has been added in Section 3.13.3.2, along with additional citations, to address potential impacts on the cold pool. Climate change is addressed for all resources in the EIS.
0984-0096	The change in salinity or lack of facilitating the developing of "wind waves" in the cold water pool will affecting tourism agriculture and the ability to see the sun rise; a [Bold: major impact] that the applicant has failed to include in detail in the EIS.	Text has been added in Section 3.13.3.2, along with additional citations, to address potential impacts on the cold pool.
0984-0106	The anticipated change of the ecosystem from a sand bottom to a bottom with structures and compacted non-native sediments with piles of non native rubble are impacts that should be considered permanent and adverse; a [Bold: major impact].	Impacts on benthic resources from the presence of structures, e.g., WTGs and scour protection (analyzed in Sections 3.3 through 3.22), would include scouring around turbine bases that would alter localized seafloor habitats and potentially reduce the extent of soft-bottom habitat; pose a risk of fishing gear entanglement and subsequent disturbance, injury, or mortality of benthic organisms; and provide new hard surface habitat for hard-bottom

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		species and opportunities for invasive species. The adverse impacts of these structures are expected to be minor to moderate; moderate beneficial impacts are also anticipated.
1086-0007	Benthic Habitats and Resources Scallops ocean quahogs surf clams and other shellfish are critical ocean resources for commercial fishing in Cape May County. In addition small surface burrowing fauna small tube-building fauna and clam beds provide important ecosystem functions such as water filtration and nutrient recycling. Increased turbidity and physical damage from anchoring dredging currents cable laying pile driving and other human activities will result in significant changes to the benthic habitats that could smother existing species and potentially result in the relocation or complete loss of thriving benthic habitats. The County is concerned that impacts from construction operation and decommissioning activities could result in permanent ecological changes to the seafloor and benthic habitats that could alter nutrient cycles and disrupt feeding patterns for fish and other species that rely on benthic creatures that exist at the bottom of the food chain.	Potential impacts on benthic habitats and invertebrates from the Proposed Action are analyzed and presented in Sections 3.6 and 3.13. The impacts on benthic resources from the Proposed Action are not anticipated to be permanent or affect benthic resources at a population level. Impacts on benthic resources primarily from anchoring, cable emplacement, and presence of structures include physical disturbance, injury, mortality, short-term to permanent habitat modification/loss, and behavioral changes. Adverse impacts are anticipated to range from negligible to moderate and adverse. WTG structures would benefit some benthic fauna by providing new habitat.
1086-0009	Furthermore BOEM states in the DEIS that impacts from electromagnetic frequencies (EMFs) are not well studied. However studies cited below conclude that EMF has measurable impacts on the development of benthic creatures. Such species are highly sensitive to noise vibration and EMF. There are currently no existing studies that investigate the [Italics: simultaneous] impacts from noise vibration and EMF on benthic species. The developer states that transmission cables may be left in place following decommissioning which runs counter to a public statement made by Orsted which asserted that it will "restore the seabed of the site to the original conditions." [Footnote 17: Summary of Public Comments Green Acres Scoping Meeting Archived online at: [Embedded Hyperlink Text (https://www.waterlog.net/download/6813/))] The County is concerned that the developer does not plan to leave the ocean in the same way it was found and requests that the developer return the waters off of Cape May County to their original condition following the decommissioning of the project. In addition BOEM should require the developer to hold a bond that guarantees the costs of decommissioning. Electromagnetic Fields (EMF) Generated from	Discussion informed by Hutchison et al. 2020, Harsanyi et al. 2022, and Albert 2020 has been added to the EIS to clarify that impacts on specific organisms are documented under specific conditions. However, the data are inadequate to predict results of EMF.

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	<p>Cables Lobsters and other benthic creatures such as sea scallops ocean quahogs surf clams and blue crabs are the most valuable seafood landings in New Jersey. In fact New Jersey is one of the leading suppliers of surf clams and ocean quahogs to both the nation and the world. [Footnote 18: New Jersey Seafood Harvest [Embedded Hyperlink Text (https://www.nj.gov/seafood/harvest.html)]]</p> <p>A 2022 study found that EMF from offshore wind farms could overlap with the brooding and spawning habitats of lobster and crabs and result in deformities that affect larval mortality recruitment and dispersal. [Footnote 19: Harsanyi P Scott K Easton BAA de la Cruz Ortiz G Chapman ECN Piper AJR Rochas CMV Lyndon AR. The Effects of Anthropogenic Electromagnetic Fields (EMF) on the Early Development of Two Commercially Important Crustaceans European Lobster Homarus gammarus (L.) and Edible Crab Cancer pagurus (L.). Journal of Marine Science and Engineering. 2022; 10(5):564. [Embedded Hyperlink Text (https://doi.org/10.3390/jmse10050564)]]</p> <p>EMF has a measurable impact on the early life history and consequently the population dynamics of lobsters and crabs. The project between interlinking array cables and export cables includes over 284 miles of subsea cables. Cape May County is concerned with the EMF generated from the subsea transmission lines and its impacts to marine life.</p>	
1259-0032	<p>Benthic Resources (3.6)</p> <p>The Draft EIS does not include a full and fair discussion of Ocean Wind 1's impacts on benthic resources. The short intermediate and long term impacts of wind energy turbine installations can be understood only if there is thorough knowledge on bottom sediments habitat types benthic assemblages and fish species. Unfortunately this information is currently lacking in most of the Wind Energy Areas and the proposed project is no exception. If approved Ocean Wind 1 will cause significant harm to the benthic environment both inshore and offshore and also adversely impact Submerged Aquatic Vegetation ("SAV") habitats especially in Barnegat Bay and the Oyster Creek area. Contrary to what the Draft EIS suggests SAV habitats are not extensively studied in the vicinity of Ocean Wind 1 or the infrastructure supporting it.</p>	<p>The potential impacts on benthic and finfish resources from the Proposed Action are presented in the EIS. HDD will be used to avoid SAV beds in coastal waters where possible. Additional text has been added to the EIS to better address potential impacts on SAV, including discussion of carbon sequestration.</p>
1259-0033	<p>General Deficiencies of the Benthic Resources Analysis</p> <p>Ocean Wind 1 is on the Southern Mid-Atlantic Bight shelf with two export cable routes from Lease Site OCS-A 0498 to coastal and back-bay areas. This includes a cable route through the Barnegat Bay Estuary which is impaired and subject to the Barnegat Bay Restoration Plan. The Draft EIS does not fully take into account the serious risk that the export cables will pose to this fragile ecosystem and also wrongly states that (1) the overall impacts on benthic</p>	<p>Impacts on benthic habitats are described as minor to moderate in the EIS. Text and citations have been added to expand the analysis of impacts in the EIS.</p> <p>Benefits to finfish and invertebrates from the Proposed Action include reduced impacts from fishing due to possible</p>

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	<p>communities will be minor and (2) most adverse impacts of benthic mortality and habitat alteration will be temporary or short term. [Footnote 15: DEIS at 3.6-23.] COA disagrees with the assessment that impacts resulting from the Proposed Action would only range from negligible to moderate adverse and also questions the relevant scientific evidence to support the claim that the impact would also range to "moderate beneficial." [Footnote 16: Id.] Separately the Wind Farm Area is predominantly composed of soft sediments especially the finer fraction (0.125-0.25 mm) which are known to accumulate toxic heavy metals and persistent organic pollutants including Polychlorobiphenyls ("PCBs") and Polyaromatic hydrocarbons ("PAHs"). Ocean Wind 1 will result in the resuspension and redistribution of these contaminants thereby adversely affecting the benthic fauna but these impacts have not been discussed in the Draft EIS.</p>	<p>reductions in fishing in the geographic analysis area.</p> <p>The release of contaminants from structures and resuspension from sediments and the potential impacts on benthic resources and fish have been added to the EIS, along with citations, in Section 3.6. These substances are presently considered to have a low environmental impact, but monitoring data are not sufficient to assess the environmental impact of this new source.</p>
1259-0034	<p>2. Invasive Species. The DEIS states "Although the likelihood of invasive species becoming established as a result of offshore wind activities is very low the impacts of invasive species on benthic resources could be strongly adverse widespread and permanent if the species were to become established and out-compete native fauna. Such an outcome however is considered highly unlikely. "COA strongly agrees that invasive species are strongly adverse. However the DEIS fails to provide proof of evidence to support its claim that it would be highly unlikely. In fact the proposed project significantly alters the habitat of the region (structures rocks turbulence turbidity abnormal temperatures and other conditions making it highly susceptible and likely that invasives species will become localized and/or widespread as well as seasonal or permanent with devastating consequences to the region ecology and marine species. For example the Indo Pacific lionfish (<i>Pterois volitans</i>) has become invasive in areas of the US. It is causing devastation in areas where it has become established but has been rarely sighted off New Jersey.. The Proposed project would provide excellent habitat for this reef fish and help establish this invasive species and others. A Belgian study has determined that wind turbine foundations attract non-native species and ten non-native species were observed after one year of construction of WTG. [Footnote 17: See Malin Westerlund Offshore wind farms could become a breeding ground for invasive species ING (Mar. 29 2022) https://ing.dk/artikel/offshore-wind-farms-could-become-a-breeding-ground-invasive-species-255603.] The DEIS fails to consider benthic habitat alterations as a condition for invasive population. This is a potential impact of critical concern and a detailed assessment is needed in order to mitigate risks. To date there is very limited knowledge on this subject area. In addition a detailed review of protections on how this will not result is also required as are plans to respond</p>	<p>Text has been added in Sections 3.6.3 through 3.6.7 to address invasive species based on reviews of Bray et al. 2017, Wilding et al. 2017, Adams et al. 2014, Causon and Gill 2018, Krone et al. 2017, and Taormina et al. 2018.</p>

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	to and eliminate the threat from invasives by the proposed project to facilitate invasive species.	
1259-0039	<p>3. Deficiencies of the Analysis Concerning Sediment Biogeochemistry</p> <p>There is a lack of sediment biogeochemistry data and its impacts in the Draft EIS. This is an important concern which has not been addressed as these impacts would last longer at all stages of the Project. The Draft EIS claims that there will be beneficial impacts from turbine foundations including scouring protection to increase fish populations and variety of species yet fails to describe the likely extent of adverse impacts of the same. Turbine foundation and substructures and scouring protections result in modifications to adjacent fish species. These also result in changes to benthic communities of macrofauna around these human-made structures. These also result in a fining of the sediment and organic matter enrichment which is due to a combination of the deposition of fecal pellets from the fouling fauna and biomass falling from the structures. [Footnote 26: See Emil De Borger et al. Offshore Windfarm Footprint of Sediment Organic Matter Mineralization Processes Frontiers in Marine Science (2021) https://www.frontiersin.org/articles/10.3389/fmars.2021.632243/full.] This increased carbon enrichment causes an increased mineralization activity in the sediments resulting in increased sedimentary oxygen consumption. Consequently this leads to higher levels of carbon dioxide being released from sediments which has far-reaching effects for sediment biogeochemistry with reduced mineralization outside the Ocean Wind 1 site.</p>	<p>Text and citations have been added to the EIS to address the potential for invasive species impacts due to the presence of structures. The release of contaminants from structures and resuspension from sediments and the potential impacts on benthic resources and fish have been added to the EIS, along with citations, in Section 3.6. These substances are presently considered to have a low environmental impact, but monitoring data are not sufficient to assess the environmental impact of this new source.</p>
1259-0040	<p>Altered sediment biogeochemistry including changes in oxygen fluxes due to accumulation of epifauna on turbine structures have been investigated in OSW in the North Sea. The results showed that these affect pelagic primary productivity and ecosystem functioning [Footnote 27: See Kaela Slavik et al. The large scale impact of offshore wind farm structures on pelagic primary productivity in the southern North Sea Univ. Hamburg (2018) https://arxiv.org/pdf/1709.02386.pdf] Results of model simulations showed that potential changes in regional annual primary productivity of up to 8% were likely within the OSW farm area and these are non-negligible.</p>	<p>Discussion of potential impacts on primary productivity due to changes in water column mixing has been added to the EIS based on reviewed material from Tagliabue et al. 2021, Floeter et al. 2022, and Dorrell et al. 2022.</p> <p>Text has been added in Sections 3.6.3 to 3.6.7 to address potential impacts of invasive species based on reviews of Bray et al. 2017, Wilding et al. 2017, Adams et al. 2014, Causon and Gill 2018, Krone et al. 2017, and Taormina et al. 2018.</p>

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1259-0041	Another recently published study on the OSW's footprint on the ocean floor reported the following findings: "The filtering action of OWF biofouling fauna induces a significant increase in TOC deposition within the OWF perimeter that rarely stretches beyond it. Around the turbine (<2 km) the TOC flux to the seabed increases annually on average by 2-15% but this increase may amount to 50% in certain areas. This increase can potentially affect surrounding benthic communities. Beyond 5 km from the monopile the carbon flux decreases compared to the reference situation and reaches its maximum decrease at a distance of 9-13 km then decreases to 0.5% at 30 km. The decrease of the flux does not exceed 2% and hence is tangibly smaller than the increase. Model simulations assess the extension of the impact and clearly highlight that the effect of OWFs on carbon dynamics is not spatially uniform but rather exhibits a high degree of variability in response to the local hydrodynamics and in particular residual and tidal circulation wave- and current induced bottom stress and local gyres. In particular these local gyres act as retention areas inside which the carbon deposition may be enhanced." [Footnote 28: Evgeny Ivanov et al Offshore Wind Farm Footprint on Organic and Mineral Particle Flux to the Bottom Frontiers in Marine Science (2021) https://doi.org/10.3389/fmars.2021.631799 .]	This should be added to climate change references or to impacts of WTGs on benthic habitats. Fouling organisms on the WTGs feed on the suspended particulate matter in the water column, which they partially expel in the form of fecal pellets. Fecal pellets contain a large amount of carbon and its influx into the sediment bed may disrupt the carbon balance and affect local ecosystems through changes in sedimentology and oxygen fluxes (Mirto et al. 2000; Christensen et al. 2003; Carlsson et al. 2010). The total organic carbon flux to the sediment is significantly altered inside the wind farm perimeters and total organic carbon deposition is increased up to 50% in an area 5 kilometers around the monopiles. The major changes are found along the direction of the main residual current and tidal ellipse's major axis. The scenarios show that the number of turbines has only a slight impact on the total organic carbon deposition flux, unlike their positioning that significantly alters the total organic carbon flux to the sediments (gravel beds in this case).
1259-0042	The Draft EIS fails to address these challenges to sediment health and benthic communities while this is being addressed as a significant issue of concern in the offshore wind farms in the North Sea.	See previous comment (1259-0041).
1259-0058	Finally cumulative effects from EMFs are both physical and biological. Physically more numerous cables their orientation and cable type may influence EMFs encountered by marine fauna. Biologically behavioral and physiological effects may interact early life history experiences may influence later life stages and a single encounter may inform the next exposure or not. Further EMFs need to be considered along with OSW-associated infrastructure risks such as entanglement or reef effects. With future plans for more expansive OSW arrays that are located at greater distances offshore and use larger capacity power	BOEM concurs that data gaps in impacts on marine species should be studied and evaluated. Discussion informed by Hutchison et al. 2020, Harsanyi et al. 2022, and Albert 2020, has been added to Section 3.6, <i>Benthic Resources</i> , to clarify that impacts on specific organisms are documented under specific conditions;

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	<p>cables a higher encounter rate is certain. A more complete knowledge base and data set concerning EMF interactions with affected species will help reduce the risk of EMF to important resource species (or alternatively retire the risk with more confidence). [Footnote 46: See Zoe L. Hutchinson et al. The Interaction Between Resource Species and Electromagnetic Fields Associated with Electricity Production by Offshore Wind Farms 33:4 Oceanography 96 96-107 (2021) https://tos.org/oceanography/assets/docs/33-4_hutchison2.pdf.] Until consequences of EMF at the individual population or system levels have been addressed data gaps in the fundamental biology of marine species - and the specific question of response to anthropogenic EMFs-make conclusions about potential impacts highly speculative.</p>	<p>however, the data are inadequate to predict the impacts of EMF.</p>
1259-0094	<p>Likewise the Draft EIS does not contain any assessment on coastal acidification and its impacts. Coastal and ocean acidification which refers to the decrease in the pH of coastal and absorb carbon dioxide from the atmosphere is an emerging and serious climate change concern. [Footnote 72: See Barnegat Bay Partnership 2019 Water Quality Network Annual Report (2022) https://www.barnegatbaypartnership.org/wp-content/uploads/2022/03/2019-Water-Quality-Network-Annual-Report.pdf.] Ocean chemistry is being altered by the increasing presence of carbon dioxide and threatening the marine environment. Higher levels of acidification due to anthropogenic inputs of nutrient pollution affect the local waters' buffering capacity and as a result a variety of species including corals clams oysters lobsters etc. to name a few.</p>	<p>Ocean acidification is addressed in Section 3.6.3.1 for benthic resources.</p>

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O.6.6 Birds

Table O.6.6-1 Responses to Comments on Birds

Comment No.	Comment	Response
TRANS-0087-0002	This project is a culmination of exhaustive studies and analysis by scientific experts relevant federal and state agencies and extensive public consultation in collaboration with local communities. The majority of the impacts of Ocean Wind 1 is highlighted in the draft environmental impact statement is determined to have negligible to moderate adverse environmental impacts on birds bats coastal habitat farm marine life and water quality. Siting these turbines 15 miles from shore will minimize the potential bird impacts research has shown that wind turbines structures have beneficial impacts on the sea floor and communities by creating artificial reefs as already previously mentioned. NJEC understands the environmental concerns of offshore wind on our natural resources both in and out of the ocean. Ongoing engagement education outreach combined with plans to avoid and mitigate any disturbances are part of the process and we have full confidence in the plan set forth.	Comment noted.
0950-0001	Despite the significant advantages outlined above scientists have not been able to determine exactly how offshore wind turbines will affect migrating birds and marine animals. We ask that every effort be made to study the possible effect on wildlife and explore ways to lessen any negative impact. For example wildlife monitoring and impact minimization should continue for the life of the project not just for a few years and best practices (e.g. lighting marking noise abatement brief shut down periods and other measures to protect wildlife) should be routinely reassessed and updated.	BOEM has used the best available information on bird presence in the Project area and will continue to collect information on bird presence in the offshore environment to help inform the assessment of potential impacts on birds from construction and operation offshore wind farms. Based on current information, bird presence in the offshore environment is relatively low (as described in Draft EIS Section 3.7). To support the advancement of the understanding of bird interactions with offshore wind farms, Ocean Wind has proposed an Avian and Bat Post-Constructing Monitoring Framework (COP Appendix AB and BA Appendix B) that outlines an approach to post-construction monitoring. The scope of monitoring is designed to meet federal requirements (30 CFR 585.626(b)(15) and 585.622(b)) and is scaled to the size and risk profile of the Ocean Wind Project with a focus on species of conservation

Comment No.	Comment	Response
		<p>concern. Furthermore, BOEM anticipates the bird and bat mitigation/adaptive management for Ocean Wind to be similar to the Vineyard Wind COP approval conditions for birds and bats (found here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/VW1-COP-Project-Easement-Approval-Letter_0.pdf). The Avian and Bat Protection Conditions (Condition Section 5.2.3) include an avian and bat monitoring plan for construction and operations. As part of the monitoring plan, new mitigation measures and monitoring may be imposed by BOEM if impacts deviate substantially from the impact analysis in the EIS. If deemed necessary, BOEM could require a longer monitoring period to assess the potential effects of the wind farm on avian species.</p>
0984-0014	<p>3.7 BirdsThe irreversible killing of threatened and endangered bird species like the American Grebe is a [Bold: Major Impact]. The scientifically listed birds known to transit at sea within the applicants development site are razorbills Black Capped Petrels terns seagulls eagles osprey pelicans mallards black ducks eiders coot snow geese golden eye widgeon teal American Goldfinch American Tree Sparrow Baltimore Oriole Black- capped Chickadee Blue Grosbeak Blue Jay Brown Thresher Chipping Sparrow Common Redpoll Dark-eyed Junco Eastern Bluebird Eastern Meadow Lark Eastern Towhee Evening Grosbeak Field Sparrow Hermit Thrush House Finch Northern Flicker Orchard Oriole Pine Grosbeak Pine Siskin Pine Warbler Purple Finch Red-breasted Nuthatch Red-winged Blackbird Ruby-crowned Kinglet Ruby-Throated Hummingbird Song Sparrow White-throated Sparrow Yellow-throated Warbler pintail canvasback wood duck snipe yellow legs shoveler gadwall bufflehead ring-neck scup redhead merganser scooter eider harlequin and broadbills. The applicants failure to disclose the [Bold: major impact] on birds or suggest any mitigation on the non-threatened or endangered species within the EIS is reason to reject the application.The Atlantic is the most densely populated of the four flyways and many waterfowl habitats in this region are already threatened by development. The applicants EIS fails to recognize all the individual impacted species. Each individual bird species needs to</p>	<p>The bird assessment in Draft EIS Section 3.7 is based, in part, on a Project-specific bird exposure assessment that estimated risk of various offshore bird species that could encounter the Wind Farm Area. The full assessment can be found in COP Volume III, Appendix H. As stated in the exposure assessment and in Draft EIS Section 3.7, approximately 159 bird species have been identified as potentially occurring in the Offshore Project area through public databases and baseline studies (see Table 3-1 in COP Volume III Appendix H for the full list of bird species). The 159 bird species are part of the various species groups that the exposure assessment analyzed. The exposure risk conclusions are summarized in Draft EIS Section 3.7.5, <i>Presence of Structures</i>, where it states that most of the bird species have minimal to low overall exposure. A few species have low to medium. Overall, the results of the exposure assessment would not warrant a “major” impact because the exposure assessment indicates that population-level impacts would not occur. Given the detailed analysis</p>

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	<p>be listed and a mortality rate needs to be provided. The applicants industrial energy development site adds to the list of lost habitat for the East Coast states permanent and transit bird population. The EIS fails to meet the basic requirements of an EIS and has purposely avoided declaration of the major impacts to the birds.</p>	<p>of all bird species in the bird exposure assessment, providing an impact assessment for each individual bird species is not warranted given the assessment conclusions.</p> <p>As summarized in Draft EIS Section, 3.7, impacts on bird habitat in the onshore environment are anticipated to be limited given the nature of the existing habitat, abundance on the landscape, limited removal of habitat, temporary nature of construction, and implementation of avoidance and minimization measures proposed by Ocean Wind.</p>
0984-0078	<p>The land based coastal habitat for many seabirds are dependent on the cold water pool area for food. The bird studies from satellites are filled with incomplete data. The proposed vibration sensory will not be adequate for the smaller birds that frequent the area. If the Cold water pool inclusive of the applicant accountants for 50 % of all fish harvested on the east coast of the United States; where do you think the seabird population gets its food? The suggestion of having limited sensory on each wind turbine is also unacceptable. The birds follow the tide lines when feeding that run through the applicants leased area. So one turbine might have 10 bird strikes one day and none the next. I also take exception to the premise that the birds relocate after a few die. That is the same theory the applicant and BOEM have with the fishers. The fact is after a few die the count goes down because there are fewer to kill. The land based calculations of bird strikes will not work in the applicants developing site. The bird population in transient. A [Bold: major impact] and requirement to shut down the entire industrial zone during heavy migration periods should be mandatory. When birds are feeding that is when they are most vulnerable to predation and wind turbine accidents. The proximity of the applicants lease from Long Island and New Jersey is where many birds fly and feed. The two bodies of land provide the avian population the opportunity to fly back and forth to feed and roost. The [Bold: major impact] on the avian population contained in the EIS is inadequate. The EIS should be rejected as incomplete.</p>	<p>The Draft EIS addresses potential bird collision with offshore wind structures. As stated in the Draft EIS, the predicted activity of bird populations that have a higher sensitivity to collision is relatively low in the outer coastal shelf during all seasons of the year (see Draft EIS Figure 3.7-3). In addition, as stated in the response to comment 0984-0014, most bird species have minimal to low overall exposure to the offshore wind turbines. The land-based calculations for bird strikes are different than what would be anticipated offshore because the presence of birds offshore is much lower than on land. BOEM would anticipate a much lower number of strikes for offshore wind farms based on the current understanding of birds' use on the outer continental shelf.</p>
1048-0002 and 1112-0002	<p>Your own report shows this will have an adverse effect on fisheries migratory birds. This project is in close sensitive areas to several wild life refuges including the "Edwin B. Forsythe National Wildlife Refuge</p>	<p>BOEM acknowledges the importance and sensitivity of the Edwin B. Forsythe National Wildlife Refuge to birds and bird migration. However, no part of the</p>

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	<p>protects more than 48000 acres of southern New Jersey coastal habitats. More than 82 percent of Forsythe refuge is wetlands of which 78 percent is salt marsh interspersed with shallow coves and bays. The refuge's location in one of the Atlantic Flyway's most active flight paths makes it an important link in seasonal bird migration." The Audobon society clearly points out in their literature that wind turbines must always be placed in areas that are not sensitive! Lib to cape May ni is a highly sensitive area. The red knot for one is of crucial concern. Millions of birds are killed yearly due to these turbines snd your proposing placing this in high migratory areas? This is detrimental!</p>	<p>onshore Project would directly affect the refuge, and the offshore wind farm area is greater than 15 miles from the nearest point to Edwin B. Forsythe National Wildlife Refuge. Draft EIS Section 3.7.5, <i>Presence of Structures</i>, addresses potential bird collision with the Project wind turbines.</p>
1086-0010	<p>Birds The County is concerned about the impacts to migrating avian species through and around offshore windfarms as this area of study is not well understood. Conservative estimates project that at least 681000 birds are killed by collisions with wind turbine blades each year with an emphasis on smaller birds. [Footnote 20: How Many Birds Are Killed by Wind Turbines [Embedded Hyperlink Text (https://abcbirds.org/blog21/wind-turbine-mortality/)] On land wind farms are responsible for the death of over 150 bald and golden eagles due to blunt force trauma from turbine blades. [Footnote 21: As wind-power grows across America and into open-water areas that are used for migration these numbers are likely to be severely underestimated based on both the lack of current information available on bird-deaths and the rapid increase of the number of turbines in operation.]A 2020 study of tagged Piping Plovers showed evidence that the migratory path of this species is directly through as many as 12 of BOEM's wind-energy lease areas.[Footnote 22: Loring Pamela & McLaren James & Goyert Holly & Paton Peter & Loring Pamela & McLaren J & Goyert H & Paton P. (2020). Supportive wind conditions influence offshore movements of Atlantic Coast Piping Plovers during fall migration 2 Piping Plover migration. The Condor. 122. 1-16. 10.1093/condor/duaa028.] These migratory paths are part of the Atlantic Flyway and are shown in Figure 2. Various stopover areas along the Atlantic Flyway such as Cape May Meadows Stone Harbor Point and the Forsythe National Wildlife Refuge are recognized as critical points for migratory birds. As avian species migrate over water at night as the 2020 study showed most piping plovers do they may be attracted to lighting components of the wind farms that could result in blind collisions with turbines due to poor nighttime visibility haze fog or</p>	<p>Impacts on bird migration and collisions are addressed in Draft EIS Section 3.7. Bird kills based on collisions in the onshore environment are well documented and USFWS has estimated bird kills from wind turbines onshore (see Draft EIS Section 3.7.3.2). Based the current understanding of bird presence in the offshore environment, as documented in Draft EIS Section 3.7, BOEM anticipates that bird collisions with offshore wind infrastructure will be lower than onshore wind infrastructure because bird presence in the offshore environment is much lower than onshore. As stated in Draft EIS Section 3.7, within the Atlantic Flyway along the North American Atlantic Coast, much of the bird activity is concentrated along the coastline. Waterbirds use a corridor between the coast and several kilometers out onto the OCS, while land birds tend to use a wider corridor extending from the coastline to tens of kilometers inland. While both groups may occur over land or water within the flyway and may extend considerable distances from shore, the highest diversity and density are centered on the shoreline (see Draft EIS Figures 3.7-2 and 3.7-3 and Table 3.7-3). BOEM addresses piping plover and other federally listed birds in detail in the BA that BOEM developed for ESA Section 7 compliance.</p>

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	<p>other weather conditions that reduce visibility. Such collisions would go undetected and would occur far from shore where their deaths would be unable to be recorded and monitored. BOEM suggests that this impact would be localized. However the County is concerned that BOEM is substantially underestimating the adverse impact posed to avian species. Ocean Wind 1 spans 68450 acres and is just one of 25 planned wind farms along the Eastern Seaboard many of which cover substantially larger acreage than Ocean Wind 1. To categorize the impact of one wind farm that spans nearly 70000 acres as 'localized' is a failure to consider the cumulative impacts of multiple wind farm arrays that will exist adjacent to one another and is a violation of NEPA guidelines for cumulative impacts. BOEM also states that wind farms may have a beneficial impact on bird populations due to the artificial reef effect which may create greater foraging opportunities. While this may be true it places birds at greater risk of colliding with turbine blades. Research has shown as birds seek prey they tend not to look in the direction of travel which makes them effectively blind in the direction of travel greatly increasing their risk of collision with a turbine blade. [Footnote 23: Understanding bird collisions with man-made objects: a sensory ecology approach [Embedded Hyperlink Text (https://onlinelibrary.wiley.com/doi/10.1111/j.1474-919X.2011.01117.x))] [Footnote 24: Windmill Hits Eagle [Embedded Hyperlink Text (https://www.youtube.com/watch?v=rrBONPNNIlc))] [See original comment for Figure 2: Migratory path of Piping Plovers. Source: Loring Pamela & McLaren (14)]</p>	<p>Regarding potential lighting impacts, as stated in Draft EIS Section 3.7, Ocean Wind proposes to use ADLS, which would dramatically reduce the amount of time obstruction lights are on, significantly reducing the potential impacts on birds. It is estimated that lights would be activated on offshore structures for only 1 hour 19 minutes and 17 seconds over a full 1-year period. When the lights are activated they will be flashing, which minimizes attraction to birds.</p> <p>The Draft EIS addresses the effects of future offshore wind activities (not including the Proposed Action) on birds in Draft EIS Section 3.7.3.2. However, to make it clearer that this is a cumulative analysis, the Draft EIS outline has been revised and now includes clarity on the cumulative analysis section (see Final EIS Section 3.7.3.2, <i>Cumulative Impacts of the No Action Alternative</i>).</p> <p>In addition, to support the advancement of the understanding of bird interactions with offshore wind farms, Ocean Wind has proposed an Avian and Bat Post-Constructing Monitoring Framework (COP Appendix AB and BA Appendix B) that outlines an approach to post-construction monitoring. The scope of monitoring is designed to meet federal requirements (30 CFR 585.626(b)(15) and 585.622(b)) and is scaled to the size and risk profile of the Ocean Wind project with a focus on species of conservation concern. Furthermore, BOEM anticipates the bird mitigation/adaptive management for Ocean Wind to be similar to the Vineyard Wind COP approval conditions for birds (found here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/VW1-COP-Project-Easement-Approval-Letter_0.pdf). The Avian and Bat Protection Conditions (Condition Section 5.2.3) include an avian monitoring plan for construction and operations. As</p>

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		<p>part of the monitoring plan, new mitigation measures and monitoring may be imposed by BOEM if impacts deviate substantially from the impact analysis in the EIS. If deemed necessary, BOEM could require a longer monitoring period to assess the potential effects of the wind farm on avian species.</p>
1116-0004	<p>The DEIS has failed to take a hard look on the Ocean Wind project's and other offshore wind projects' adverse impact on migratory bird species protected by the Migratory Bird Treaty Act some of which are also protected under the Endangered Species Act. 30 CFR 585.102(b) provides that "BOEM will require compliance with all applicable laws [and] regulations." BOEM has failed to take a hard look at required compliance with all applicable laws and regulations because the Ocean Wind project is likely and practically certain to kill migratory birds which is a strict liability crime.</p>	<p>The bird assessment in Draft EIS Section 3.7 is based, in part, on a Project-specific bird exposure assessment that estimated risk of various offshore bird species (including migratory birds protected under the Migratory Bird Treaty Act) that could encounter the Wind Farm Area. The full assessment can be found in COP Volume III, Appendix H. As stated in the exposure assessment and in Draft EIS Section 3.7., approximately 159 bird species have been identified as potentially occurring in the Offshore Project area through public databases and baseline studies (see Table 3-1 in COP Volume III Appendix H for the full list of bird species). The 159 bird species are part of the various species groups that the exposure assessment analyzed. The exposure risk conclusions are summarized in Draft EIS Section 3.7.5, <i>Presence of Structures</i>, where it states that most of the bird species have minimal to low overall exposure. A few species have low to medium exposure.</p> <p>Ocean Wind will be required to comply with the Migratory Bird Treaty Act should BOEM approve the Project and Ocean Wind decide to construct the Project. BOEM understands that the Migratory Bird Treaty Act is a strict liability statute that Ocean Wind (and any other offshore wind project applicant) must comply with. Ocean Wind would be required to work with the USFWS and follow the Migratory Bird Treaty Act regulations (whatever those may be at the time of construction).</p> <p>The Draft EIS also addressed federally listed bird species and provides a high-level summary of the</p>

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		more detailed BA that addresses all federally listed species that could be affected by the Project.
1259-0107	<p>New locations for birds are also emerging including one area that is already "one of the most critically important areas for birds in the State of New Jersey." [Footnote 80: Frank Kummer A new island emerges at the Jersey Shore and boaters are angry it's been closed to protect birds Philadelphia Inquirer (May 13 2022) https://www.inquirer.com/news/brigantine-new-jersey-horseshoe-island-conservation-migrating-birds-20220513.html.] Named "Horseshoe Island" this new location that has attracted "more than 1360 coastal birds for nesting foraging and roosting" is located south of Little Egg Inlet by Little Beach Islands off Brigantine NJ (see map; credit John Duchneskie The Philadelphia Inquirer). The island is a feature that is not found anywhere else in the state. It has been found that Horseshoe Island:provides habitat for a number of species including 470 endangered least terns making it the largest colony of the species in the state. It also provides roosting habitat for 80 red knots which are federally threatened and state endangered. It also provides nesting or roosting habitat for other state endangered or species of special concern including six pairs of breeding American oystercatchers 380 black skimmers 50 common terns 24 royal terns 10 piping plovers and other species including brown pelicans whimbrels and ruddy turnstones. [Footnote 81: Id.]</p>	<p>BOEM has reviewed the article and the embedded map showing the location of Horseshoe Island. While BOEM acknowledges the existence of this new island and potential importance for birds, no part of the Ocean Wind Project would affect the island, and the nearest Project component (offshore cable route to the Oyster Creek landing) is over 6 miles away (farther offshore).</p>
1259-0108	<p>With regard to Ocean Wind 1 the risks to bird species are many: mortality risk from encounter with blades habitat conditions offshore and onshore habitat loss and alteration displacement of food sources avoidance of areas for foraging & nesting noise vibrations vessel traffic spills new lighting and reduced fitness and "energetic costs of longer flight paths (especially for migrating shorebirds and ducks)." [Footnote 82: Charles H. Peterson Risks to Birds and Wildlife from Offshore Wind Farms: BOEMRE NC Task Force Univ. N. Car. (2011) https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/RiskBirdsWildlifeOffshore.pdf.] The species of birds at Horseshoe Island and in the geographic analysis area - including Brigantine and Atlantic City as well as inland - will be adversely impacted by the onshore and offshore development associated with the Proposed Action. In fact the Draft EIS identifies birds as experiencing "potential unavoidable impacts" specifically due</p>	<p>Draft EIS Section 3.7.5 analyzes the impacts of the Proposed Action on various IPFs, including IPFs related to collisions, habitat loss, altered flight patterns, and vessel spills. Impact categories for birds are defined in Draft EIS Table 3.7-2. These are all potential unavoidable impacts, but they describe varying degrees of the potential impact. As such, an impact that is an unavoidable impact does not equate to a major impact (or any of the other impact categories). Each IPF analysis provides a summary of the impact level, and the conclusion section (Draft EIS Section 3.7.5.1) provides an overall summary, including in the context of other reasonably foreseeable environmental trends and ongoing and future planned activities.</p>

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	to the "displacement and avoidance behavior due to habitat loss/alteration equipment noise and vessel traffic." [Footnote 83: DEIS at L-1.] Yet BOEM assesses the impacts to birds as "moderate." In the Draft EIS BOEM fails to provide important information about how the agency assesses the impacts to birds as "moderate" when also stating birds will experience "unavoidable impacts." These determinations are inconsistent with each other.	See response to comment 1259-0107 regarding Horseshoe Island.
1259-0109	Regarding additional risks and impacts to birds the brief reference to the use of European studies about birds affected by offshore wind projects does not reveal how birds were impacted. Also other estimates of birds killed by wind turbines show that approximately 538000 birds are killed each year by wind turbines in the U.S. not the 320000 annual average that the Draft EIS suggests. [Footnote 84: Joel Merriman How Many Birds Are Killed by Wind Turbines? American Bird Conservancy (Jan. 26 2021) https://abcbirds.org/blog21/wind-turbine-mortality/ .] Also the Draft EIS does not explain how BOEM lighting guidelines will help minimize impacts on birds. [Footnote 85: DEIS at 3.7-9.] This underscores the lack of studies about the impacts to birds and the potential risks to birds from the Proposed Action.	How birds are affected by the Proposed Action is disclosed in Draft EIS Section 3.7.5. BOEM used the latest information posted by USFWS regarding bird kills throughout the United States, including by wind turbines. The data are referenced in Draft EIS Section 3.7.3.2, <i>Presence of Structures</i> . Even if BOEM were to cite the 538,000 kill number from the American Bird Conservancy, this would still amount to less than 0.1 percent of all annual bird kills in the context of all bird kill causes across the United States (see Draft EIS Section 3.7.3.2 for other causes and associated kill numbers). In addition, data on bird kills from wind turbine collisions are for the onshore environment, where bird occurrence is much higher than the offshore environment. Based on current information and as cited in multiple areas of Draft EIS Section 3.7, bird occurrence on the OCS is low. Therefore, any potential bird kills from turbines in the offshore environment would likely be lower than the turbine kill numbers reported for the onshore environment. BOEM lighting guidelines specifically do not minimize impacts on birds. Draft EIS Section 3.7.3.2, <i>Lighting</i> , has been revised to provide further detail on how lighting impacts on birds are anticipated to be reduced.
1259-0110	Also the Draft EIS notes if new structures in the ocean attract increased prey for some birds then surely there will be more birds around the wind turbines therefore increasing the amount of birds at risk of colliding with turbines. [Footnote 86: Id. at 3.7-9.] As such the construction and placement of thousands of offshore wind turbines	Draft EIS Section 3.7 addresses bird impacts related to collisions with offshore structures for both the Proposed Action and future offshore wind (not including the Proposed Action) on the Atlantic OCS.

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	(cumulatively speaking) will impact the bird populations in and outside of the geographic analysis area of the Proposed Action.	
1259-0111	Regarding impacts to birds from potential spills in the ocean and coastal areas from the supporting vessels during construction operations and maintenance as well as the materials expected to be stored and used at substations and turbines "Ocean Wind committed to preparing and implementing waste management plans and hazardous materials plans which would minimize the potential for spills and identify procedures in the event of a spill." [Footnote 87: Id. at 3.7-16.] Ocean Wind is set to "prepare waste management plans and hazardous materials plans as appropriate for the project" [Footnote 88: Id. at H-3.] and claims that plan would minimize potential for spills but there is no plan in place. When is that plan expected for public review? It would seem to be appropriate for inclusion in the Draft EIS or Final EIS. Also cumulatively speaking the quantity of these stored materials and the impacts from them are much higher as is the case with the thousands of gallons expected to be onsite for the multiple offshore wind projects in the region. [Footnote 89: Id. at Table F2-4.] Nevertheless the Draft EIS fails to consider the cumulative impact of such spills on birds.	The voluntary plans would be developed if BOEM approves the COP and if Ocean Wind decides to construct the Project. The potential impact of accidental release on birds for future offshore wind projects is addressed in Draft EIS Section 3.7.3.2.
1259-0112	The Draft EIS's analysis is similarly errant with respect to the impacts of onshore development associated with the Proposed Action on bird species. For example the document does not specify or estimate how many trees (or acreage of trees) the Applicant plans to cut down for the building of onshore substations. [Footnote 90: Id. at 3.7-15.] However these actions will not only have an impact on local erosion and flooding but will also impact the birds that use the trees for habitat nesting safety from predators and food.	Several IPFs are addressed for birds, including land disturbance, which addresses onshore habitat impacts. During the comment process with USFWS on the BA (after the Draft EIS was issued), BOEM obtained more information on forests and forest removal for the onshore Project components. The Oyster Creek substation area is previously disturbed and sparsely vegetated, and characterized as upland meadow early-successional forest with some patches of emergent wetlands and small, scattered trees. The Oyster Creek onshore cable route does include tree clearing in some forested areas characterized as mixed Pine Barrens/oak-dominated forest. An estimated 7 acres of forested areas will be cleared for construction; approximately 2 acres of forested area will be permanently cleared and maintained as a utility easement. These forested areas were predominantly previously disturbed

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		<p>farmland and are composed primarily of successional stage pitch pine and small mixed oaks typical of coastal New Jersey, with most trees fewer than 3 inches in diameter.</p> <p>The BL England substation site is predominantly upland meadow, as it occupies much of a former golf course that continues to be mowed regularly, but there are areas of upland forest with a moderate to dense tree canopy with a mix of pines and hardwoods. Forested areas within the substation parcel feature a moderate to dense tree canopy with a mix of coniferous and deciduous species, and an open shrub and sapling layer. Trees are generally small (6 to 10 inches in diameter) with the exception of a few larger pitch pines and red maples. Dominant tree species are red maple, pitch pine, Eastern red cedar, black tupelo, sweetgum, and white pine. An estimated 6 acres of forested areas would be permanently cleared. The BL England onshore export cable route is within paved roadways and would not disturb habitat.</p> <p>Forested areas within the Island Beach State Park area are dense upland maritime forest dominated by red cedar and American holly. An estimated 1 acre of forested areas would be temporarily cleared for construction.</p>
1259-0113	<p>Also the DEIS acknowledges uncertainties too often in the section making Clean Ocean Action challenge the finding of "moderate" impacts to birds. The DEIS admits to uncertainty due to "habitat use and distribution that varies for seasons species and years" as well as offshore wind "being in its infancy." [Footnote 91: Id. at D-2.] Specifically the DEIS states "there will always be some level of uncertainty regarding the potential for collision risk and avoidance behaviors for some of the bird species that may be present within the offshore portions of the geographic analysis area." Further uncertainties were also cited due to BOEM's use of data mortality rates from onshore wind farms.</p>	<p>Impact and uncertainty (due to knowledge gaps) are two different issues. Uncertainty does not necessarily mean an impact level should be adjusted upward. It is known that bird activity is relatively low offshore compared to onshore (see Draft EIS Section 3.7). BOEM does acknowledge the uncertainty of bird use of the OCS and that there will always be a level of incomplete information (as stated in Section D.1.4). However, as stated in Section D.1.4, BOEM believes that sufficient information does exist to inform the decision-making process.</p>

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		See response to comment 1259-0109 regarding data mortality rates from onshore wind farms and how they compare to anticipated mortality in the offshore environment.
1259-0114	With all the deficiencies and inconsistencies presented in the discussion to the impacts on bird species Clean Ocean Action challenges BOEM's designation of "moderate" impacts on bird species and maintains BOEM failed to complete a comprehensive analysis of the impacts to birds onshore and offshore from the Proposed Action. A pilot-scale project would allow for studies to be performed to evaluate the true potential impacts of a full-scale industrial project especially for endangered birds.	<p>BOEM has responded to previous Clean Ocean Action comments on the "moderate" rating for birds and the specific comments on the bird analysis. BOEM has reviewed bird data from existing wind turbines on the Atlantic OCS and has taken those data into consideration in the Draft EIS. In addition, to support the advancement of the understanding of bird interactions with offshore wind farms, Ocean Wind has proposed an Avian and Bat Post-Constructing Monitoring Framework (COP Appendix AB and BA Appendix B) that outlines an approach to post-construction monitoring. The scope of monitoring is designed to meet federal requirements (30 CFR 585.626(b)(15) and 585.622(b)) and is scaled to the size and risk profile of the Ocean Wind Project with a focus on species of conservation concern. Furthermore, BOEM anticipates the bird and bat mitigation/adaptive management for Ocean Wind to be similar to the Vineyard Wind COP approval conditions for birds and bats (found here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/VW1-COP-Project-Easement-Approval-Letter_0.pdf). The Avian and Bat Protection Conditions (Condition Section 5.2.3) include an avian and bat monitoring plan for construction and operations. As part of the monitoring plan, new mitigation measures and monitoring may be imposed by BOEM if impacts deviate substantially from the impact analysis in the EIS.</p> <p>BOEM also notes that there are currently two pilot offshore wind projects on the Atlantic OCS where impacts on birds and other resources are being</p>

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		studied: Block Island offshore wind and Coastal Virginia Offshore Wind.
1194-0002c	The FEIS should consider the full scope of impacts to federally and state protected birds and bird species that trigger conservation obligations and address collision risk for species most at risk of collision. In addition it must include habitat loss that birds may experience beyond the footprint of project construction and operation.? BOEM should require Ocean Wind to pursue studies to further strike avoidance mitigation methods to ensure that migratory species like bats birds and other offshore wildlife are protected especially as technologies advance.?	Ocean Wind and BOEM recognize that active monitoring may be necessary after construction. The Avian and Bat Post-Construction Monitoring Framework developed by Ocean Wind states that, “Over the course of monitoring, Ocean Wind will work with BOEM, USFWS, and other relevant regulatory agencies, to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring, based on an ongoing assessment of monitoring results.” In addition, similar to previously approved COPs (e.g., South Fork and Vineyard Wind), BOEM anticipates that BOEM’s COP approval conditions for avian and bat protection conditions will include an avian and bat monitoring plan for construction and operations. As part of the monitoring plan, adaptive management may be required (i.e., new mitigation measures and monitoring may be required by BOEM if impacts deviate substantially from the impact analysis in the EIS).

O.6.7 Coastal Habitat and Fauna

Table O.6.7-1 Responses to Comments on Coastal Habitat

Comment No.	Comment	Response
0984-0056	Coastal Fauna- No matter how many scenarios are written there is always something that slips through the cracks such as the Seabeach Amaranth repopulation along the Jersey Shore after the Army Corps. Of Engineers' Beach replenishment project. Between 2018-2019 the federal protected species Sea Amaranth increased 600% due to the o?shore sand dredging taking materials below the worm line and removing some archipelagic islands that pre-dated Christ. The removal of some of the islands stopped when an ancient intact cedar forest was encountered releasing the old seeds. It should be anticipated that events like this can happen again. The disturbance of the seafloor by the developer can have significant impacts. The additional flotsam can result in miles of recreational beaches removed from recreation to protect the residents and visitors from increased amounts of fecal coliform. Increased testing along New Jersey beaches during any sediment disturbance scenario should be required. The applicants' failure to site upwelling and the movement of water west towards the beaches is an example where there is lack of financial commitment to produce a valid EIS. The EIS should be rejected as incomplete.	The federally listed seabeach amaranth is addressed in Draft EIS Section 3.8 and in the BA. Seafloor disturbance is addressed in Draft EIS Section 3.6 and Section 3.13, and water quality is addressed in Draft EIS Section 3.21.
0984-0059	The cumulative impact of oil spills on the beaches and a?ecting coastal fauna is also amiss. Although mitigation response plans will be implemented there is a scientifically proven statistical calculation that can be attributed to the impacts on the coastal communities based on wind tide the amount of oil contained by each vessel. This information is available by the applicants partners at Rutgers and Monmouth Universities. Compiling the information and providing the scenario within the EIS is not an economic consideration but of intentional falsification of the EIS application. The applicant and BOEM are fully aware of the information on oil spills from the wind turbine industry and the potential impacts on the fauna. The omission of such information of this application by the applicant and BOEM should result in the immediate denial of the application and the United States Attorney General should be brought in to investigate the actions by BOEM for violation of public trust.	As stated in Draft EIS Section 3.21, <i>Water Quality</i> , BOEM has conducted extensive modeling to determine the likelihood and effects of chemicals (including oil and petrochemicals) from construction and operations of offshore wind facilities along the Atlantic Coast. The report is titled <i>Environmental Risks, Fate, and Effects of Chemicals Associated with Wind Turbines on the Atlantic Outer Continental Shelf</i> and is cited as Bejarano et al. 2013 in the Draft EIS. If BOEM approves the Project, spill avoidance and minimization measures would be conditions of BOEM's approval.

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0984-0060	There is precedent set in the judicial system where courts have found that paving a beach is not an environmental mitigation solution since many of the sealife vegetation and land (beach) animals have to transit said paths. There is the ongoing cost of sand drift that requires creative beach fencing maintenance corridors and public or private funds to maintain them. Moderate impacts from increased GHG on a level to climate change is so significant that the application should be rejected on this premise alone.	The proposed Project does not include the paving of beaches. Beach habitat would be avoided via the use of HDD. GHG and climate change are addressed throughout the Draft EIS.
0984-0071	<p>The depth of the cable has significant affects on coastal habitat. It is scientifically known and proven that the increased sediment temperature around the cables has significant impacts on the invertebrates that affect the feeding habits and distribution of marine resources that rely on them.</p> <p>The omission of the cumulative impact of the individual species that will be affected and secondarily is an act of non-compliance within the application process. There is scientific information that is proprietary held by other cable development companies that should be part of the EIS. The applicant and BOEM look to use this application to address impacts on other applications. The relative information needs to be provided in this application. The applicant needs to purchase or collaborate with other industry representatives and submit an appropriate application before this EIS is approved. The applicant continues to refer as the shoreline being developed and that the impacts will be negligible. The fact is that the areas where there is no development like state parks are the areas that the different developers are looking to make land fall. This is a farce by the applicant not to address the EIS on open space and the rules that pertain to their use. For example a precedent has been set in New Jersey for every acre of dedicated open space disturbed a seven acres of comparable space must be secured. As the applicant has noted most of the coastal communities are already built out and the cost of close to fifty acres will run into the millions of dollars making the entire application non-compliant with the EO.</p>	<p>Cable installation and associated impacts, including effects on invertebrates and other benthic organisms, are addressed in Draft EIS Section 3.6.</p> <p>BOEM has addressed potential future offshore wind in the onshore and offshore environment along the Atlantic OCS in the Draft EIS. For any resource where the established geographic analysis area overlaps with another potential future offshore wind project, those impacts are discussed. As stated in Draft EIS Section 3.8.3.2, <i>Offshore Wind Activities (Without the Proposed Action)</i>, there are currently no planned future offshore or onshore wind project that overlap with Ocean Wind's coastal habitat and fauna geographic analysis area. The potential impacts of the Proposed Action on coastal habitats and fauna are disclosed in Draft EIS Section 3.8.5.</p>
1192-0028	Island Beach State Park is one of the longest barrier island natural dune structures left in the US. There has been no impact study/ drawings/ research dealing with the cable coming into the beach and exiting on the west side. IBSP is the largest protection from rising oceans and hurricanes for a huge population living around the bay.	All beach habitats will be avoided at landings and at Island Beach State Park through the use of trenchless technology (HDD). Indicative HDD layouts, configurations, cross sections, and operating rigs can be found in COP figures 6.2.1-3, 6.2.2-1, 6.2.2-2, 6.2.2-3, and 6.2.2-4 . Drawings of the specific Island Beach State Park crossing are shown in Draft EIS Figure 2-1.

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1259-0115	<p>vi. Coastal Habitat and Fauna (3.8)Activities related to Ocean Wind 1 will negatively impact the wildlife and fauna that can be found within the acres facing disturbance. To this end the Draft EIS identifies five (5) species that are classified as endangered or threatened and can be found within the overall onshore project area:· the American chaffseed;· the Knieskern's beaked-rush;· the seabeach amaranth;· the sensitive joint-vetch; and· the swamp pink.</p> <p>[Footnote 92: Id. at 3.8-3.] The document goes on to explain that while a sixth species-the State-list Bobcast-is unlikely to be present within the onshore project area due to existing development individuals among the species may experience stress and negative physiological effects. Nevertheless the Draft EIS dismisses any potential impacts to the species on the basis that "the species can habituate to human presence" [Footnote 93: Id. at 3.8-11.] a conclusion we reject due to the lack of any scientific support.</p> <p>Not only is the Draft EIS lacking a comprehensive analysis regarding the foreseeable impacts of onshore development from Ocean Wind 1 on these species but it is also largely silent with respect to the impact of Ocean Wind 1 on the monarch butterfly as well. The monarch butterfly is an iconic and easily recognizable insect for which New Jersey including its coast provides a crucial migratory route between Canada and Mexico. [Footnote 94: Monarch Migration Made Easy Cherry Hill Township (Spring 2019) https://www.chnj.gov/1138/Monarch-Migration-Made-Easy.] Although the monarch butterfly was not listed as "endangered" or "threatened" under the Endangered Species Act at the time of the Draft EIS's publication the International Union for the Conservation of Nature ("IUCN") has since designated the species as "endangered." [Footnote 95: Migratory monarch butterfly now Endangered - IUCN Red List Intl. Union for the Conservation of Nature (July 21 2022) https://www.iucn.org/press-release/202207/migratory-monarch-butterfly-now-endangered-iucn-red-list.] As such the Draft EIS's analysis concerning monarch butterflies-which is largely limited to acknowledging that the species may use open fields near construction and operations activities where milkweed can be found-is woefully inadequate. BOEM cannot allow Ocean Wind 1 to move forward as proposed without a full accounting of the extensive steps that will need to be taken to avoid reduce and mitigate impacts on monarch butterfly habitat.</p>	<p>The Draft EIS does not state the bobcat is not present, but that it is unlikely to be present given the habitat conditions. Even though the species is unlikely to be present, BOEM still indicates that noise could affect the species in the unlikely event one is present. The species habituating to human presence statement is based on the cited reference in the Draft EIS (Carroll 2019).</p> <p>Federally listed threatened, endangered, and candidate species are addressed in more detail in the BOEM's BA to USFWS. As stated in Draft EIS Section 3.8, monarch butterflies are candidate species. Candidate species have no statutory protection under the ESA, but BOEM has still addressed the species in the BA in case the species is listed as threatened or endangered in the future. The IPFs and impact analysis in the Draft EIS address all wildlife and plant species, whether they are protected (e.g., endangered) or have no protective status because the IPFs apply to all wildlife regardless of status. Protected species may be more sensitive to the IPFs than species with no special status.</p>

Comment No.	Comment	Response
1259-0116	<p>Next with respect to Ocean Wind 1's eventual decommissioning the Draft EIS indicates that Ocean Wind intends to abandon the onshores cables from the project in place. [Footnote 96: DEIS at 3.8-13.] Despite this plan however the document presumes that these cables will not have any impacts on the wetlands where they will be abandoned or on the species that reside therein including the protected species identified above. The Draft EIS never analyzes potential environmental effects-either negative or positive-of abandoning the onshore cables associated with Ocean Wind 1 at the end of the project's life-cycle. The cables' continued presence may have profound effects on local ecosystems and communities particularly due to interactions with electromagnetic forces ("EMF") from the cables.</p>	<p>Underground cables that are abandoned would no longer be in use, and no EMF would be generated. Therefore, there would be no impact from EMF on habitat or wildlife.</p>
1259-0117	<p>Furthermore the Draft EIS's analysis relies on flawed logic that ultimately prevents the document from fulfilling its purpose. More specifically the Draft EIS provides "In context of reasonably foreseeable environmental trends [Ocean Wind 1] would contribute an undetectable increment to the combined noise impacts on coastal fauna from ongoing and planned activities including offshore wind which would likely be minor." [Footnote 97: DEIS at 3.8-11.] However federal courts have rejected this line of reasoning when relied upon by an agency during environmental reviews in the past. Most recently the United States Court of Appeals for the Ninth Circuit decided in 2021 that the U.S. Army Corps of Engineers ("USACE") could not conclude that aquaculture activities' effects on the environment were insignificant or minimal on the basis that "other sources caused even greater harm to the aquatic environment than aquaculture [...]." [Footnote 98: Coal. to Prot. Puget Sound Habitat v. U.S. Army Corps of Eng'rs D.C. No. 2:16-cv-00950-RSL at 4 https://www.centerforfoodsafety.org/files/2021-02-11-ecf-71-1--memorandum_71986.pdf.] The same principle must apply here. Until it includes a complete analysis of the impacts that Ocean Wind 1 will have on coastal fauna as opposed to summarily describing them as negligible against the baseline of impacts from other activities expected to occur the EIS for this project is deficient and cannot support the decision to move ahead with the industrial-scale development proposed for Lease Area OCS-A 0498.</p>	<p>The Draft EIS analyzed the No Action Alternative, consisting of the current baseline conditions as influenced by past and ongoing activities and trends, which serves as the baseline against which all action alternatives are evaluated. The Draft EIS analyzed the impacts of the Proposed Action both alone and in combination with other past, present, and reasonably foreseeable future actions (i.e., cumulative impacts). In Chapter 3 of the Final EIS, the heading structure in each resource section (including Section 3.8, <i>Coastal Habitat and Fauna</i>) has been reorganized to improve the presentation of the analyses.</p>

Comment No.	Comment	Response
1259-0118	<p>Finally in spite of the variety of risks and harms identified above the Draft EIS concludes that the overall impact of Ocean Wind 1 on coastal habitat and fauna will be minor and does not propose any measures to mitigate Ocean Wind 1's anticipated impacts on thereupon. [Footnote 99: DEIS at 3.8-14.] This is plainly unacceptable. BOEM must exercise its authority and discretion to protect precious coastal resources from irreversible harm by not allowing Ocean Wind 1 to proceed until specific and binding mitigation measures for coastal habitat and fauna are identified for this development. Again a pilot-scale project here would allow for studies to be conducted to evaluate the true potential impacts of a full-scale industrial project especially for endangered species.</p>	<p>BOEM has not proposed any specific measures, but Ocean Wind has proposed many measures that would avoid and reduce impacts on coastal resources. Those measures, or APMs, are cited throughout the Proposed Action analysis in Draft EIS Section 3.8. If BOEM decides to approve the Project, BOEM may include additional measures that would be conditions of the Project approval.</p> <p>The coastal habitat and fauna section focuses more on the onshore environment, so without a specific suggestion or details on a "pilot-scale project," it is unclear what this would look like and the value it would have on the impact analysis for the onshore environment. BOEM also notes that there are currently two pilot offshore wind projects on the Atlantic OCS where impacts on birds and other resources are being studied: Block Island offshore wind and Coastal Virginia Offshore Wind.</p>
TRANS-0068-0001	<p>Next I'd like to point out that Clean Ocean Action is concerned by Ocean Wind's comments in section 3.8 of the draft EIS where it says that Ocean Wind will abandon the buried cables that are left in place after the expected lifetime of the project which is anticipated at least by the DEIS to be 35 years. What will the long term consequences of these abandoned cables be for the health of the local community and the ecosystems around them. And what happens if an abandon cable becomes exposed. None of these concerns are addressed by the EIS in its draft form and ought to be before the final - before the final EIS is published.</p>	<p>Onshore cables will be abandoned and remain buried and will no be longer used. Onshore cables would be buried at least 4 feet below the surface and no exposure is anticipated. As stated in COP Section 6.3.2, any cable ends will be buried if the cables are to be abandoned in situ to ensure that the ends are not exposed or have the potential to become exposed post-decommissioning.</p>

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O.6.8 Commercial Fisheries and For-Hire Recreational Fishing

Table O.6.8-1 Responses to Comments on Commercial Fisheries and For-Hire Recreational Fishing

Comment No.	Comment	Response
1259-0133	The presence of OSW structures will also result in "navigational complexity...disturbance of customary routes and fishing locations and the presence of scour protection and cable hardcover leading to possible equipment loss and limiting certain commercial fishing methods." [Footnote 120: Id.at 3.12-20.] The Draft EIS admits that if specific fishing operations are unable to find alternative locations "they could experience long-term major disruptions." This is unacceptable. Mitigation measures - acceptable to the industries adversely affected - must be proposed and strictly implemented as conditions of the COP and Final EIS.	The EIS considers mitigation measures for gear loss and damage, as well as compensation for lost fishing income, that can be found at the end of Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> . These proposed mitigation measures are consistent with BOEM's draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585.
0175-0004	Section 3.9 COMMERCIAL FISHERIES - Page 178 (During Construction Phase approximately 2 years with no interruptions) "When safety zones are in effect fishing vessels could either forfeit fishing revenue or relocate vessels that chose to relocate could incur increased operating costs "Developers have stated that the grounds would be open to commercial fishing during operation. The same was stated for Vineyard. However In Responding to BOEM's Record of Decision on Vineyard Wind 1 The Army Corps of Engineers issued the following statement: "While Vineyard Wind is not authorized to prevent free access to the entire wind development area due to the placement of the turbines it is likely that the entire 75614 acre area will be abandoned by commercial fisheries due to difficulties with navigation."	Impacts on commercial fisheries from the Proposed Action are expected to be minor to major, depending on the fishery. Impacts would result primarily from reduced access to traditional fishing grounds and increased risk of fishing gear damage or loss. Although the Lease Area would not be closed to fishing, fishers may choose to avoid the Lease Area due to the potential for gear loss/damage and safety. The majority of vessels would only have to adjust somewhat to account for disruptions. In addition, the impacts of the Proposed Action could include long-term, minor beneficial impacts for some for-hire recreational fishing operations due to the artificial reef effect. Cumulative impacts on commercial (and for-hire recreational) fishing due to the Proposed Action and planned activities including offshore wind would be major because some commercial and for-hire recreational fisheries and fishing operations

Comment No.	Comment	Response
		would experience substantial disruptions indefinitely and because of the ongoing impacts of offshore structures, climate change, and regulated fishing effort.
0488-0002	We are certainly grateful that the lease holders and BOEM have developed outreach programs and appointed fishing liaisons but the final approvals must clearly protect the rights of recreational anglers and boaters to access fishing grounds that may be within the project area. Only a definitive statement of policy supporting recreational fishing rights in the lease area will relieve the concerns of the thousands of anglers and the multi-billion dollar industry they support. Preserving the right to fish is a commitment made frequently in the hearings in the reports and in comments from the lease holder. Cementing it as a part of the final approval should be a decision that is easy to reach together.	Approval of the Proposed Action would not restrict the legal rights of recreational fishers to fish in the Lease Area except during construction, when fishing may be excluded in safety zones.
0837-0006	For instance according to the National Ocean and Atmospheric Administration (NOAA) the amount of revenue from New Jersey commercial fishing has increased each year from 2017 through 2021 with total earnings ranging from \$169701007 to \$258657952. [Footnote 7: National Oceanic and Atmospheric Administration (NOAA) accessed August 2022 https://www.fisheries.noaa.gov/foss/f?p=215:200:10060836853169:Mail:NO:::] The commercial fishing industry in Cape May County is one of the largest employers and revenue producers in the County and one of the largest on the East Coast. [Footnote 8: Cape May Chamber of Commerce accessed August 2022 https://www.capemaycountychamber.com/commercialfishing/commercial-fishing-industry-in-cape-may-county/] Government data supports the current condition of the commercial fishing industries in the State of New Jersey and accordingly should be considered a baseline in the DEIS for the Commercial Fisheries and For-Hire Recreational Fishing category. In the Alternative A through E proposals in the AI category BOEM indicates that the Project will result in a lesser (AI) impact than the No Action Alternative. Therefore BOEM presents the conclusion that the commercial fishing industry will improve. Considering the current state of the industry and its economic importance to the State of New Jersey BOEM needs to present tangible evidence to support the finding that the instant Project of ninety-eight WTGS to be followed with the future projects with an additional 1337 WTGS will improve New Jersey's commercial fishing industry.	For the No Action Alternative analysis in the Chapter 3 resource sections, the Final EIS was updated to present the analysis of the ongoing non-offshore wind and ongoing offshore wind activities under a separate sub-heading from the planned non-offshore wind and offshore wind activities. The Proposed Action and action alternative discussions were also updated to present the cumulative impact analysis under a separate subheading. As a result of this organizational adjustment, the impact conclusions have been made clear in that the Proposed Action has a standalone impact on the commercial fishing industry, and then has an incremental impact on the overall cumulative impact of all offshore wind activities.

Comment No.	Comment	Response
0837-0007	<p>In addition BOEM's model indicates that a No Action Alternative creates a moderate to major impact on the Resource of Commercial Fisheries and For-Hire Recreation Fishing while Alternatives A through E create a minor to major [Italics: depending on the fishery]. BOEM changed the language in Alternatives A through E to deviate from that used in the No Action Alternative. This alteration compromised the Table because a direct comparison was eliminated. With this caveat BOEM has concluded that [Italics: some] commercial fisheries will be impacted based on their research. BOEM will need to provide fisheries with the details of those specific findings. Furthermore the alteration within the Table undermines public trust and suggests that findings were contrived to support a foregone conclusion.</p>	<p>Impacts of the No Action Alternative are considered moderate to major, as described in the EIS. Impacts are expected to primarily result from reduced access to traditional fishing grounds and increased risk of fishing gear damage or loss, and effects of climate change. The potential benefits of WTGs as hard-bottom habitat and contributing to a reef effect, more so related to for-hire recreational fishing, are described for both the No Action Alternative and Proposed Action in the EIS.</p> <p>Under the Proposed Action, impacts would range from minor to major, depending on the fishery. Impacts would be minor for vessels that derive a small portion of their total revenue in wind farm areas or are willing to seek and able to find suitable alternative fishing locations. For fishing vessels that choose to avoid the Wind Farm Area, have historically derived a large percentage of their total revenue from the area, and are unable to find suitable alternative fishing locations, the adverse impacts would be major.</p> <p>In general, fisheries impacts would be lower in offshore wind lease areas (compared with other locations) because offshore wind lease areas are selected to reduce potential use conflicts between the wind energy industry and fishers. In addition, the amount of fishing activity that could be affected within the Lease Area is a small fraction of the amount of fishing activity in the New England and Mid-Atlantic regions as a whole. For example, NMFS found that from 2008–2019, only 0.9 percent of the vessels in the offshore wind lease areas generated</p>

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		<p>more than 50 percent of their total fishing revenue for the year from one or more of the areas; 75 percent of the vessels fishing in any given offshore wind lease area derived less than 0.9 percent of their total revenue from the area (NMFS 2021).</p>
0941-0001	<p>The DEIS identifies areas of moderate and high densities of hard clams (<i>Mercenaria mercenaria</i>) within the Oyster Creek export cable route and notes that "recreational fishing effort in New Jersey is greater for blue crab than any other single species" (Section 3.9 Commercial Fisheries and For-Hire Recreational Fisheries). The DEIS also states that blue crabs (<i>Callinectes sapidus</i>) and hard clams are recreationally and commercially harvested species within Barnegat Bay (Section 3.13. Finfish Invertebrates and Essential Fish Habitat) but then fails to mention how these valuable resources or the fisheries will be impacted how the impacts will be minimized or mitigated for and how the impacts will be monitored and assessed.</p>	<p>NOAA works with state and local partners to monitor the recreational fishery catch and effort through the Marine Recreational Information Program (NOAA Fisheries n.d.). Because blue crabs are not monitored, data are not available to evaluate potential impacts on this species; this information has been added to the Final EIS to explain the absence. Both species are discussed briefly in Section 3.6, <i>Benthic Resources</i>, and Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>, and in the EFH assessment.</p> <p>Blue crabs are referenced in the EFH assessment and text has been added to Final EIS Section 3.9.5. Adult blue crabs may use benthic habitat for spawning, and dredging impacts could include increased local TSS, loss of larvae due to suction dredging, or short-term displacement of individual crabs; however, these impacts are either short term, limited in spatial extent, or insignificant to the success of the species.</p> <p>Hard clams are referenced in the EFH assessment and text has been added to Final EIS Section 3.9.5 to address potential impacts. "Impacts from installation of the export cable would result from direct disturbance of benthic habitats, the resuspension and nearby deposition of sediments, and emplacement of cable</p>

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		protection resulting in habitat conversion. Direct disturbance could result in the injury or mortality of organisms within the footprint of the export cable, primarily sessile or slow-moving benthic invertebrates such as hard clam..."
0967-0001	Broadly we would like to reiterate our strong recommendation also expressed in our comments on the NOI that impacts to the charter/for-hire sector and private recreational anglers be considered or at least presented jointly rather than separately under the "3.9: Commercial Fisheries and For-Hire Recreational Fishing" and "3.18: Recreation and Tourism" sections of the DEIS respectively. Charter/for-hire and private recreational anglers fish similar areas target the same species use the same gear and are subject to management under the same authorities. For fishermen fishery managers and other interested parties struggling to provide constructive feedback on a document of this magnitude separating the expected impacts of alternatives to these two groups by over 200 pages in the document only further complicates the process.	Reference to each of the other sections were added to these sections to support cross-referencing by the reader. However, the sections will remain separated for analysis in the different EIS sections.
1086-0013	Commercial fishing is an essential part of Cape May County providing jobs and food locally and across the Nation. The most valuable fisheries in New Jersey include sea scallops ocean quahogs surf clams and blue crabs. Fishermen in New Jersey contribute to the local economy by providing jobs to seafood processors wholesalers distributors and retailers as well as jobs created from the repair and operation of fishing vessels and fishing gear. The loss of the seafood and fishing industries would have severe economic and cultural impacts for the County. Concerns regarding commercial fisheries include increased vessel traffic and congestion navigational safety gear loss loss of revenues and the disruption of the Cold Pool and ecologically important component of Mid-Atlantic fisheries. In addition the most recent Fisheries Mitigation Guidance session hosted this year by BOEM on July 11th left many questions unanswered for fishermen who are impacted by offshore wind farms such as how mitigation payments would be structured how claims for lost gear would be processed and the process in which fishermen could work together with BOEM to reconcile the issues raised by the fishing industry.	The Draft EIS recognizes the importance of commercial fishing to New Jersey and Cape May, which as the combined port of Cape May/Wildwood is among the top 25 producing commercial fishing ports in the country and the largest commercial fishing port in New Jersey. Impacts of the Proposed Action on commercial fisheries would range from minor to major, depending on the fishery and fishing operation; combined with impacts from ongoing and planned activities, impacts would be major because some commercial and for-hire recreational fisheries and fishing operations would experience substantial disruptions indefinitely, even with Applicant-proposed mitigation. Construction, O&M, and decommissioning activities may affect the ability to fish certain areas or may affect

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		<p>fishing (negative or positive), including fishing for shellfish, as well as shore-based support services for these fisheries.</p> <p>As described in the EIS and the COP (Volume II, Section 2.3), each of the fisheries revenue values derived from the New Jersey WEA represented less than 1 percent of their respective total average annual revenue, with the exception of clams, which made up 4.7 percent of the revenue. Based on the vessel monitoring data, most of the commercial fishing activity, including the scallop fishery, is outside the Ocean Wind 1 Lease Area. The annual average revenue (2013 to 2017) sourced from within the Wind Farm Area for all fisheries combined (\$209,927 in 2019 dollars) was 0.02 percent of the total fishery. This average annual value is down from 1.1 percent of the total fishery estimated for the years 2007 to 2012.</p> <p>Ocean Wind has committed to maintaining a strong working relationship with all commercial and recreational fishers who may be affected by the Project and has developed a Fisheries Communication and Outreach Plan (Appendix O of the COP) in accordance with BOEM guidelines. This plan outlines key strategies to communicate with fishers and fishing industry representatives associated with the Project. Proposed mitigation relevant to the comment are provided in Appendix H of the EIS and include:</p> <ul style="list-style-type: none"> CFHFISH-02: Develop and implement a Fisheries Communication and Outreach Plan (COP Appendix O). The plan includes the appointment of a dedicated

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		<p>fisheries liaison as well as fisheries representatives who will serve as conduits for providing information to, and gathering feedback from, the fishing industry, as well as Project-specific details on fisheries engagements.</p> <ul style="list-style-type: none"> CFHFISH-03: Implement Ørsted's corporate policy and procedure to compensate commercial/recreational fishing entities for gear loss as a result of Project activities.
1086-0017	<p>Gear Loss Fishermen in Cape May County are concerned about the process in which they would recover losses from gear that becomes entangled or damaged by wind farm equipment. Fishermen have stated that they will likely abandon any fishing grounds within the wind farm areas. However if the species that fishermen are trying to catch migrate into the wind farm area the captain may risk entanglement while trying to follow their catch. In addition subsea cables create concerns for fishermen who drag equipment behind their boats. According to MIT several fishermen have lost or damaged dragnets around Block Island where subsea cables lay exposed. [Footnote 26: Trouble in the wind: Offshore turbine farms complicate fishing shrimping [Embedded Hyperlink Text (https://climate.mit.edu/posts/trouble-wind-offshore-turbine-farms-complicate-fishing-shrimping))] Orsted has said that the cables at Block Island are covered with rocks and mattresses yet several fishermen have nevertheless reported lost or damaged gear which requires days of downtime to repair and is costly to the vessel operator. Loss of Fishing Revenues In every single impact category included in the DEIS BOEM classifies the impacts to fishing as [Italics: major]. As a County that prides itself on its historic fishing culture and relies on fishing revenues for its economy Cape May County has significant concerns about lost revenues for fishermen as a result of Ocean Wind 1 as well as other planned wind farms that will continue to restrict access to various parts of the ocean. There are reasons for both increased costs and loss of revenue. Fishermen may have to take longer routes to reach their destination or travel at slower speeds while transiting wind farms. Fishermen may lose access to fishing grounds that were once relied on forcing them to relocate and risk fishing in unfamiliar areas. In addition as certain areas become off limits the relocation of vessels to other</p>	<p>BOEM recognizes that the presence of structures can lead to entanglement or gear loss/damage due to buoys, meteorological towers, foundations, scour/cable protection, and transmission cable infrastructure.</p> <p>Ocean Wind is committed to maintaining a strong working relationship with all commercial and recreational fishers who may be affected by the Project and has developed a Fisheries Communication and Outreach Plan (COP Appendix O) in accordance with BOEM guidelines. This plan outlines key strategies to communicate with fishers and fishing industry representatives associated with the Project.</p> <p>Appendix H details mitigation measures proposed for the Project. BOEM has proposed guidance to lessees for mitigating impacts on commercial and recreational fisheries (see https://www.boem.gov/renewable-energy/request-information-reducing-or-avoiding-impacts-offshore-wind-energy-fisheries). BOEM will consider requiring mitigation measures in addition to those proposed in the COP. These measures may change as a result of</p>

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	<p>known fishing areas could result in overfishing of those areas and the depletion of resources. The Cold Pool The Mid-Atlantic exhibits a unique seasonal phenomenon referred to as the Cold Pool in which warm and cold-water temperatures are horizontally stratified along the continental shelf. This drastic difference between cold and warm water drives a thriving ecosystem that supports diverse and abundant species. Fisherman can catch both warm and cold-water fish and shellfish simply by adjusting the depth of their gear. A Rutgers study in 2021 writes that "the scale of these wind farms has the potential to alter the unique and delicate oceanographic conditions along the expansive Atlantic continental shelf a region characterized by a strong seasonal thermocline that overlies cold bottom water known as the "Cold Pool." The seasonal characteristics of the Cold Pool are "associated with and drivers of important biological and ecological processes that support key species of commercial and recreational importance." [Footnote 27: Offshore Wind Energy and the Mid-Atlantic Cold Pool: A Review of Potential Interactions [Embedded Hyperlink Text (https://scemfis.org/wp-content/uploads/2021/11/Miles_2021.pdf))] The County is concerned that the vertical mixing caused by thousands of wind turbines will disrupt the natural processes of the cold pool which is necessary to our local ecosystem and economy.</p>	<p>comments on the guidance document or in response to comments on the Draft EIS. With respect to this comment, measures may include:</p> <ul style="list-style-type: none"> • Compensation for Gear Loss and Damage and Mobile Gear-Friendly Cable Protection Measures
1125-0006	<p>There is one area of analysis where some expansion of the categories is warranted. The current outline combines "Commercial Fisheries and For-Hire Recreational Fisheries". Based on the extensive analyses compiled to date and the extensive comments provided by certain commercial fishing interests and recreational fishing advocates and charter boat captains it is very clear that these two groups have decidedly different views of OSW. The commercial interests express a wide range of concerns and trepidations while the recreational fishing interests are generally very positive particularly on the prospect of new productive "mini reef" environments at each WTG monopole/scour pad. Lumping the two together makes for a muddled analysis in my opinion.</p>	<p>Comment noted. The commenter is correct that Section 3.9 concludes distinct adverse and beneficial effects of the proposed Project for commercial fisheries and for-hire recreational fishing. However, BOEM does not concur that this is cause for separating the analysis into different EIS sections.</p>
1125-0007	<p>The Commercial/Recreational Fishing Assessment (Section 3.9) spans some 54 pages of dense text in DEIS Volume 1. The writeup is very thorough but forces the reader to search for specific data and perspective on the 75500 acre project lease area. For example on page 3.9-7 the reader learns that "The commercial fisheries active in the Lease Area encompass a wide range of FMP fisheries gear and landing ports although NMFS VMS data indicate that most FMP fisheries with in the Lease Area do not have a high level of</p>	<p>This information has been added to Final EIS Section 3.9.1 to follow the listing of fisheries species and general gear types: "For example, dredging gear targets seafloor organisms such as surfclam, ocean quahog, and scallops; bottom trawl for monkfish and summer flounder; trawlers</p>

Comment No.	Comment	Response
	<p>fishing effort compared to surrounding areas". This is followed by a lengthy reference to supporting data from the Ocean Wind COP Volume I. The point is driven home by Table 3.9-5 which indicates that the average annual revenue generated by FPV in the Lease Area was \$326333 or less than \$5 per acre (2008-2019 data). Seventy five percent of the reported revenue is attributed to just two species sea scallop and surfclam/ocean quahog. Both of these fisheries involve dragging/dredging of the ocean bottom a fact which is conveniently ignored.</p>	<p>and purse seines for herring; and traps and pots for lobster and Jonah crab."</p> <p>In addition, within Section 3.9.5, under the presence of structures IPF, estimated revenue exposure for fisheries is discussed and also presented within Table 3.9-21, which acknowledges both sea scallop and surfclam/ocean quahog. It also states within the text that the "largest impacts in terms of exposed revenue as a percentage of total revenue in the Mid-Atlantic and New England regions would be in the Surfclam/ Ocean Quahog FMP fishery."</p>
<p>1125-0009, -0010, & -0011</p>	<p>Notwithstanding these numbers BOEM rates the Proposed Action impact of fisheries as "Minor to major depending on the fishery". Oddly the No Action alternative is rated as Moderate to Major.</p> <p>Given the Project's demonstrably minor impact of potentially foregone commercial fisheries revenue a closer reading reveals a strained logic for assigning a minor to major impact rating to the Project (and its alternatives). The Project (and its alternatives) in combination with "other foreseeable impacts" is rated as a Major impact to commercial/recreational fisheries across the board. The "other foreseeable impacts" includes the entirety of OW projects expected in the New England/Mid Atlantic lease areas.</p> <p>The discussion concludes by stating "the reduction in GHG emissions per kilowatt of electricity produced from offshore wind projects ...would result in long-term beneficial impacts of fishing operations". Surprisingly the analysis then concludes that "the benefits would be negligible". By dismissing the project's primary benefit this presumably allows BOEM to support its MAJOR impact conclusion.</p>	<p>Under the No Action Alternative, ongoing activities would have continuing impacts on commercial fisheries and for-hire recreational fishing, primarily through port use, vessel activity, other offshore development, climate change, and fisheries use and management.</p> <p>BOEM concurs that there will be benefits to some fisheries due to reduced GHG, as described in Section 3.9.3. However, fish and shellfish species are expected to exhibit variation in their responses to climate change, with some species benefiting from climate change and others being adversely affected (Hare et al. 2016). To the extent that impacts of climate change on targeted species result in a decrease in catch or increase in fishing costs, the profitability of businesses engaged in commercial fisheries and for-hire recreational fishing would be adversely affected, while reductions in GHG due to reduced reliance on fossil fuels would benefit some fisheries.</p>

Comment No.	Comment	Response
		<p>Overall, BOEM anticipates that the impacts of ongoing activities on commercial fisheries and for-hire recreational fishing would be moderate to major. The major impact rating for some fisheries and fishing operations is primarily driven by regulated fishing effort and climate change associated with ongoing activities.</p>
1150-0001	<p>The following comments are being submitted on behalf of the Marine Trades Association of New Jersey (MTA/NJ) regarding the Draft Environmental Impact Statement for Ocean Wind LLC's Proposed Wind Energy Facility Offshore New Jersey. The MTA/NJ established in 1972 is a non-profit trade organization comprised of over 300 marine related businesses dedicated to advancing promoting and protecting the recreational boating industry and waterways in the State of New Jersey. In New Jersey the recreational boating industry generates \$6.6 billion in annual economic impact supporting more than 1100 businesses and 28000 jobs. Additionally more than 70% of all boat outings involve fishing making recreational fishing a key asset to the recreational boating industry. To ensure continued industry growth recreational boaters and anglers rely on abundant access and healthy ecosystems. The size and scope of this proposed offshore wind facility has the potential to greatly impact the boating and fishing industries in New Jersey. As advocates for the marine industry it is our responsibility to ensure that the interests of our members are protected and that their customers can continue to fully enjoy the use of the coastal waters in and around New Jersey. We know that the development of wind turbines off the coast of New Jersey could also have positive benefits for fisheries and thus for recreational fishing. Bottom structure can serve as artificial reefs that attract fish and serve as breeding grounds.</p> <p>While we realize that there may need to be limits on access to waters near the wind farm during construction we want to ensure that recreational boats will have access to the waters in the wind farm and in proximity to the wind turbines once construction is completed. It is imperative that BOEM the lease holders and the Coast Guard allow continued access to transit navigate through and fish these areas and that these assurances are written into any approval by BOEM.</p> <p>We also want to ensure that any disruptions to our waters and to recreational boating while the wind farm is constructed and the transmission lines are laid are kept to a minimum. We would suggest that any work in Barnegat Bay or in</p>	<p>Boaters will not be excluded from the Wind Farm Area except during construction. Ocean Wind has committed to measures to minimize impacts of onshore construction activities during the peak summer recreation and tourism season. Relevant APMs are included in Appendix H of the EIS and listed below.</p> <ul style="list-style-type: none"> • GEN-15: Develop and implement an Onshore Maintenance of Traffic Plan to minimize vehicular traffic impacts during construction. Ocean Wind would designate and utilize onshore construction vehicle traffic routes, construction parking areas, and carpool/bus plans to minimize potential impacts. • GEN-18: No permanent exclusion zones during operation. • FISH-02: Ocean Wind will coordinate with NJDEP, NMFS, and USACE regarding time-of-year restrictions for winter flounder and river herring, as well as summer flounder HAPC. • REC-01: Develop a construction schedule to minimize activities in the onshore export cable route during the peak summer recreation and tourism season, where practicable.

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	<p>any other coastal waters be done in non-boating seasons and be accomplished as quickly as possible to allow the continued enjoyment of these waters. Barnegat Bay has a significant amount of boat usage in the areas off Island Beach State Park and near the transmission connection point at the former Oyster Creek Nuclear Generating Facility. Tices Shoal is in this area and is highly used especially in the summer months and on weekends. Dredging or any construction related activities in these areas from April to November and especially in the summer months will have significant negative consequences to the recreational boating community and to the local economy. We strongly suggest that these conflicts be avoided as much as possible and written in the final approval. We also question whether the chosen depth to bury transmission cables in Barnegat Bay is sufficient to ensure it does not become exposed and interfere with fishing or anchoring activities. We would encourage BOEM to further consult with experts on the Bay its sediment and its movement to ensure that both the transmission infrastructure and boaters are protected.</p>	<ul style="list-style-type: none"> REC-02: Coordinate with local municipalities to minimize impacts on popular events in the area during construction, to the extent practicable. <p>For Barnegat Bay, specific proposed time-of-year restrictions include avoiding construction activities in Barnegat Bay during winter flounder seasonal spawning activity from January 1 through May 31 and during anadromous fish migration and spawning activity from March 1 through June 30. These are noted in Appendix H, Table H-1 (FISH-02) as well as in Table H-2 under “EFH Conservation Recommendations - USACE jurisdiction” and Table H-3, “NMFS-proposed Measures,” respectively.</p>
1188-0001	<p>Bold: General Comments] Given the current pace of offshore wind energy development in this region we are unable to provide a thorough and detailed review of each individual project. For example this comment period overlapped with four other wind energy comment periods of interest to our Councils. The analysis in the DEIS has important ramifications for terms and conditions which may be implemented through final project approval including fisheries mitigation and compensation measures. However at 1408 pages (including appendices) we were unable to review the DEIS in detail given other priorities and constraints on staff time. With this in mind we strongly encourage BOEM to consider the recommendations listed in the wind energy policies adopted by both Councils which apply across all projects.[Footnote 2: Available at https://www.mafmc.org/s/MAFMC_wind_policy_Dec2021.pdf] Our two Councils worked together on these policies and adopted the same policy language. We also urge BOEM to adopt the recommendations provided by NOAA Fisheries for this project including recommendations regarding data considerations impacts analysis and ways to minimize the negative impacts of this project on marine habitats commercial and recreational fisheries and fishery species.</p>	<p>BOEM continues to work with NOAA to support additional scientific research and surveys to assess uncertainties in scientific data collection and implement any changes to surveys. BOEM has reviewed the MAFMC wind policy referenced and concurs with the content of the document. BOEM also finds that the document is consistent with the approach of the EIS with respect to stakeholder engagement, BMPs, and environmental review considerations (e.g., navigation and safety, evaluation of impacts on fisheries). Therefore, no changes to the EIS are needed.</p>
1234-0005	<p>[Bold: Transit Safety Concerns]</p> <p>The GSSA has always supported the need for transit lanes proposed in the lease area. Sadly Orsted and BOEM erroneously reported that the commercial</p>	<p>BOEM evaluated a 2-nm by 2-nm wind turbine layout and found that this spacing would only provide for 30 wind turbine</p>

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	<p>fishing industry impacted and supported the design of the array now being considered. Based on our experience transit corridors of a minimum of 2nm are necessary in order to keep our state's fishermen safe at sea and to lessen the economic impact. It is also worth noting that without transit corridors there is a significant impact to fishermen who operate under a day's at sea quota. Specifically in the case of Scallop fishery identified a lack of a transit corridor would have direct impact on the time constrained permit of the industry with a limited number of days at sea and running 24-hour clocks. Therefore we strongly support the inclusion of an alternative with transit lanes from Atlantic City and Barnegat Light NJ.</p>	<p>positions in the Lease Area (see Section C.2.1 in Appendix C of the EIS). A 2-nm by 2-nm layout would significantly reduce annual energy production, resulting in failure to meet the required 1,100 MW of wind energy. Use of a 12-MW or 14-MW WTG for the 30 WTGs would result in a Project capacity of 360 and 420 MW, respectively. The reduced capacity and annual energy production would fail to fulfill BPU's solicitation award for 1,100 MW of offshore wind and would not meet the purpose of and need for action. Therefore, this alternative was dismissed from further consideration.</p>
1241-0002	<p>1. [Italics: A minimum spacing of 2 nm between turbines and interarray and export cables buried to 8-10 feet in order for the dominant fisheries (Atlantic surfclam and ocean quahog) to operate after construction.]</p> <p>Atlantic surfclam and ocean quahog are the dominant species fished with mobile gear in the Ocean Wind lease area. For these fisheries to operate after construction a project would need to maintain a minimum spacing of 2 nm between turbines due to the specific way gear is deployed and hauled back chain lengths vessel maneuverability and other conditions [Footnote 4: This does not mean that spacing of 2 nm would result in no impacts from the project to clam fisheries but that gear cannot effectively operate at all in denser layouts.]. Turbine spacing less than 2 nm will impose a complete closure for this fishery including for purposes of determining compensatory mitigation.</p> <p>Despite this clear access consideration the DEIS does not analyze an alternative wind turbine layout of 2 nm spacing between turbines rationalizing in Appendix C ("Additional Analysis for Alternatives Dismissed") that such an alternative would reduce the number of turbines to an extent "resulting in failure to meet the required 1100 MW of wind energy." [Footnote 5: See https://www.boem.gov/sites/default/files/documents/Ocean-Wind1-DEIS-App-C-Alternatives-Dismissed.pdf.] As discussed in multiple RODA comment letters including Ocean Wind scoping comments and reiterated below the agency should approach National Environmental Policy Act (NEPA) analyses to fulfill its own purpose and in stewardship of the needs of the U.S. public. It</p>	<p>BOEM evaluated a 2-nm by 2-nm wind turbine layout and found that this spacing would only provide for 30 wind turbine positions in the Lease Area (see EIS Section 2.1.7 and Table 2-3 and Section C.2.1 in Appendix C). A 2-nm by 2-nm layout would significantly reduce annual energy production, resulting in failure to meet the required 1,100 MW of wind energy. Use of a 12-MW or 14-MW WTG for the 30 WTGs would result in a Project capacity of 360 and 420 MW, respectively. The reduced capacity and annual energy production would fail to fulfill BPU's solicitation award for 1,100 MW of offshore wind and would not meet the purpose of and need for action. Therefore, this alternative was dismissed from further consideration due to technical infeasibility.</p>

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	<p>should not base its actions purely on achieving states' OSW goals which may be driven by politics rather than science or primarily to satisfy the terms of private contracts (in this case New Jersey Board of Public Utilities' solicitation for 1100 MW of OSW capacity).</p> <p>All alternatives in the DEIS only analyze target burial depths for interarray and export cables of up to 4 to 6 feet which is shallow enough to potentially interact with surfclam and ocean quahog gear. As clam dredges are substrate penetrating gear and the substrate in this area consists of high- energy sand it is extremely important that interarray and export cables are buried to sufficient depths to reduce the risk of fishing gear interactions. Fishermen's knowledge suggests this to be a minimum of 8-10 feet to avoid interactions; if a shallower depth is permitted it must at a minimum be paired with remote monitoring to ensure the cable remains adequately buried at all times. BOEM must provide clear standards as to what this depth is how it is determined and monitoring protocols to ensure there are no future interactions. Moreover the project layout should be designed to minimize instances where cables transect fishing tow areas.</p>	
1241-0002	<p>2. [Italics: A transit corridor of no less than two nautical miles between the two leases would be needed to safely preserve traditional transit paths with four nautical miles being more appropriate.]</p> <p>Fishermen have requested directly to Ocean Wind and Atlantic Shores since the earliest stages of project development-and prior to the execution of any procurement contracts-to incorporate a reasonable turbine-free corridor between the two lease areas. Directly at the projects' shared lease boundary is an area heavily transited by multiple vessels primarily from Atlantic City and Cape May. The need for a transit lane in this location is supported by several analyses and documents submitted to Ocean Wind and BOEM: the "Fishing Route Analytics Reports" produced by Last Tow LLC the New York Bight Transit Lanes Surveys Workshop and Outreach Summary prepared by NYSERDA NY State Department of Environmental Conservation and RODA (2020) and summaries of the January 2020 RODA/Ocean Wind workshops. Despite these timely and evidence-based requests neither developer has included such a setback in its Construction and Operations Plan.</p> <p>Alternative C in the DEIS [Underlined: incorrectly] suggests RODA proposed a 0.81-1.08 nm buffer between turbines in these different leases. Simply put at no point did RODA propose or support a "buffer" of no surface occupancy between lease areas of 1.08 nm or less. The DEIS misleads the reviewers stating its consideration of a roughly one mile setback between wind projects</p>	<p>The Draft EIS summarizes the concerns raised by USCG, RODA, and commercial fishermen during scoping regarding the layout of the Ocean Wind 1 and Atlantic Shores South projects and the proximity of the two projects in the adjacent lease areas. The Draft EIS explains that Alternative C was developed by BOEM in coordination with USCG to address these concerns. BOEM coordinated with USCG regarding an appropriate buffer distance, and that buffer distance (0.81 nm to 1.08 nm) is analyzed in the Ocean Wind 1 Draft EIS as Alternative C. The Draft EIS does not state or imply that USCG, RODA, or commercial fishermen proposed or support Alternative C. Nevertheless, revisions have been made to the Final EIS to further clarify that BOEM developed Alternative C in coordination with USCG.</p>

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	<p>is responsive to public comment from "RODA and commercial fishermen concerning the different layouts between the Ocean Wind 1 and Atlantic Shores South projects and the need for a buffer between the two projects in the adjacent lease areas." [Underlined: This alternative is not responsive to nor consistent with any requests from our organization nor any known commercial fishing operators.] Indeed it appears to be simply equivalent to standard turbine spacing and is not readily distinguishable from the proposed action of no buffer at all.</p> <p>Upon publication of the DEIS RODA immediately contacted BOEM about this clear error and provided documentation of consistent requests for a 2-4 nm buffer between leases in our EIS scoping comments and summaries of meetings with Ørsted. BOEM responded that this alternative was a combination of RODA's suggestion and internal discussions with the U.S. Coast Guard (USCG) and stated it was unable to correct copy errors until publication of the Final EIS. BOEM subsequently reissued this DEIS on July 22 2022 with updated cable route options provided by Ørsted but without including a correction of this statement regarding RODA's position or request.</p> <p>Unfortunately there are increasing instances of BOEM and developers mischaracterizing and mismanaging recommendations from and information about the commercial fishing industry. [Underlined: The absence of a process for ensuring the accuracy of fisheries-related information in project documents is a persistent problem we request BOEM to solve immediately.][Footnote 6: See RODA's Ocean Wind 1 scoping comments for a full description of a nearly identical problem in BOEM's scoping hearings for this project where Ørsted asserted its preferred layout was developed with input from RODA and New Jersey fishermen. This statement was provided without explanation and directly contradicted the industry's experience including well-documented layout recommendations provided by dozens of fishermen that were not incorporated into the proposed layout. Despite formally raising this to BOEM and Ørsted similar statements remain in the Ocean Wind COP issued with this DEIS.] Fishing industry associations have repeatedly requested record corrections to no effect. [Footnote 7: In another example Vineyard Wind's recent Construction and Operations Plans and corporate website lists RODA as a partner although there is no relationship between the organizations whatsoever following the dissolution of the Joint Industry Task Force in January 2020. Multiple requests to remove this language including to BOEM have been futile. This is not specific to RODA nor to that developer; many of our fishing association members regularly report similar mischaracterizations</p>	

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	<p>from various parties.] This seemingly avoidable pattern has led to considerable distrust in BOEM developers and the current leasing process as a whole and has grown to become a significant barrier to effective problem solving. While BOEM cannot control the actions of private citizens it is responsible for the accuracy and veracity of its own materials. Thus BOEM in working with the fishing sector to reduce impacts from OSW must communicate directly with community members and representatives accurately portray their feedback in public documents and give this information equal scrutiny and deference to that provided by the OSW community.</p> <p>BOEM appears to have determined through the inclusion of Alternative C that a buffer zone between the leases is a reasonable Alternative in the DEIS. It is therefore unclear why it would analyze only a nominal setback of 1.08 nm between lease boundaries but not ones of 2 and 4 nm that may actually mitigate some impacts to transiting. [Footnote 8: It should be noted that for the most recent lease auction in the NY Bight BOEM established 2.44 nm spacing between select leases [<i>Italics: specifically</i>] in response to comments requesting transit corridors and measures for maritime safety. See https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/ATLW- 8%20NY%20Bight%20Response%20to%20Comments.pdf.] The DEIS simply refers to "public comments from the USCG" in establishing the width analyzed in Alternative C but provides no explanation rationale or analysis of why a 1.08 nm or smaller buffer between two huge lease areas (each with two likely projects within them) would be sufficient to ensure transiting safety. This contrasts with the material analysis and ecological knowledge provided by RODA and the fishing industry to the contrary.</p> <p>D. [Bold: Alternatives Analyzed]</p> <p>The DEIS alternatives and impacts analyses are somewhat consistent with past BOEM documents related to OSW which RODA and others have previously commented lack clear structure and are difficult to evaluate. [Footnote 20: Previous comments to that end such as on the Vineyard Wind South Fork and other Southern New England and Mid-Atlantic OSW projects are incorporated herein by reference.] The purpose of a DEIS is to inform public comment and a lack of clarity in presentation confounds that ability.</p>	
1241-0002	<p>The No Action alternative is difficult to follow as it conflates no action with a cumulative effects analysis. The No Action alternative seems to propose the logic that the impacts of any individual project do not matter since a large number of other OSW projects will proceed anyway. This is problematic for multiple reasons is inconsistent with NEPA analysis methodology and</p>	<p>For the No Action Alternative analysis in the Chapter 3 resource sections, the Final EIS was updated to present the analysis of the ongoing non-offshore wind and ongoing offshore wind activities under a separate</p>

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	predetermines outcomes arguably negating the need for any analysis at all. This approach unintentionally emphasizes the need for a proper cumulative effects analysis and a programmatic EIS prior to lease agreements being put in place so that the true impacts of new large-scale regional OSW development can be analyzed presented and understood.	sub-heading from the planned non-offshore wind and offshore wind activities. The Proposed Action Alternative and action alternative discussions were also updated to present the cumulative impact analysis under a separate subheading.
1241-0002	Finally overall net impacts on each resource area are largely absent. Acknowledging that impact- producing factors can have complicated interactions with resource areas is important to highlight however the public is left to come to their own conclusions regarding whether the positive will outweigh the negative or vice versa.	The overall impact level is presented in the conclusion section of each Chapter 3 resource section and also in the <i>Executive Summary</i> , Table S-1.
1243-0003	<p>The clam industry which operates mobile bottom-tending hydraulic dredges insisted that co-existence depended on the requirement that wind turbines in WEAs must be a minimum distance of 2 nm apart. The clam industry along with several other commercial fisheries that operate mobile bottom tending gear voiced this minimum spacing of turbines requirement at every outreach meeting and recommended other spacing requirements and cable burial recommendations as well only to be summarily dismissed within this DEIS into the alternatives section considered but not presented as a viable option for this WEA. Essentially all participation in outreach meetings by several major commercial fisheries for continued safe fishing were simply ignored.</p> <p>Evidently the participation of commercial fisheries at outreach meetings on WEAs has proved to be a complete waste of our time since BOEM saw fit to list our recommendations for co-existence on the water in the category of [Bold: Table 2-3 Alternatives Considered but Dismissed] as not worthy of being analyzed in detail (see Vol. 1 p. 2-28 Wind Turbine Array and Spacing). [Bold: Essentially BOEM is stating that the needs of the clam industry and many other important commercial fisheries don't meet BOEM's purpose and need in advancing Ocean Wind 1 (boldface is my emphasis)]. So let's examine the purpose and needs of BOEM in the proposed action of Ocean Wind 1 to understand how the commercial fisheries that have existed for many decades suddenly interfere with development of offshore wind energy fail to co-exist with WEAs and must make adjustments request mitigation and compensation and may ultimately go out of business because their continued clamming is a nuisance and impediment to the industrialization of the East coast of the US from ME through NC through many WEAs.</p>	BOEM evaluated a 2-nm by 2-nm wind turbine layout and found that this spacing would only provide for 30 wind turbine positions in the Lease Area (see EIS Section 2.1.7 and Table 2-3 and Section C.2.1 in Appendix C). A 2-nm by 2-nm layout would significantly reduce annual energy production, resulting in failure to meet the required 1,100 MW of wind energy. Use of a 12-MW or 14-MW WTG for the 30 WTGs would result in a Project capacity of 360 and 420 MW, respectively. The reduced capacity and annual energy production would fail to fulfill BPU's solicitation award for 1,100 MW of offshore wind and would not meet the purpose of and need for action. Therefore, this alternative was dismissed from further consideration due to technical infeasibility.
1243-0003	The Ocean Wind 1 lease site proposes to space 98 wind turbines in rows and columns that are less than or equal to 1 nm. apart. This cluster of structures	BOEM recognizes the challenges identified by the clamming industry due to the

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	<p>will prevent the clam industry and some other commercial fisheries from operating within the lease area and a de facto marine protected area will be created where no clamming can safely occur regardless of whether clamming occurred within the lease site in the past. Since surfclam beds are moving in northerly and easterly directions to lower ocean bottom temperatures in response to climate change surfclam beds may settle within a lease site produce good recruitment to the stock but because wind turbines are spaced so closely together there can be no safe access for surfclam vessels to harvest those clams.</p>	<p>selected WTG spacing and acknowledges these challenges in Sections 3.9.3 and 3.9.5 in the EIS.</p> <p>However, BOEM evaluated a 2-nm by 2-nm wind turbine layout and found that the number of turbine positions result in failure to meet the required 1,100 MW of wind energy. The reduced capacity and annual energy production would fail to fulfill BPU's solicitation award for 1,100 MW of offshore wind and would not meet the purpose of and need for action. Therefore, this alternative was dismissed from further consideration, as described in EIS Section 2.1.7 and Table 2-3 and Section C.2.1 in Appendix C.</p>
1243-0003	<p>So if BOEM is trying to produce renewable energy economically and with minimal environmental impacts the clam industry would give BOEM a failing grade on many fronts. The wind energy companies are only concerned with the economical scale of the COP and the potential profits and BOEM doesn't seem to weigh those earnings against the lost income and fishing grounds of the clam industry. Nor does BOEM seem to have an answer to how they are minimizing the cumulative impacts on marine fisheries resources in the foreseeable future marine habitats essential fish habitat and federal independent fisheries surveys either.</p> <p>Let's consider the economic impacts on commercial fisheries first and then deal with all the other impacts on the ecosystem. The DEIS relies on NMFS values from VMS for fishing activity and landings for the monetary evaluation of fisheries impacted by the WEA. The calculus of financial impact on fisheries is grossly underestimated when using number of trips and ex-vessel value of landings. The ex-vessel value of the clam industry which is vertically integrated through processing plants and distribution networks of products is grossly underestimated. For example in the Science Center for Marine Fisheries (SCMFIS) funded project "Economic Activity Associated with SCMFIS Supported Fishery Products by T. J. Murray - June 2016 the combined value for surfclam and ocean quahog fisheries the initial harvest value (ex-vessel times landings) amounts to \$54873000 but the total value of the fisheries through all their value-added steps that reach final retail food service is valued</p>	<p>By providing revenue exposure within the EIS analysis, not impacts, BOEM is already providing a very conservative estimate of potential revenue losses and potential impacts for different fisheries, which include sea scallops and surfclam/ocean quahog. Surfclam/ocean quahog is also acknowledged as the highest-revenue exposed fishery in the affected environment and Proposed Action. By providing this over-estimation of revenue exposure, the analysis provides a buffer to cover other potential operating expenses.</p> <p>BOEM acknowledges the importance of the commercial fishing industry, as well as the variety of ports and shoreside businesses related to and within this area. To that end, it has included extensive analysis of commercial fishing revenue exposure within the Ocean Wind Lease Area.</p> <p>As the comment mentions, Section 3.9.9, <i>Proposed Mitigation Measures</i>, accurately</p>

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	<p>at \$1308331000. Ex-vessel value as currently computed by NMFS represents only a fraction of the value of such vertically integrated fisheries. NMFS estimates in the DEIS at Table 3.9-1 page 3.9-4 for the clam industry an annual amount of only \$28290400/year during the period 2008-2019. While BOEM recognizes the commercially important invertebrates such as surfclams and ocean quahogs in the geographic analysis area they do little to mitigate the loss of such an important industry. BOEM makes sure to avoid artificial reefs in WEAs that are enjoyed by recreational fishermen yet doesn't extend the same consideration to productive clam beds.</p> <p>Other economic data presented in the DEIS (see Vol. 1 Table 3.9-5 and 3.9-6) document the presence of significant clam industry earnings from the WEA the clam industry is second in economic value only to the sea scallop fishery. Under Vol 1. [Bold: Section 3.9.9 Proposed Mitigation Measures] in the DEIS Sub-section [Bold: Compensation for Lost Fishing Income] it states that "Ocean Wind would implement a compensation program for lost income for commercial and recreational fishermen and other eligible fishing interests for construction and operations consistent with BOEM's draft guidelines for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585 or as modified in response to public comment. The clam industry takes little solace in the mention of a compensation program that currently doesn't exist but must rely on BOEM to develop such a program in future years. The clam industry is also disheartened to read that the compensation fund will include "Levels of funding required by Ocean Wind to be set aside for fulfilling verified claims (and) would be commensurate with those in Vol. 1 Table 3.9-21. Compensation funds to be determined in the future would certainly not be as credible as lost fishing opportunities currently being documented by the clam industry in an independent Knowledge Trust Program.</p>	<p>captures the categories for intended mitigation or compensation.</p>
1272-0002	<p>BOEM on every occasion has said that their desire is to have the wind development and the fishing industry coexist. However the developers have said that the lease areas are theirs to do with as they please and the other users must go elsewhere to catch their fish. The clam fishery suggested that the turbines be placed 2 x 2 NM apart with this design would allowing fishing with in the wind array in good weather. That idea was opposed by the developers and BOEM then approves the turbine spacing at whatever the developers wanted. The European manages of the U.S. wind farms made it clear that they want the other users of the ocean to stay out of their wind farms. So it appears that if the developers get their way and American</p>	<p>BOEM recognizes the challenges identified by the clamming industry due to the selected WTG spacing and acknowledges these challenges in Sections 3.9.3 and 3.9.5 in the EIS.</p> <p>However, BOEM evaluated a 2-nm by 2-nm wind turbine layout and found that the number of turbine positions result in failure to meet the required 1,100 MW of wind energy. The reduced capacity and annual</p>

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	fishermen will be denied access to their fishing grounds which amounts to closure of thousands of square miles to U.S. fishermen.	energy production would fail to fulfill BPU's solicitation award for 1,100 MW of offshore wind and would not meet the purpose of and need for action. Therefore, this alternative was dismissed from further consideration, as described in EIS Section 2.1.7 and Table 2-3 and Section C.2.1 in Appendix C, due to technical infeasibility.
1272-0007	There is serious injustice that is about to happen to the fishing industry in the next decade which is the loss of access to fishing grounds. With thousands of large turbines in Southern New England and the Mid Atlantic taking up thousands of square miles because of the types of bottom necessary to install these turbines. Prime fishing grounds are about to become wind farms which are going to be defacto Marine Protected Areas. Because the turbines are going to be so close together is it going to be difficult if not impossible to use bottom tending model fishing gear in the wind farms. The wind farm developers have also made it clear that they do not want and will attempt to keep all non-wind farm vessels out of their arrays. At this point BOEM seems to agree because they are approving COPs that allow the turbines to e place as close as 1 X .6 NM apart. And the developers are work to find a way to keep all other out of the leases. BOEM could have taken the fishing industries advise and only approve COPs with the turbines 2 X 2 NM apart which would have allowed bottom tend fishing gear to operating within the farms in good weather. But that has not happened. In the foreseeable future the negative effect on the fishing industry is going to become clear. The fishing industry will be harmed and most developers states grid operators and BOEM appear not to care.	BOEM recognizes the challenges identified by the clamming industry due to the selected WTG spacing and acknowledges these challenges in Sections 3.9.3 and 3.9.5 in the EIS. BOEM evaluated a 2-nm by 2-nm wind turbine layout and found that the number of turbine positions result in failure to meet the required 1,100 MW of wind energy. The reduced capacity and annual energy production would fail to fulfill BPU's solicitation award for 1,100 MW of offshore wind and would not meet the purpose of and need for action. Therefore, this alternative was dismissed from further consideration, as described in EIS Section 2.1.7 and Table 2-3 and Section C.2.1 in Appendix C, due to technical infeasibility. Approval of the Proposed Action would not restrict legal fishing in the Lease Area except during construction, when fishing may be excluded in safety zones.
1278-0016	The Oyster Creek export cable is a bad idea since it travels a long distance (143 miles p S-6) and mostly parallel to the shore. In a sense it creates a grid with other export cables that would run directly inshore making it next to impossible for commercial fishermen to avoid should it ever partially uncover. Especially commercial fishermen will need to know the exact coordinates of any export cable. A target depth of 4 feet for the export cable is much too shallow and will lead to almost certain uncovering. Also I could not find any reference to how wide the surveyed corridor was for the export cables. Hiding	BOEM recognizes the potential effects of cables, including potential entanglement and damage or loss of commercial and recreational fishing gear. However, these impacts are unlikely. Ocean Wind proposes to bury all cables to a target depth of 4 to 6 feet (1.2 to 1.8

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	<p>relevant information on marine surveys so that the public cannot know if a thorough survey was conducted contradicts the intent of the DEIS.</p>	<p>meters). Cable-laying activities would directly disrupt commercial and for-hire recreational fishing activities only during construction. Existing aquaculture leases would be avoided to the extent practicable; however, the aquaculture lease near the Oyster Creek marina landfall option may be temporarily affected by cable installation and anchor lines for installation vessels.</p> <p>Hydraulic dredges at 6.3 inches penetrate the ocean floor the deepest of any bottom-trawl gear (Hiddink et al. 2017); therefore, it is unlikely that fishing gear would penetrate deep enough to snag or become tangled in the cable. BOEM assumes less than 10 percent of the cables may not achieve the target burial depth and would require cable protection in the form of rock placement, concrete mattresses, or half-shell (BOEM 2021).</p> <p>As described in Chapter 2 of the EIS, there are numerous active and inactive cables along the New Jersey shore and throughout the Mid-Atlantic areas dating back hundreds of years, and well-established BMPs and laws have allowed for the mutual coexistence of submarine cables with vessel operations. This is expected to continue.</p>
1278-0022	<p>The commercial fishermen want those cables buried 8-10 feet not four feet in both the WTG area and the export cables. The suggestion on page 3.9-30 that after WTG completion commercial fishermen will avoid the area because many recreational fishermen will be attracted to the WTG is not the reason commercial fishermen will avoid it. Commercial fishermen are afraid of the danger of uncovered inter-array cables and limited maneuverability with the WTGs. Commercial fishermen are also afraid of entanglement and gear loss due to pulling the gear over the bottom and snagging either the WTG concrete mattresses cables or other infrastructure. Large construction vessel movement</p>	<p>BOEM recognizes the potential effects of cables, including entanglement or gear loss/damage and navigational hazards, as described throughout Section 3.9. Ocean Wind proposes to bury all cables to a target depth of 4 to 6 feet. Hydraulic dredges at 6.3 inches penetrate the ocean floor the deepest of any bottom-trawl gear (Hiddink et al. 2017); therefore, it is unlikely that</p>

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	and anchoring during construction is another navigation hazard for commercial and recreational vessels alike.	fishing gear would penetrate deep enough to snag or become tangled in the cable. BOEM assumes less than 10 percent of the cables may not achieve the target burial depth and would require cable protection in the form of rock placement, concrete mattresses, or half-shell (BOEM 2021).
0984-0016	3.9 Commercial Fisheries and For-Hire Recreational Fishing. The commercial fishing industry is extremely complex and should not be commingled with the scientific information of the recreational For-Hire Recreational Fishing Industry. BOEM's claim that it has a working relationship with The Department of Commerce is a farce. The science and policies that can be provided by the other four United States Agencies that deal with fisheries exists and undermines the rapid expansion of wind energy industrialization of the sea. This section is notably incomplete and is an example of why a relatively new government agency (BOEM) should not be imposing their taxpayer funded will on producing fishery information. BOEM's conflict of interest as the lessor and willingness to produce supporting claims to rush this EIS is an act with criminal intent and should be investigated by the United States Attorney General. The EIS should show hundreds of [Bold: Major Impacts] to Commercial fishing. The applicants development site has over 200 different fish species that frequent or transit through the area. Endangered and threatened marine species will be affected [Bold: a Major Impact]. The EIS notably only uses information from federally permitted vessels. There are many fishers who will be affected by the Industrial energy development zone whom did not file VTRs in the questionable time frame chosen to collect use data. The EIS should be rejected and found incomplete.	Comment noted. Data available from numerous sources—such as federal, state, and local agencies, academia, and collected by Ocean Wind—were used to develop the EIS. Analyses presented in the EIS are based on available scientific information and sources of data are cited. In addition, the Draft EIS was prepared in accordance with the requirements of NEPA (42 USC 4321–4370f) and implementing regulations of CEQ and the Department of the Interior.
0984-0070	The failure to quantify the amount of bottom that will be hardened and changed permanently without any bonded removal requirements is a misrepresentation of the true costs to the environment. The EIS should have a complete application and the fact that the applicant fails to provide such available calculation the application should be denied.	The amount of (ocean) bottom expected to be hardened as a result of the Proposed Action is presented in Appendix E, Table E-2, of the EIS. Extents of hard protection for inter-array cables and offshore export cables are 77 acres and 94 acres, respectively; WTG foundation and scour protection would total 84 acres.
0984-0073	The multiple [Bold: major impacts] of the EIS will create significant impacts on coastal habitats and change the overall character of the coastal habitat within the geographical analysis area. Sound waves will have noticeable [Bold: major	BOEM expects the Proposed Action to lead to unavoidable, short- to long-term impacts on benthic resources due to sediment

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	<p>impact] from the repetitive work being conducted. A base stock of marine life capable of reproduction will be so adversely affected that it will take a century before the slower growing invertebrates are to recover from the pre-offshore wind energy industrialization zone. The introduction of non-native sediment cap on top of the cable will create native marine life displacement and create new habituate for non-native species like the Chinese green mussel and Chinese mitten crab. The applicants recognition of a permanent [Bold: major impact] is significant; but the applicant has failed to talk about the impact of having the compacted non-native soils replicated side by side for miles repeated multiple times during the life span of the project. This will change the eco-systems and the available food source for the most valuable fin fish in the Northeast. The applicants EIS is a [Bold: major impact] noted to be for cables. The [Bold: major impact] should also be considered for the import cable to the transfer stations that will be hotels at sea for the crews. The effects of the EMFs will be significant on a variety of marine life. There is enough scientific evidence that would suggest that the impacts will change the feeding habits of large sharks and push them closer to the beaches.</p>	<p>disturbance and the addition of cable and WTG protections. These structures and associated fauna would provide opportunities (i.e., “stepping stones”) for the establishment and spread of nonnative and invasive species but would also provide a “reef effect” that would support benthic organisms that are a food source to many fish species (described in Section 3.6, <i>Benthic Resources</i>).</p> <p>BOEM has considered the possibility of a significant impact resulting from invasive species and considers it unlikely; this level of impact could occur if an invasive species were to adversely affect benthic ecosystem health or habitat quality at a regional scale. While it is an impact that should be considered, it is also unlikely to occur and the incremental increase in this risk due to the Proposed Action is negligible.</p> <p>Information available (and reviewed in the EIS, e.g., Section 3.6, <i>Benthic Resources</i>) indicates EMF impacts on marine resources would be biologically insignificant, highly localized, and limited to the immediate vicinity of cables, undetectable beyond a short distance, but persistent as long as cables are in operation. Most exposure is expected to be of short duration, and the affected area would represent an insignificant portion of the available habitat; therefore, impacts would be expected to be negligible.</p>
0984-0074	<p>If that is the case and fishers choose to fish in the zone (because that is where the fish are before the wind turbine installation) there will be a [Bold: major impact] of noise from the turbines on the individuals fishing in the area. There are plenty of studies that the applicant has failed to include in the EIS on the medical impacts in regards to hearing loss. If the ocean users who choose not</p>	<p>The amount of fishing activity that could be affected within the Lease Area is a small fraction of the amount of fishing activity in the New England and Mid-Atlantic regions as a whole.</p>

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	<p>to risk being affected are now displaced the [Bold: major impact] is the removal of over a thousand square miles of the North East's most productive fishing grounds accounting for nearly three quarters of all fish caught. The [Bold: major impact] to the nation's food Security international trade coastal economy the over two hundred year old supply chain will all be lost and the amount of people food insecure will see double digit growth. The applicant has an obligation to comply with current social justice requirements and include the impact of noise on other sea users in the EIS.</p>	<p>Noise from the proposed Project would result in a localized, short-term, negligible impact on jobs supported by local businesses as well as on subsistence fishing, and these impacts are considered in Section 3.12, <i>Environmental Justice</i>.</p>
0984-0089	<p>The suggestion that the recreational fishing industry will benefit from the additional artificial sites is one of the systemic racist components contained in the application and within BOEM as a whole. The sites will have a negative biological inventory affect. The new environmental justice regulations should be enacted with regards to the EIS. Challenges to the recreational fishing section of the EIS that supports inequality needs to be addressed as a bias. The removal of a source a cheap protein "seafood" for the food insecure for recreationists is criminal as is the EIS who promotes such an act. The increased cost of seafood with a simple supply and demand chart will show the additional costs to the consumers. The USDA has the calculations on the price increase / decrease ratio on a ten cent basis on how many people can afford a nutritional meal. The applicant and BOEM have refused to address the cost of seafood and the impacts to the countries people whom are already in need. The comments that only the wealthy can afford fish was not true in the coastal communities but will be with the lack of inclusion and understanding of the [Bold: major impact] that have been omitted from the EIS. This EIS is incomplete and should be rejected.</p>	<p>Impacts on for-hire recreational fishing due to the Proposed Action and planned activities would be minor to major depending on the fishery, as described in Section 3.12, <i>Environmental Justice</i>. The EIS presents both beneficial and adverse impacts of the Proposed Action on the recreational fishing industry.</p> <p>Beneficial impacts would be generated by the reef effect of offshore structures, providing additional opportunity for tour boats and for-hire recreational fishing businesses.</p> <p>Adverse impacts would result from navigational complexity within the Wind Farm Area, disturbance of customary routes and fishing locations, and the presence of scour protection and cable hardcover, leading to possible equipment loss and limiting certain commercial fishing methods.</p>
0984-0099	<p>The ongoing and future surveys of the potential impacts of offshore wind on finfish invertebrates and EFH will have to continue before this and any of the permits are granted. The EIS is incomplete and should be rejected.</p>	<p>BOEM continues to work with NOAA to support additional scientific research and surveys to assess uncertainties in scientific data collection and implement any changes to surveys. As part of the Proposed Action, Ocean Wind has committed to conducting several pre-, during, and post-construction monitoring surveys.</p>

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0984-0100	The reference to endangered species the American sturgeon and the seasonal migration habits is a good example why this EIS should be rejected for being incomplete. The American Sturgeon migrates North in the spring across the cumulative lease sites. The applicant continues to falsely portray impacts within the EIS and has not invested the time or money to properly complete the EIS. The application should be rejected.	Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> , has been expanded to include discussion of potential impacts on the Atlantic sturgeon for each IPF. In addition, the Atlantic sturgeon is addressed in the NMFS BA, which is included in the Final EIS.
0984-0101	The changing of an ecosystem by adding structures where none existed before is a permanent [Bold: major impact] and should not be considered a moderate beneficial impact. There will be significant [Bold: major impacts] to the fishing industry with the loss of miles of the most diverse fishing grounds on the east coast. The applicant has been misled by the fishing liaison as to the willingness of fishers to fish in shipping lanes. Plus it should be anticipated that with the reduction of open waters to transit that vessel traffic in the shipping lanes will place vessels at closer proximity especially during the construction phase of any of the development sites. This reduction in fishing grounds and the increased vessel traffic will have a direct negative [Bold: major impact] on fishing effort.	Impacts on commercial fisheries from the Proposed Action are expected to be minor to major, depending on the fishery, as described in Section 3.6.5 of the EIS. The Wind Farm Area will not be closed to fishing during operation of the wind farm, although some fishers may choose to avoid the lease area due to the potential for gear loss/damage and safety. Impacts on the industry would result primarily from reduced access to traditional fishing grounds and increased risk of fishing gear damage or loss.
TRANS-0081-0002	Additionally we do believe this document has been rushed in its development. Specifically we are concerned with commercial fishing portions of the document and we have been combined with the four higher recreational fishing in your analysis we believe this undermines the real impact on commercial fishing directly as you look at the no action alternatives and the other alternatives when it comes to impacts on commercial fishing. Specifically to identify that are moderate to major impact that will occur with no action seems irresponsible to the commercial fisherman. We even go so far as to look at table 3.9-4 which is a table that identifies commercial fishing revenue of federally permitted vessels in the Mid-Atlantic and New England fisheries and the level of fishing dependence by port. This table lacks specifically the ports of Atlantic City of Barnegat Light and of Sea Isle City in the state of New Jersey. We don't understand by BOEM has not included these major ports commercial fishing ports in this analysis.	Impacts on commercial and for-hire recreational fisheries are expected to be minor to major depending on the fishery. Commercial and for-hire recreational fisheries are presented together in Section 3.9 and a change is not considered warranted. Under the Proposed Action, impacts on these resources would range from minor to major, depending on the fishery. Impacts would be minor for vessels that derive a small portion of their total revenue in wind farm areas or are willing to seek and able to find suitable alternative fishing locations. For fishing vessels that choose to avoid the Wind Farm Area, have historically derived a large percentage of their total revenue from the area, and are unable to find suitable

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		<p>alternative fishing locations, the adverse impacts would be major.</p> <p>With respect to additional ports, Table 3.9-4 in Section 3.9 has been revised to include Atlantic City, Barnegat Light. Sea Isle is included in Tables 3.9-9, 3.9-10, 3.9-14, and 3.9-15.</p>
TRANS-0089-0001	<p>Some commercial fisherman also stand to have their usual operations altered Orsted will help ease any transition strain by implementing a navigational safety fund and a gear loss program. I urge BOEM to create a loss mitigation strategy that accounts for any harm to our historical South Jersey fishing fleet.</p>	<p>Proposed mitigation for fisheries impacts are provided in Appendix H of the EIS and include:</p> <ul style="list-style-type: none"> • CFHFISH-02: Develop and implement a Fisheries Communication and Outreach Plan (COP Appendix O). The plan includes the appointment of a dedicated fisheries liaison as well as fisheries representatives who will serve as conduits for providing information to, and gathering feedback from, the fishing industry, as well as Project-specific details on fisheries engagements. • CFHFISH-03: Implement Ørsted's corporate policy and procedure to compensate commercial/recreational fishing entities for gear loss as a result of Project activities.
TRANS-0092-0001	<p>We do however have concerns about the impacts to the commercial fishing industry. Commercial fishing is vital to New Jersey's economy and to our way of life as a coastal state. The DEIS notes that there will be material impacts to this industry. It also notes that some project design changes have already been made and that mitigation can be effective in offsetting those impacts. More must be done to ensure that mitigation takes place. For this reason New Jersey BIA believes that the Federal Government must continue working with both the commercial and fishing industries to ensure that the mitigation nplan to compensate the commercial fishing industry is in place.</p>	<p>Proposed mitigation for fisheries impacts are provided in Appendix H of the EIS and include:</p> <ul style="list-style-type: none"> • CFHFISH-02: Develop and implement a Fisheries Communication and Outreach Plan (COP Appendix O). The plan includes the appointment of a dedicated fisheries liaison as well as fisheries representatives who will serve as conduits for providing information to, and gathering feedback from, the

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		<p>fishing industry, as well as Project-specific details on fisheries engagements.</p> <ul style="list-style-type: none">• CFHFISH-03: Implement Ørsted's corporate policy and procedure to compensate commercial/recreational fishing entities for gear loss as a result of Project activities.

O.6.9 Cultural Resources

Table O.6.9-1 Responses to Comments on Cultural Resources

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0321-0001	<p>My name is Nancy Solomon and I am the director of Long Island Traditions a regional nonprofit organization that documents presents and advocates for the preservation of local traditional culture including our maritime culture. I have worked with local regional bodies including the South Shore Estuary the National park Service and other agencies. In reviewing the NHPA compliance documents prepared by the project team I come to the conclusion that there needs to be an impact study for impacts to offshore fishermen baymen and shellfish beds. One way to do this would be through a traditional NEPA or NHPA study using the criteria established by the Traditional Cultural Properties assessment designed by the NPS and the National Register. Intangible cultural resources are critical to our regional identity. The current evaluation documents prepared for historic resources do not include any analysis of intangible cultural resources. Should the EIS deem there will be an impact we ask that Shell New Energies US LLC and EDF Renewables North America establish a mitigation fund for the impacted fishermen.</p>	<p>Impacts from the Project on offshore fishers, bay farmers, and shellfish beds are addressed in Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>. BOEM appreciates and will consider the issue of offshore fishing areas as a TCP raised by the comment. Long Island Traditions will be invited to be a Section 106 consulting party. Identification of offshore fishing areas as a potential historic property through implementation of a TCP assessment will be completed pursuant to the Phased Identification Plan stipulated in the Section 106 Memorandum of Agreement. If the phased identification process finds fishing areas to be TCPs and assessment of effects consistent with the process identified in the Memorandum of Agreement finds the historic property to be adversely affected, BOEM will consult with Section 106 consulting parties to resolve adverse effects, including consideration of a mitigation fund.</p>
0487-0002	<p>I have been diving the hundreds of historic shipwrecks off our coast for 40 years. Many of these historic wrecks lie within the areas designated for turbine construction. Disturbing these sites cannot be allowed and must be thoroughly addressed along with maintaining unfettered access. This issue must be seriously researched and considered.</p>	<p>BOEM has identified 19 submerged archaeological resources within the marine APE (Targets 1–19). The Draft EIS previously indicated the Project would encroach into the recommended 50-foot buffers around two of these resources (one shipwreck within the Oyster Creek offshore export cable route and one shipwreck within the BL England offshore export cable route). However, BOEM has reviewed the revised Marine Archaeological Resource Assessment (COP Volume III, Appendix F-1, September 2022) prepared by Ocean Wind. Based on the revised assessment, BOEM has revised the Final EIS to specify the Project will avoid the 50-meter buffer around all 19 submerged archaeological resources and thus avoid impacts on those cultural resources under NEPA and avoid adverse effects on those historic properties under Section 106.</p>

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0487-0008	BOEM needs to insure through detailed siting information and firm policies that preservation and access to shipwrecks in the area is not compromised.	Information related to wind turbine siting is provided in COP Volume III, Appendix G, Locations for Offshore Turbines and Substations. Regarding public access to shipwrecks, please see response to comment 0487-0002.
0984-0112	Individual turbines to the offshore substations substation interconnector cables linking the substations to each other offshore, export cables and onshore export cable system two onshore substations and connections to the existing electrical grid in New Jersey (underground cables or overhead transmission lines would be required to connect each onshore substation to the existing grid). The WTGs and offshore substations array cables and substation interconnector cables will be located in Federal waters approximately 13 nautical miles (nm 15 statute miles) southeast of Atlantic City. The offshore export cables will be buried below the seabed surface within Federal and State waters. The onshore export cables substations and grid connections are intended to be located in Ocean and Cape May Counties New Jersey. The Project location is depicted in [Error! Reference source not found]. The Project will be installed beginning in 2023 and operational in 2024. Section 106 of the National Historic Preservation Act (Section 106 54 USC 306108) requires federal agencies to take into account the effects of an undertaking on historic properties listed in or eligible for the National Register of Historic Places (NRHP). As the lead federal agency for this undertaking BOEM has the responsibility for compliance with the NHPA and other federal statutes regulations and guidance relating to the protection of historic properties. Similarly the State of New Jersey has promulgated regulations and guidance related to the protection of historic properties including the properties listed in the State Register of Historic Places (SRHP). Ocean Wind is out of compliance. If Ocean Wind was committed to the protection of historic properties in accordance with federal and state statutes regulations and appropriate guidance they would be using the appropriate resources to document the sites at sea and within the sites they intend on disturbing before construction. BOEM's conflict of interest is evident in this section as the lessor. Identifying historic properties within the Project's Area of Potential	The Marine Archaeological Resource Assessment (COP Volume III, Appendix F-1) prepared by Ocean Wind represents a good-faith effort to identify historic properties with the Project's marine APE. Ocean Wind has revised this report in response to consulting party comments on the initial version. These revisions were incorporated into the Final EIS. Additionally, if Alternative B-1, B-2, C-1, C-2, or D is selected, Ocean Wind has committed to conducting phased identification to further delineate and evaluate submerged archaeological resources within the marine APE that cannot be avoided. The Terrestrial Archaeological Resource Assessment (COP Volume III, Appendix F-2) prepared by Ocean Wind represents a good-faith effort to identify historic properties within the Project's terrestrial APE. The terrestrial APE includes the footprint of the proposed onshore facilities associated with construction, O&M including the onshore substation and onshore export cable routes, as well as temporary work areas including staging and laydown areas. In addition to identifying known archaeological resources in the terrestrial APE, the Terrestrial Archaeological Resource Assessment includes information about archaeological sensitivity. Given there are areas identified as being archaeologically sensitive and areas that are previously undisturbed, the Post-Review Discoveries Plan for Terrestrial Resources includes language that requires "[Secretary of the Interior] qualified professional archaeologist [to] initially monitor all construction activities that could potentially impact archaeological deposits. Monitoring will be discontinued as soon as the archaeologist is satisfied that final construction will not disturb important deposits."

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	<p>Effects (APE) at sea by Ocean Wind has been purposely omitted. Cultural resources studies to identify historic properties that may be affected by construction and operation of the Project should be conducted beforehand. Archaeological properties listed in eligible for or recommended as eligible for inclusion in the NRHP or SRHP should be identified within the APE for terrestrial archaeological resources since a majority of the APE has been not been previously disturbed by prior anthropogenic activity. Ocean Wind recognizes that there is possible significant archaeological resources and/or human remains will be discovered during construction of onshore facilities primarily during excavation. Ocean Wind also recognizes the importance of complying with federal state and municipal laws and regulations regarding the treatment of human remains and should have started the compliance process before submission of an EIS. The Terrestrial Discoveries Plan (UDP) is inadequate in outlining the protocol / steps for dealing with discoveries of cultural resources including human remains during the construction of the proposed Project.</p>	<p>In addition to the Post-Review Discoveries Plan for Terrestrial Resources, a Post-Review Discovery Plan for Submerged Resources has been prepared for the Project. Both documents were included in the Draft EIS Appendix N as attachments to the Memorandum of Agreement. Input provided during the public comment period pertaining to specific revision requests on these documents were considered. In addition, during Consultation Meeting #3 on November 30, 2022, BOEM sought input from consulting parties on adverse effect findings and on resolution measures for adverse effects. This discussion requested input on the post-review discovery plans. If needed, this discussion will be continued in subsequent consulting party meetings. Final versions of these plans are included in the Final EIS.</p>
1202-0004	<p>Cape May County's goal in consultation with BOEM is to ensure that BOEM's permitting process follows the law and that BOEM selects an alternative that preserves the integrity of the project's surrounding area to the greatest extent possible including the County's ocean-facing historic properties. Cape May County insists that BOEM comply with the requirements of the National Environmental Policy Act (NEPA) and Section 106 and 110(f) of the National Historic Preservation Act (NHPA) so that Ocean Wind 1 and nearby windfarms are developed responsibly. Our comments address five major deficiencies: (1) the DEIS is inadequate because it fails to assess cultural and historic resources in the Project area; (2) the DEIS is inadequate because it mischaracterizes impacts to Cape May County and other cultural and historic resources; (3) the DEIS fails to consider cumulative effects of Ocean Wind 2 and other reasonably foreseeable wind farms; (4) the DEIS is incomplete because it does not provide adequate measures to resolve adverse effects; and (5) BOEM has violated the letter and spirit of NEPA and the NHPA by refusing to subject its permitting review to public scrutiny. If BOEM or any other cooperating agency such as the U.S. Army Corps of</p>	<p>The Marine Archaeological Resource Assessment, Terrestrial Archaeological Resource Assessment, and Historical Resource Visual Effects Assessment (COP Volume III, Appendices F-1, F-2, and F-3, respectively) prepared by Ocean Wind represent a good-faith effort to identify historic properties with the Project's marine, terrestrial, and visual APEs. These technical reports were distributed for Section 106 consulting party review and comment on March 21, 2022. In addition, Ocean Wind prepared a supplemental architectural intensive-level survey report to characterize the full population of properties inventoried in support of Historical Resource Visual Effects Assessment preparation. This document was shared with Section 106 consulting parties for comment on April 1, 2022.</p> <p>Ocean Wind has revised these reports in response to consulting parties' comments on the initial versions. These revisions were incorporated into the Final EIS and inform the identification and evaluation of historic</p>

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	<p>Engineers relies on the DEIS in its current form any decision the agency makes will be arbitrary capricious and contrary to law.I. The DEIS is inadequate because it fails to assess cultural and historic resources inthe Project area. BOEM must uphold its consultation obligations under NEPA and Section 106 ofthe NHPA to assess impacts to historic properties. BOEM has failed to uphold its obligations to properly consult under both NEPA and the NHPA.NEPA is designed to ensure that the public and decision-makers are provided with the information they need to make a considered decision about the best path forward. The statute is also designed to ensure that federal agencies have carefully and fully contemplated the environmental effects of a proposed action.[Footnote 1: 40 C.F.R. § 1502.1; N.C. Wildlife Fed'n v. N.C. Dep't of Transp. 677 F.3d 596 601 (4th Cir. 2012) (quoting Robertson v. Methow Valley Citizens Council 490 U.S. 332 350 (1989)).] In addition to considering impacts on the natural environment NEPA requires federal agencies to consider impacts on historic and cultural resources.[Footnote 2: 40 C.F.R. §1508.27(b)(3); 40 C.F.R. § 1508.27(b)(8).] By focusing the permitting agency's attention on the environmental consequences of its proposed action NEPA "ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast."[Footnote 3: Robertson 490 U.S. at 349.] In other words NEPA requires that federal agencies take a "hard look" at the environmental consequences of a proposed action.[Footnote 4: Citizens Against Burlington v. Busey 938 F.2d 190 (D.C. Cir. 1991) cert. denied 502 U.S. 994 (1992).]</p>	<p>properties and BOEM's assessment of these properties within the Project's APE.</p> <p>BOEM has considered the above-referenced technical reports and Section 106 consulting parties' comments on the reports, including those specific to identification and characterization of historic properties within the APE that are in Cape May County. BOEM finds the technical reports listed above represent a good-faith effort to identify historic properties with the Project's visual APE.</p> <p>Cumulative effects of Ocean Wind 2 and other reasonably foreseeable wind farms are addressed in Section 3.10, which considers the impacts on cultural resources resulting from the Proposed Action, action alternatives, and the No Action Alternative. Additionally, the Cumulative Historic Resources Visual Effect Assessment specifically addresses anticipated cumulative visual effects on onshore historic properties accruing from the Project, Ocean Wind 2, and other foreseeable wind farms. Consulting parties' comments on the Cumulative Historic Resources Visual Effect Assessment were incorporated into the Final EIS.</p> <p>Adverse effects on historic properties will be resolved through avoidance, minimization, and mitigation measures for historic properties to be stipulated in a Memorandum of Agreement, which will include treatment plans. Consulting parties were provided an overview of the Memorandum of Agreement and an opportunity to provide comments and questions during Consultation Meeting #3 and Consultation Meeting #4.</p> <p>BOEM has provided multiple opportunities for Section 106 consulting parties to review information about the Project and provide their comments on the Project and shared information. This includes the distribution of the complete terrestrial archaeological resources report, complete marine archaeological resources report, complete historic resources visual effects assessment, complete cumulative visual effects assessment report, and a technical memorandum detailing the delineation of</p>

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		<p>the APE for the Project on March 21, 2022; and the supplemental architectural intensive-level survey report on April 1, 2022. Ocean Wind revised the distributed technical reports for BOEM based on consulting party comments, and information from the revised versions of these reports are included in the Final EIS. On June 24, 2022, BOEM distributed the Draft EIS to consulting parties for review and comment. On November 11, 2022, BOEM distributed revised technical reports, the revised draft Finding of Adverse Effect, and the revised draft Memorandum of Agreement to consulting parties. BOEM will distribute the Final EIS to consulting parties concurrent with publication of the Notice of Availability in the <i>Federal Register</i>. To date, BOEM has held five Consultation Meetings (March 8, 2022, May 4, 2022, November 30, 2022, February 10, 2023, and April 24, 2023) to discuss the Project and materials previously distributed to consulting parties. Additionally, the general public was notified of the release of the Draft EIS on June 14, 2022, and provided a 45-day period to review and comment on the Draft EIS. The comment period was extended by an additional 15 days to August 23, 2022. The general public will be notified of the release of the Final EIS on May 26, 2023. BOEM has met and will continue to meet the requirements of both NEPA and the NHPA regarding the public sharing of information about its permitting process and consulting with and receiving comments from consulting parties and the public.</p>
1202-0005	<p>In addition to assessing all impacts to the natural environment BOEM must fully assess and consider all direct and indirect impacts on cultural and historic resources. The DEIS purports to incorporate the standards for identifying assessing and mitigating effects under Section 106 within its NEPA review. [Footnote 5: Bureau of Ocean Energy Management Ocean Wind Farm Project Draft Environmental Impact Statement (hereinafter "DEIS") 2-1 (2022). See also DEIS at 3.10-22.] But the DEIS falls short of NEPA and NHPA mandates that require consideration of all adverse effects because BOEM has failed to integrate properly its</p>	<p>BOEM has met and will continue to meet the requirements of NEPA and the NHPA through the NEPA Substitution for Section 106 process as outlined by the Section 106 regulations and the ACHP's and CEQ's Handbook on NEPA and Section 106 Coordination and Substitution. BOEM has provided multiple opportunities for Section 106 consulting parties to review information about the Project, the identification of historic properties, the assessment of effect, and resolution of adverse effects, and to provide their comments on the Project and</p>

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	<p>NEPA and NHPA reviews preferring instead to integrate in name only but not in substance.[Footnote 6: See NEPA and NHPA: A Handbook for Integrating NEPA and Section 106 Synopsis Advisory Council Hist. Preservation https://www.achp.gov/digital-library-section-106-landing/nepa-andnhpa-handbook-integrating-nepa-and-section-106.] BOEM must carry out proper consultation under Section 106 of the NHPA if it intends to use the DEIS to assess impacts to historic properties for NEPA as well as the NHPA a standard it has not reached. To assess adverse effects under Section 106 agencies must properly consult with all relevant parties.[Footnote 7: See e.g. Advisory Council on Historic Preservation Section 106 Toolkit available at https://www.achp.gov/digital-library-section-106-landing/section-106-applicant-toolkit.] However BOEM is not even close to have completed Section 106 consultation much less any steps within the Section 106 process that would allow BOEM and the public to understand the full extent of adverse effects on historic properties or how to resolve those effects. BOEM has not responded to or considered comments from consulting parties regarding historic and cultural resources. BOEM has also failed to adequately consult with required parties including local governments and the SHPO. Therefore the DEIS is incomplete and inaccurate because it purports to assess impacts on historic resources without having adequately followed the requisite requirements pursuant to Section 106. BOEM should ensure it has properly carried out its full obligations under NEPA and NHPA before the finalization of the EIS. Failure to do so will result in a Final EIS that is arbitrary, capricious, and contrary to law. The DEIS does not adequately consider all possible planning to minimize harm to the Cape May NHL. BOEM has ignored its Section 110(f) obligations to Cape May Historic District NHL by completely ignoring it in the identification of properties and concluding incorrectly that it will not experience adverse effects. Not only does Cape May County object to BOEM's determination that Cape May Historic District will not experience adverse effects from Ocean Wind 1 but also BOEM has failed to consider the cumulative impacts of reasonably foreseeable cumulative effects from Ocean Wind 2 which will be several miles closer to Cape May Historic District.[Footnote 8: 40 C.F.R. § 1508.1(g).] To fulfill its legal obligations for permitting</p>	<p>shared information. This includes the distribution of the complete terrestrial archaeological resources report, complete marine archaeological resources report, complete historic resources visual effects assessment, complete cumulative visual effects assessment report, and a technical memorandum detailing the delineation of the APE for the Project on March 21, 2022; and the supplemental architectural intensive-level survey report on April 1, 2022. Ocean Wind revised the distributed technical reports for BOEM based on consulting party comments, and information from the revised versions of these reports was included in the Final EIS. On June 24, 2022, BOEM distributed the Draft EIS to consulting parties for review and comment. BOEM will distribute the Final EIS to consulting parties concurrent with publication of the Notice of Availability in the <i>Federal Register</i>. To date, BOEM has held five Consultation Meetings (March 8, 2022, May 4, 2022, November 30, 2022, February 10, 2023, and April 24 2023) to discuss the Project and materials previously distributed to consulting parties. Additionally, the general public was notified of the release of the Draft EIS on June 14, 2022, and provided a 45-day period to review and comment on the Draft EIS. The comment period was extended by an additional 15 days to August 23, 2022. The general public will be notified of the release of the Final EIS on May 26, 2023. As noted, BOEM has provided consulting parties multiple opportunities to comment on Ocean Wind 1 and the agency's efforts to identify and evaluate historic properties within the Project APE and BOEM's assessment of effects on these properties resulting from the Project. BOEM will continue to consult with consulting parties on these topics, specifically in upcoming Consultation Meetings. BOEM invited 205 local, state, and federal government agencies and organizations to be consulting parties and 20 local, state, and federal government agencies and organizations elected to participate as consulting parties</p>

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	<p>BOEM must undertake all possible planning to minimize harm to Cape May Historic District pursuant to Section 110(f) of the NHPA.[Footnote 9: 54 U.S.C. § 306107.] Section 110(f) provides: Prior to the approval of any Federal undertaking which may directly and adversely affect any [NHL] the head of the responsible Federal agency shall to the maximum extent possible undertake such planning and actions as may be necessary to minimize harm to such landmark and shall afford the Advisory Council a reasonable opportunity to comment on the undertaking.[Footnote 10: Id.] The DEIS does not make clear whether BOEM has initiated the Section 110(f) process or whether and how BOEM has undertaken such planning and actions as would be necessary to minimize harm to Cape May County. In fact the DEIS does not contain any information at all about how BOEM intends to demonstrate compliance with Section 110(f) of the NHPA. BOEM must address impacts to the Cape May Historic District differently than it addresses impacts to other historic properties in the Project area for Section 110(f) purposes and revise the DEIS accordingly.c. The DEIS fails to assess the Project's specific impacts on the unique history and history-related tourism and property values of Cape May County. The DEIS does not properly contemplate the effect of the wind turbine generators (WTGs) on tourism from visual impacts. Under NEPA BOEM must consider a wide range of effects specifically including impacts that are "historic cultural [and] economic." [Footnote 11: 40 C.F.R. § 1508.1(g)(1).] Yet the DEIS does not consider how the changed viewshed could negatively impact tourism to Cape May County. Tourism revenue and property values are vital to Cape May County's economy. Tourism alone is a \$7 billion industry in Cape May County supporting over 50000 jobs every year. Spoliation of Cape May County's historic landscape increases the risk of lost tourism revenue and property taxes which are expected to decrease after Ocean Wind 1 industrializes the ocean landscape with visual clutter and light. Impacts to the County's tourism economy would be devastating to the economic health of the area and would put tens of thousands of jobs at risk. Despite this risk the DEIS' discussion of tourism blithely dismisses potential impacts without sufficient discussion or research. BOEM must carefully consider the impacts on the Cape May County's unique</p>	<p>under Section 106. The New Jersey Historic Preservation Office was invited to be a consulting party and elected to participate as a consulting party under Section 106.</p> <p>BOEM has followed the requirements of Section 110(f) and is consulting with the National Park Service, New Jersey SHPO, and ACHP to assess, and if necessary mitigate, effects on NHLs within the APE. This process and finding is addressed in Appendix N, Section N.6, <i>National Historic Landmarks and the NHPA Section 106 Process</i>. Language in this section of the Final EIS has been supplemented to provide additional details regarding BOEM's compliance with Section 110(f).</p> <p>Based on visualizations described in the VIA and referenced in the Historical Resource Visual Effects Assessment, visibility of the Project's offshore infrastructure beyond 25 miles is unlikely. The Cape May Historic District NHL is beyond this threshold distance, which represents the limits of potential for adverse visual effect. Therefore, Cape May Historic District NHL is not within the APE. As such, the Cape May Historic District NHL is not included in the assessment of effects found in Appendix N of the EIS, is not addressed in Section 3.10, and is also not included in BOEM's consideration of cumulative effects from Ocean Wind 1, Ocean Wind 2, and other foreseeable wind farm projects, as analyzed in the Cumulative Historic Resources Visual Effects Assessment.</p> <p>Section 3.10 discusses potential impacts on cultural resources and states that the cultural resources geographic analysis area for NEPA is the Section 106 APE. As such, Cape May County's cultural resources are considered under NEPA if those resources are in the geographic analysis area.</p> <p>Impacts on tourism from the Project are not a consideration under Section 106. However, the EIS does address these impacts under NEPA in Section 3.18, <i>Recreation and Tourism</i>.</p>

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	<p>character and historic properties which qualifies as a "resource" both to the area's economy and under NEPA's definition. Negative impacts on tourism revenues and tax revenues due to the WTGs are expected be quite significant and these potential adverse effects must be further analyzed and quantified as BOEM develops the Final EIS.II. The DEIS is inadequate because it mischaracterizes impacts to Cape May County's cultural and historic resources. The DEIS fails to address adequately visual impacts to Cape May County. The DEIS's conclusion that only a single building in Cape May County-the Ocean City Music Pier-will be adversely affected by Ocean Wind 1 defies common sense and amounts to legal error. Cape May County has a thirty-mile coastline well within Ocean Wind 1's Area of Potential Effect with hundreds of buildings properties or districts listed or eligible for listing in the National Register of Historic Places. Despite this fact BOEM has failed in both its identification and assessment of historic properties. As described in detail in our May 2022 comments on the historic resource reports BOEM's process for identifying historic properties and assessing impacts to those properties is woefully inadequate. In addition to ignoring known historic properties listed in the New Jersey and National Registers of Historic Places BOEM has ignored other potentially eligible properties including historic boardwalks lighthouses lifesaving stations hotels and even historic beach houses that may qualify as traditional cultural properties and/or recognition for eligibility as a multiple property designation. All of these historic properties were purpose-built to take advantage of pristine uninterrupted ocean views-an inseparable part of their historic context-and maintain connections to living communities who have come to Cape May County since its development for recreation and associated with other broad patterns of our history. Because BOEM has yet to respond to those comments or address them in any substantive way and ignored how New Jersey's coastal historic properties and associated ocean landscape could be eligible for listing in theNational Register we incorporate them herein by reference in particular the County's concerns about unnecessary limitations on the APE and BOEM's gross mischaracterization that Cape May County's historic properties (other than the Ocean City Music Pier) do not have a connection to a maritime or oceanfront setting.</p>	<p>In addition, economic impacts from the Project are not considered under Section 106. However, the EIS does address these impacts under NEPA in Section 3.11, <i>Demographics, Employment, and Economics</i>.</p> <p>BOEM finds characterization of visual impacts on Cape May County cultural resources and historic properties to be accurate.</p> <p>BOEM reviewed comments submitted by Cape May County in response to BOEM's distribution of the Historical Resource Visual Effects Assessment to consulting parties on March 21, 2022. On November 11, 2022, BOEM provided response to consulting party comments and distributed a revised Historical Resource Visual Effects Assessment for consulting party review.</p> <p>BOEM has considered information from the revised versions of these reports, including the revised description of approach to visual Preliminary APE delineation; methodology for differentiating seaside setting versus uninterrupted ocean views as character-defining features of historic properties; revised characterization of properties including Riviera Apartments, Vassar Square Condominiums, the House at 114 South Harvard Avenue, and Ocean City Music Pier; and updated affects recommendations.</p> <p>These revisions have provided sufficient substantial evidence such that BOEM has revised the Final EIS to find the following additional properties adversely affected: Brigantine Hotel, Absecon Lighthouse, Atlantic City Boardwalk, Atlantic City Convention Hall, Ritz-Carlton Hotel, Haddon Hall/Resort Casino Hotel, Lucy the Margate Elephant, Great Egg Coast Guard Station, Ocean City Boardwalk, Hereford Lighthouse, North Wildwood Life Saving Station, U.S. Lifesaving Station #35, Flanders Hotel, and Little Egg Harbor U.S. Life Saving Station #23 (U.S. Coast Guard Station #119). In addition, Charles Fischer House is no longer found adversely affected, given it was demolished.</p>

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1202-0006	<p>The DEIS's Visual Impact Assessment and Visual Simulations are far too limited in scope and do not provide enough information for consulting parties to adequately assess potential impacts to Cape May County as well adjacent counties. BOEM has failed in its consultation obligations as well as its obligations under the NHPA and NEPA and as a result neither the consulting parties nor the general public can understand the full extent of visual impacts to all of Cape May County's historic properties. Visual assessments that are this limited in nature are not only unreasonable but also arbitrary capricious and contrary to federal law.</p>	<p>Based on BOEM's SLVIA methodology (2021), EIS Section 3.20 and Appendix M consider the offshore and onshore facilities' effects on scenic resources and viewers and include analyses of scenic and visual resources from 32 KOPs between Barnegat Light near the Oyster Creek Point of Interconnection and Cape May.</p> <p>The NEPA geographic analysis area, which is consistent with the NHPA Section 106 APE, for this undertaking is delineated by BOEM. The visual Preliminary APE in the Historical Resource Visual Effects Assessment was identified by Ocean Wind using a methodology approved by BOEM. This methodology includes consideration of the viewshed analysis prepared for the VIA.</p> <p>Viewshed modeling was conducted for a 40-mile study area. Forty miles is set as the threshold of maximum theoretical visibility from the wind turbines because the EC prevents visibility beyond that distance. Viewshed modeling was applied to test the potential for visibility of the wind turbines by using USGS Light Detection and Ranging data to identify where views would be obstructed by natural features or the built environment. The viewshed analysis applies a Digital Terrain Model, which shows potential areas of visibility for offshore turbine blade tips, relying on the screening effects of topography alone (without accounting for vegetation and structures). Viewshed analysis also considers Digital Terrain Model plus Digital Surface Model, which shows potential areas of visibility for offshore turbine blade tips, including the screening effects of both topography and surface data (accounting for vegetation and structures such as buildings).</p> <p>Additional data to inform where there is true potential for visibility (i.e., visual impact) include consideration of visual simulations from the VIA because they demonstrate potential visibility from KOPs. In the case of this Project, the VIA simulations indicate that views over 25 miles away were indistinct or not obvious within the</p>

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		<p>view and, therefore, too faint to represent a potential for adverse effect. Much of Cape May County's coastline is more than 25 miles from the Ocean Wind 1. As such, only a portion of Cape May County's coastline is within the APE.</p> <p>BOEM disagrees with the comment regarding the inadequacy of the VIA and visual simulations as the basis upon which to assess potential impacts under NEPA and potential adverse effects under Section 106 of the NHPA. The current analysis and simulations represent a good-faith effort to analyze the visibility of the Project from affected historic properties under the VIA requirements of a "typical day." While all photographic visualizations were taken during summer, they were taken under different lighting conditions and at different times of day. Current KOP coverage is sufficient to represent visibility along the shoreline for historic properties in the APE.</p>
1202-0007	<p>In addition BOEM must include construction impacts in its final analysis of impacts to historic properties. Proposed construction is expected to cause significant adverse effects to historic properties within the Project Area and Area of Potential Effect something the DEIS does not address with any substance. Prolonged constant and bright lights will be required to construct the WTGs and this lighting will cause major impacts to Cape May County's views for a significant period of time. The DEIS does not discuss fully how Ocean Wind 1 will address potential lighting impacts including during the construction phase. The County is especially concerned about lighting impacts to the dark night sky both during and after construction and urges BOEM to take a hard look at these impacts and mandate ADLS. In addition BOEM should also consider visual impacts of lighting at each proposed turbine's base reflections caused by weather conditions and reflections on the ocean's surface.</p>	<p>EIS Section 3.10, Section 3.20, and Appendix M consider the visual impacts of lighting including light from vessels, use of lighting during construction and decommissioning, and use of lighting on WTGs and OSS during operations. The EIS discloses that the visibility of the wind turbines will be variable depending on current meteorological, moonlight, and sunlight conditions.</p> <p>In Section 3.10, language has been updated to acknowledge nighttime lighting impacts would be restricted to cultural resources for which a dark nighttime sky is a contributing element to their historic integrity, and the National Park Service has indicated during consultation for offshore wind projects that a dark nighttime sky should be assumed to be a character-defining feature of certain resource types such as lighthouses or resources associated with historic events that may have occurred at night, such as battlefields.</p> <p>Given this assumption, of the nine historic districts and 40 individual properties reviewed in the offshore visual APE, a dark nighttime sky is considered a character-</p>

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		<p>defining feature of Absecon Light House and Hereford Inlet Lighthouse. However, in both cases, there is a limited view of the Proposed Action and the impact from lighting would be negligible.</p> <p>In addition, the Cumulative Historic Resources Visual Effect Assessment has been revised to address cumulative visual effects on historic properties from lighting during construction. Of the 10 historic properties assessed in the Cumulative Historic Resources Visual Effect Assessment, none were resource types that met the conditions specified above. In addition, visual simulations of nighttime lighting from the Project and other offshore wind energy development activity WTGs are included in the Cumulative Historic Resources Visual Effect Assessment, Appendix C.</p>
1202-0008	<p>Due to the high potential for Ocean Wind 1 to adversely impact cultural sites historic properties the viewshed property values and tourism BOEM must revise the DEIS to properly address all consulting party concerns and provide consulting parties and the public with adequate and easily accessible information that informs all parties of potential impacts. Such revisions should include a historic resource report that properly identifies all historic properties in area takes into account SHPO input and adequately assesses impacts to the sites. In addition ADLS and paint color should be required by BOEM.</p>	<p>In response to previous consulting party comments on the technical reports, the Marine Archaeological Resource Assessment, Terrestrial Archaeological Resource Assessment, and Historical Resource Visual Effects Assessment (COP Volume III, Appendices F-1, F-2, and F-3, respectively) have been revised by Ocean Wind to better identify all historic properties within the marine, terrestrial, and visual APEs. Additionally consulting party comments made during previous Consultation Meetings (March 8, 2022, May 4, 2022, November 30, 2022, February 10, 2023, and April 24, 2023) have been considered by BOEM and are reflected in the Final EIS.</p> <p>In response to SHPO and consulting party comments regarding visual effects, 13 additional properties were identified as being adversely affected by the Proposed Action: Brigantine Hotel, Absecon Lighthouse, Atlantic City Boardwalk, Atlantic City Convention Hall, Ritz-Carlton Hotel, Haddon Hall/Resorts Casino Hotel, Lucy the Margate Elephant, Great Egg Coast Guard Station, Ocean City Boardwalk, the Flanders Hotel, Hereford Inlet Lighthouse, North Wildwood Lifesaving Station, U.S. Lifesaving Station #35, and Little Egg Harbor U.S.</p>

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		<p>Lifesaving Station #23 (U.S. Coast Guard Station #119). One historic property (Charles Fischer House) was removed from the population of adversely affected properties because it has been demolished. The following properties were identified as being adversely affected by the Proposed Action in the Draft EIS and remain adversely affected in the Final EIS: Riviera Apartments, Vassar Square Condominiums, the House at 114 South Harvard Avenue, and Ocean City Music Pier.</p>
1202-0012	<p>It is concerning then to see the lack of minimum guidelines and best practice standards established for offshore wind projects in the United States especially as they relate to adverse visual impacts upon National Historic Landmarks and historic properties sites and districts listed or eligible for listing in the National Register of Historic Places. It is essential to apply consistent criteria to this project and subsequent future sites.</p> <p>Due to the high cultural and historic sensitivity of Cape May County's hundreds of ocean-facing historic properties Cape May County insists that best practice criteria be applied. Minimum standards should include:</p> <ul style="list-style-type: none"> o Requiring the least impactful nighttime lighting such as ADLS; o Requiring all windfarms in a specific region to use the same non-reflective paint color determined to be most effective in minimizing the visual impacts per specific atmospheric/geographical conditions of the lease sites; o Establishing minimum set-back standards from land with specific considerations for historic landmarks and areas with tourism-driven economies; o For communities with historical significance BOEM should help ensure that local stakeholders receive fair and direct access to any state and federal agencies or resources which may provide critical regulatory guidance on how best to avoid minimize and mitigate the local impacts of offshore windfarms. This support would be provided independent of the Section 106 process and would for example identify and encourage dialogue between communities with their State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP); and o Requiring to the extent to which harm to historic and cultural resources cannot be avoided or minimized appropriate project 	<p>BOEM has established <i>Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585</i> (BOEM 2020), which was applied in analysis associated with this Project as presented in the Marine Archaeological Resource Assessment, Terrestrial Archaeological Resource Assessment, Historical Resource Visual Effects Assessment, and Cumulative Historic Resources Visual Effect Assessment documents and EIS Appendix N, <i>Finding of Adverse Effects</i>. In addition, BOEM Section 106 subject matter experts work across offshore wind projects under the Office of Renewable Energy Programs to ensure consistent application of cultural resources impact assessment under NEPA and effects analysis for historic properties, including NHLs, under Section 106 and Section 110(f) of the NHPA.</p> <p>Measures to avoid, minimize, and mitigate for adverse effects on historic properties for this Project include but are not limited to:</p> <ul style="list-style-type: none"> • Ocean Wind would apply a paint color to the WTGs no lighter than RAL 9010 pure white and no darker than RAL 7035 light gray to help reduce potential visibility of the turbines against the horizon during daylight hours. • Ocean Wind would implement an ADLS to automatically activate lights when aircraft approach. The WTGs and OSS would be lit and marked in

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	<p>mitigation measures to offset the impacts to communities such as community benefit agreements offshore wind mitigation trust funds or other economic development arrangements as are standard in the offshore wind industry globally.</p> <p>At this critical juncture in the development of the U.S. offshore wind industry stakeholders are open minded if not supportive of a successful industry that shares benefits with local communities who will bear the brunt of adverse impacts and certain risk of loss to their economies. IV. The DEIS fails to provide adequate measures to resolve adverse effects.</p> <p>It is inconceivable that BOEM has identified only one historic property along Cape May County's coastline that will be adversely affected by Ocean Wind 1-Ocean City Music Pier-even though this same coastline contains hundreds of properties listed or eligible for listing in the National Register of Historic Places.[Footnote 13: See Section II.A. supra.] It is likewise inconceivable that the DEIS proposes to resolve adverse effects to Ocean City Music Pier by allowing Ørsted to get away with preparing a historic structure report building documentation or a nomination form for the National Register of Historic Places as purported mitigation.</p> <p>[Footnote 14:DEIS App. N Sec. N.4 at N-26.] Cape May County objects to this determination and reminds BOEM of its obligation to identify all historic properties affected and resolve all adverse effects including cumulative effects. Mitigation must be proportionate to the degree of harm caused yet Ocean Wind 1's proposal is meaningless.Furthermore any proposal of mitigation at this stage-before BOEM or Ørsted has addressed comments on the historic resource reports and before proper consultation with the NJSHPO-is inappropriate and contrary to the NHPA. BOEM's decision to include a proposed Memorandum of Agreement [Footnote 15: DEIS App. N Attachment A.] before consulting parties have even met with BOEM to discuss resolving adverse effects is evidence that BOEM does not take its Section 106 responsibilities seriously. Failure to amend the DEIS to provide for a thorough and lawful Section 106 process will result in a Final EIS and Record of Decision that is arbitrary capricious and contrary to law.</p>	<p>accordance with FAA and USCG lighting standards and consistent with BOEM best practices.</p> <p>No minimum setbacks are established for wind farm areas offshore from areas with historic landmarks or areas with tourism-driven economies.</p> <p>As part of the NEPA process, the public is offered the opportunity to review and comment on the Draft EIS. Independent of the Section 106 process, the NEPA process does not require BOEM to facilitate access for the public to state agencies or other federal agencies (such as the New Jersey SHPO or ACHP). However, as part of the NEPA scoping public meetings, BOEM did provide the <i>National Environmental Policy Act (NEPA) Substitution for Section 106 Consulting Party Guide Updated March 10, 2021</i>, which provides a links to ACHP documents—<i>A Citizen's Guide to Section 106 Review</i> and <i>Integrating NEPA and Section 106</i>—via its Ocean Wind Scoping Virtual Meetings website (www.boem.gov/Ocean-Wind-Scoping-Virtual-Meetings).</p> <p>Mitigation proposals submitted by Ocean Wind to BOEM were reviewed for sufficiency and appropriateness in terms of proportionate scale and nexus with adverse effect, and mitigation measures developed through that review process were presented in the draft Memorandum of Agreement included as Attachment A to EIS Appendix N, <i>Finding of Adverse Effect</i>.</p> <p>BOEM provided a draft Memorandum of Agreement as part of the Draft EIS to offer consulting parties the opportunity to review proposed stipulations, including mitigation measures, and provide input. While the first opportunity to provide input on resolution of adverse effects stipulated in the Memorandum of Agreement was through the public comment period for the Draft EIS, BOEM's consultation also included distribution of revised cultural resources technical reports, revised Cumulative Historic Resources Visual Effect Assessment, revised draft Finding of Adverse Effect, and revised draft</p>

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		<p>Memorandum of Agreement to consulting parties on November 11, 2022.</p> <p>BOEM has revised its Finding of Adverse Effect in EIS Appendix N to include visual adverse effect findings for the following properties: Brigantine Hotel, Brigantine City; Absecon Lighthouse, Atlantic City; Atlantic City Boardwalk, Atlantic City; Atlantic City Convention Hall, Atlantic City; Ritz-Carlton Hotel, Atlantic City; Riviera Apartments, Atlantic City; Vassar Square Condominiums, Ventnor City; House at 114 South Harvard Avenue, Ventnor City; Lucy the Margate Elephant, Margate City; Ocean City Boardwalk, Ocean City; Ocean City Music Pier, Ocean City; Hereford Lighthouse, North Wildwood; North Wildwood Life Saving Station, North Wildwood; U.S. Lifesaving Station #35, Stone Harbor Borough; Flanders Hotel, Ocean City; and Little Egg Harbor U.S. Life Saving Station #23 (U.S. Coast Guard Station #119), Little Egg Harbor Township. Additionally, an addendum to the Finding of Adverse Effect includes the visual adverse effect finding for Haddon Hall/Resorts Casino Hotel. The Cumulative Historic Resources Visual Effect Assessment has also been revised and EIS Section 3.10 and Appendix N have been updated to reflect cumulative impacts and finding of cumulative adverse effect on Brigantine Hotel, Brigantine City; Atlantic City Boardwalk, Atlantic City; Atlantic City Convention Hall, Atlantic City; Ritz-Carlton Hotel, Haddon Hall/Resorts Casino Hotel, Atlantic City; Riviera Apartments, Atlantic City; Vassar Square Condominiums, Ventnor City; House at 114 South Harvard Avenue, Ventnor City; Lucy the Margate Elephant, Margate City; Ocean City Boardwalk, Ocean City; and Ocean City Music Pier, Ocean City.</p> <p>BOEM plans to hold an additional Consultation Meeting (second quarter 2023) to receive further input from consulting parties on the identification and evaluation of historic properties within the Project APE, the agency's assessment of effects on historic properties resulting from the Project, and Ocean Wind's proposed mitigation</p>

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		measures to be included in the Memorandum of Agreement. Additional Consultation Meetings may be scheduled if required to achieve agreement on resolution of adverse effects. This approach is consistent and compliant with the requirements of Section 106 of the NHPA. As part of the ongoing Section 106 consultation, consulting parties may provide input on alternative mitigation to resolve adverse effects on historic properties. This may include input from Cape May County on mitigation for the two properties in Cape May County that BOEM finds to be adversely affected by the Proposed Action (Ocean City Boardwalk, Ocean City; and Ocean City Music Pier, Ocean City).
1202-0013	BOEM has violated the letter and spirit of NEPA and the NHPA by refusing to subject its permitting review to public scrutiny. BOEM has violated the NHPA by refusing to make public certain reports that would assist the public in determining impacts to the community. Section 304 of the NHPA allows federal agencies to keep confidential certain types of sensitive information about historic properties such that disclosure would result in a significant invasion of privacy cause damage to the historic property or impede the use of a traditional religious site by practitioners.[Footnote 16: 54 U.S.C. § 307103; 36 C.F.R. § 800.111.] Determining which material to keep confidential must be made in coordination with the Secretary of the Department of the Interior through the National Park Service. The policy behind the confidentiality rule is designed to balance the policy of transparency of environmental permitting laws against historic preservation needs where public disclosure could lead to harm. No consulting party has requested confidentiality in this matter. Despite this fact BOEM has apparently made the historic resource reports confidential in their entirety. To our knowledge BOEM has not coordinated its decision with the National Park Service to keep confidential nearly every document concerning historic property visual and cumulative effects assessments as Section 304 requires. Instead BOEM and Ørsted have prevented the public from having access to the identification of historic properties adverse effects visual simulations and the proposed resolution of	BOEM has met and will continue to meet the requirements of both NEPA and the NHPA regarding the public sharing of information about its permitting process and consulting with and receiving comments from consulting parties and the public. BOEM has provided multiple opportunities for Section 106 consulting parties to review information about the Project and provide their comments on the Project and shared information. This includes the distribution of the complete terrestrial archaeological resources report, complete marine archaeological resources report, complete historic resources visual effects assessment, complete cumulative visual effects assessment report, and a technical memorandum detailing the delineation of the APE for the Project on March 21, 2022; and the supplemental architectural intensive-level survey report on April 1, 2022. Ocean Wind revised the distributed technical reports for BOEM based on consulting party comments and information from the revised versions of these reports is included in the Final EIS. On June 24, 2022, BOEM distributed the Draft EIS to consulting parties for review and comment. BOEM will distribute the Final EIS to consulting parties on concurrent with publication of the Notice of Availability in the <i>Federal Register</i> . To date, BOEM has held five Consultation

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	<p>adverse effects. For example BOEM has done so by removing or not posting on its project websites the following documents: Marine Archaeological Resources Assessment Terrestrial Archaeological Resources Assessment Memorandum on the Updated Historic Resources Visual Effects Analysis Offshore Historic Resources Visual Effects Analysis Onshore Historic Resources Visual Effects Analysis Cumulative Historic Visual Effects Analysis the memorandum on B'EM's Area of Potential Effect Delineation B'EM's proposed Memorandum of Agreement to resolve adverse effects and Ørsted's proposed mitigation measures to offset adverse effects. Nor has BOEM made public its consultation meeting transcripts presentations or meeting summaries. Instead BOEM has kept the public from having access to this information and purported to limit what consulting parties can share claiming some unspecified need for confidentiality. As elected officials with an affirmative duty to keep their community informed the County finds these vague requirements particularly troubling. Moreover BOEM has refused to respond to legitimate questions concerning the basis for its nondisclosure thus creating confusion among consulting parties especially local governments who need public input to assist with consultation. Therefore BOEM must make public all documents associated with the Ocean Wind 1 and all other offshore wind consultations with appropriate redactions as necessary in coordination with the National Park Service.***For the reasons discussed above BOEM should revise the DEIS so that it fully identifies historic properties within the Area of Potential Effects and resolve them appropriately for all of these properties. In addition because BOEM has refused to allow the public to review information related to Ocean Wind 1 it must reissue the DEIS and its associated appendices and allow the public a reasonable opportunity to comment.[See Attachment A: Comments on Ocean Wind 1 Technical Reports May 23 2022][See Attachment B: New Jersey SHPO Comments on Ocean Wind 1 Technical Reports May 31 2022]Respectfully submittedWilliam J. CookPartnercc: Christopher Koepfel Advisory Council on Historic PreservationChristopher Daniel Advisory Council on Historic PreservationShawn LaTourette New Jersey Historic Preservation OfficeElizabeth Dragon New Jersey Historic Preservation</p>	<p>Meetings (March 8, 2022, May 4, 2022, November 30, 2022, February 10, 2023, and April 24, 2023) to discuss the Project and materials previously distributed to consulting parties. BOEM provides meeting summaries, which include links to the recorded meeting, as well as PDFs of meeting presentation slides for each Section 106 Consultation Meeting to consulting parties.</p> <p>Additionally, the general public was notified of the release of the Draft EIS on June 14, 2022, and provided a 45-day period to review and comment on the Draft EIS. The comment period was extended by an additional 15 days to August 23, 2022.</p> <p>BOEM has provided public summaries of technical reports (Marine Archaeological Resources Assessment, Terrestrial Archaeological Resources Assessment, and Historic Resources Visual Effects Assessment), available via the BOEM's Ocean Wind 1 COP webpage: https://www.boem.gov/ocean-wind-1-construction-and-operations-plan. The Draft Section 106 Memorandum of Agreement was provided as an attachment to the Draft EIS Appendix N to allow for public comment and is also available via the link above. In addition, BOEM has made the Cumulative Historic Resources Visual Effects Assessment available to the public via https://www.boem.gov/renewable-energy/state-activities/ocean-wind-1.</p> <p>BOEM's consultation with the National Park Service for Section 304 compliance for this Project is consistent with the approach applied to previous offshore wind projects in BOEM's program. Redacted documents will be prepared following issuance of the ROD.</p>

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	OfficeKate Marcopul New Jersey Historic Preservation OfficeEmily R. Manz Preservation New JerseyLt. Colonel Ramon Briganti District Engineer U.S. Army Corps of EngineersBetsy Merritt National Trust for Historic Preservation	
1259-0119	Cultural Resources (3.10). The offshore region of New Jersey is rich with cultural resources including popular dive sites and a treasure trove of both maritime and terrestrial history. According to the Professional Association of Diving Instructors "It is estimated that there are over 5000 shipwrecks on New Jersey's coast from vessels that are hundreds of years old to more modern wrecks." [Footnote 100: Explore Diving in New Jersey PADI (last accessed August 14 2022) https://www.padi.com/diving-in/new-jersey/ .] Diving is also a contributor to the New Jersey tourism industry. There are natural features and archaeological resources structures and features as well as historic properties in the area of the Proposed Action. The DEIS acknowledges "the Lease Area and two export cable corridors have a high probability for containing shipwrecks downed aircraft and related debris fields." [Footnote 101: DEIS at 3.10-4; Ocean Wind 1 COP Volume III at F-1 (2022).] The cultural resources identified for review in the Draft EIS include: "onshore landfall locations - 8 archaeological resources 10 historic structures offshore cultural resources - 16 submerged landform features ('ancient submerged landforms') (13 in lease areas and 3 within 2 export cable corridors) 19 potential submerged cultural resources identified with remote-sensing studies (12 in lease area 7 in 2 export cable areas) both known and potential shipwrecks offshore visual areas - seven historic districts and 34 individual historic properties onshore visual areas - three historic properties." [Footnote 102: DEIS at 3.10-4.]	Impacts on tourism from the Project are not a consideration under Section 106. However, the EIS does address these impacts in Section 3.18, <i>Recreation and Tourism</i> . BOEM has identified 19 submerged archaeological resources within the marine APE (Targets 1–19). BOEM will prioritize avoidance of these resources through modification of the PDE. All 19 submerged archaeological resources identified in the marine APE will be avoided by the Project. However, encroachment into the 50-foot buffers of these two resources is unavoidable, Ocean Wind has committed to development and implementation of one or multiple Historic Property Treatment Plans in consultation with consulting parties who have demonstrated interest in specific historic properties and property owners to address impacts on archaeological resources and ancient submerged landform features if they cannot be avoided. Additionally, Ocean Wind has committed to the following APM as conditions for approval of issuance of BOEM's permit related to submerged archaeological resources that cannot be avoided: performing additional investigations of these resources for the purpose of determining eligibility for listing in the NRHP. If a resource is determined eligible, BOEM will require Phase III data recovery investigations and alternative mitigation such as preparation of public outreach materials and presentation of technical findings for the purposes of resolving adverse effects.
1259-0120	The Draft EIS determines impacts to cultural resources from the Proposed Action will be "moderate." Clean Ocean Action finds fault in this assessment. If the Draft EIS itself states impacts from the No Action Alternative will be minor to major how could less impacts be associated with the Proposed Action (e.g. moderate)	BOEM's classification for levels of impact is addressed in Section 3.3. Table 3.10-2 has been added to Section 3.10 to define the four levels of impact considered in BOEM's analysis.

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	from additional structures and infrastructures added? This shows an inconsistency in the Draft EIS.	
1259-0121	<p>The DEIS describes impacts on cultural resources in the geographic analysis area “s “perman”nt” a“d “adver”e.” The Draft EIS states: Construction of offshore wind projects could result in impacts on cultural resources on the seafloor caused by anchoring in the geographic analysis area. The placement and relocation of anchors and other seafloor gear such as wire ropes cables and anchor chains that affect or sweep the seafloor could potentially disturb marine cultural resources and ancient submerged landforms on or just below the seafloor surface. The damage or destruction of submerged archaeological sites or other underwater cultural resources from these activities would result in the [Bold and Italics: permanent and irreversible loss of scientific or cultural value and would be considered major impacts (emphasis added).] [Footnote 103: Id. at 3.10-7.] Yet the mitigation measures required by BOEM of offshore wind developers are lacking in the DEIS. As stated by BOEM offshore wind developers are requir“d “to conduct geophysical remote sensing surveys of proposed development areas to identify cultural resources and implement plans to avoid minimize or mitigate impacts on these resourc”s.” However there are no mitigation plans or details included in the Draft EIS. BOEM claims that as a result of conducting the surve”s “impacts on marine cultural resources from anchoring and gear utilization are considered unlikely and would only affect a small number of individual marine cultural resources if they were to occur resulting in long-term localized adverse impac”s.” [Footnote 104: Id. at 3.10-8.] This statement is inappropriate and premature without knowing the results of the surveys.</p>	<p>Mitigation measures are addressed in Appendix N, Section N.4, <i>Actions to Avoid, Minimize, or Mitigate Adverse Effects</i>.</p> <p>BOEM will prioritize avoidance of submerged archaeological resources through modification of the PDE. All 19 submerged archaeological resources identified in the marine APE will be avoided by the Project. However, encroachment into the 50-foot buffers of these resources is unavoidable, Ocean Wind has committed to the development and implementation of one or multiple Historic Property Treatment Plans in consultation with consulting parties who have demonstrated interest in specific historic properties and property owners to address impacts on archaeological resources if they cannot be avoided. Additionally, Ocean Wind has committed to the following APM as conditions for approval of issuance of BOEM’s permit related to submerged archaeological resources that cannot be avoided: performing additional investigations of these resources for the purpose of determining eligibility for listing in the NRHP. If a resource is determined eligible, BOEM will require Phase III data recovery investigations and alternative mitigation such as preparation of public outreach materials and presentation of technical findings for the purposes of resolving adverse effects.</p> <p>BOEM will prioritize avoidance of ancient submerged landform features. Three of the 16 ancient submerged landform features will be avoided. Ocean Wind has committed to the development and implementation of one or multiple Historic Property Treatment Plans in consultation with consulting parties who have demonstrated interest in specific historic properties and property owners to address impacts on to the 13 ancient submerged landform features that cannot be avoided. Additionally, Ocean Wind has committed to the following APMs as conditions for approval of issuance of BOEM’s</p>

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		<p>permit related to ancient submerged landform features that cannot be avoided: preconstruction geoarchaeological analysis consisting of archaeological core processing and artifact screening; tribal participation in lab processing of core samples, data analysis, and update to paleolandscape reconstruction model; open-source geographic information system and story maps; ancient submerged landform features post-construction seafloor impact inspection; and tribal outreach and preparation of educational materials developed with participating tribes such as ethnographic/oral history study.</p>
1259-0122	<p>The Draft EIS also notes the unavoidable damage that will occur to submerged landform feature: "Offshore construction would result in geographically widespread and permanent adverse impacts on portions of these resources...[T]he magnitude of these impacts would remain moderate to major due to the permanent irreversible nature." The Draft EIS also states "impacts from the Proposed Action on nine ancient submerged landforms within the Lease Area cannot be avoided." [Footnote 105: Id. at 3.10-13.] What are the nine ancient submerged landforms? Are they significant to the ecosystem and marine life? How will these landforms and ecosystems surrounding these forms be adversely affected? The Draft EIS does not address these basic questions.</p>	<p>The 13 ancient submerged landform features that Ocean Wind anticipates being unable to avoid are identified as Targets 21–26, 28–31, and 33–35.</p> <p>Ancient submerged landform features are remnant submerged landscape features considered by Native American tribes in the region to be culturally significant resources as the lands where their ancestors lived and as locations where events described in tribal histories occurred prior to inundation. As such, their significance is limited to past human habitation and not necessarily to the ecosystem and marine life.</p> <p>These ancient submerged landform features have the potential to be adversely affected through disturbance as part of Project construction and installation activities that would destroy intact archaeological materials.</p>
1259-0123	<p>Regarding inshore impacts to cultural resources the Draft EIS states: "information pertaining to identification of historic properties within the inshore cable route added to the Project in March 2022 and associated with Oyster Creek landfall locations will not be available until after the Final EIS." [Footnote 106: Id. at 3.10-17.] How can the public and interested parties as well as BOEM and other appropriate agencies adequately assess the impacts to cultural resources if the information will not be available until after the Draft EIS and the Final EIS? The impacts from inshore cable routes must be identified and evaluated before the Final EIS is complete.</p>	<p>Information regarding Oyster Creek landfall locations and identification of historic properties within the inshore cable routes has been added to the Final EIS. Please see revisions in Section 3.10.1 and Appendix N (Sections N.3.1.1 and N.3.1.2). In addition, BOEM distributed revised Marine Archaeological Resource Assessment and Terrestrial Archaeological Resource Assessment technical reports on November 11, 2022, which include analysis of the Oyster Creek landfall locations. This information was presented in Consultation</p>

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		Meeting #3 on November 30, 2022, and participants were provided an opportunity to share input.
1267-0003	Figure 2-3 includes a route for the Onshore Cable to pass through the Historic District of Ocean City. It was pointed out during the scoping for this EIS that if open cut construction is used with standard dewatering damage to masonry and brick foundations (pre-1932) should be expected. The 140-year old Reverend William Burrell and Reverend Ezra B. Lake Houses are located as close as 29 feet to the proposed cable. Foundation damage to these buildings due to dewatering would result in establishment of a building collapse hazard area 1-1/2 times the height of the building and would immediately suspended cable construction work in the building collapse hazard area. The Draft EIS does not examine these impacts.	The Historic District of Ocean City is outside of the Preferred Alternative onshore export cable route for the BL England interconnection. Because Ocean Wind does not intend to run the onshore export cable through the historic district, dewatering of this area would not be required and foundation damage or other impacts would not occur. In the event that one of the other two landfall options were selected by BOEM as the Preferred Alternative, Ocean Wind would design a dewatering process for review and approval by NJDEP that avoids impacts on surrounding foundations.
1278-0003	I belong to another organization the NJ Historical Divers Association that is trying to identify and map the many unknown wrecks and cooperated with NOAA in 2014 to supply sport divers to map the wreck of the Robert J. Walker an 1860 government owned survey vessel now on the National Register of Historic places off Atlantic City that may be endangered by this project.	The Marine Archaeological Resource Assessment (COP Volume III, Appendix F-1) prepared by Ocean Wind identified the U.S.C.S.S. Robert J. Walker as a recorded archaeological site within 1.6 kilometers (1.0 mile) of the marine preliminary APE (COP Volume III, Appendix F-1:31). U.S.C.S.S. Robert J. Walker is 1,085 meters (3,560 feet) outside of the proposed Oyster Creek offshore export cable route corridor (COP Volume III, Appendix F-1:31). The U.S.C.S.S. is further discussed on page 33 of Appendix F-1 of COP Volume III.
1278-0005	There is at least one National Register shipwreck (USCSS Robert J. Walker) about 10 miles off Atlantic City that could be threatened by any of the two export cables from this project. But because BOEM has foolishly decided not to include the specific coordinates of the routes of that cable or because it has not been completely surveyed yet(?) it is not clear from the DEIS if the Walker is threatened.	As noted in the response to comment 1278-0003, U.S.C.S.S. Robert J. Walker is outside of the marine preliminary APE and would not be affected by the Project. Indicative offshore route drawings for the BL England and Oyster Creek offshore export cable routes are in COP Volume III, Appendix U, Conceptual Plans and Typical Design Drawings.
1278-0007	The DEIS has committed to avoiding 12 potential submerged archeological resources (shipwrecks) in the lease area (wind turbine area - WTA) for Ocean Wind 1. (3.10-15) BOEM or Ocean Wind suggests a 50-meter buffer zone. However I would like to comment on the inadequacy of such a buffer zone. In 1997 the NJ Council of Diving Clubs reported to the NY Army Corps of	A Post-Review Discoveries Plan for Submerged Cultural Resources has been developed and will be implemented to reduce potential impacts on any previously undiscovered archaeological resources (if present) encountered during construction. Archaeological monitoring and the implementation of the post-review discoveries plan would reduce potential impacts on

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	Engineers a shipwreck being hit by a sand mining dredge in Belmar Borrow Area Six.	undiscovered archaeological resources to a negligible level by preventing further physical impacts on the archaeological resources encountered during construction, such as the shipwreck encountered in the New York USACE sand mining dredging project.
1278-0009	Furthermore there will be up to 98 Wind Turbine Generators with 190 miles of cable laid in this relatively small WTG area. (Table 5-1). It is almost inevitable that several of the 12 wrecks will be hit and damaged if not during the WTG construction then by the cable burying equipment regardless of the narrow 50-meter buffer. So what happens if the WTG or cable laying equipment damages a potentially eligible National Register shipwreck? In all other federal projects the requirement for a Phase Two or Phase Three archeological investigation would be made.	BOEM will prioritize avoidance of submerged archaeological resources through modification of the PDE. All 19 submerged archaeological resources identified in the marine APE will be avoided by the Project. However, encroachment into the 50-foot buffers of these resources is unavoidable, Ocean Wind has committed to the development and implementation of one or multiple Historic Property Treatment Plans in consultation with consulting parties who have demonstrated interest in specific historic properties and property owners to address impacts on archaeological resources if they cannot be avoided. Additionally, Ocean Wind has committed to the following APM as conditions for approval of issuance of BOEM's permit related to submerged archaeological resources that cannot be avoided: performing additional investigations of these resources for the purpose of determining eligibility for listing in the NRHP. If a resource is determined eligible, BOEM will require Phase III data recovery investigations and alternative mitigation such as preparation of public outreach materials and presentation of technical findings for the purposes of resolving adverse effects.
1278-0010	I saw that requirement mentioned in the Unanticipated Discoveries Plan for Submerged Cultural Resources but is it to be implemented in all cases if the cable laying equipment hits or damages a surveyed shipwreck? The artifact training program for project and contractor staff by a Qualified Marine Archaeologist is a good idea but what might also be a good idea for recognizing shipwrecks artifacts is to organize a tour of the NJ Shipwreck Museum at Info Age 2201 Marconi Rd Wall Township or a tour of the NJ Maritime Museum 528 Dock Rd Beach Haven NJ. What your likely to find however is reluctance on the motorized barge	The Post-Review Discovery Plan is implemented for all Project activities. BOEM appreciates the recommendation to include consultation with the New Jersey Shipwreck Museum as part of artifact training program and will consider its inclusion in this mitigation measure. Compliance with the Post-Review Discovery Plan by Ocean Wind and its contractors will be a condition of BOEM's lease issuance. BOEM may cancel a lease for non-compliance.

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	captain to report any cultural material if a stop work order is threatened.	
1278-0011	<p>What concerns me a lot more is an electrical cable being laid near or inadvertently over a low lying old wood or metal shipwreck and that would be most of them off of NJ. Wrecks are intensely fished because they are focal points for marine life and fish and party charter and private boats will anchor with a lot of line out and sometimes with two anchors so that the boat can be maneuvered over the wreck by adjusting the anchor ropes. The anchor ropes could easily extend beyond 50 meters (162 feet) of bottom. As a diver I have seen wrecks uncover over 4 feet and the area near the wreck can uncover due to scouring. Dive boats will often throw a grapple up wind of a wreck and let it drag into the wreck. What would happen if an electrical cable were partially uncovered and an anchor or grapple hook snagged it? For this reason alone it would be advisable to have at least a 100-meter buffer zone around any surveyed shipwreck due to anchoring issues. Anchoring during construction for large construction vessels could extend far far beyond 50 meters and is a direct threat to the 12 wrecks in the WTG area.</p>	<p>The Draft EIS states that the array and substation interconnector cables have a target burial depth of 4 to 6 feet (1.2 to 1.8 meters) below the stable seabed. Seafloor disturbance for anchoring of construction vessels would be approximately 26 feet (8 meters). The maximum vertical seafloor disturbance from export cable burial is approximately 6 feet (1.8 meters) and 26 feet (8 meters) for associated anchoring/spudding of construction vehicles. As Project components will be buried at the specified depths beneath stable seabed, it is unlikely these components will be uncovered. Furthermore, array and substation interconnector cables and export cables are designed to withstand exterior damage. See COP Volume I, pages 100–107, for further details related to cable design and construction.</p>
1278-0013	<p>According to the DEIS there are 7 wrecks in the area of the Export cables three along the BL England corridor and four along the Oyster Creek corridor (Appendix N-11). The DEIS does not say how close the cable will come to the wrecks except for two wrecks that would actually be within the 50-meter buffer.</p>	<p>The Draft EIS states that the Project would not encroach on the 50-foot buffers of any of the seven shipwrecks. All seven shipwrecks will be avoided entirely by the Project.</p>
TRANS-0079-0006	<p>If you have not already done so you need to develop measures or metrics to quantify the four level classification scheme you developed that categorizes the potential beneficial impacts and inverse impacts of alternatives as either negligible minor moderate or major. With such a monumental project unquantifiable conclusions about impacts are not acceptable</p>	<p>BOEM's classification for levels of impact is addressed in Section 3.3. Table 3.10-2 has been added to Section 3.10 to define the four levels of impact considered in BOEM's analysis.</p>

O.6.10 Demographics, Employment, and Economics

Table O.6.10-1 Responses to Comments on Demographics, Employment, and Economics

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0111-0005	On page 3.11-20 it states the cost will be "...an increase in their monthly energy bill of \$1.46 for residential customers.." That is only a fraction of the cost borne by the ratepayers and all the residents of New Jersey. What is the real cost including all the subsidies and tax credits from the State of NJ and the US Government to construct erect and operate the wind turbines.. Without the inclusion of all the costs the EIS is materially misleading to the read	Subsidies and tax credits are not disclosed in the Ocean Wind 1 COP and cannot be analyzed in the EIS.
0948-0003	POINT IV. NEPA AND BOEM'S OWN MISSION STATEMENT AND RULES AND REGULATIONS ENACTED THEREUNDER REQUIRE A FAR MORE COMPREHENSIVE COST BENEFIT ANALYSIS OF ENVIRONMENTAL ANDECONOMIC RISKS WITH DEFENSIBLE CALCULATIONS ARISING THEREUNDER. As per comments rendered at the virtual hearing conducted as to the within proposal of "Ocean Wind 1" the Draft Environmental Impact Statement contains woefully inefficient calculations or in many instances not even references to the vast economic and environmental value of the tracks of ocean involved the commercial and recreational fisheries and indeed the value of the ocean environment and certain species in and of themselves. Such a comprehensive scientific cost benefit analysis is required under NEPA as well as BOEM's own Mission Statement. Similarly the DEIS does not include the previously referenced NEPA valuation and the potential diminution of value in cumulative and indirect impacts of the project. Again as I have argued previously at various BOEM related forums the value of the fisheries from an environmental standpoint and simply as a current and future life generating food source for future generations has been seriously discounted if not totally ignored. The statutory outlines enacted under the National Environmental Policy Act (NEPA) and BOEM's own Rules and Regulations require such an economic analysis. The current DEIS contains a paucity of such information and barely attempts calculations necessary to reference the vast risks involved in the current proposals and collateral damage and quantifiable defensible true values associated therewith. As difficult as this process might be a comprehensive evaluation process must be engaged in. This area of valuable ocean eco-system along with its current value a cost benefit analysis of various risks to fisheries our commercial and recreational fishing industry the values of species themselves our tourism industry and the impact upon the shore and shipping all should be factored into such assessments and conclusions. Such an evaluative cost	<p>Cumulative impacts and discussion have been added across all Chapter 3 sections. Extensive discussion regarding the impact on fisheries can be found in EIS Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>.</p> <p>Section 3.11, <i>Demographics, Employment, and Economics</i>, of the EIS discusses the economic impact on fisheries and the cascading impacts on other sectors such as retail seafood.</p> <p>The costs and benefits of the Ocean Wind 1 project are discussed throughout the EIS. However, BOEM has determined that a quantitative cost benefit analysis is not feasible given the available information. In addition, a quantitative cost benefit analysis is not necessary for BOEM to make an informed decision.</p>

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	benefit analysis of the cumulative and indirect impacts the various risks and current values of the eco-system and the species of fishes involved is an essential undertaking in order to appropriately consider the within narrow yet massive proposal along with the other eleven (11) other projects proposed off the New Jersey/New York coastline.	
0948-0006	<p>POINT VITHE DEIS CONTAINS INSUFFICIENT DATA AND DISCLOSURE OF ALL FUNDING SOURCES OF THE APPLICANT AND ANY GROUPS ASSOCIATED WITH THE APPLICANT WHO PROVIDED TESTIMONY.</p> <p>Any realistic estimate of the cost benefit analysis of the project and it's funding cumulative and indirect impacts should include the full disclosure of the project as well as funding of all groups associated with the applicant who provided testimony. Transparency and full disclosure of all funding of the applicant is also necessary for any realistic weighing process of alternative actions including a "no action alternative" to remain in place pending the implementation of a useful peer-reviewed pilot project. Similarly BOEM's realistic credibility assessment as to the weight and value of the applicant's presentation requires such complex financial data and background. To render a determination as to the DEIS without such complete financial data and the full disclosure of all funding sources would be arbitrary and capricious. Based on all of the aforesaid procedural as well substantive arguments presented I would ask that BOEM rejects without prejudice the current Draft Environmental Impact Statement to implement a "no action alternative".</p>	Funding sources and other financial information are proprietary and are not disclosed in the Ocean Wind 1 COP or incorporated into the EIS.
0984-0018a	The maximum amount of power to be provided by the development of this site should not be used in the Demographics Employment and Economic calculations.	Maximum outputs discussed in this section are a summary of what was analyzed in the <i>U.S. Offshore Wind Power Economic Impact Assessment (AWEA 2020)</i> . The analysis in this EIS section is based on the proposed output of 1,100 MW and clearly states that the output of this Project will be <i>up to 1,100 MW</i> .
0984-0018b	BOEM should reject the EIS as incomplete for failure to produce a document that describes all the [Bold: Major Impacts] Association with Demographics Employment and Economics. The [Bold: Major impacts] on the demographics inclusive but not limited too racial economic and environmental by the systemic racism policies of BOEM is evident in the omission of the food desert and the impoverished community of color that are being impacted by this development site.	Section 3.12, <i>Environmental Justice</i> , discusses environmental justice populations (low-income and minority persons) that may be affected by this Project.

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0984-0018c	The mandatory use of union workers limits the backbone of the United States economy the sole proprietor. It will also force more preliminary and assembly work to be done overseas. BOEM has failed to recognize in the EIS the Major Impact to the ports that will be developed to facilitate the construction. Displacing current Blue Economy workers will create a void in the workforce with skills like commercial fishing after the construction phase is completed. This can be seen around the world where what was thriving waterfronts become vacant after the offshore wind energy companies leave. The developers have already promised to use US citizens but talk is cheap. The Jones Act Violations of having US citizens onboard vessels is being challenged and are not being enforced.	Activities at ports are expected to continue, with the addition of offshore wind development, and improvements to existing ports and channels would be beneficial to other port activity.
1012-0013a	<p>3. [Bold: Socio-Economic Impacts] Since the cost of this project is substantial and will impact millions of New Jersey household budgets socio-economic data is essential to reach a reasoned decision. Socio-economic aspects are also important in assessing how the project contributes to the defined goals of delivering environmental justice and spurring well-paying union jobs and economic growth. Therefore the DEIS should have included a full socio-economic benefit and cost analysis for this project and in the context of the other currently planned offshore wind projects in the full plan for NJ (as the impacts are cumulative).</p> <p>There has also been considerable misinformation provided regarding project benefits that should be clarified. For example thousands of created jobs have been claimed without pointing out that many are short-lived. Both the number and duration of jobs should have been presented. There is no discussion of how the project intends to comply with the Jones Act. There is no breakdown of jobs created here versus jobs supported overseas (where the turbine components are manufactured) nor a breakdown of which work performed locally will be done by local workers as distinguished from foreign workers on temporary assignment here.</p> <p>There is no assessment on the potential jobs lost in fisheries sport fishing tourism and the impacted local economy. There has been no assessment of the local economic impact and resulting jobs lost because of higher electric rates. According to a study by the Beacon Hill Institute [Footnote CB1: The Beacon Hill Institute The Cost and Benefit of New Jersey's Offshore Wind Initiative June 2011. https://www.beaconhill.org/BHISStudies/NJ-Wind-2011/NJWindReport2011-06.pdf] the jobs lost would outweigh the jobs created. The EIS should present the increased electric costs to NJ ratepayers from this project (the estimate from the BPU decision was up to \$4.259 Billion for the first 20 years of operations)</p>	<p>Cumulative impacts are addressed across all Chapter 3 resource sections. Information on Project costs is proprietary and details of planned offshore wind activities are not defined at the same level as the Proposed Action, such that a cumulative cost benefit analysis is not feasible. In addition, BOEM does not find that a cost benefit analysis is needed to support BOEM's decision-making.</p> <p>Section 3.11, <i>Demographics, Employment, and Economics</i>, states that many of the jobs generated by offshore wind may be temporary, lasting 1 year or less.</p> <p>Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, does discuss revenue exposure and potential for displacement of some commercial fishing operations. Impacts on for-hire recreational fishing are anticipated to be beneficial.</p> <p>Developing estimates of federal and state subsidies is outside the scope of the EIS.</p>

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	<p>and the cumulative electric cost increases for the full NJ 7500 MW program. It should show how those cost numbers were derived and to what extent it incorporates the added costs to guarantee adequate backup power and to make the necessary upgrades to the transmission system. The EIS should also show what costs will be paid by NJ taxpayers in the form of federal and state tax subsidies to support this project (estimated at in excess of \$1Billion) and to support the full NJ program. All of this impacts every New Jerseyan especially the economically disadvantaged. Presentation of these numbers should include a calculation as to how the average NJ ratepayer would be impacted by the associated rate increases.</p>	
1012-0013b	<p>The DEIS should also estimate the socio-economic costs to the local communities -such as the impacts on tourism rentals and property values and to local commercial and recreational fisheries. Those subjects are addressed qualitatively but not quantified. The "take aways" from the BOEM-sponsored University of Delaware study [Footnote V2: University of Delaware Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism sponsored by the Bureau of Ocean Energy Management (BOEM) March 2018 https://epis.boem.gov/final%20reports/5662.pdf] and the North Carolina State University study [Footnote V3: North Carolina State University the Amenity Costs of Offshore Wind Farms- Evidence from a Choice Experiment in August 2017. https://cenrep.ncsu.edu/cenrep/wp-content/uploads/2016/03/WP-2017-017.pdf] on tourism rentals and property values should be extrapolated to reflect the size of turbines used on this project (and those planned) rather than the smaller turbines they evaluated. If that is done the "take aways" are substantially different from what is presented in the DEIS and do NOT support its narrative. The North Carolina study also suggests a different conclusion on the impact of the night lighting. The jobs electricity pricing and economic impact should be part of the analysis on how this project effects environmental justice. The DEIS in part addresses the significant visual impact on historic properties. Visual simulations should be provided for these as well as for the closest shore points to the turbines and to each of the state parks and protected natural areas. That would allow a more complete framework for evaluating the visual impact.</p>	<p>Impacts on recreation and tourism are addressed in Section 3.18 and impacts on commercial and for-hire recreational fishing are addressed in EIS Section 3.9. The analysis in Section 3.18 has been updated to reflect the size of the WTGs proposed for the Ocean Wind 1 Project. Visual simulations from representative viewpoints are included as Appendix D to the <i>Ocean Wind Visual Impact Assessment Report</i> (COP Volume III, Appendix L; Ocean Wind 2023) and additional analysis of cumulative impacts on historic properties is provided in the <i>Cumulative Historic Resources Visual Effects Analysis</i> technical report.</p>
1071-0001	<p>In my opinion the Ocean Wind Draft Environmental Impact Study (DEIS) should be revised in several key areas specifically related to viewshed and the impact on the economic future of the region. To be specific Sections 3.10 3.11 3.12 3.18 and 3.20 in the Draft Report significantly understate the negative impact of the project and its alternatives on the local beach communities.</p>	<p>Section 3.20 identifies minor to major impacts on scenic and visual resources due to the presence of structures based on viewshed analysis.</p>

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1086-0020	<p>Costs for Ratepayers Cape May County will be a primary recipient of the energy generated by Ocean Wind 1. As a result ratepayers within Cape May County will be forced to pay higher rates than they did previously for other sources of power. The County is concerned that offshore wind turbines will produce energy that is more costly than land-based energy. While the County may be willing to pay more for clean energy sources there are other options than offshore wind such as nuclear and solar power that offer significant advantages over offshore wind. Orsted has declined to provide any estimate of what users will have to pay for its electricity. Based on the best available data there is no doubt that prices for ratepayers in Cape May County will be significantly above current electricity prices. Wind turbine-based electric utilities are very expensive to build. For this project each tower will support a 12MW turbine far larger than any similar power supply in the world. Orsted's decision to build monopiles nearly as tall as the Eiffel Tower reflects the industry's effort to reduce capital construction costs by maximizing size. [Footnote 31: For Offshore Wind Energy Bigger is Much Cheaper; Inside Climate News; November 18 2021 [Embedded Hyperlink Text (https://insideclimatenews.org/news/18112021/inside-clean-energy-offshore-wind-cost/))] Offshore wind's construction costs are higher than land-based plants and the U.S. Department of Energy reports that "operational expenses are higher for offshore wind energy than land-based wind generation" noting that wind and wave conditions lead to increased downtime and expense. [Footnote 32: Offshore Wind Market Report 2021 Edition U.S. Department of Energy; Office of Energy Efficiency & Renewable Energy [Embedded Hyperlink Text (https://www.energy.gov/eere/wind/articles/offshore-wind-market-report-2021-edition-released))] Furthermore while wind turbine output decreases over time operating and maintenance costs increase. [Footnote 33/34: Out to Sea: The Dismal Economics of Offshore Wind; Manhattan Institute; August 2020 [Embedded Hyperlink Text (https://www.manhattan-institute.org/dismal-economics-offshore-wind-energy))] The U.S. Energy Information Administration predicts that offshore wind is 3.4 times more expensive than power produced by a natural gas plant. [Footnote 35: Offshore Wind Energy: A Very Very Expensive Electricity Source; Institute for Energy Research [Embedded Hyperlink Text (https://www.instituteforenergyresearch.org/wp-content/uploads/2013/06/Offshore-Wind-Energy-DRS-4.pdf))] Considering the high costs of operation and the diminishing energy output over time and the growing demand for electricity there is little evidence that this project will actually result in the reduction of fossil fuel usage in Cape May County. With the limited information currently available on what residents will pay Cape May County is unable to support the project in its current form. NJBPU should require a</p>	<p>As stated in section 3.11, <i>Demographics, Employment, and Economics</i>, according to the BPU OREC Award, ratepayers could see an increase in their monthly energy bill of \$1.46 for residential customers, \$13.05 for commercial customers, and \$110.10 for industrial customers (New Jersey Office of the Governor 2019). Offshore wind energy projects could produce energy at long-term fixed costs, which could provide stability against fossil fuel price volatility once built, resulting in a minor beneficial impact.</p>

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	<p>disclosure from the developer on what the expected costs are for residents. In addition NJBPU should hold consumers harmless if the project does not produce a significant portion of its generating capacity as has been done in Virginia. [Footnote 36: Application of Virginia Electric and Power Company For approval and certification of the Coastal Virginia Offshore Wind Commercial Project and Rider Offshore Wind; Commonwealth of Virginia State Corporation Commission August 5 2022; Case No. PUR-2021-00142] Heating Systems in South Jersey The US Energy Information Administration reported in 2020 that more than 80% of homes in New Jersey are heated with natural gas and nearly half of the energy used by New Jersey homes is related to space heating. [Footnote 37: Home Heating in New Jersey [Embedded Hyperlink Text (https://www.eia.gov/consumption/residential/reports/2009/state_briefs/pdf/nj.pdf))] For this project to effectively reduce emissions in New Jersey residents would be required to change from natural gas to electric heating systems which are currently not installed in the majority of homes. Therefore offshore wind has limited potential to benefit our residents because it will serve only a fraction of our population while forcing higher costs of electricity on each of our residents.</p>	
1247-0004a	<p>These actions are already driving investment decisions. The Network closely tracks the market and found that public and private investors committed \$2.2 billion in new funding in 2021 including commitments to develop nine major component facilities that will manufacture the foundations towers cables and blades of an offshore wind turbine. In 2022 the market generated \$4.6 billion in new lease revenues for the U.S. government showing an extraordinary growth in interest in the U.S. market. Advancing the Ocean Wind project is crucial to maintaining this momentum. In the face of growing global demand sending clear market signals to attract investment to the U.S. is critical to ensuring U.S. offshore wind deployment goals are met.</p>	<p>Appendix F and Section 3.11 identify ongoing investment in the Port of Paulsboro for foundation fabrication and in the New Jersey Wind Port at Hope Creek, New Jersey for WTG pre-assembly.</p>
1247-0004b	<p>Direct Benefits to New Jersey and the U.S. Supply Chain The proposed Ocean Wind 1 project is already directly contributing to the formation of a U.S. supply chain and major investments are dependent on its advancement. As a cornerstone of the project Ørsted and EEW are finishing construction on a \$250 million monopile manufacturing facility at the Paulsboro Marine Terminal the first monopile facility constructed in the U.S. and one of only two planned for development in the U.S. This manufacturing facility will create more than 500 high-paying jobs at full build-out and Ocean Wind will source its (up to) 98 monopile foundation structures from this facility. It is likely that the Ørsted/EEW site will also supply monopiles to other offshore wind projects. As the NREL report "The Demand for a Domestic Offshore Wind Energy Supply Chain" lays</p>	<p>Appendix F and Section 3.11 identify ongoing investment in the Port of Paulsboro for foundation fabrication and in the New Jersey Wind Port at Hope Creek, New Jersey for WTG pre-assembly and associated job creation.</p>

Comment No.	Comment	Response
	<p>out buildout of the U.S. market in achievement of the administration's 30 GW goal will approximately 200 monopiles per year over the next decade with some years reaching peak demand of nearly 300 making the success of the Paulsboro monopile facility a priority for the U.S. supply chain. As part of their commitment to the state of New Jersey Ørsted has also signed an agreement to utilize the NJ Wind Port a first purpose-built U.S. offshore wind facility in the U.S. This port situated in the Delaware River Basin and with no height limitations should be a premier port facility heavily utilized by Central Atlantic wind projects for logistics and potentially manufacturing. The same NREL report notes New Jersey Wind Port is one of three east coast ports rated near-ready for Wind Turbine Installation Vessel use. Advancement of the Ocean Wind project would have other direct impacts on New Jersey's economy. The project would support an estimated 663 full-time equivalent (FTE) job-years during development 6598 FTE job-years during construction 6114 FTE job-years during operations and 1202 FTE job-years during decommissioning (COP Volume II Table 2.3.1-4; Ocean Wind 2022). Jobs tend to be high paying averaging from \$88000 to \$96000 for the construction phase and \$99000 for the operations phase (DEIS Section 3.11.5).</p>	
1259-0125	<p>Demographics Employment and Economics (3.11) The Draft EIS is also charged with evaluating the socioeconomic impacts of the Proposed Action yet the document is deficient in such an analysis. The Draft EIS does identify several "irreversible and irretrievable impacts" from the Proposed Action to Demographics Employment and Economics. The impacts of Ocean Wind 1 will be experienced by many businesses especially commercial fishing operations and by extension the restaurants that purchase landings from these fishing businesses.</p> <p>However the Draft EIS does not appear to account for the loss of fishing jobs restaurant jobs and the rising cost of fuel and materials for commercial fishing vessels and businesses as well as for the Proposed Action itself. This contributes to a broader theme: the costs of Ocean Wind 1 have not been fully disclosed. Considering the higher costs associated with offshore wind development it is imperative that the costs be communicated as part of this analysis to determine the socioeconomic impacts of the Proposed Action. The expected ratepayer impacts of this Proposed Action have not been communicated. The New Jersey Board of Public Utilities ("BPU") initiated a stakeholder process for discussing the ratepayer impacts but no report has been released yet. How can socioeconomic impacts be assessed and evaluated in a DEIS if the entire cost of the project and associated upgrades and cost of the</p>	<p>Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, discloses revenue exposure for commercial fishing operations and qualitatively assesses potential impacts on commercial fishing revenue, jobs, and shoreside services. Impacts on ratepayers are not known and have therefore not been assessed in the EIS.</p>

Comment No.	Comment	Response
	generated electricity is not disclosed?	
1259-0126	<p>Also the DEIS does not account for the rising costs of materials supply chain limitations and the labor shortage that will most certainly increase the costs of the Proposed Action and therefore the socioeconomic impacts. In addition "Business growth can be stifled by increasing capital costs as well as infrastructure and logistics issues. Offshore wind turbines are vulnerable to erosion because they are situated in harsh marine climates for decades. Offshore wind turbines are also located miles from the shore making them difficult to access particularly in bad weather. As a result even minor issues would be costly to resolve in terms of maintenance transportation and logistics." [Footnote 112: Nikhil Manrokar Offshore Wind Energy Market is Estimated to Surpass USD 135.23 Billion By 2028 Reports and Data (August 1 2022) https://www.einnews.com/pr_news/583960938/offshore-wind-energy-market-is-estimated-to-surpass-usd-135-23-billion-by-2028.]How will these increased costs affect the socioeconomic factors?</p>	Costs associated with materials and labor for the proposed Project are not disclosed in the Ocean Wind 1 COP and cannot be analyzed in the EIS.
TRANS-0003-0005	<p>With respect to our economic and other logistic concerns I first note that when it comes to the employment generated by Ocean Wind 1 Orsted touts the many jobs that Orsted will create the project will create rather. However the DEIS includes no meaningful accounting for the impact that all of these jobs all of these people all of these cars will have on local ecosystems and infrastructure. Are we sure that the bridges and roads of South Jersey can handle the relocation of hundreds or thousands of families to the area? How about the local housing market utilities services plus consider the impact that constructing and maintaining the wind port and other onshore facilities supporting Ocean Wind 1 will have on local ecosystems and communities.</p>	<p>Activities at ports will remain the same, with the addition of offshore wind development, and improvements to existing ports and channels would be beneficial to other port activity. Section 3.11, <i>Demographics, Employment, and Economics</i>, states that overall, operation of the Proposed Action would generate 2,780 job-years of skilled permanent labor (direct job-years) and over 6,000 total job-years created (direct job-years plus indirect and induced job creation) (COP Volume II, Section 2.3.1.2.2; Ocean Wind 2023). This section of the COP also states that impacts on traffic, noise ,and public services would not be noticeable.</p> <p>COP Section 2.3.1.2.1 states that there will be non-local workers who may require housing, and that temporary housing is readily available in the area. Impacts on temporary housing could be reduced by conducting construction outside of summer months when there may be temporary</p>

Comment No.	Comment	Response
		housing competition from tourists.
1194-0002d	Robust socioeconomic analysis is critical to reach maximum economic benefits from offshore wind projects. The FEIS should detail all anticipated job-creation involving port utilization and development supply chain and manufacturing of offshore wind components construction operations and maintenance and decommissioning. In addition to salary information should include health and safety certifications training pathways recruitment and retention plans project labor agreements and union neutrality commitments if applicable and commitments and requirements for targeted hire of disadvantaged and underrepresented communities.	Analysis of planned activities such as port improvements and associated job creation are described in Section 3.11 and Appendix F. Information on salaries, training pathways, recruitment, and retention plans would vary across the supply chain and would not be under the direct control of Ocean Wind. Hiring targets that may be included in contracts for the Project are at the discretion of Ocean Wind, and are not known.

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O.6.11 Environmental Justice

Table O.6.11-1 Responses to Comments on Environmental Justice

Comment No.	Comment	Response
1259-0128	Environmental Justice (3.12) It is imperative that the communities within the geographic analysis area be directly consulted and provided full disclosure of all potential health related and ecosystem impacts of all industrial offshore wind projects and associated facilities. COA identifies some concerns below based on the information in the DEIS and urges BOEM to engage local EJ communities in the geographic analysis area on these and other concerns of these communities.	BOEM has facilitated effective public outreach throughout the EIS process as demonstrated through broad participation in scoping meetings and public hearings and substantial public input received through comments submitted on regulations.gov or through verbal testimony at public meetings during scoping and the public review period for the Draft EIS. BOEM has not identified disproportionately high and adverse effects on environmental justice populations and no stakeholders representing environmental justice or disadvantaged communities have requested consultation and coordination outside of the public involvement process undertaken for NEPA.
1259-0129	The DEIS claims environmental justice communities will benefit from the displacement of fossil fuel facilities with completion of the Proposed Action (e.g. offshore wind turbines). However the DEIS does not provide evidence that fossil fuel facilities will indeed be closed or displaced in the region or beyond. Also renewable industrial facilities will have environmental and public health impacts that must be evaluated and accepted by local communities. Indeed impacts from the Proposed Action will still be experienced by communities in the geographic analysis area. Locally these impacts include: air emissions noise lighting loss of coastal water access loss of income health impacts from vehicle and vessel emissions as well as traffic and other quality of life impacts. [Footnote 113: DEIS at 3.12-11.] In addition onshore development can "reduce access to coastal areas and working waterfronts that communities rely on for recreation employment and commercial or subsistence fishing." Some of the impacts will be "irreversible and irretrievable" yet the Draft EIS overall finds that environmental justice impacts will be "negligible to minor." This is inconsistent. Also adding more industrial facilities including those for renewable energy development will exacerbate impacts on these already overburdened	As stated in Section 3.4, <i>Air Quality</i> , impacts from fossil fuel facilities are expected to be mitigated partially by implementation of this Project (as well as other planned offshore wind energy projects in the area), to the extent that these projects would result in an overall net reduction in emissions from fossil-fueled power-generating facilities. On September 22, 2022, Governor Phil Murphy signed Executive Order No. 307, increasing New Jersey's offshore wind goal by nearly 50 percent to 11,000 MW by 2040, confirming the state's renewable energy goals and intent to transition to renewable energy sources (see Final EIS Section 1.2).

Comment No.	Comment	Response
	communities.	When considering all impacts on environmental justice populations, the impact levels may vary based on the IPFs. When considered together, as stated in the conclusion and Table S-2, the overall impact of the Proposed Action and action alternatives on environmental justice populations is moderate, not negligible to minor.
1259-0130	<p>The Ocean Wind 1 Draft EIS states "the geographic analysis area for environmental justice includes the counties where proposed onshore infrastructure and potential port cities are located as well as the counties in closest proximity to the Wind Farm Area: Atlantic Cape May Cumberland Gloucester Ocean and Salem Counties New Jersey; Charleston County South Carolina; and Norfolk Virginia." The community that will be most burdened by Ocean Wind 1 and its impacts is Atlantic City NJ. This urban coastal city is designated by the State of New Jersey as a "low income and minority" environmental justice community. Atlantic City is the closest municipality to the Ocean Wind 1 turbines and offshore substations and will host an onshore interconnection point and large O&M facilities. The Applicant's O&M facility will be used as a regional O&M center for multiple Ørsted projects in the mid-Atlantic including for the Proposed Action as well as a construction management base. The O&M facility would contain office warehouse and workshop space; dockside harbor facilities; and parking facilities. Extensive bulkhead work is required and "approximately 6448 square feet of open water habitat waterward of the high tide line and approximately 7650 square feet of adjoining wetlands would be filled behind the proposed bulkhead." [Footnote 114: Public Notice No. NAP-2021-00187-39 U.S. Army Corps Engrs. Philadelphia District (November 3 2021) https://www.nap.usace.army.mil/Portals/39/docs/regulatory/publicnotices/Public-Notice-2021-00187-39.pdf.] Further up to 6 vessels a maximum length of approximately 98 feet and a beam [width] of 33-36 feet would be based at the site. Two floating dock structures would be installed to allow for vessels to moor at the site. These structures would be offset from the bulkhead by 5 feet and would be 99 feet long and 14.5 feet wide. Twenty 24-inch diameter piles would be installed at the site to secure the floating structures. A movable gangway would be attached to the uplands and would cross over the mean high water line to allow for access to the vessels using these structures. Four vessels</p>	<p>As discussed in Section 3.12, <i>Environmental Justice</i>, with respect to cumulative impacts, the O&M facility for Atlantic Shores South is proposed in Atlantic City, New Jersey, similar to the Proposed Action. Operational emissions would overall be intermittent and widely dispersed throughout the vessel routes from the onshore O&M facilities and would generally contribute to small and localized air quality impacts. Emissions would largely be due to vessel traffic related to O&M and operation of emergency diesel generators. These emissions would be intermittent and widely dispersed, with small and localized air quality impacts. Only the portion of those emissions resulting from ship engines and equipment operating within and near the O&M facilities in Atlantic City would affect environmental justice populations. Therefore, during operations of offshore wind projects, the air emission volumes resulting from O&M activities are not anticipated to be large enough to have impacts on environmental justice populations. Vessel traffic and noise associated with the O&M facility would be typical of facilities within working</p>

Comment No.	Comment	Response
	would be moored to the floating structures and two vessels would be moored to the bulkhead facing west. Electrical water sewage and fuel lines would be run internally inside the floating docks in sealed conduits to supply the vessels. [Footnote 115: Id.] This is an extensive port expansion in an already overburdened community. The DEIS also states another O&M facility will be built in Atlantic City for the Atlantic Shores offshore wind facilities. Multiple large scale offshore wind facilities cumulatively in the same region will amplify local and regional impacts.	waterfronts and would not be associated with high and adverse effects.
1259-0131	In the Draft EIS BOEM takes the indefensible position that "[t]he impacts at specific ports close to environmental justice populations cannot be evaluated because port usage has not been identified." This is an inconsistency as the number of vessels and vessel trips are indeed noted in the DEIS as well as the COP: The construction phase of the Proposed Action would generate 20 to 65 vessels operating in the Wind Farm Area or over the offshore export cable corridor route at any given time (COP Volume I Section 6.1.2.6.5; Volume III NSRA Section 5; Ocean Wind 2022). In total the Proposed Action would generate approximately 3847 vessel trips during the construction and installation phase (COP Volume I Section 6.1 Tables 6.1.2-1 through 6.1.2-5; Ocean Wind 2022). On average the Proposed Action would generate approximately 10 vessel trips per day during regular operations. [Footnote 116: DEIS at 3.16-13.] A Draft EIS is clearly the appropriate venue for making such evaluations. This Draft EIS in fact states that some of "those emissions resulting from ship engines and equipment operating within and near the O&M facilities in Atlantic City would affect environmental justice populations."	See response to 0609-0016 above.
1259-0134	In sum communities will be adversely impacted by the Proposed Action and other industrial offshore wind projects and support facilities proposed in the region. Yet no mitigation measures are included in the Draft EIS. In addition the DEIS provides no evidence to support the claim that the Proposed Action will displace fossil fuel facilities.	Appendix H identifies APMs and agency-proposed mitigation to minimize impacts across a range of resource topics that tier to the environmental justice analysis.
TRANS-0003-0007	Environmentally overburdened communities will also be impacted by increased traffic from vessels cars and the manufacturing of parts for offshore wind.	EIS Section 3.12 discloses potential impacts on environmental justice populations from air emissions, traffic, noise, and lighting associated with Project construction, O&M, decommissioning, and port utilization.
0984-0025	A proper EIS that calculates the impacts of a decrease in fishing can be used to calculate the increase in the amount malnutrition and child mental development. The [Bold: Major Impact] of the increased cost of seafood with a simple supply	Quantitative analysis to calculate the potential increase in seafood prices attributable to the proposed Project is not

Comment No.	Comment	Response
	and demand chart will show the additional costs to the consumers. The USDA has the calculations on the price increase / decrease ratio on a ten cent basis on how many people can afford a nutritional meal. The applicant and BOEM have refused to address the cost of seafood and the impacts to the countries people whom are already in need. The comments that only the wealthy can afford fish was not true in the coastal communities but will be with the lack of inclusion and understanding of the [Bold: Major Impacts] that are committed from this EIS.	feasible, as the degree to which commercial fisherman would avoid fishing in the Lease Area is not known. Commercial fishing would not be excluded within the Lease Area, and whether to engage in commercial fishing within the Lease Area would be at the discretion of each commercial fishing vessel operator. Potential impacts on subsistence angling (which is typically shore based) would be temporary and primarily affect areas near cable landfalls during construction.

O.6.12 Finfish, Invertebrates, and Essential Fish Habitat

Table O.6.12-1 Responses to Comments on Finfish, Invertebrates, and EFH

Comment No.	Comment	Response
0222-0010	Uncertainty also exists regarding the impact on invertebrate resources such as the effects of [Bold: EMFs and underwater noise] (e.g. generated from pile driving). The available information on invertebrate [Bold: sensitivity to EMF is equivocal] (Hutchinson et al. 2020) and [Bold: sensitivity to sound pressure and particle motion effects is not well understood] for many species nor are synergistic or antagonistic impacts from multiple Impact Producing Factors. Similarly specific secondary impacts such as [Bold: changes in diets throughout the food chain] resulting from habitat modification are [Bold: not well known] for finfish and invertebrates	<p>Discussion informed by Hutchison et al. 2020, Harsanyi et al. 2022, and Albert 2020 has been added to Section 3.6, <i>Benthic Resources</i>, to clarify that impacts on specific organisms are documented under specific conditions; however, the data are inadequate to predict the impacts of EMF.</p> <p>Discussion of potential impacts of underwater noise from pile driving on invertebrates has also been expanded in Section 3.6, informed by text has been added to Section 3.6.5 based on reviews of Popper et al. 2022, Carroll et al. 2017, and Roberts et al. 2016, for example.</p> <p>Potential alterations in productivity due to wind-wake effects have also been added to Section 3.6.</p>
0984-0063	Future Offshore Wind Activities Accidental releases of fuel fluid hazmat that will cause contamination of New Jerseys Beaches are inevitable. The history of land based wind turbines can be easily transformed to the future experiences of wind turbines at sea and multiplied since the response time to at sea. Accidents have delays associated with wind and sea conditions. There is also the statistically known collisions that will take place creating greater degradation to the environment and loss of life. The loss of anchoring sites by other seabed users forcing Anchorage in alternative sites was not and should have been addressed. As an example heavy matting in the estuary to mitigate the high mortality rate to the blue claw crab population will remove a calculable number of acres of seabed for anchorage. Taking the crabs future as a dominant figure in estuaries rivers and bays ecosystem we should look at the science from the European Union when it comes to crabs that burry around the cables. The eggs of the female crabs cook when the crab burry around the warmer mud. This is already to be mitigated in Sandy Hook Long Island Sound and Barnegat Bay with the placement of over 300 miles of cement matting. The matting is used to	<p>Discussion of potential impacts of accidental releases has been expanded in Section 3.13.3.</p> <p>Vessel collisions and associated releases of contaminants are addressed in Section 3.16, <i>Navigation and Vessel Traffic</i>.</p> <p>Anchoring at alternative sites is addressed in Section 3.18, <i>Recreation and Tourism</i> (e.g., “Vessel anchoring for construction of the Proposed Action would have localized, short-term, minor impacts on tourism and recreation due to the need to navigate around vessels and work areas...”).</p> <p>Matting is presently not included in proposed measures to reduce impacts on</p>

Comment No.	Comment	Response
	prevent the crabs from burrowing around the cables and away from any impact of the EMFs. Paving the bottom of the sea is a [Bold: major impact] and needs to be removed during decommissioning.	blue crabs so that removal will not be an issue. Blue crabs continue to be included in monitoring plans but are highly mobile with broad habitat requirements and the flexibility to respond to disturbance; therefore, blue crabs are not anticipated to be affected by the Proposed Action.
0984-0064	The biggest threat to the Delaware Bay horseshoe crab population is at sea industrial energy development sites "offshore wind". Development sites outside of Delaware Bay are the wintering grounds for the horseshoe crabs of New York and New Jersey. The pile driving of the bases for the turbines will have a 100% mortality rate of any crabs in the mud within a nautical mile (NM) of each tower put into place. A 50% horseshoe crab mortality rate is expected from 1NM to 1 1/2 NM. The known mortality rate is only the first major concern for the horseshoe crabs future. The impact of EMFs on horseshoe crabs is a [Bold: major impact.] If that crabs are displaced by the development of this site the smaller impacts of other sites will have a greater impact. The horseshoe crab population is already threatened by the removal of sandy beach sites that are needed for reproduction. The applicants impact on additional beach locations being removed for cable landings is a [Bold: major impact]. The horseshoe crab is significant since multiple federal and threatened endangered species rely on their eggs. The science based mortality rate of the horseshoe crab due to EMF and sediment temperatures associated with the cables needs to part of any EIS and mitigated to the fullest extent with the easy solution being not to grant the applicant since there is a scenario of complete collapse of the horseshoe crab dependent ecosystem. Cable replacement and maintenance will increase the mortality rate on horseshoes crabs during hibernation along with other bottom dwelling species.	Horseshoe crabs are highly mobile, with broad habitat requirements and the flexibility to respond to disturbance because (benthic species with high dispersal are generally less affected by disturbance than more sedentary assemblages). Short-term and permanent benthic disturbance to the Carl N. Shuster Horseshoe Crab Reserve, established to protect the overwintering population of horseshoe crabs, is anticipated due to the Proposed Action. Impacts are described in Section 7.2 of the EFH assessment and include 145 acres of benthic habitat disturbance. The reported impact of pile driving on horseshoe crabs is not documented.
0984-0065	The second concern beyond what we already know is the effects of the electromagnetic field (EMF) that comes from the miles of cable that will be in place when the sites are fully developed. Remembering that the horseshoe crab is genetically closer in relationship to the spider there is little known other than the horseshoe crab avoids the EMF when placed near a cable. This best science available approach would suggest that the cables coming to shore and into the estuaries will have a [Bold: "major impact"] on the horseshoe crabs migration.	Discussion of EMF has been expanded in Section 3.6, informed by Hutchison et al. 2020, Harsanyi et al. 2022, Albert 2020 to clarify that impacts on specific organisms are documented under specific conditions; however, the data are inadequate to predict the impacts of EMF.
0984-0066	With multiple cables and the questionable reference to (33 feet apart) the amount of Anchorage loss is a [Bold: Major Impact]. The secondary impacts	Potential impacts of the Proposed Action on SAV and benthic invertebrates due to

Comment No.	Comment	Response
	<p>that is required to be addresses in the EIS on anchorage displacement is the impacts to recreational and commercial fishing eel & widgeon grass beds and other marine life that rely on these grasses such as grass shrimp. The point is that when you start removing the base of the eco-system such as the grasses you affect everything including food security. It is simple the less fish the more the coastal source of protein costs the more fish costs the more food insecure people we have in the coastal communities. There is plenty of information that discusses the "Food Desert" in coastal communities of which a proper calculation of the impacts of a decrease in anchorage can be placed into a calculation on a increase in the amount not malnutrition and child mental development a [Bold: major impact]. The discussion of EMFs and their major impacts is an intentional omission of the facts. The cables from each stationary tower has to have slack. There is exposed cable from the tower and the cable is at a shallow depth until it reaches its desired burial depth. There is a known amount of cable that becomes unburied after installation because of sediment drift. After installation if not during additional rocks will deposited by the applicant to reduce the movement of the cable and rebury the exposed cable. The omission of the impacts of the additional debris and the impacts of changing the marine eco-system by the depositing non-native structure is needed in the EIS. The EMF from the cables will have a [Bold: Major Impact] on the marine life around each tower and the impact will change much of the the entire East Coasts marine life distribution patterns. Like all the stationary artificial reefs there is a biological negative net some of marine life. Fisheries regulators will undoubtedly have to figure out what that reduction in the biomasses will be and how it will ultimately affect the fisheries management plans and food security.</p>	<p>anchoring are included in Sections 3.6 and 3.13 and were revised to reflect more refined estimates of acres of anchoring impacts. Impacts on SAV are considered to range from minor to moderate.</p> <p>The potential impacts of anchoring on these resources are addressed in response to comment 0984-0063.</p> <p>The potential impacts of cable degradation and invasive species are addressed in response to comment 0984-0072.</p> <p>Discussion informed by Hutchison et al. 2020, Harsanyi et al. 2022, and Albert 2020 has been added to Section 3.6, <i>Benthic Resources</i>, to clarify that impacts on specific organisms are documented under specific conditions; however, the data are inadequate to predict the impacts of EMF.</p> <p>Nonetheless, due to the small footprint of existing undersea transmission lines within the benthic geographic analysis area and the fact that EMF decreases rapidly with distance from the cable, impacts from EMF would be minor.</p>
1192-0003	<p>This environmental impact statement fails to protect ecosystem services. The DEIS neglected to identify irreversible and irretrievable commitments of resources for eelgrass. If it really was a concern we suggest that the NJ Department of Environmental Protection immediately begin a TMDL study of Eelgrass. Clearly it is a concern of many (see Appendix A).</p>	<p>Impacts on SAV (inclusive of eelgrass) are addressed in Section 3.6; acres of impacts of SAV affected were revised and included in the Final EIS. The comment to NJDEP about total maximum daily loads is noted; total maximum daily loads are established for impaired waterbodies and would not be developed for eelgrass communities.</p>
1192-0008	<p>Eelgrass is in the Natural Cycle for Barnegat Bay and it should be more prominent in the DEIS. Just as the reconstruction of Route 35 in the Barrier Islands more north of the present project doomed the eelgrass in Seaside Park etc. this project is not protective of the natural cycle in Barnegat Bay. Even so</p>	<p>The discussion of SAV/eelgrass, including its historic decline in Barnegat Bay, water quality, climate change, and the potential</p>

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	<p>the DEIS recognizes eelgrass' critical importance but not the effect disturbance of it will have on the ecosystem. The DEIS states that "Cable routes that intersect sensitive EFH such as eelgrass beds or rocky bottom and other more complex habitats may cause long-term or permanent impacts; otherwise impacts of habitat disturbance and mortality from physical contact with finfish and invertebrates would be recovered in the short term and overall impacts would be expected to be minor to moderate. [Footnote 9: DEIS page 270]During Construction "Compensatory mitigation for impacts on seagrass are difficult and may not always result in restoration of SAV to pre-impact conditions (Bologna and Sinnema 2012). The two most common species of seagrass in New Jersey back barrier lagoons are eelgrass (<i>Zostera marina</i>) and widgeon grass (<i>Ruppia maritima</i>)."[Footnote 10: Ibid 118] This is not true. We need a Total Maximum Daily Load (TMDL) [Footnote 11: Section 303(d) of the Clean Water Act authorizes EPA to assist states territories and authorized tribes in listing impaired waters and developing Total Maximum Daily Loads (TMDLs) for these waterbodies. A TMDL establishes the maximum amount of a pollutant allowed in a waterbody and serves as the starting point or planning tool for restoring water quality. https://www.epa.gov/tmdl] for Eelgrass before any approvals of this plan moves forward.</p>	<p>impacts of the Proposed Action have been expanded in Section 3.6. Although local mortality of benthic fauna, habitat alteration, and SAV losses are likely to occur, BOEM does not anticipate population-level impacts on benthic organisms; habitat could recover after decommissioning activities. Irreversible and irretrievable impacts on benthic resources are therefore not anticipated. These impacts are discussed in Appendix L of the EIS.</p>
1192-0024	<p>Ecosystem services are not protected. The DEIS neglected to protect Eelgrass' irreversible and irretrievable commitments of resources.</p>	<p>Although local mortality of benthic fauna, habitat alteration, and SAV losses are likely to occur, BOEM does not anticipate population-level impacts on benthic organisms; habitat could recover after decommissioning activities. Irreversible and irretrievable impacts on benthic resources are therefore not anticipated. These impacts are discussed in Appendix L of the EIS.</p>
1259-0035	<p>3. Deficiencies of the Analysis Concerning Submerged Aquatic Vegetation SAV habitats are designated as Essential Fish Habitats by the National Marine Fisheries Service ("NMFS"). These submerged communities contribute to one of the most productive ecosystems in the world supporting biogeochemical cycling physical stabilization of sediments and life cycle habitat needs of multiple aquatic species. SAV provides a nutrient source nursery area and critical habitat for commercially and recreationally important fish benthic and marine mammal populations (de Boer 2007) including threatened and endangered species. [Footnote 18: See Scientific Advisory Board Submerged</p>	<p>The EIS recognizes the importance of SAV and EFH in the Project area and the SAV portion of Section 3.6, <i>Benthic Resources</i>, has been expanded to more fully assess impacts on SAV. Potential impacts on EFH have been addressed in the EFH assessment (submitted to NMFS). The EFH assessment is summarized in Section 3.13 of the EIS.</p>

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	<p>Aquatic Vegetation and Habitat: Survey and Mapping Methodologies Review N.J. Dept. Envmtl. Prot. (2021) https://dspace.njstatelib.org/bitstream/handle/10929/74097/sab-savmapping.pdf?sequence=1&isAllowed=y.] Mapping the distribution and extent of eelgrass is a critical first step in understanding managing and protecting shallow-subtidal estuarine habitats. [Footnote 19: See Michael Bradley et al. 2021 Tier 1 Mapping of Submerged Aquatic Vegetation (SAV) in Rhode Island and Change Analysis Univ. R.I. (2021) http://www.crmc.ri.gov/sav/Tier1_Mapping_SAV_2021.pdf.] However SAV maps alone are not sufficient to determine the presence/absence of regulated SAV habitat and such data can be used only for informational purposes. The SAV mapping project by the University of Rhode Island recommends a three-tier approach for northeastern US estuaries: Tier 1 - Digital aerial photographs are used as base maps to create digitized polygons; Tier 2 - percent cover assessments at evenly-spaced plot locations as grids; and Tier 3 - the most detailed method to measure biomass plant height and other ecological metrics. [Footnote 20: Environmental Data Center Submerged Aquatic Vegetation (SAV) Mapping and Monitoring Univ. R.I. (last accessed Aug. 22 2022) https://www.edc.uri.edu/initiatives/submerged-aquatic-vegetation-sav-mapping-and-monitoring/.]</p>	<p>Recreationally and commercially important fisheries are discussed in Section 3.9 of the EIS.</p>
1259-0036	<p>More recently the Scientific Advisory Board - Ecological Processes Standing Committee's (EPSC) report to NJDEP (2021) concluded that a dedicated monitoring program performed on an annual basis or semi-annual basis is necessary to assess the health of SAV meadows and to avoid missing any significant changes. [Footnote 21: See Bradley et al. supra n. 18.] Further such monitoring should include both remote sensing and in situ sampling for a robust evaluation of SAV extent and health. New and recent monitoring techniques should be adopted including UAVs to perform rapid cost-effective monitoring. Trend analyses between species show that sampling frequency (e.g. annual vs. biennial) impacts their accuracy and demonstrate the importance of increasing sampling frequency. [Footnote 22: See Dr. Elizabeth A. Lacey Barnegat Bay Submerged Aquatic Vegetation Monitoring Program 2021 Final Report Barnegat Bay Partnership (2021) https://www.barnegatbaypartnership.org/wp-content/uploads/2022/04/Barnegat-Bay-Submerged-Aquatic-Vegetation-Monitoring-Program-2021-Report.pdf.]</p>	<p>Ocean Wind has prepared a SAV Monitoring Plan (Inspire 2022) and SAV Preliminary Mitigation Plan (Ocean Wind 2022). The plans describe Ocean Wind's proposed pre- and post-construction monitoring activities, SAV restoration program, and annual reporting commitments.</p>
1259-0037	<p>The bay's seagrasses are an important element of the bay ecosystem because they harness energy and nutrients that are consumed by other organisms. The seagrass beds also provide a critical structural component in an otherwise</p>	<p>The discussion of seagrasses in Section 3.6, <i>Benthic Resources</i>, has been expanded to include the value of SAV with</p>

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	<p>barren sandy bottom serving as essential habitat for a host of organisms from shellfish and crabs to fish and waterfowl. However in recent years the bay's seagrasses have suffered due to the host of problems including declining water quality dredging brown tides algal infestation boat scarring and disease (Kennish et al. 2003). [Footnote 23: See Richard G. Lathrop et al. Final Report: Submerged Aquatic Vegetation Mapping in the Barnegat Bay National Estuary Update To Year 2003 Rutgers U. (2004) https://crssa.rutgers.edu/projects/sav/downloads/CRSSAreport2004-02_SAV_Mapping_in_the_BBay_Natl_Esstuary_Upd_2003.pdf] Remote-sensing and manual time-series trends to study the impacts of Superstorm Sandy showed that seagrass cover continued to decline between 2006-2013. In fact the decline has been observed from 1968 onwards and occurred throughout the entire Bay. [Footnote 24: See Brian R. Calder & Larry A. Mayer IOCM Research in Support of Super Storm Sandy Disaster Relief NOAA Co-operative Agreement NA14NOS4830001 Univ. N.H. (2015) http://sandy.ccom.unh.edu/publications/library/2015-12-29_FinalReport.pdf.]</p>	<p>respect to carbon sequestration, EFH for numerous species, and its decline in Barnegat Bay. The additional research citations are included to support the discussion.</p>
1259-0038	<p>The 2021 BBP-CCMP Vulnerability Assessment Report identifies how SAVs are facing increased threats from climate change risks and eutrophication of the Bay's waters. [Footnote 25: See David J. Yozzo BBP CCMP Vulnerability Assessment Report Barnegat Bay Partnership (2019) https://www.barnegatbaypartnership.org/wp-content/uploads/2022/01/CCVA-Final-Report.pdf. COA is a member of the Advisory Committee and Scientific and Technical Advisory Committee of BBP.] As such a wealth of recent and publicly available scientific literature reaffirms that SAV is a vulnerable and fragile habitat and any adverse impacts will result in a cascade of harmful impacts through the ecosystem. Despite these and other available studies the assessment done by Ocean Wind 1 is sparse sporadic in phases and not during the growing season or under warm water temperatures. Ocean Wind as stated in the DEIS is yet to complete field characterization surveys in more planned survey areas which is very critical to the Project and should have been included in the DEIS to assess true impacts.</p>	<p>Section 3.6 has been expanded to include recent scientific information and literature citations that support the discussion.</p>
1259-0043	<p>ii. Finfish Invertebrates and Essential Fish Habitat (3.13) Ocean Wind 1 will have more significant impacts on finfish invertebrates and essential fish habitat ("EFH") than acknowledged in the Draft EIS. Lease Area OCS-A 0498 is within the New Jersey Wind Energy Area which in turn is located within the Northeast Wind Energy Area an area abundant in fish assemblages with diverse habitat. The geographic analysis area covers affected environments for finfish invertebrates and essential fish habitat including demersal and pelagic fisheries</p>	<p>Section 3.13 has been expanded to provide additional discussion of impacts on EFH for numerous species, including the recreationally and commercially important species listed. Additional discussion is supported by scientific research, as cited in the text.</p>

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	<p>resource species which are primarily in federal waters; estuarine fisheries resource species which are interstate migrants; protected species; and highly migratory species. Among these there are a number of species that require relatively rare types of habitats for one or more life stages and those that have limited mobility during one or more life stages. The following species have been identified as "species of concern" and the list includes many kinds of marine life including commercially valuable shellfish species with limited mobility as juveniles and adults: sea scallops (<i>Placopecten magellanicus</i>) Atlantic surf clams (<i>Spisula solidissima</i>) and ocean quahogs (<i>Arctica islandica</i>). The immobile attached egg masses (egg mops) of the longfin squid (<i>Doryteuthis pealeii</i>) represent another such life stage. Also included are juvenile Atlantic cod (<i>Gadus morhua</i>) which prefer gravelly or vegetated bottoms and adults that prefer rocky pebbly or gravelly bottoms as well as black sea bass (<i>Centropristis striata</i>) which require structured refuge habitats as juveniles and adults and show strong site fidelity toward favorable habitats. In fact seasonal trawl surveys conducted by Northeast Fisheries Survey Center between 2003 and 2016 in the New Jersey Wind Energy Area (approx. 344000 acres) show that this is a taxon- rich area. Grab sampling yielded ninety-four (94) infaunal taxa numerically dominated by polychaetes. Sand shrimp sand dollars and dwarf warty sea slugs were the numerical dominants (96%) among the twenty-four (24) taxa of epibenthic (beam trawl) fauna. The 113 taxa of megafauna identified include thirty-nine (39) with managed fisheries.</p>	
1259-0044	<p>Taxonomic presence and distribution between seasons showed ninety-six (96) taxa in the warm season and fifty-nine (59) in the cold season. Although there is considerable overlap in the lists of taxa present in the two seasons the distributions of biomass numbers and frequency of catch for the two seasons are quite different. For example Atlantic croaker longfin squid and scup dominated the warm season fauna while Atlantic herring little skate and spiny dogfish dominated the cold season. There is also considerable overlap among species present and dominance with other offshore wind energy lease areas especially those near New York waters. This critically highlights the need to understand the impacts of proposed lease areas in the NY/NJ Bight region including cumulative impacts. Plus further underscoring this point the impacts of Ocean Wind 1 and other offshore wind development in the Bight cannot be measured let alone understood given the lack of baseline data concerning the interaction of this development with local species and their habitats.</p>	<p>Data available from numerous sources such as federal, state, and local agencies, academia, and data collected by Ocean Wind were used to develop the EIS. Analyses presented in the EIS are based on available scientific information and sources of data are cited. Information reported in this comment is presented in the EIS in Section 3.13.</p>
1259-0045	<p>Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPC) Species of concern in the NY/NJ Bight have zones of Essential Fish</p>	<p>EFH relevant to the Proposed Action was identified in consultation with NMFS. The</p>

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	<p>Habitat ("EFH") that are defined either for the species as a whole (i.e. all life stages) or as separate zones for each life stage. The Bight includes EFH for at least twenty-seven species including blue fish summer flounder and black sea bass and the designation applies across life cycle stages-from larvae to juveniles and adults. [Footnote 29: The essential fish habitat (EFH) mapper Natl. Oceanic and Atmospheric Admin. (2021)(Degrees Minutes Seconds: Latitude = 39° 29' 54" N Longitude = 75° 42' 42" W) https://www.habitat.noaa.gov/apps/efhmapper/efhreport/.]</p>	<p>Southern New England HAPC for cod spawning recently designated by NEFMC in June 2022 has been added to the EIS. The EFH assessment includes a comprehensive analysis of impacts of the Project on EFH (BOEM 2022).</p>
1259-0046	<p>Additionally there are four artificial reef areas mapped offshore adjacent to the proposed Oyster Creek offshore export cable corridor as well as one artificial reef area mapped offshore adjacent to the BL England offshore export cable corridor. The proposed Oyster Creek export cable would cross various sensitive and critical inshore habitats such as shoals intertidal and subtidal flats and especially Submerged Aquatic Vegetation ("SAV"). SAV has been identified as a critical parameter to improving and maintaining the health of Barnegat Bay for many years including in the recently released 2021 Comprehensive Conservation and Management Plan ("CCMP"). [Footnote 30: See Barnegat Bay Partnership 2021 Comprehensive Conservation and Management Plan for Barnegat Bay-Little Egg Harbor Estuary https://www.barnegatbaypartnership.org/wp-content/uploads/2021/12/BBP-CCMP-Updated- Dec-2021-forScreens.pdf.] Critical habitats continue to be lost including freshwater and tidal wetlands (important for flood protection water quality and wildlife habitat) and seagrass beds (critical nursery habitat for many fish and shellfish species). [Footnote 31: See Barnegat Bay Partnership State of the Bay Report 2016 (2017) https://www.barnegatbaypartnership.org/wp-content/uploads/2017/08/BBP_State-of-the-Bay-book-2016_forWeb.pdf.] SAV in particular has been routinely highlighted as a holistic target to protect and restore the Bay.</p>	<p>BOEM concurs with the locations of existing artificial reef sites near the Project, identified from the NOAA Office of Coastal Management InPort library. Eleven artificial reefs were identified in the general vicinity of the Proposed Action; however, only four are entirely or in part within the geographic analysis area for benthic resources (Figure 3.6-2 in Section 3.6 of the EIS): Atlantic City reef, Great egg reef, Ocean city reef, and Deepwater reef. Collectively, these four reef areas represent approximately 6.5 square miles (16.8 km²) of extensively modified seafloor due to the placement of structures such as ships, tanks, railroad cars, concrete debris, and reef balls.</p>
1259-0047	<p>The geographic analysis area and the Project Area also include several finfish species that are state and federally managed. These include: American eel (<i>Anguilla rostrata</i>) Atlantic croaker (<i>Micropogonias undulatus</i>) Atlantic herring (<i>Clupea harengus</i>) Atlantic menhaden (<i>Brevoortia tyrannus</i>) Atlantic striped bass (<i>Morone saxatilis</i>) Atlantic sturgeon (<i>Acipenser oxyrinchus oxyrinchus</i>) black drum (<i>Pogonias cromis</i>) black sea bass (<i>Centropristis striata</i>) bluefish (<i>Pomatomus saltatrix</i>) cobia (<i>Rachycentron canadum</i>) scup (<i>Stenotomus chrysops</i>) shad (American shad [<i>Alosa sapidissima</i>] and hickory shad [<i>Alosa mediocris</i>]) and river herring (alewife [<i>Alosa pseudoharengus</i>] and blueback herring [<i>Alosa aestivalis</i>]) Spanish mackerel (<i>Scomberomorus maculatus</i>)</p>	<p>BOEM concurs that these species, including the ESA-listed sturgeon, are likely to occur in the geographic analysis area.</p>

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	monkfish (<i>Lophius</i> spp.) spiny dogfish (<i>Squalus acanthias</i>) spot (<i>Leiostomus xanthurus</i>) summer flounder (<i>Paralichthys dentatus</i>) tautog (<i>Tautoga onitis</i>) weakfish (<i>Cynoscion regalis</i>) winter flounder (<i>Pseudopleuronectes americanus</i>) and coastal shark species. American shad alewife and striped bass are some of the anadromous fish species in the Project area that migrate up rivers to lower-salinity environments annually for spawning. Atlantic sturgeon (<i>Acipenser oxyrinchus</i>) a species protected under the Endangered Species Act ("ESA") is also found in the geographic analysis area.	
1259-0048	Environmental concerns - existing and emerging Global climate change is affecting all marine environments. The New Jersey shelf in particular has been experiencing increasingly elevated temperatures in both surface and bottom depths. According to a recent study marine estuarine and riverine habitat types in the Northeast U.S. were found to be moderately to highly vulnerable to stressors resulting from climate change. [Footnote 32: Farr et al. 2021.] In general rocky and mud bottom intertidal SAV kelp coral and sponge habitats were considered the most vulnerable habitats to climate change in marine ecosystems. [Footnote 33: Id.; DEIS at 3.13-11.] Similarly estuarine habitats considered most vulnerable to climate change include intertidal mud and rocky bottom shellfish kelp SAV and native wetland habitats. [Footnote 34: Farr supra n. 31.] Riverine habitats found to be most vulnerable to climate change include native wetland sandy bottom water column and SAV habitats. [Footnote 35: Id.] On the same note finfish and invertebrate migration patterns can be influenced by warmer waters as can the frequency or magnitude of disease. For example due to warming waters there has been a northward shift in some fish species including highly migratory species like the tiger shark. As a result there are fish species (e.g. mahi mahi wahoo and Spanish mackerel) that may experience a northward shift toward Ocean Wind 1 over time and eventually become affected by the project during operation and decommissioning.	BOEM recognizes the influence of climate change on fish distributions and a discussion of these potential impacts is included in Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> .
1259-0049	The Draft EIS states that the impacts resulting from Ocean Wind will be negligible to moderate for finfish invertebrates and EFH but this cannot be true; impacts will be more significant. In the context of other proposed construction activities until 2030 including other lease areas in the geographic analysis area as well as changes to the marine environment from climate change the Draft EIS is lacking in a detailed assessment including cumulative impacts of the project.	A major impact “would affect the viability of the population and would not be fully recoverable. Impacts on habitats would result in population-level impacts on species that rely on them” (defined in EIS Section 3.13.2). Per this definition, impacts on finfish, invertebrates, and EFH would not be major and are described as ranging from negligible to moderate for these resources.

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1259-0053	<p>On a final note the Draft EIS does not provide an adequate analysis of Ocean Wind 1's impacts on Atlantic sturgeon. A recent study indicates that only 250 adults return to the Delaware River to spawn. [Footnote 39: See Shannon L. White et al. Evaluating sources of bias in pedigree-based estimates of breeding population size Ecological Applications (2021) https://esajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/eap.2602.] Ocean Wind 1 activities within the Delaware River Delaware Bay and open ocean need to be assessed for impacts to this endangered species. In fact the Delaware Riverkeeper Network filed a 60-day notice of intent to sue the National Marine Fisheries Service for violating multiple sections of the Endangered Species Act. These violations concern the Biological Opinions issued to the Army Corps of Engineers for the New Jersey Wind Port project and the Edgemoor Container Port project. According to the Network if permitted by the Army Corps these commercial ports could threaten the continued existence of the Delaware River Estuary's genetically unique population of Atlantic sturgeon. [Footnote 40: Delaware Riverkeeper Network Intends To Sue NOAA Fisheries Over Wind The Fisherman (Aug. 22 2022) https://www.thefisherman.com/article/delaware-riverkeeper-network-intends-to-sue-noaa-fisheries-over-wind/.]</p>	<p>Section 3.13 has been expanded to include a full discussion of the ESA-listed Atlantic sturgeon and the potential impacts of relevant IPFs on the sturgeon. Potential impacts on the Atlantic sturgeon analyzed for the USFWS BA have now been added to the EIS.</p>
1259-0055	<p>Anchoring. The Draft EIS understates the impact that vessel anchoring will have on finfish invertebrates and EFH. The document states that vessel anchoring will cause short-term impacts on finfish and invertebrates in the immediate area where anchors and chains meet the seafloor in offshore sandy environments. These impacts include turbidity which affects finfish and invertebrates as well as injury mortality and habitat degradation primarily of invertebrates. Anchoring wind turbines may also cause temporary or permanent impacts in the immediate area where anchors meet the sea floor. [Footnote 42: See Riya Ajmera Mutual Benefits for Offshore Wind Energy in the Mid-Atlantic: Science and Policy Strategies to Mitigate Harm to Marine Species and Maximize Benefits for Renewable Energy Monmouth U. (2021) https://www.monmouth.edu/uci/documents/2021/10/riya-ajmera-uci-offshore-wind-energy-paper.pdf/.] Additionally clouding and sedimentation during construction can cause damage to fish eggs can damage and or disturb spawning grounds for fish. The introduction of hard substrate (here anchors) to the environment can cause alteration of food species availability and abundance which in turn may alter community composition and abundance of fish. [Footnote 43: See OSPAR Commission Assessing the environmental impact of offshore wind farms (2008) https://www.ospar.org/documents?v=7114.] During construction operation and</p>	<p>Discussion of anchoring in Section 3.13 has been expanded to include the acres of anchoring impacts anticipated and the potential impacts on Atlantic sturgeon and its prey from anchoring. The impacts of anchoring on sturgeon are considered short term and negligible due to their high mobility and the estimated low number of vessels (26) expected to be operating in a typical workday for cable installation.</p>

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	decommissioning of an offshore wind farm the foundations anchors and cables will alter benthic habitat and organisms. [Footnote 44: See U.S. Offshore Wind Synthesis of Environmental Effects Research Benthic Disturbance from Offshore Wind Foundations Anchors and Cables (2022) https://tethys.pnnl.gov/sites/default/files/summaries/SEER-Educational-Research-Brief-Benthic-Disturbance.pdf .]	
1259-0056	Anchoring would affect nineteen (19) acres under the Proposed Action and the combined impacts from ongoing and planned activities including the Proposed Action could collectively affect up to 2682 acres (10.9 km ²) (although some of this may occur after the resource has recovered from the earlier impacts). The Draft EIS claims that if anchoring occurs in sensitive SAV habitat impacts would likely be moderate and long term within that specific habitat. However the project area includes sensitive benthic organisms eel-grass beds and hard bottom habitats and any impact to these resources would be long term and permanent. Moreover eelgrass beds in the Barnegat Bay region has been identified as critical for the health of the Bay and is one of the holistic targets for ecosystem restoration of the Bay.(CCMP 2021)EFH and HAPC for highly migratory species such as the Tiger shark also lie within the project boundaries. It is a gross simplification for the Draft EIS to state that Ocean Wind 1 will contribute an undetectable increment to the combined impacts of anchoring from ongoing and planned activities including offshore wind on finfish and invertebrates. Similarly there is no supporting evidence for the Draft EIS to state "All impacts would be localized turbidity would be temporary and displacement and mortality from physical contact would be recovered in the short term." The development of multiple wind farms in the region each containing dozens of turbines will result in cumulative impacts on EFH and HAPC that need to be investigated.	The impacts on SAV beds and other benthic habitats is anticipated to range from negligible to moderate. No permanent impacts are anticipated. Long-term impacts that may occur are expected due to O&M activities but these habitats are anticipated to recover following decommissioning. The discussion of potential impacts on SAV has been expanded and the acres of impacts were revised based on the final cable alignments and included in the Final EIS.
1259-0057	Electromagnetic Fields (EMF)The Draft EIS unfairly minimizes the impacts that electromagnetic fields ("EMF") from Ocean Wind 1 will have on finfish invertebrates and EFH. The document states that "[t]he Proposed Action would slightly increase the impacts of EMF in the geographic analysis area beyond those described under the No Action Alternative. The combined impact on finfish invertebrates and EFH would likely be negligible and localized though long term." However increased numbers of subsea cables from future OSW farm projects and other marine industries may lead to cumulative effects in heavily developed regions. The potential for cumulative effects from EMFs has not been characterized in studies or research to date. Even so the EMF from a single cable needs to be considered in the context of other cables in the area	Discussion of EMF has been expanded in Section 3.6, informed by Hutchison et al. 2020, Harsanyi et al. 2022, and Albert 2020 to clarify that impacts on specific organisms are documented under specific conditions; however, the data are inadequate to predict the impacts of EMF.

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	(i.e. existing and proposed cables) as well as other activities that might occur in the region. For example the addition of new cables might increase the number of subsea cables a migratory species will encounter along its migratory route. These scenarios need to be studied to understand the actual interactions that may occur. [Footnote 45: https://tethys.pnnl.gov/sites/default/files/summaries/SEER-Educational-Research-Brief-Electromagnetic-Field-Effects-on-Marine-Life.pdf]	
1259-0060	Presence of Structures. The Draft EIS states "Various impacts on finfish resulting from the presence of new structures associated with the Proposed Action are described in detail in Section 3.13.3.2. New structures could affect finfish migration through the area by providing unique complex features (relative to the primarily sandy seafloor) and altering water currents; this could lead to retention of those species and possibly affect spawning opportunities. Impacts on fish migration as a result of structures associated with offshore wind are unknown as studies related to this potential impact are not available.	BOEM concurs. This statement is in Section 3.13.3.2.
1259-0061	Although not designed as artificial reefs offshore wind energy development projects have similar impacts-both desired and undesired: they may offer possibilities for nature enhancement but at the same time be a nuisance to nature. For the sake of environmentally friendly marine management it is of utmost importance to distinguish desirable from undesirable impacts and to take action to promote the former while at the same time mitigating the latter. To that end a proper understanding of mechanisms behind the impacts is needed in order to develop effective nature-inclusive designs. For example requirements may include eco-designing scour protection layers to enhance fish habitat or restore oyster beds and deploying add-on structures such as fish hotels. To this end the Draft EIS never considers whether possible positive ecosystem effects from Ocean Wind 1 will be nullified upon the project's eventual decommissioning.	Discussion regarding the potential impacts of WTGs as opportunities for the establishment or spread of invasive species (and associated citations) has been added to Sections 3.6 and 3.13. The effects of decommissioning are presented for each resource in the EIS.
1259-0062	Offshore wind construction and operation activities can also cause possible habitat disturbance for species of concern including black sea bass sea scallop ocean quahog and surf clam. EFH for these species of concern overlap with the Project Area for Ocean Wind 1 so these species-as well as the potential for their habitat disturbance-cannot be ignored.	Potential impacts of Project construction and operations on EFH for species such as black sea bass, sea scallop, ocean quahog, and surfclam are addressed in Section 3.13.
1259-0063	Highly Migratory Species Highly Migratory Species ("HMS") such as tuna swordfish and sharks live and migrate throughout the Atlantic Ocean. These species are unique because they traverse domestic and international boundaries and must be analyzed more closely in the Draft EIS due to their presence in the Project Area for Ocean Wind 1. NOAA's EFH mapper shows	Impacts on highly migratory species are addressed in Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> . Impacts expected from climate change events such as increased

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	<p>that the proposed wind farm will impact sixteen (16) HMSs including four (4) species of tuna and ten (10) shark species. It must be noted that this climate-driven shift in distribution of marine species is some of the highest in the US Northeast Continental Shelf LME. During periods of anomalously high sea-surface temperatures movements of tracked sharks shifted beyond spatial management zones with underlying protection from commercial fishing and bycatch. With these induced-shifts these study results have implications for fisheries management human-wildlife conflict and ecosystem functioning. This has been documented in a more recent study on the apex predator the Tiger shark (<i>Galeocerdo cuvier</i>). [Footnote 50: Hammerschlag et al 2022.] Tiger sharks satellite-tracked in the western North Atlantic between 2010 and 2019 revealed significant annual variability in the geographic extent and timing of their migrations to northern latitudes from ocean warming. [Footnote 51: https://onlinelibrary.wiley.com/action/doSearch?ContribAuthorRaw=McDonnell%2C+Laura+H.] Warming effects within the wind turbine fields caused by sun radiation on monopoles and transference into waters as well as the increased infrastructure itself may affect the migratory pathways and activities of these important species. Moreover the cluttered underwater areas may impact these species as well. These impacts will be increased with each monopole within projects including increased contributions to cumulative impacts from other nearby OSW projects. Yet the Draft EIS does not include any assessment of how to address and mitigate these impacts. A pilot project would enable scientists to study evaluate interpret and determine consequences such that development reductions or mitigation strategies could be implemented.</p>	<p>magnitude or frequency of storms, shoreline changes, ocean acidification, and water temperature changes would be expected to affect highly migratory species. The impacts of offshore wind on highly migratory species are unknown and new studies are just now getting underway, including Pilot Studies for Regional Fisheries Monitoring in Relation to Massachusetts and Rhode Island Offshore Wind Area (to be completed in 2023).</p>
TRANS-0068-0004	<p>Speaking of navigation just a couple of other brief points. First especially in light of the lawsuit filed by Delaware River Keeper Network this week it's particularly glaring that the draft EIS fails to consider the impacts of endangered Atlantic sturgeon and their habitat on navigation and navigability for vessels involved in Ocean Wind 1.</p>	<p>Potential impacts on the Atlantic sturgeon have been analyzed for the NMFS BA and are incorporated into the Final EIS.</p>
TRANS-0069-0004	<p>The fishery section in the Ocean Wind DEIS is deficient. This is concerning since BOEM itself noted in 2017 that offshore wind will have significant impacts on the central fish habitat. Essential fish habitat or EFH developed by the Regional Fishery Management Council identified at least 27 species including bluefish summer flounder black sea bass to name a few and included various lifecycle stages from larvae to juveniles to adults. The Mid-Atlantic Fishery Management Council has also designated habitat areas of particular concern for summer flounder within the Mid-Atlantic and New England. Black sea bass sea scallops surf clams all have the potential for habitat disturbance and these</p>	<p>Results of the EFH assessment have been incorporated into the EIS (Section 3.13), as appropriate, to further the discussion of potential impacts on EFH.</p>

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	are already described as being vulnerable to impacts to climate change from climate change. There is a clear need for peer reviewed independent studies and that takes time to do. Time for the results and time for independent peer review. There are so many uncertainties but still some prominent officials in the review process of offshore wind proposals in this region comfortably describe the planning for offshore wind as “building the plan as we are flying it.” This is unacceptable. With so much at stake its unacceptable.	
TRANS-0080-0001	The long term impacts of electromagnetic fields and transmission cables have not been studied and recent reports shows that benthic creatures like lobsters and crabs are likely to be impaired at birth with deformities that limit mobility.	Discussion informed by Hutchison et al. 2020, Harsanyi et al. 2022, and Albert 2020 has been added to Section 3.6, <i>Benthic Resources</i> , to clarify that impacts on specific organisms are documented under specific conditions; however, the data are inadequate to predict the impacts of EMF.

O.6.13 Land Use and Coastal Infrastructure

Table O.6.13-1 Responses to Comments on Land Use and Coastal Infrastructure

Comment No.	Comment	Response
0984-0007	Onshore Export Cable. The applicants EIS fails to address the additional retrenching that historical is needed with an initial landfall site. The applicant EIS fails to address the Environmental impacts of sites for replacement cables during the lifespan of the operations. The onshore export cables will interfere with the currently engineered plans to provide a hard pipe sewer system on Island Beach State Park (IBSP) thus creating additional environmental impacts. Historic amounts of fecal-coliform is found in the proposed construction sites where addition flotsam will exacerbate the volume and create additional beach closures far away from the proposed construction areas. Over 2% of IBSP that has been almost untouched since 1609 will now become an industrial site for outdated energy technology. The extreme Environmental impact on the IBSP preservation areas will certainly threaten species like the Pink Lady Slipper terrapins and beach plumbs in the area being considered for the Industrial Construction Yard. The proposed burial depth is inadequate and will create additional environmental impacts not identified in the EIS. The constant re-exposure of groins placed along New Jersey Beaches and at the cable exposure boondoggle in Rhode Island site provides examples that the applicant is knowledgeable of and has intentionally failed to address the major impacts Environmental impacts of. A incomplete EIS to this extreme requires the applicant to resubmit the EIS and re-start the public comment period. The onshore export cable portion of the EIS is purposely incomplete and cumulatively has to be recognized as a [Bold: Major Impact.]	Onshore cables are not expected to need to be replaced during the lifespan of the Project. As described in Section 2.1.2.3.1, <i>Onshore Activities and Facilities</i> , cables and other onshore infrastructure will be routinely inspected for faults or failures. BOEM is aware of the proposed project to create a new sanitary sewer system on Island Beach State Park. Because construction for the sewer system is scheduled to begin as early as December 2022, there will be no overlap in construction times with the Proposed Action. Onshore export cables will be routed to avoid conflicts with existing infrastructure. Potential impacts of the Proposed Action on onshore habitat and species, including terrapins and coastal flora, are described in Section 3.8, <i>Coastal Habitat and Fauna</i> . Target burial depth is determined based on an assessment of seabed conditions from G&G surveys and the risk of interaction with external hazards such as fishing gear and vessel anchors. A CBRA would be developed prior to construction and coordination with agencies would also inform final target burial depth. The Cable Burial Plan would be reviewed by the Certified Verification Agent and BOEM. Potential impacts of EMF from onshore export cables on the beach-going public are analyzed in Section 3.18.5, <i>Impacts of the Proposed Action on Recreation and Tourism</i> .
0984-0008	Onshore Substations. There is nothing temporary about the 3 acres of workspace. From construction to maintenance to decommissioning the Environmental impact will exist past the lifespan of the project. The Jersey Shore is "SAND" traditional mitigation of construction sites will	The temporary workspace at each substation will only be used during construction of the substation. Following construction, the temporary workspaces would be restored to previous conditions and no

Comment No.	Comment	Response
	<p>not work in this environment and is not addressed purposely within the EIS. The attempt of the applicant to greenwash this phase of the project is criminal in nature and the applicant should be prosecuted to the full extent of the law. Industrial development sites are major impacts to the environment any where they are located in the United States. The onshore substations are in fact a [Bold: Major Impact.]</p>	<p>change to the land use or character of the environment is anticipated. During the O&M phase of the Project, materials needed for maintenance activities will be stored at the O&M facility in Atlantic Shores.</p> <p>Ocean Wind has submitted a conceptual decommissioning plan as part of the COP. Ocean Wind is required to submit a decommissioning application that will undergo BOEM technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments.</p> <p>Construction mitigation measures that have been developed specifically for this Project are described in Appendix H, <i>Mitigation and Monitoring</i>.</p>
0984-0021	<p>3.14 Land Use and Coastal Infrastructure. The use of preserved lands state and federal parks should be prohibited. The use of these lands to provide cost savings to the developers is a crime within current proposed environmental justice parameters. The development project exceeds the cost threshold contained within the EO and individual states directives. The predictable legal actions that will follow with the use of public lands will terminate the viability of the project and should be recognized as a [Bold: Major Impact] within the EIS. The use of BOEM / Dept. of Interior legal council to determine the legal exposure to the use of preserved lands state and federal parks is a conflict since they are the lessor of the proposed development site. Furthering the legal exposure of desecrating preserved lands state and federal parks is the proposed infrastructure that will be built on these lands. The charter of the protected areas removes the opportunity of industrial sites from being developed on the lands. Any change within the natural environment especially for a generation (20 years) is a [Bold: Major Impact.]</p>	<p>As described in Section 3.14.5, <i>Impacts of the Proposed Action on Land Use and Coastal Infrastructure</i>, the above-ground structures on shore include the substations proposed at BL England and Oyster Creek. The BL England substation in Upper Township, New Jersey is within a zoning district where electrical substations are permitted, subject to conditions to ensure compatibility with surrounding land uses. The Oyster Creek substation in Lacey Township, New Jersey is within an industrial zoning district where an electrical substation is consistent with existing land use. Two options are being considered for the portion of the Oyster Creek cable route that crosses Island Beach State Park. From the landfall location on the Atlantic Shore side of Island Beach State Park, the Inshore Export Cable Route option would use HDD and exit into Barnegat Bay directly across from the Atlantic Ocean landfall. The Prior Channel Route option would make landfall on the Atlantic Ocean side of Island Beach State Park via HDD, then would follow previously disturbed roads and parking lots and would exit the island at an existing</p>

Comment No.	Comment	Response
		<p>maintenance area via open-cut trenching within a channel that was previously dredged. Both route options were designed to minimize impacts on Island Beach State Park.</p> <p>Following construction, cable route corridors would be returned to their previous condition and no change to the land use or character of the environment is anticipated.</p>
0984-0055	<p>The power outages seen around the world are from the cable malfunctions. The developer plans on selling its interest in the cables. The creation of a third party utility company to manage the electric distribution and maintenance should be contained in the EIS. What is significant about the lack of transparency is that the EIS can have different impacts when operated by a company only Responsible for cable operations. The applicant needs to be specific in what will be sold. The responsibilities of mitigation and research will need to be transferable and financially supported within any permit. The request of monetary relief from the financial burden of cable maintenance will expedite the sale of the cables. Money needs to be placed in upfront costs to prevent any act of fiscal irresponsibility. The cost of replacing the cables and the cumulative impact of cable replacement with abandonment penalties should be set aside at a multiple of the calculated amount. The current inflation rate and the cost associated with the sale of the cables has not been presented by the applicant. This alone is a sign of a white collar crime by falsifying the application. The applicant had the opportunity to correct this and had chosen not too claiming it is proprietary. The amount of taxpayers money invested in the development of public utilities is not proprietary. The actions by the applicant to greenwash the impacts in the EIS are criminal and the application should be denied. The United States Attorney General should be called in to investigate the collusion of omission by BOEM and the applicant.</p>	<p>Electricity generated by the Project will connect into the existing electrical grid at the Oyster Creek and BL England substations. Ocean Wind is not responsible for maintaining the existing electrical grid; however, it will remain responsible for the maintenance of the Project components, including onshore cables, through the lifespan of the Project.</p>
1259-0135	<p>xi. Land Use and Coastal Infrastructure (3.14). The Proposed Action includes onshore construction of facilities and infrastructure. From land disturbance port utilization new large port areas parking lots and structures to onshore and inland cabling routes and transmission infrastructure it is clear that there will be extensive [Italics: onshore] impacts from [Italics: offshore] wind facilities. The Draft EIS fails to</p>	<p>Impacts on land disturbance and port utilization from the Project components, including onshore structures and the onshore export cable routes, are described in detail in Section 3.14, <i>Land Use and Coastal Infrastructure</i>. Enhancements to ports or new port areas are not proposed as part of this</p>

Comment No.	Comment	Response
	comprehensively identify and address the onshore consequences of the Proposed Actions.	Project.
1259-0136	Regarding land disturbance the Draft EIS states the "removal or disturbance of habitat associated with onshore activities could create long-term irreversible impacts." ¹²¹ What is the total land area that will be developed (e.g. number of acres) as a result of the Proposed Action including all of its development components? Where? When and for how long will impacts occur from this development? What resources and wildlife will be impacted? The Draft EIS does not address these critical questions.	As described in Section 3.14.5, <i>Impacts of the Proposed Action on Land Use and Coastal Infrastructure</i> , based on the landfall options with the longest onshore cable routes, construction of the Oyster Creek onshore export cable could result in up to 32 acres of temporary disturbance, and construction of the BL England onshore export cable could result in up to 48 acres of temporary disturbance. Figure 2-2 and Figure 2-3 show the proposed onshore export cable routes. Both the BL England and Oyster Creek onshore substations would be sited on previously developed lands. The proposed Oyster Creek substation would occupy up to 31.5 acres (127,476 m ²) and be sited on the former Oyster Creek nuclear plant in Lacey Township. The proposed BL England substation would occupy up to 13 acres (52,609 m ²) and be sited on a former coal, oil, and diesel plant in Upper Township. Impacts on wildlife as a result of these facilities are described in Section 3.8, <i>Coastal Habitat and Fauna</i> .
1259-0137	The communities that will withstand the construction operation maintenance and decommissioning of these offshore wind facilities will be subjected to the impacts for the long- term. The Draft EIS states installation of the cable landfall sites and underground cable routes would temporarily disturb neighboring land uses through construction noise vibration dust and travel delays along the affected roads. These impacts are anticipated to last for the duration of construction...The corridors would be maintained through regular vegetation trimming and herbicide application." [Footnote 122: Id. at 3.14-10.]The Draft EIS fails to identify and review the environmental impacts from the use of such herbicides in fragile coastal communities and ecosystems.	Ocean Wind has committed to measures to minimize impacts on coastal habitat and fauna, including avoiding areas of unique or protected habitat or known habitat for threatened or endangered and candidate species to the extent practicable (TCHF-01) and conducting maintenance and repair activities in a manner to avoid or minimize impacts on sensitive species and habitat such as beaches, dunes, and the near-shore zone (TCHF-02). These mitigation measures are outlined in Appendix H, <i>Mitigation and Monitoring</i> . Additional information on potential impacts of the landfall sites and onshore export cable routes can be found in Section 3.8, <i>Coastal Habitat and Fauna</i> .

Comment No.	Comment	Response
1259-0138	In addition the land disturbance outlined in the Draft EIS will have impacts on stormwater collection and management. The Draft EIS states "Construction of the onshore substation would require a permanent site including area for the substation equipment and buildings equipment yards energy storage stormwater management a parking area an access road and landscaping." [Footnote 123: Id. at 3.14-11.] The Draft EIS does not however review the impact of adding more impervious cover in shore communities where stormwater runoff and flooding events are frequent occurrences and problems. Will BOEM require green infrastructure to be used in the development of these onshore facilities? To what extent? What types of green infrastructure?	Both the BL England and Oyster Creek onshore substations would be sited on previously developed lands with an urban land use classification with and include existing impervious cover. The proposed Oyster Creek substation would occupy up to 31.5 acres (127,476 m ²) and be sited on the former Oyster Creek nuclear plant in Lacey Township and the proposed BL England substation would occupy up to 13 acres (52,609 m ²) and be sited on a former coal, oil, and diesel plant in Upper Township. Analysis of impacts on stormwater runoff is unnecessary, as any additional impervious cover created as a result of the Oyster Creek and BL England onshore substations will be limited.
1259-0139	The Draft EIS also notes that "Impacts on land use and coastal infrastructure would be additive only if land disturbance associated with one or more other projects occurs in close spatial and temporal proximity." There are 24 other offshore wind projects or leased areas with associated onshore infrastructure anticipated in this region. It is likely that the impacts on land use and coastal infrastructure will be exacerbated due to the numerous facilities being constructed simultaneously and subsequently operational in the same region.	The cumulative impacts of the Proposed Action in combination with other ongoing and planned offshore wind activities on land use and coastal infrastructure are described in Section 3.14.5.1, <i>Cumulative Impacts of the Proposed Action</i> .
1259-0140	As another example of land disturbance impacts and a deficiency in the DEIS BOEM states: Portions of the Oyster Creek onshore export cable corridor [are] within lands approved for acquisition by USFWS as part of the Edwin B. Forsythe National Wildlife Refuge; however as they have yet to be acquired by USFWS [Bold and Italics: these lands do not need to be evaluated for impacts relative to the refuge.] [Footnote 124: Id. at 3.14-11. Emphasis added.] Why did BOEM not evaluate these land resources in the DEIS? When will the public have the opportunity to assess and understand the impacts to that land area? By not evaluating these lands and the potential impacts on them any impacts from the Proposed Action will be unknown as the baselines would not be assessed and impacts may be identified too late. BOEM should require the assessment of the "lands approved for acquisition by USFWS." BOEM is essentially writing a "blank check" for these lands to be used without public review. It also begs the question what other lands has BOEM failed to evaluate in the DEIS for impacts related to	Impacts on the portions of the Oyster Creek onshore export cable corridor within lands approved for acquisition by USFWS as part of the Edwin B. Forsythe National Wildlife Refuge were considered in Section 3.14.5, <i>Impacts of the Proposed Action on Land Use and Coastal Infrastructure</i> . The sentence highlighted was intended to specify that, because the land has not been acquired for the wildlife refuge, the potential impacts would not be considered as part of the impacts on the wildlife refuge, not that impacts on this land would not be evaluated at all.

Comment No.	Comment	Response
	Ocean Wind 1? Again BOEM must disclose the total amount and location of lands affected and proposed for use by the Proposed Action.	
1259-0141 & - 0142	<p>Regarding additional land disturbance the export cable corridor to Oyster Creek crosses the fragile environs of Island Beach State Park an area of almost untouched coastal beauty in Ocean County. The NJDEP describes Island Beach State Park as following: Miles of sand dunes and white sandy beaches offer habitat to maritime plants and diverse wildlife that is almost the same as it was thousands of years ago. Island Beach State Park contains outstanding examples of plant communities such as primary dunes thicket freshwater wetlands maritime forest and tidal marshes. The state's largest osprey colony as well as peregrine falcons wading birds shorebirds waterfowl and migrating songbirds are found here. Island Beach is nationally known as a unique resource with over 400 plants identified including the largest expanses of beach heather in New Jersey. [Footnote 125: Island Beach State Park Overview N.J. State Park Serv. (Aug. 22 2022) https://www.nj.gov/dep/parksandforests/parks/islandbeachstatepark.html.]</p> <p>In the Draft EIS BOEM maintains that because the State Park has been designated an "Otherwise Protected Area" pursuant to the Coastal Barrier Resources Act "consultation with USFWS [Bold and Italics: is not required] and the only federal spending restriction is a prohibition on federal flood insurance" (emphasis added). How could this natural coastal habitat along the Jersey Shore not require consultation with an agency whose mission is "conserve protect and enhance fish wildlife plants and their habitats for the continuing benefit of the American people"? [Footnote 126: Mission and Vision U.S. Fish & Wildlife Serv. (last accessed Aug. 14 2022) https://www.fws.gov/about/mission-and-vision.] COA urges BOEM to consult with US Fish and Wildlife Service about the impacts expected at Island Beach State Park from the export cable that will traverse through important habitat en route to Oyster Creek. In addition mitigation measures must be identified and agreed upon among those interested in protecting the integrity and ecosystem of Island Beach State Park.</p>	USFWS is a cooperating agency and has been involved in the development of the Ocean Wind 1 EIS. BOEM is also consulting with USFWS under the ESA, and the results of ESA consultation are included in the Final EIS. Because Island Beach State Park is an Otherwise Protected Area under the Coastal Barrier Resources Act, separate consultation outside of the NEPA process is not required in this case.
1259-0143	Further the Pinelands region of New Jersey is an incredibly historic and ecologically significant area that must be considered properly and responsibly when it comes to identifying and evaluating the onshore impacts of the Proposed Action. The Draft EIS states: Portions of the	Section 3.14.1, <i>Description of the Affected Environment for Land Use and Coastal Infrastructure</i> , was edited to clarify that, while all of the onshore activities are outside of the state-

Comment No.	Comment	Response
	Onshore Project area are within the New Jersey Pinelands which feature some of the largest unbroken tracts of Atlantic coastal pine forests in the eastern U.S. stretching across more than seven counties of New Jersey...[P]ortions of the export cable corridors are within the federally designated Pinelands National Reserve (New Jersey Pinelands Commission 2021). The Great Egg Harbor River is a 129-mile river system and was designated as a Wild and Scenic River by Congress in 1992 (USNPS 2016). It is almost entirely within the Pinelands National Reserve and drains into wetlands within the reserve. [Footnote 127: DEIS at 3.14-2.]The DEIS does not identify mitigation measures to address the unavoidable impacts to the Pinelands region as a result of the Proposed Action.	designated Pinelands Area, portions of the BL England export cable corridor are within the federally designated Pinelands National Reserve. The proposed onshore export cable corridors in Marmora and Beesley's Point are within the Regional Growth Pineland Management Area, where sewered and industrial uses are permitted. Proposed onshore export cable corridors on Island Beach State Park do not fall within the Pinelands National Reserve.
1259-0144	Regarding the presence of structures where the offshore export cables cross currently undeveloped areas there would be a permanent conversion of land to utility right-of-way or easement. Specifically for the Oyster Creek cable route undeveloped land would be permanently disturbed and roadways associated with a confined disposal facility (CDF) would be disturbed. The Draft EIS fails to identify and evaluate the substances contained in the CDF and what impacts will result from the disturbance caused by the Proposed Action.	Portions of a previous option for the Oyster Creek onshore export cable corridor followed abandoned roadways associated with the Oyster Creek confined disposal facility. The Oyster Creek onshore export cable corridor route has been refined to make landfall and travel west, taking advantage of previously disturbed areas where possible along the Holtec property. The crossing of Oyster Creek and Route 9 would be conducted using trenchless technology methods to an existing private road, and the route would continue within the existing private road to the substation parcel. The confined disposal facility would not be disturbed under either route option. Additional information on the proposed onshore cable route options was added to the Final EIS.
1259-0145	Regarding the utilization of ports the DEIS indicates the ports of Paulsboro Hope Creek and Port Elizabeth NJ and the Ports of Charleston and Norfolk are included in the project in addition to the landfall locations and onshore substations. The Draft EIS states "Proposed uses at existing port facilities would be consistent with the current land uses occurring at these locations and are not expected to result in changes to land use or zoning." This statement is false. For instance the proposed port expansion for the Wind Port facility in Lower Alloways Creek included an application by Orsted to NJDEP to redesignate or declassify 150 acres of wetlands. [Footnote 128: Tom	The Proposed Action does not include port expansion activities but would use ports that have expanded or would expand to support the wind energy industry generally. For instance, the New Jersey Wind Port may be used for WTG pre-assembly and load out, but the expansion of this port is not part of the Ocean Wind 1 Project. Additional information was added to the Final EIS to clarify.

Comment No.	Comment	Response
	Johnson Wetlands no more. NJ redraws map to boost offshore wind project NJ Spotlight News (Mar. 25 2022) https://www.njspotlightnews.org/2022/03/wetlands-pseg-power-150-acres-reclassified-wind-port-project/ .] What other changes have been made to land use or zoning in New Jersey to advance offshore wind support facilities?	
1259-0146	The Draft EIS also acknowledges that "[i]f multiple offshore wind energy projects are constructed at the same time and rely on the same ports this simultaneous use could stress port resources and could potentially increase the marine and road traffic noise and air pollution in the area." [Footnote 129: DEIS at 3.14-6.] One such area is Atlantic City which will be home to multiple onshore facilities and activities from the Proposed Action Ocean Wind 2 and 3 as well as other offshore wind projects (e.g. Atlantic Shores 1 & 2). The Draft EIS acknowledges that Atlantic Shores is also planning an O&M facility for Atlantic City. Therefore two known O&M facilities for offshore wind will stress port areas and impact the surrounding communities. The DEIS does not account for the impacts from more than one O&M facility in Atlantic City.	As described in Section 3.14.3.2, <i>Cumulative Impacts of the No Action Alternative</i> , in cases where individual ports are stressed due to simultaneous offshore wind construction-related activity, localized, short-term, adverse impacts are anticipated. Activities at O&M facilities are not expected to be as impactful as construction activities because vessel trips from O&M facilities would only occur during routine and non-routine maintenance activities. The cumulative impacts of offshore wind projects in the region on port utilization are presented in Section 3.14.5.1, <i>Cumulative Impacts of the Proposed Action</i> .
1259-0147	In addition the identified ports are in ecologically sensitive coastal areas and will impact local wetlands in those regions. Meanwhile scientists recommend that wetlands be protected to combat climate change improve and maintain water quality provide natural flood control and to protect the diversity of species in wetland habitats. Construction for Ocean Wind 1's O&M facility will result in the destruction of 10 acres of wetlands. To add further insult to environmental injury no mitigation was required. The acquisition of the last remaining waterfront access point for Atlantic City communities for the Ocean Wind 1 Operations and Maintenance port was a missed opportunity to restore wetlands.	Ocean Wind would be required to provide compensatory mitigation for any wetlands that cannot be avoided or minimized as part of the Section 404 permitting process. The details of that mitigation would be part of the final Section 404 permit issued to Ocean Wind. BOEM has not proposed any specific mitigation measures for wetlands (as stated in Section 3.22.8), but Ocean Wind has proposed several measures that would avoid and reduce impacts on wetlands. Those measures (e.g., GEN-13) are cited throughout the Proposed Action analysis in DEIS Section 3.22, <i>Wetlands</i> . If BOEM decides to approve the Project, BOEM may include additional measures that would be conditions of the Project approval. All of these APMs are in Appendix H, <i>Mitigation and Monitoring</i> .
1259-0148	The DEIS also fails to identify and consider the cumulative impacts of onshore lands. More generally what are the cumulative impacts on land	The cumulative impacts of the Proposed Action in combination with other ongoing and planned

Comment No.	Comment	Response
	resources both offshore and onshore of Ocean Wind 1 as it relates to the other 24 offshore wind projects and leased areas for offshore wind off the NY/NJ coast?	offshore wind activities on land use and coastal infrastructure are described in Section 3.14.5.1, <i>Cumulative Impacts of the Proposed Action</i> .
1259-0149	Based on the above points COA strongly disagrees with BOEM categorizing the adverse impacts on land use and coastal infrastructure as "minor." The DEIS fails to include mitigation measures. Clearly land will be disturbed sometimes permanently and for the long-term and communities will be disrupted to build and support the Proposed Action. In sum the impacts from offshore wind on land resources and areas are not adequately reviewed in the DEIS.	Impacts of the Proposed Action on land use and coastal infrastructure are listed as minor because while adverse impacts would be detectable, they would be short term and localized. As described in Section 3.14.5, <i>Impacts of the Proposed Action on Land Use and Coastal Infrastructure</i> , no permanent disturbance or change in land use type is anticipated as a result of onshore substations or onshore export cables.
1274-0001	I moved to my current location in 2008. My back yard adjoins the Barnegat Bay. At that time there was 130' of land between my property and the open Bay. Over the past 14 years the bay eroded the land buffer now there is NO barrier or land between my property line and the bay. On most days the bay water intrudes on my property. I am highly concerned that I will loose my land. The wave action wash sand from the bay front to the lagoons surrounding our community. Most boats are not able to navigate the lagoons to the open bay due to the built up of the sand that wash from the front of our homes. Recently the American Littoral Society (ALS) along with Stockton University have applied remedies to the bay. These remedies have limited effect on the wave attenuation. Now we need Help. Specifically we need your help. For this project to succeed we need 2- 3 groins as well as a living shoreline. These groins would contain the sand from washing to the lagoons mitigate the erosion eventually support the marine life in the bay. As I understand from the local community leaders the project is already approved by the NJDEP. The leaders are now reaching out to the local community businesses to obtain funding. During our community meeting it was disclosed that you have an obligation to conduct mitigation projects to off set potential damage during your project. It may be beneficial for you and the bay front residents to benefit from the dredging : whereby we may use the sediments from the dredging to complete the living shoreline project. In addition of using the sediments we are reaching out to obtain funding for the groin and any additional studies needed to implement the project.	Ocean Wind has coordinated with NJDEP regarding the disposal of dredged material and has determined that dredged material would be transferred to an upland disposal facility and disposed of in accordance with USEPA Guidelines, USACE Guidelines, New Jersey Administrative Code 7:7 Appendix G for the Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters, and applicable State Surface Water Quality Standards at New Jersey Administrative Code 7:9B and permit conditions.

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O.6.14 Marine Mammals

Table O.6.14-1 Responses to Comments on Marine Mammals

Comment No.	Comment	Response
0007-0006	Another example is in regard to mammals. Section 3.15.3.3 Conclusions in regard to the North American Right Whale describes "As stated above the low population numbers of the NARW result in the potential to compromise the viability of the species due to the loss of a single individual." NMFS is reviewing an incidental take application during construction from Ocean Wind to take (kill) one or more North American Right Whales. That review and decision by NMFS is not yet available. Without said approval the Proposed Action is not viable. (In my opinion Ocean Wind will also have to apply to NMFS for a take quota during operations due to the increased vessel activity and increased possibility of vessel strikes. This threat may be mitigated to some extent by restrictions on vessel speed and human spotters but it will not be reduced to zero. The DEIS says we can't afford to lose one individual whale without jeopardizing the survival of the species.	Ocean Wind has not requested Level A take (that has the potential to injure a marine mammal) for NARW in the Letter of Authorization Application for the Ocean Wind 1 Project, and Level A take of NARW would likely not be authorized by NMFS.
0222-0008, 0222-0012	<p>0219-0008: Monopiles and scour protection would create an [Bold: artificial reef effect] (Degraer et al. 2020) likely leading to enhanced biological productivity and increased abundance and concentration of fish and invertebrate resources (Hutchison et al. 2020). This could alter [Bold: predator-prey interactions] in and around the facility with [Bold: uncertain and potentially beneficial or adverse effects on marine mammals]</p> <p>0219-0012: In summary there are enough open questions on many significant risks of this project that BOEM should [Bold: defer implementing the entirety of the contemplated offshore wind initiative] until a [Bold: 2 year study] is performed to [Bold: dispel or prove risk mitigation] of Ocean Wind 1 and subsequent OSW tracts.</p>	Comment noted. The comment restates the findings of the Draft EIS (Section 3.15). BOEM's analysis of incomplete and unavailable information for each Chapter 3 resource section is presented in EIS Appendix D. When incomplete or unavailable information was identified, BOEM considered whether the information was relevant to the assessment of impacts and essential to its analysis of alternatives based upon the resource analyzed. If essential to a reasoned choice among the alternatives, BOEM considered whether it was possible to obtain the information and if the cost of obtaining it was exorbitant. If it could not be obtained or if the cost of obtaining it was exorbitant, BOEM applied acceptable scientific methodologies to inform the analysis in light of this incomplete or unavailable information.

Comment No.	Comment	Response
0837-0004	<p>BOEM acknowledges that a request to [Italics: take] marine mammals incidental to construction activities has been filed with the National Marine Fisheries Service (NMFS). This request can be authorized under the Marine Mammal Protection Act (MMPA). The issuance of an incidental take authorization is a major federal action and exonerates Ocean Wind 1 when mammals are injured or killed. Some of the factors driving the anticipated losses include impact pile driving vibratory pile driving geophysical surveys detonations of UXO vessel traffic aircraft cable laying or trenching and dredging during construction and WTG operation. The New Jersey coast currently hosts at least five marine mammals that are endangered species. The North Atlantic Right Whale is regularly observed in every season and considered a regular visitor to the Project area. The Save Right Whales Coalition has discovered extensive offshore wind projects in Europe are lethal to some marine species to a significant extent. The construction and operation of these projects in the North Atlantic right whale habitat will put this critically-endangered species under even more stress. [Footnote 5: Save Right Whales accessed August 2022 https://www.saverightwhales.net/media/press-release-nov-18.] Physiological effects to all marine mammals include short-term reversible hearing loss and irreversible hearing loss and behavioral effects include acoustic masking. It is a logical conclusion that the ambitious scope and time constraints outlined for offshore New Jersey wind farms will lead to the extinction of one or more endangered species and unprecedented damage to the faculties of many marine mammals.</p>	<p>Section 101(a) of the MMPA (16 USC 1361) prohibits persons or vessels subject to the jurisdiction of the United States from taking any marine mammal in waters or on lands under the jurisdiction of the United States or on the high seas (16 USC 1372(a)(1), (a)(2)). Sections 101(a)(5)(A) and (D) of the MMPA provide exceptions to the prohibition on take, which give NMFS the authority to authorize the incidental but not intentional take of small numbers of marine mammals, provided certain findings are made and statutory and regulatory procedures are met. Ocean Wind has not requested Level A take (that has the potential to injure a marine mammal) of ESA-listed NARW, blue whale, or sperm whale in the Letter of Authorization Application for the Project. See Section 3.15 of the EIS, the NMFS BA, and Ocean Wind's Letter of Authorization Application for more details on the take authorization requested by Ocean Wind and BOEM's assessment of effects on ESA-listed marine mammals.</p>
0984-0022a	<p>3.15 Marine Mammals</p> <p>The Extinction of marine mammals species is possible and not being addressed properly within the EIS. The change in the eco- system within the development site surrounding sites and the cumulative impacts of other Industrial at sea energy development sites is a [Bold: Major Impact] to the marine mammals food supply. The use of newly "educated" personal to be employed by the developer limits the experience to academia who are being educated by the developers on how to mitigate their exposure. The funds paid by the developer to the schools to develop this workforce with limited knowledge on what to look for is a conflict of interest. The EIS only looks at the study of the impacts and the removal of mammals within the development area. The impacts on the mammal food supply is the critical component on the survival of the marine mammals. The Atlantic City Marine Mammal Stranding Center has plenty of "Science" on stranded</p>	<p>The NMFS BA for the Project evaluated the energetic consequences of any avoidance behavior or masking effects of ESA-listed marine mammals in response to underwater noise sources, and potential delay in resting or foraging is not expected to affect any individual's ability to successfully obtain enough food to maintain their health, to make seasonal migrations, or to participate in breeding or calving. Any behavioral effects would be expected to resolve within a few days to a week of exposure and are not expected to</p>

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	<p>marine mammals who suffered from starvation before beaching themselves. The [Bold: Major Impacts] of the development by killing the marine life specially squid for a one mile radius and a 50% mortality rate from 1-11/2 mile radius around each tower is a major impact to the food supply of the Marine Mammals. The displacement of food for marine mammals although temporary will affect the breeding habits of the marine mammals and where they forage. Forcing reproduction and foraging into the deeper waters where the highest mortality takes place- Ship Strikes.</p> <p>The current campaign to restrict speed of shipping around industrial energy wind fields because of the displacement of the marine mammals is a [Bold: major impact.] Consideration of the efficiency of speed reduction has shown that the amount of ship strikes have not decreased only the mortality rate. The harassment of the marine mammals by forcing them into shipping lanes where there is a reduction in mortality does not excuse the developer from violations of the marine mammal act. The displacement alone of traditional marine mammals migration corridors is a violation and a [Bold: major impact.] There is NO reason to allow a nascent industry to develop that has such a major impact that is not mitigable.</p>	<p>affect the health of any individual or its ability to migrate, forage, breed, or calve. In particular, it is unlikely that Project activities would measurably affect the invertebrate forage base of NARWs, blue whales, and sei whales who feed primarily on invertebrate zooplankton. No pile installation would occur from January 1 to April 30 during the time of year when NARWs are present in the region in higher numbers, reducing effects on this species. See the NMFS BA for additional information on effects of the Project on foraging and breeding for ESA-listed marine mammals.</p>
0984-0022b	<p>Marine mammals can hear. The noise from the wind turbines and the affect on migration of the marine mammals is a [Bold: Major Impact.] The EIS fails to address the corralling of marine life into the deeper water on the outskirts of the leased area. Even though the animals are not in the leased area forcing them to take the more dangerous route within the shipping lanes will be significant. We already average ten whale strikes a year in the New York Bight area. The endangered marine mammals whom will seek refuge from the vibrations of the wind turbines will create more of an environmental loss. A marine mammal take permit should NOT be issued to a nascent industry. The statistical calculations of mortality rate are above the threshold for preexisting marine users. A nascent industry should not be entitled to any benefit and actually be held to higher standards. Because there is a scientifically calculated mortality rate associated with the EIS and an even greater one with the cumulative impacts the application for development needs to be denied.</p>	<p>See responses to comments 1012-0009a–e for detailed responses related to operational noise of WTGs and the potential to disrupt migration corridors.</p>
0984-0022c	<p>G. [Bold: The DEIS does not assess the likelihood that those take events will block the right whale's migration.]</p> <p>Previous analysis of turbine installation involving one or two discrete pile driving sources assumed that a whale approaching a source above the behavior disruption level could veer to the left or the right find an "noise open route" and proceed on its migration. Here given the elevated noise levels above the 120 dB</p>	<p>Effects of acoustic masking are analyzed throughout EIS Section 3.15, in Sections 3.15.1, 3.15.3, 3.15.5, 3.15.6, and 3.15.9. See responses to comments 1012-0009a–e for detailed responses related to</p>

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	<p>criterion throughout the wind complex and across their entire migration corridor it will be very difficult for the whales to avoid the noise disturbance and continue their migration. Attempting to do will expose them to high cumulative sound exposures potentially exceeding hearing threshold shift criteria loss of communication between and separation of females from calves stranding and loss of echolocation and other navigational abilities.</p> <p>Masking of its communications risks the separation of females from calves during migration [Footnote W13: Anderson Cabot Center for Ocean Life A Framework for Studying the Effects of Offshore Wind Development on Marine Mammals and Turtles May 2019.] [Footnote W14: Vineyard Wind 1 NMFS Biological Opinion page 149.]. Its echolocation and navigation ability will be impaired [Footnote W16: Quantifying loss of acoustic communication space for right whales in and around a U.S. National Marine Sanctuary Leila T Hatch 1 Christopher W Clark Sofie M Van Parijs Adam S Frankel Dimitri W Ponirakis PMID: 22891747 DOI: 10.1111/j.1523-1739.2012.01908.x] while trying to find a noise open route to continue its migration. Whales seeking to avoid the noise by going closer to shore risk stranding and elevated sound exposure levels as mentioned above.</p>	<p>operational noise of WTGs and the potential to disrupt migration corridors.</p>
0984-0022d	<p>Consider a whale traveling north approaching the migratory corridor between the project area and Hudson South. In an effort to continue its migration it might tolerate the noise disturbance and continue its 25-mile 30-hour journey (@1.3 km/hr.) past the complex incurring an additional sound exposure of 50 dB for total levels likely exceeding the NMFS sound exposure level (SEL) criteria for temporary or permanent threshold hearing loss [Footnote W11: BOEM 2020-011 A Parametric Analysis and Sensitivity Study of the Acoustic Propagation for Renewable Energy Table 1-4.]. It might veer west and travel north through the wind complex incurring similar exposures.</p> <p>But it is far more likely that it would try to avoid the elevated sound. Traveling due west to avoid the noise disturbance would require it to go all the way to shore because the zone of influence goes that far. Traveling east to avoid the disturbance requires it to find a noise open route through the Hudson South area and once turbines are placed there that will not be possible. It would then have to go all the way around Hudson South and find a new route all the while incurring long exposure times.</p> <p>A recent in-depth review of behavior response studies titled A systematic review on the behavioral responses of wild marine mammals to noise: The disparity between science and policy November 2016 identified a number of studies specifically associated with whale traveling migrating and directional swimming.</p>	<p>See responses to comments 1012-0009a–e for detailed responses related to operational noise of WTGs and the potential to disrupt migration corridors.</p> <p>BOEM reviewed Rolland et al. 2012 cited by the commenter and this citation is included in the references cited for the NMFS BA.</p>

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	<p>BOEM should review those studies for applicability here and present the results. The burden of technical support here on BOEM is the same as discussed above for direct serious injury or fatality it must show with high confidence that not a single whale is prevented from completing its essential migration. The DEIS did not present the potential that its migration will be blocked. Common sense dictates that under this expanse of high multiple noise sources and the unattractive avoidance options discussed above it is likely that there will be at least some of the animals exposed above 120 dB who will have their migration impaired or blocked entirely and others that will be subjected to prolonged exposure above that level undergo stress [Footnote W12: Rolland R.M. S.E. Parks K.E. Hunt M. Castellote P.J. Corkeron D.P. Nowacek S.K. Wasser and S.D. Kraus. 2012. Evidence that ship noise increases stress in right whales. doi: 10.1098/rspb.2011.2429 Proc. R. Soc. B. 279 2363?2368] and be seriously injured or killed from the reactions and communications masking discussed below.</p>	
0984-0022e	<p>H. [Bold: The DEIS does not present a plausible transparent analysis of reaction to behavior disturbance events & potential harm or fatality outcomes.]</p> <p>Rather it relies on optimistic and opaque "modeling results". That is not sufficient it must disclose key equations assumptions and inputs to the model so the accuracy of its results can be determined. Regarding such an analysis The BOEM and NMFS traditionally do two analyses and compute level A and Level B takes.</p> <p>A third comparable level analyses is needed. A level A harassment analysis calls for an assessment of the potential to injure a marine mammal or a marine mammal stock in the wild. A level B analysis calls for an assessment of the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns including but not limited to migration breathing nursing feeding or sheltering.</p> <p>The two analyses try hard to separate Level A injury from Level B harassment. But in the real whale world that distinction is not so clear and lesser exposures can indirectly lead to worser outcomes. That linkage is also present in the December 21 2016 NMFS interim guidance defining the term "harass" under the Endangered Species Act (ESA) as to "create the likelihood of injury to wildlife by</p>	<p>Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix R-2 posted to BOEM's website,¹ and in Ocean Wind's Letter of Authorization Application.² EIS Appendix J also provides an overview of key modeling assumptions.</p> <p>Effects of acoustic masking are analyzed throughout EIS Section 3.15, in Sections 3.15.1, 3.15.3, 3.15.5, 3.15.6, and 3.15.9, and are also analyzed in the NMFS BA for ESA-listed species.</p>

¹ The Ocean Wind 1 COP is available at: <https://www.boem.gov/ocean-wind-1-construction-and-operations-plan>.

² Ocean Wind 1's Letter of Authorization Application is available at: <https://www.fisheries.noaa.gov/action/incidental-take-authorization-ocean-wind-lcc-construction-ocean-wind-1-wind-energy-facility>.

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	<p>annoying it to such an extent as to significantly disrupt normal behavior patterns which include but are not limited to breeding feeding or sheltering."</p> <p>The NEPA also demands a full analysis of these reasonably foreseeable real-world paths particularly in the case of the North Atlantic right whale where serious injury or death to only one animal can spell extinction for the species. Therefore the DEIS should have assessed this third path or linkage from reactions to level B harassment exposures and from masking of the whale's sound detection and communication abilities to the "likelihood of injury" with a level of analyses comparable to that given to Level A and Level B takes.</p> <p>Such paths include reactions to noise stimuli causing right whales to ascend and swim just below the surface where they are more vulnerable to vessel strike not just from survey vessels but from other vessels as well. This behavior has in fact been demonstrated experimentally by Nowacek et al [Footnote W5: Nowacek et al. North Atlantic right Whales ignore ships but respond to alerting stimuli The Royal Society may 20 2003.http://myweb.facstaff.wvu.edu/shulld/ESCI%20432/Nowacek2004.pdf].</p>	
0984-0022f	<p>The proposed use [Footnote W15: BOEM Commercial and Research Wind Lease and Grant Issuance on Site Assessment Activities on the OCS of the NY Bight Draft EA August 2021 page 41 and Figure 9.] of the migration corridor as a new deep draft vessel lane (Exhibit D) would significantly increase the risk of vessel strike once it ascends and struggles to find a new migration route. Subsequent planned turbine placement along the inner part of the Hudson South area worsens the situation.</p> <p>In our comments on the NOI we recommended that the BOEM National Marine and Fisheries Service (NMFS) and the Coast Guard collaborate on a joint study to assess the synergistic impact on the right whale from the long-term operational noise of the offshore wind projects foreseen and the use of its migratory corridor as a deep draft vessel lane and include the results in the draft EIS Incidental Take Regulation (ITR) Biological Assessment and Opinion. There is no evidence in the draft EIS as to whether that was considered or done.</p> <p>As discussed further under the EIS scope all three federal actions the Atlantic Shores proposal leasing the inner part of Hudson South and the deep draft vessel lane bear on the impact to the whale and should be assessed together in the EIS BA and BO. There will be a similar impact on the right whale from other projects up and down the East Coast wherever their migration route intersects an elevated noise area and this cumulative impact also needs to be addressed in the EIS.</p>	<p>NOI comments calling for BOEM, NMFS, and USCG to collaborate on a study to assess the impact on NARW from the long-term operational noise of the offshore wind projects and the use of its migratory corridor as a deep-draft vessel lane were not submitted by the commenter on the federal docket for the Ocean Wind 1 EIS. However, BOEM's and NOAA Fisheries' <i>Draft North Atlantic Right Whale and Offshore Wind Strategy</i> was announced on October 21, 2022, which identifies research as one of its main goals.</p> <p>The Atlantic Shores project and the future potential development of the Hudson South lease area are reasonably foreseeable activities, i.e. planned actions that could occur during the life of the Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and</p>

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		<p>other alternatives. Impacts are disclosed on this topic in Chapter 3, Section 3.15.</p> <p>BOEM's BA and NMFS's Biological Opinion are Project specific and impacts of offshore wind activities in the Atlantic Shores or Hudson South lease areas will be reviewed under separate NEPA and consultation processes.</p>
0984-0022g	<p>I. [Bold: The DEIS does not show how the masking of the whale's communications could impair or prevent its migration leading to serious injury or death.]</p> <p>The whales use sound to navigate along their migration. It also appears that their migration is aided by their capability to communicate with each other along the way. The impacts of the masking of those communications in causing serious harm or fatality including the impact from the obstruction or delay of the right whale's migration should have been analyzed in the DEIS as it has direct implications on their survival as a species.</p> <p>One path to such injury involves separation of calves from mothers as a result of masking of their communication from elevated noise levels. Such communications can employ low-amplitude signals susceptible to masking as discussed in the report Acoustic crypsis in communication by North Atlantic right whale mother&ndash;calf pairs on the calving grounds Susan E. Parks [Embedded Hyperlink Text (https://royalsocietypublishing.org/doi/10.1098/rsbl.2019.0485)] Dana A. Cusano&dagger; [Embedded Hyperlink Text (https://royalsocietypublishing.org/doi/10.1098/rsbl.2019.0485)] Sofie M. Van Parijs [Embedded Hyperlink Text (https://royalsocietypublishing.org/doi/10.1098/rsbl.2019.0485)] and Douglas P. Nowacek [Embedded Hyperlink Text (https://royalsocietypublishing.org/doi/10.1098/rsbl.2019.0485)] Published:09 October 2019.</p> <p>The right whale's vocalizations are normally at the 125 dB rms level for low background noise but can rise to 150 dB in the presence of high background noise (Parks et.al. The Royal Society Individual right whales call louder in environmental noise July 7 2010).The potential for loss of mother/calf communication was presented in Acoustic propagation modeling indicates vocal compensation in noise improves communication range for North Atlantic right whales Jennifer B. Tennessen Susan E. Parks June 15 2016. Using the higher 150 dB source call level in that study for a whale upcall and the 15 dB loss factor</p>	<p>Effects of acoustic masking are analyzed throughout EIS Section 3.15, in Sections 3.15.1, 3.15.3, 3.15.5, 3.15.6, and 3.15.9, and are also analyzed in Section 3.2.6.2 of the NMFS BA for ESA-listed species.</p> <p>BOEM has reviewed Tennessen and Parks 2016 and this citation is included in the references cited for the NMFS BA.</p>

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	<p>mother/calf communications could be blocked out to a distance of 1.3 miles from a set of 7 turbines with a noise source level of 191.4 dB as discussed above. More typical vocalizations of 125 dB would be masked throughout the entire migration corridor.</p>	
0984-0022h	<p>J. [Bold: The DEIS did not present any criteria for avoiding jeopardizing the Continued Existence of the North Atlantic right whale.]</p> <p>The EIS should have provided a clear definitive criteria to avoid the likelihood of jeopardizing the existence of the North Atlantic right whale (NARW) or causing a non-negligible impact to it.</p> <p>The numbers of NARW are already very low at 366 animals and in steep decline- Exhibit A. There are less than 94 females of reproductive age left. The NMFS 2020 stock assessment report for the NARW shows an average per female productivity rate of 0.06 for the years 2013 to 2017 Figure 4. It also shows (Figure 2a) an average female population of 180 leading to 11 average births per year. Table 2 shows estimated human caused fatalities at an average of 18.6 per year for that period.</p> <p>According to the International Fund for Animal Welfare [Footnote W10: The International Fund for Animal Welfare critically endangered North Atlantic right whales show dramatic decline and are at risk of extinction November 26 2020.] over the past five years from 2016 through 2020 17 whales died on average per year from human actions. During that same period 7 whales were born on average per year. Clearly with a human caused death rate (not including natural mortality) about twice the birth rate and a net loss of 8 to 10 whales per year current mitigating and recovery measures are not sufficient to protect the whale and any additional serious injury or fatality would "jeopardize" it under the meaning of that word which is to put (someone or something) into a situation in which there is the possibility of suffering loss harm injury or failure.</p> <p>Therefore the only sensible and scientifically credible criterion for the NMFS to adopt for the right whale is one of zero tolerance for any fatality or serious injury during its migration from turbine noise and the DEIS must show through the analyses described above that the criterion is met with high statistical confidence. Since the DEIS does not contain the above analyses the BOEM conclusion that the impact to the whale is only moderate is without any scientific basis and is an arbitrary conclusion.</p>	<p>Ocean Wind has not requested Level A take (that has the potential to injure a marine mammal) for NARW in the Letter of Authorization Application for the Project, and Level A take of NARW would likely not be authorized by NMFS.</p> <p>ESA consultation with NMFS is underway and findings of the Biological Opinion are incorporated into the Final EIS. However, a jeopardy decision is not expected given that no Level A take is requested for NARW.</p>
0984-0079	<p>The noise from the wind turbines and the affect on migration of the marine mammals is a [Bold: major impact]. The application fails to address the corralling of marine life into the deeper water on the outskirts and shallower on the west</p>	<p>BOEM does not concur that the Project would result in "corralling of marine life into the deeper water on the outskirts and</p>

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	<p>side of the leased area. Even though the animals are not in the leased area forcing mammals to take the more dangerous route is a [Bold: major impact]. The applicants development site is increasing vessel traffic just outside of their footprint. Ship strikes is the number one cause of death to marine mammals. Forcing marine mammals outside of the development site with hard structures cables EMF rocky bottoms and the displacement of forage into a condensed area of vessel traffic is a [Bold: major impact] that is not calculated in the EIS. The cold water pool area already averages ten whale strikes a year and there continues to be significant money and removal of industry to reduce the impacts.</p>	<p>shallower on the west side of the leased area.” EIS Section 3.15 analyzes the impacts on marine mammals related to displacement effects and vessel strike. APMs and BOEM-proposed mitigation to reduce impacts associated with vessel strike are described in EIS Appendix H. With implementation of known and highly effective measures such as reduced vessel speeds and ships maintaining minimum distances from marine mammals, BOEM determined that the impact of vessel traffic would be minor for pinnipeds and odontocetes and minor to moderate for non-listed mysticetes. As the death of a single NARW could lead to population-level consequences and the application of mitigation cannot rule out the potential for this effect to occur, this impact is considered moderate to major for NARW.</p>
0984-0103	<p>It should be noted in the EIS that the permits for the take of fish by the developers within the leased areas will be issued by the Department of Interior. However the permit to harass marine mammals is currently issued by the Development of Commerce. Since The Department of Interior is the leasing Agency they can create their own Marine Mammal Exemption program and administrator it within BSEE. NMFS should NOT be the agency providing the marine mammal exemption certificate for an action at sea created by BOEM. This administration change of is a [Bold: major impact] that should be contained within the EIS.</p>	<p>Ocean Wind has not requested incidental take for ESA-listed fish (i.e., Atlantic sturgeon).</p> <p>The commenter’s request for a change in how incidental take permits are administered is outside the scope of the Ocean Wind 1 EIS.</p>
0984-0104a	<p>The impact of EMF on marine mammals are significant. Marine mammals change direction and take larger detours around the industrial energy zones. The probability of corralling the marine mammals into the shipping lanes is extremely high since placement of towers that have exposed cables releasing High EMFs before burial and close to the source of generation are impaling the mammals magnetic threshold. The placement of towers are anticipated to be < 1 nautical of separation. This impact of EMFs will have a permanent impact on the mammals migration patterns. The applicants use of marine mammal deterrents such a sonic devices (Pingers) in and around the shipping lanes have been</p>	<p>BOEM does not concur that marine mammals would be “corralled into the shipping lanes” or encounter “exposed cables releasing high EMFs.” Cables are buried before they are energized and before the wind farm is commissioned. Ocean Wind proposes WTG spacing of approximately 1 nm by 0.8 nm and the use of marine mammal deterrents such as</p>

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	found to be costly to maintain and unreliable due to other ocean users interactions. Plus the intentional harassment of marine mammals is prohibited. The fact that the EMFs inhibit free movement of the marine mammals constitutes harassment of the marine mammals.	sonic devices (Pingers) is not identified as an APM in EIS Appendix H. Ocean Wind's Letter of Authorization would authorize the incidental (but not intentional) take of small numbers of marine mammals, if it is approved. EIS Section 3.15 analyzed impacts of EMF on marine mammals and concluded that EMF effects would be negligible.
0984-0104b	The developers' EIS should also anticipated the cumulative development zones major impacts on marine mammals that they are party too. There is anticipated to be 125 to 230 vessels in operation at one time. If all these vessels are to be using the shipping lanes the chances of whale strikes will increase 300%	Cumulative impacts of the Proposed Action in combination with other ongoing and planned activities, including related to vessel strike, are analyzed in EIS Section 3.15.5.1.
0984-0107	BOEM has purposely left out corralling in the EIS but does refer to the impacts of migration patterns in the EMF section that paints a cruel demise of the marine mammals with the intentional poisoning of the mammals while starving them all while intentionally harassing them with boats helicopters bubble machines and numerous defining audio devices.	See responses to comments 0984-0022 and 0984-0104a.
1086-0005	<p>Environmental Impacts and Marine Species. The County has environmental concerns relating to the placement of the turbines sound produced during construction operation and decommissioning that will persist over 35 or more years with associated impacts to birds benthic habitats fisheries and marine mammals. Location The wind turbines in the proposed array are directly within one of the most densely trafficked areas of the migration route of the critically endangered North Atlantic Right Whale (NAWR) (see Figure 1). At the time of writing there are estimated to be less than 340 NAWR's remaining with less than 90 females of reproductive age. [Footnote 9: North Atlantic Whale Consortium 2021 Report Card [Embedded Hyperlink Text (https://www.narwc.org/uploads/1/1/6/6/116623219/2021report_cardfinal.pdf)]]</p> <p>There is currently an ongoing Unusual Mortality Event for the NAWR as a result of vessel strikes and entanglements according to the National Marine Fisheries Service. [Footnote 10: Active and Closed Unusual Mortality Events [Embedded Hyperlink Text (https://www.fisheries.noaa.gov/national/marine-life-distress/active-and-closed-unusual-mortality-events)]]</p> <p>In addition there are dozens of other marine mammals that use these corridors to migrate and feed such as humpback fin sei sperm and minke whales bottlenose dolphins common dolphins harbor porpoises and seals. A study</p>	<p>Planned offshore wind projects are considered reasonably foreseeable activities, i.e., planned actions that could occur during the life of the Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives. EIS Appendix F (<i>Planned Activities Scenario</i>) describes the methodology used for assessing impacts from planned activities in the EIS. Using the methodology described in Appendix F, each resource-specific environmental consequences section in Chapter 3 of the EIS discusses cumulative impacts.</p> <p>The comment does not raise a concern with the analysis in the Draft EIS and no</p>

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	<p>published in July 2022 reported that Humpback whales have a mean occupancy time of 37.6 days around New Jersey and the New York Bight area and that 31.3% of whales returned to the area from one year to the next. [Footnote 11: Brown D. Robbins (2022). Site fidelity population identity and demographic characteristics of humpback whales in the New York Bight apex. Journal of the Marine Biological Association of the United Kingdom 1-9. doi:10.1017/S0025315422000388]</p> <p>Turbines located in this wind farm area combined with turbines from the 13 other active lease areas proposed by BOEM create a nearly continuous physical blockade extending for over 168 miles across the State of New Jersey that will inhibit the feeding breeding and migration of the NAWR and other marine mammals and create widespread underwater noise impacts resulting from the operation of turbines. The Construction and Operation Plan states that construction would involve roughly 3847 vessel trips during construction and installation over 1100 annual trips for operation and maintenance and 20-65 vessels simultaneously during construction. This is just for Ocean Wind 1 not including the simultaneous construction of several other offshore wind farms. The significant increase in transiting vessels will undoubtedly result in a major increase in the likelihood of vessel strikes for marine mammals which is acknowledged several times in the DEIS. Vessel strikes are one of the leading causes of marine mammal mortality specifically for NAWRs. [Footnote 12: NOAA proposes new vessel speed regulations to protect North Atlantic right whales [Embedded Hyperlink Text (http://www.noaa.gov/news-release/noaa-proposes-new-vessel-speed-regulations-to-protect-north-atlantic-right-whales))] [See original comment for Figure 1: Marco Mid-Atlantic Data Portal January NAWR Abundance Vs. BOEM Active Leases (ESRI GEMCO NOAA National Geographic). Graphic generated by Warwick Group Consultants.]</p>	<p>revisions were made to the Final EIS in response to the comment.</p>
1086-0006	<p>Noise. Cape May County is concerned about the impacts on marine mammals from noise during construction operation and decommissioning that will persist over 35 or more years. Of particular importance is the NAWR whose primary communicative frequencies are 7Hz-35Hz according to the National Marine Fisheries Service (NMFS). [Footnote 13: Taking Marine Mammals Incidental to Ocean Wind Marine Site Characterization Surveys New Jersey [Embedded Hyperlink Text (https://www.federalregister.gov/documents/2022/03/16/2022-05477/takes-of-marine-mammals-incident-to-specified-activities-taking-marine-mammals-incident-to-ocean))] Data suggests that the cumulative increase of such a large number of turbines combined with other wind farms could have significant impacts on the NAWR population by creating abundant</p>	<p>EIS Section 3.15 addressed the activities associated with the Project that could cause underwater noise effects on marine mammals including pile driving, vibratory pile driving, geophysical surveys, detonations of UXO, vessel traffic, aircraft, cable laying or trenching, and dredging during construction and WTG operation. The EIS analyzes the impact of the Proposed Action alone and the cumulative impacts of the Proposed Action in</p>

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	<p>operational noise that could disrupt feeding breeding and migration of the species as well as the ability to communicate and navigate with other whales. A study commissioned by the Scottish Government found that monopile wind turbines are "audible above the background noise at least 20 km from the wind farm in all wind conditions" and that "species with hearing specialized to low frequency such as minke whales may in certain circumstances detect the wind farm at least 18 km away and are the species most likely to be affected by noise from operational wind turbines." [Footnote 14: Modelling of Noise Effects of Operational Offshore Wind Turbines including noise transmission through various foundation types [Embedded Hyperlink Text (https://www.gov.scot/publications/scottish-marine-freshwater-science-volume-4-number-5-modelling-noise/))] Minke whales are categorized by NMFS as having the same hearing frequency band as NAWRs and live primarily in waters less than 100m deep along the outer continental shelf. Another study published by the Journal of the Acoustical Society of America found that "at distances of several kilometers the noise [from a single turbine] becomes indistinguishable from that of a single point source with a source level larger than that of any individual turbine." [Footnote 15: How loud is the underwater noise from operating offshore wind turbines? [Embedded Hyperlink Text (https://doi.org/10.1121/10.0002453))] This study found that the cumulative source level of the 81-turbine wind farm was 175 dB re 1 μPa which nears the threshold for permanent hearing loss for the NAWR of 183 dB re 1 μPa as determined by the Navy. [Footnote 16: Finneran J. J. 2016. Auditory weighting functions and TTS/PTS exposure functions for marine mammals exposed to underwater noise. Pp. 38- 110 in National Marine Fisheries Service Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing: Underwater Acoustic Thresholds for Onset of Permanent and Temporary Threshold Shifts. U.S. Department of Commerce NOAA. NOAA Technical Memorandum. NMFS-OPR-55.] It must be noted that the turbine operational noise study investigated [Bold Italics Underline: 81 1-MW] turbines rather than [Bold Italics Underline: 98 12-MW] turbines proposed by Ocean Wind LLC which are far larger and have twelve-times the capacity of the turbines modeled in the study. Noise levels above 120 dB re 1 μPa are categorized as disturbance-level for North Atlantic Right Whales and can result in behavioral changes and abandonment of habitats when exposed to noise levels exceeding 120 dB re 1 μPa. The failure of BOEM to capture the cumulative noise impacts of Ocean Wind 1 and the other wind farm areas along New Jersey and the Eastern Seaboard is a violation of NEPA guidelines on cumulative impact and severely threatens</p>	<p>combination with other ongoing and planned offshore wind activities and non-offshore wind activities.</p> <p>Additional analysis of operational noise has been added to Section 3.15 of the Final EIS (see responses to comments 1012-0009a–e).</p> <p>BOEM reviewed Tougaard et al. 2020 cited by the commenter, which is already included in the references cited for EIS Section 3.15.</p>

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	marine mammals who use the waters off Cape May County for breeding feeding migration and other purposes.	
1109-0003	<p>On page 66 of the NJ Offshore Wind Energy : Feasibility study Prepared for: NJ BPU in Nov 2004 pg 66 section 4.5 on Right Whales The study states -"The North American Right Whale the most endangered whale of the large whales can be found from coastal waters to the continental shelf and generally migrates within 20 miles of the shore. These whales are generally found in New Jersey's waters in the spring and fall" As previously stated in the DEIS the observation of cow calf pairings suggests that this area is a feeding and nursery habitat. We know that the DEIS has identified this wind project area as having a major impact on navigation and boat traffic and now we also know it's a suggested feeding and nursery habitat for the critically endangered right whale. This raises the concern of the danger of increasing boat strikes on cow calf combinations of The NARWs. Additionally the noise from construction blasts piling driving and general operation could have an equally deadly affect on the critically endangered North American right whale.</p>	<p>The EIS documents in Section 3.15 that NARWs were observed during the environmental baseline study surveys the presence of a cow-calf pair was documented, suggesting that nearshore waters off New Jersey serve as feeding and nursery habitat,</p> <p>Impacts on marine mammals from underwater noise and vessel strike are analyzed under the noise and vessel traffic IPFs, respectively, in EIS Sections 3.15.3 and 3.15.5.</p> <p>Ocean Wind has not requested Level A take (that has the potential to injure a marine mammal) for NARW in the Letter of Authorization Application for the Project, and Level A take of NARW would likely not be authorized by NMFS.</p>
1109-0004	<p>A study carried out by scientists at Syracuse U and Duke U called Acoustic Crypsis in Communication by North American Right Whale Mother- Calf Pairs on the Calving Grounds in Biology Letters-has determined that North American Right Whales tone down their vocalizations and "whisper" to their calves so that their calves can avoid predators that they are vulnerable to. If the mother and calf cannot communicate due to construction and operational noise of 98 turbines and with the information found in the summary of noise impacts in their feeding and nursery habitat- where does that leave the ability for survival?</p>	<p>Operational noise from operating WTGs is low frequency (60 to 300 Hz) and at relatively low sound pressure levels near the foundation (100 to 151 dB re 1 μPa), decreasing to ambient levels within 1 kilometer (Lindeboom et al. 2011; Tougaard et al. 2009; Dow Piniak et al. 2012). Noise generated by operating WTGs would be detectable out to a few kilometers in areas with very low ambient noise levels but would be below ambient in areas with high ambient noise from shipping or wind. While underwater sound generated by WTGs is audible to marine mammals, including NARWs, the sound levels are lower than the regulatory injury threshold, typically are lower than the behavioral thresholds, and often are lower</p>

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		than the ambient sound levels that these animals typically experience. Given the attenuation of the WTG-generated sound levels within 1 to 2 kilometers, it is highly unlikely that migrating NARWs would be behaviorally affected by the operating WTGs.
1109-0005	On Page 319 SUMMARY OF NOISE IMPACTS "Considering the extent of offshore wind projects planned in the geographic analysis area (Appendix F) it is likely that underwater noise impacts sufficient to cause adverse effects on marine mammals occur. ...impact pile driving UXO detonations and to a lesser extent vibratory pile driving could cause PTS/injury-level effects in marine mammals. UXO detonation may also cause non-auditory mortality at close range. All noise sources have the potential to cause behavior-level effects and some may also cause TTS in certain species".* TTS is a relatively short-term reversible loss of hearing following noise exposure* PTS is an irreversible loss of hearing (permanent damage) So how and why would we know this and proceed with this offshore wind project in such an important migratory corridor for 5 endangered species including one critically endangered and many other marines mammals and fish species. The concern is about the North American Right Whale the Humpback Whale Fin whale Sei Whale Minke whale Sperm Whale Long Finned Pilot Whale Common Bottlenose Dolphin Short Beaked Common Dolphin Atlantic White Sided Dolphin Atlantic Spotted Dolphin Risso's Dolphin Harbor Porpoise HarborSeal Gray Seal. (also all these animals were listed in the Takes). Again why are we knowingly doing this? We can do better and we need to do better.	Impacts of underwater noise on marine mammals are analyzed in EIS Section 3.15. Ocean Wind has incorporated APMs in its Letter of Authorization Application as presented in EIS Appendix H, Table H-1. Additional agency-proposed mitigation to reduce impacts on marine mammals are described in Table H-2. APMs and agency-proposed mitigation measures are enforceable and would reduce impacts of the Project on marine mammals.
1116-0001	The North Atlantic Right Whale ("NARW") population is now estimated to be at only 336 individuals [Footnote 2: H.M. Pettis et al. North Atlantic Right Whale Consortium 2021 Annual Report Card: Report to the North Atlantic Right Whale Consortium (2022) https://www.narwc.org/uploads/1/1/6/6/116623219/2021report_cardfinal.pdf .] and its Potential Biological Removal ("PBR") is down to 0.7. "This means that for the species to recover the population cannot sustain on average over the course of a year the death or serious injury of a single individual due to human causes."[Footnote 3: Federal Register Vol. 87 No. 146 at 46922 (2022) ("NMFS Proposed Speed Rules").] Subsection 8(p)(4) of the OCLSA sets forth certain requirements that the Secretary "shall ensure" are met. One of those requirements are that the Secretary ensure the protection of the environment	Ocean Wind has incorporated APMs in its Letter of Authorization Application as presented in EIS Appendix H, Table H-1. Additional agency-proposed mitigation to reduce impacts on marine mammals are described in Table H-2. APMs and agency-proposed mitigation measures incorporated into the ROD for the EIS are enforceable and would reduce impacts of the Project on marine mammals. Ocean Wind has not requested Level A take (that has the potential to injure a marine

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	which includes the marine environment. Thus BOEM has a statutory duty to ensure that not a single NARW suffers serious injury or death. A similar duty exists under the Marine Mammal Protection Act ("MMPA"). National Marine Fisheries Service ("NMFS") must not issue an IHA for any take of the NARW unless NMFS can and does prescribe measures necessary to ensure that death or serious injury of a single whale does not occur.	mammal) for NARW in the Letter of Authorization Application for the Project, and Level A take of NARW would likely not be authorized by NMFS.
1116-0003	As the DEIS states (3.15-3) "NARWs were observed during the EBS surveys (i.e. detected visually or acoustically) in every season and are considered regular visitors to the Offshore Project area (NJDEP 2010). During these surveys foraging was observed and the presence of a cow-calf pair was documented suggesting that nearshore waters off New Jersey serve as feeding and nursery habitat (NJDEP 2010). Initial sightings of females and subsequent confirmations of these same individuals in calving grounds illustrate that these waters are part of the species' migratory corridor (NJDEP 2010). NARWs may use the waters off New Jersey for short periods of time as they migrate or follow prey movements or they may remain in the area for extended periods of time." Ocean Wind is incompatible with protecting the NARW and incompatible with the Secretary's duties under the OCSLA.	BOEM is coordinating with federal agencies and state and local governments in accordance with requirements to ensure that renewable energy development occurs in a safe and environmentally responsible manner.
1234-0004	Finally this area is the site of right whale Atlantic sturgeon and other endangered turtle species for a portion of the year. Fisheries are held to significant regulatory restrictions to minimize potential impact. BOEM must develop a similar system to ensure the whales Atlantic sturgeon and other marine endangered species continued protection prior to approving this project with possible significant acoustic impacts during construction and operation. This must address the cumulative effects of these projects on right whales during all phase of the projects through decommissioning. Table 3.9-4 commercial development of federally permitted vessels in mid Atlantic and New England fisheries and level of fishing by port omits Atlantic City Barnegat and Sea Isle. There is also no consideration of the impact of cooling of the transmission operations off shore in this draft COP/DEIS. This should be considered and addressed.	Appendix H of the Ocean Wind 1 EIS describes the APMs and additional agency-proposed mitigation being considered to reduce impacts on marine mammals. APMs and agency-proposed mitigation measures incorporated into the ROD for the EIS are enforceable and would reduce impacts of the Project on marine mammals, sea turtles, and fish. Table 3.9-4 identifies the top 20 highest revenue ports in the geographic analysis area. This table was updated for the Final EIS and now includes Atlantic City and Barnegat Light. As noted by the commenter, cooling of transmission operations is not specified in the COP and therefore is not analyzed on the EIS.
1259-0067	The geographic analysis area (Figure 3.15-1) included in the Draft EIS is likely to capture the majority of the movement range for most species in this group but it fails to include all areas that would be transited by Project vessels. For example	Vessel traffic effects on marine mammals involving transits from Europe were analyzed in Section 3.2.6.7 of the NMFS

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	<p>the Draft EIS must consider the very real possibility that local supply chains will not be established on the timeline required for Ocean Wind 1's construction resulting in impacts to marine mammal species from vessels traversing the Atlantic Ocean in order to support this project. [Footnote 54: See John Engel U.S. offshore wind generation goals have a supply chain problem Renewable Energy World (Aug. 13 2021) https://www.renewableenergyworld.com/wind-power/u-s-offshore-wind-generation-goals-have-a-supply-chain-problem/.] This is a significant concern and a glaring omission resulting in an incomplete assessment of Ocean Wind 1's impacts.</p>	<p>BA and are incorporated by reference into Section 3.15 of the EIS. ESA consultation with NMFS is ongoing and findings of the Biological Opinion are incorporated into the Final EIS.</p>
1259-0068	<p>Twenty (20) marine mammal species have the potential to interact with the Project as they are likely to have regular or common occurrences in the Project area (DEIS 3.1.5.1). Of particular note is the fact that this region is the migratory corridor for the highly endangered North Atlantic right whale [Footnote 55: Luke Hanna Is Offshore Wind Development a Threat to the North Atlantic Right Whale? TETHYS (Aug. 27 2012) https://tethys.pnnl.gov/stories/offshore-wind-development-threat-north-atlantic-right-whale.] which has less than 340 surviving individuals and is in serious danger of becoming extinct. Nevertheless Ocean Wind 1 and its immediate vicinity overlap with a hotspot for marine mammal strandings during the last two decades. These stranding events have routinely included seals porpoises dolphins humpback whales fin whales and other whales routinely but the Draft EIS never considers the potential consequences of placing an industrial-scale wind energy development project within this pre-existing stranding hotspot. This is a significant concern that BOEM must address in its environmental review for Ocean Wind 1.</p>	<p>The commenter has not provided a citation for the assertion that the geographic analysis area is a "hotspot for marine mammal strandings." As reported in the NMFS BA, there have been no recorded strandings of sei whales or sperm whales in New Jersey since 2008. Blue whales are known to be an occasional visitor to U.S. Atlantic Exclusive Economic Zone waters, with limited sightings. Ten fin whales are reported to have stranded along the New Jersey coast from 2008 to 2017. Of these, nine were determined to be the result of vessel strikes and one was ruled an entanglement. APMs and potential agency-proposed mitigation that would reduce the risk of vessel strike and entanglement for marine mammals are included in EIS Appendix H. APMs and agency-proposed mitigation incorporated into the ROD for the EIS would be enforceable and would reduce impacts of the Project on marine mammals.</p>
1259-0069	<p>North Atlantic right whales are considered regular visitors to the Ocean Wind 1 Project area. [Footnote 56: DEIS at 3.15-3.] In fact foraging and even the presence of a cow-calf pair have been documented suggesting that nearshore waters off New Jersey serve as feeding and nursery habitat. Initial sightings of females and subsequent confirmations of these same individuals in calving grounds confirm that these waters are part of the species' migratory corridor.</p>	<p>The commenter restates information contained in the Draft EIS. Impacts of the Project on ESA-listed marine mammals are analyzed in EIS Section 3.15 and the NMFS BA for the Project.</p>

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	[Footnote 57: DEIS at 3.15-3.] These observations in turn reaffirm the serious risks that Ocean Wind 1 poses to this highly endangered species and the need for a critical eye with respect to the scope of harms from introducing even more anthropogenic activity into the species' range.	
1259-0070	<p>Next the Draft EIS inaccurately overestimates the North Atlantic right whale population at 412. More accurately the North Atlantic Right Whale Consortium currently estimates the population census to be 336. [Footnote 58: H.M. Pettis et al. 2021 Report Card North Atlantic Right Whale Consortium (2021) https://www.narwc.org/uploads/1/1/6/6/116623219/2021report_cardfinal.pdf.]</p> <p>Plus with reproducing females estimated to be less than 100 this species has even become the most recent addition to NOAA Fisheries' Species in the Spotlight which is an agency-wide effort launched in 2015 to spotlight and save marine species that are among the most at risk of extinction in the near future. The newest threat to the North Atlantic right whale is the declining body lengths of calves due to sub-lethal stressors including likely impacts from climate change. Additionally anthropogenic stressors exacerbate indirect and incidental pressures on the vulnerable population and recoveries are not encouraging. [Footnote 59: See Joshua D. Stewart et al. Decreasing body lengths in North Atlantic right whales Current Biology 31:14 3174-179 https://www.sciencedirect.com/science/article/pii/S096098222100614X.]</p>	<p>The NMFS BA for the Project cites the draft 2021 NMFS stock assessment report population estimate of 368 for the NARW. Section 3.15.1 of the Final EIS has been updated for consistency with the NMFS BA.</p>
1259-0071	<p>Accidental Releases According to the Draft EIS the region experiences frequent and chronic accidental releases of fuels fluids and hazardous materials from ongoing activities and these risks will increase with increasing vessel traffic over the next 35 years. However the marine mammals in this region are already subject to anthropogenic stressors and uniquely vulnerable to their impacts. Additional risks include increased sedimentation from land and seabed disturbance as well as trash and debris. Ocean Wind 1 and related activities are only likely to further stress the marine mammals. Due to the aforementioned limitations on the impacts analysis the Draft EIS's statement that "these impacts from accidental release and discharges from other offshore wind activities would likely be minor for mysticetes odontocetes and pinnipeds and are likely to result in long-term consequences to individuals that are detectable and measurable but do not lead to population- level effects" cannot be accurate. Regarding the North Atlantic right whale for instance the Draft EIS acknowledges that these impacts would not be minor. Nevertheless it categorizes these impacts as moderate for North Atlantic right whales on the basis that they would result in population-level effects through detectable and measurable impacts on the individual but the population can be expected to sufficiently recover.</p>	<p>Section 3.15.3 of the Final EIS is clarified to state that impacts from accidental release and discharges from other offshore wind activities would likely be minor for mysticetes, odontocetes, and pinnipeds, except for NARW. However, if these releases or discharges were to occur, they are likely to result in long-term consequences to a few individuals that are detectable and measurable but would not lead to population-level effects. Impacts from accidental release and discharges from planned offshore wind activities would likely be moderate for NARW and have the potential to result in population-level effects through detectable and measurable impacts on the individual, but the population should sufficiently recover.</p>

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TRANS-0002-0005	The timing when can construction happen if we need to take into account the migration timing and considerations for all the marine mammals we have offshore and so many other species.	APMs in EIS Appendix H (<i>Mitigation and Monitoring</i>) would limit impact pile driving and UXO detonations between January and April.
TRANS-0004-0003	According to the DEIS marine mammal composition in the marine mammal geographic analysis area includes 38 species. 20 of those have a potential to interact with the project five of these are marine mammals that are classified as endangered the Blue Whale Fin Whale Sea Whale Sperm Whale and the North Atlantic Right Whale. The geographic analysis area is likely to capture the majority of movement for most species in the group but does not include all areas that would be transited by projects in Europe. Local supply chains are not established and that is the biggest unknown.	Vessel traffic effects on marine mammals involving transits from Europe were analyzed in Section 3.2.6.7 of the NMFS BA and are incorporated by reference into Section 3.15 of the EIS. ESA consultation with NMFS is ongoing and findings of the Biological Opinion are incorporated into the Final EIS.
TRANS-0004-0004	Impacts of no action alternated on marine mammals is described to be minor however with normal mitigation measures impacts of these alternatives are described as being negligible to major. It is unclear in the DEIS how these alternatives will just result in very negligible impacts. Coming to the North Atlantic Right Whale it is not surprising that these species were observed during the (inaudible) they occur in all seasons the wind energy areas coincide with their north south migratory corridor from th gulf of Maine to the coast of Georgia and Florida. They also use a near shore habitus for foraging. DEIS actually inaccurately overestimated the population as 412. The sedation model that was used is also from 2018 and does not include the mortality since then. While the species is listed as endangered it is described as not being a critical habitant in the area of direct effect. Actually the current population for this North Atlantic Right Whale is estimated to be less than 340 with reproducing females estimated to be less than 100. This species faces a serious threat of extinction. A more recent 2021 study also shows how these whales are seriously impacted by anthropogenic stressors that are actually resulting in decreased body sizes.	The impact level assigned to impacts in Section 3.15 varies by IPF and may also vary for specific species (i.e., NARW) or groups of species (i.e., LFC, MFC, or HFC). This results in a range of impacts across Section 3.15. Negligible impacts of the Project on marine mammals are associated with EMF and displacement effects, water quality impacts (i.e., turbidity) resulting from cable emplacement, accidental releases and discharges, operational lighting, and gear utilization. The NMFS BA for the Project cites the draft 2021 NMFS stock assessment report population estimate of 368 for the NARW. Section 3.15.1 of the Final EIS has been updated for consistency with the NMFS BA.
TRANS-0042-0003	To start it doesn't make sense for the National Marine Fishery Service to close the public comment period for Ocean Wind 1's incidental harassment authorization application and refer to BOEM's analysis for NEPA's purposes before the full scope of impacts to marine mammals can be fleshed out through the DEIS process	NMFS is conducting a separate but parallel review of Ocean Wind's Letter of Authorization Application and the full scope of impacts related to this narrower aspect of the Proposed Action are fully disclosed in the Letter of Authorization Application.

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		The scope of the Ocean Wind 1 EIS encompasses, but is broader than, the decision that NMFS will make on the Letter of Authorization. As such, it is appropriate for these processes to run in parallel.
TRANS-0079-0005	Concerning marine mammals I would like to see a more thorough discussion concerning the North Atlantic Right Whale. Today there are only about 350 remaining with fewer than 100 breeding females. Human activities like fish strikes and fishing gear entanglements are driving this species to the brink of extinction. I would like to see a more thorough discussion if the construction and use of these wind turbines will impact current Right Whale migration roots and will it alter current shipping roots there by making the whales more susceptible to vessels strikes.	Impacts on NARWs are discussed in more detail in the NMFS BA for the Project that is incorporated by reference into the EIS. ESA consultation with NMFS is ongoing and findings of the Biological Opinion are incorporated into the Final EIS.
0011-0005	Acoustical studies on operational noise are inadequate to determine the impact on marine species and no Final EIS should be issued for any project until such a study is available. BOEM states in 3.15-45 "Turbine operation noise: Offshore WTGs produce continuous non-impulsive underwater noise during operation. Current and near-term commercially available WTGs likely used for the Project range from 12.4-MW to 14.7- MW WTGs using the direct-drive GE Haliade-X 12-MW WTG. SPLs measured from direct-drive WTGs within this size range do not currently exist in the literature and modeling scenarios are limited to two studies with a high degree of uncertainty". One study published in the journal of the Acoustical Society "How could operational underwater sound from future offshore wind turbines impact marine life?" ⁶ suggests levels as high 177 to 177 decibels at a 10 MW direct drive turbine. Using the National Oceanic Atmospheric Administration criterion for behavioral disruption for continuous noise (i.e. level B at 120 decibels) a single 10 MW direct drive turbine is expected to cause behavioral response in marine mammals up to 1.4 km (0.85 miles) distance from the turbine. As the turbines will spaced on a 1 by 1.2 mile grid the Level B threshold will likely be exceeded everywhere in the project area resulting in this having a major impact. The critically endangered North Atlantic right whale commonly seen in the project area would be severely impacted by noise harassment and there is no obvious mitigating action to protect the whale. Gamesa offers a 10 MW direct drive turbine for sale but none have been installed yet. Until actual acoustical testing is completed on such a turbine no offshore wind project should be approved.	Additional analysis of operational noise has been added to Section 3.15 of the Final EIS (see responses to comments 1012-0009a–e).
0222-0006	For installation of both the WTG and OSS monopile foundations [Bold: 24-hour-per-day pile driving] is expected to occur. Extensive acoustic monitoring and	BOEM would only approve pile driving to be initiated in low-visibility conditions if the

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	observers are planned these also include thermal or infrared cameras night vision devices and infrared spotlight. The [Bold: efficacy of these other monitoring devices is relatively unknown.] The [Bold: efficacy of deterring other marine mammal species through pile driving ramp-up procedures is unknown.]	lessee is able to demonstrate that the proposed alternative monitoring technology would be able to monitor for the same distance as daylight/high-visibility conditions. Studies are currently underway and the requested information and analysis would be provided by the lessee to BOEM and NMFS for review and approval 6 months prior to planned pile-driving activities. See BOEM-proposed measure No. 19 (Alternative Monitoring Plan for Pile Driving) in EIS Appendix H.
0390-0017	One of the main issues that will be caused by the construction and operation of OWI is that it will emit a lot of noise into the marine environment. Known as marine noise pollution this can affect the behaviors of marine animals as well as potentially causing serious injury. Pile-driving during the construction of [Bold: OWF's can generate noise up to 200 dB] while the operation generates up to 120 dB. This noise is mainly generated above the water but transmits through the tower and is then radiated into the surrounding water. Adding to pre-existing noise from other sources. This can affect animal behavior particularly those that are more sensitive to sound that rely on their use of vocalization for communication and those that use echolocation for navigation such as cetaceans (whales dolphins and porpoises).	Section 3.15 addressed the activities associated with the Proposed Action and action alternatives that could cause underwater noise effects on marine mammals including pile driving, vibratory pile driving, geophysical surveys, detonations of UXO, vessel traffic, aircraft, cable laying or trenching, and dredging during construction and WTG operation.
0658-0003	Risking Critically Endangered 350 surviving North Atlantic Right Whales & Endangered Piping Plovers that migrate where turbines are proposed. The underwater noise from these massive turbine is likely to harm these whales relying on sound for communication navigation mating and detecting prey and predators to survive.	EIS Section 3.15, <i>Marine Mammals</i> , addressed the activities associated with the Proposed Action and action alternatives that could cause noise effects on marine mammals. Impacts on piping plovers are discussed in EIS Section 3.7, <i>Birds</i> .
1259-0059	Noise Activities from Ocean Wind 1 causing underwater noise effects on finfish and invertebrates such as pile-driving drilling and vessel traffic will cause noise impacts that require mitigation to the extent they cannot be avoided. Pile-driving will produce the most intense underwater noise impacts with the greatest potential to cause injury and behavioral effects on finfish and invertebrates. Operational turbine noise meanwhile will occur over the longest duration. Therefore these effects are the focus of the comments below. In context of reasonably foreseeable environmental trends Ocean Wind 1 will contribute a	EIS Sections 3.13 and 3.15 analyze the impacts of underwater noise on finfish, invertebrates, and marine mammals for all noise sources associated with the Project including from HRG surveys, pile driving, and vessel traffic. Additional analysis of operational noise has been added to Section 3.15 of the

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	<p>noticeable increment to the combined noise impacts on finfish and invertebrates from ongoing and planned activities including offshore winds. A serious limitation to understanding interactions between affected species and this new anthropogenic noise however is that the Draft EIS does not address the impacts of anthropogenic noise from Ocean Wind 1 turbine operations over the course of the project's lifetime. For example There is a growing understanding that anthropogenic noise such as pile-driving may affect the behavior of marine mammals and lead to spatial displacement. However there have been no empirical studies linking the consequences of this behavioral response to longer term population change. [Footnote 47: See Helen Bailey et al. Assessing environmental impacts of offshore wind farms: lessons learned and recommendations for the future 10 Aquatic Biosystems (2014) https://aquaticbiosystems.biomedcentral.com/articles/10.1186/2046-9063-10-8#:~:text=The%20major%20environmental%20concerns%20relatedof%20contaminants%20from%20seabed%20sediments.] Plus the noise caused by offshore wind development does not stop after the construction phase. The waters surrounding the lease areas will be subjected to noise generated by the turbines for the duration of the lease. Possible effects of these noises include attraction toward the noise sources avoidance of the area temporary hearing damage and permanent physical injury. As the industry expands the extent to which these effects will disrupt marine life remains unclear and requires continued research from BOEM and Ocean Wind 1. The rapid increase in the number and size of offshore wind farms means that the cumulative contribution from the many turbines will be considerable and should be included in assessments for maritime spatial planning purposes as well as environmental impact assessments of individual projects. [Footnote 48: https://tethys.pnnl.gov/sites/default/files/publications/Tougaard_et_al._2020.pdf] To date most studies on the potential effects of noise from offshore wind energy development have tended to focus on the installation and operation phases. However the four key phases of OWF development (site surveys construction operation and decommissioning) each produce sounds that have the potential to influence marine life and the EIS for Ocean Wind 1 must consider noise generated during each phase in its own context. [Footnote 49: https://tos.org/oceanography/article/acoustic-impacts-of-offshore-wind-energy-on-fishery-resources-an-evolving-source-and-varied-effects-across-a-wind-farms-lifetime]</p>	<p>Final EIS (see responses to comments 1012-0009a–e).</p>
1259-0073	<p>Underwater Noise In the present scenario the biggest threat to marine mammals in the geographic analysis area is underwater noise from proposed offshore-</p>	<p>Planned offshore wind projects are considered reasonably foreseeable</p>

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	<p>wind-related activities the science of which is unknown or known only in parts from studies being done in Europe. The DEIS does not address all the risks and impacts from underwater noise and is incomplete. Table J9 in the Draft EIS (Appendix J J-13) ("Number of Marine Mammal Level A and Level B Takes Requested for Impact Pile Driving of WTG 8-/11-meter Monopiles for the Effective Period of the Letter of Authorization (5 Years Total)") shows that if approved Ocean Wind 1 will result in Level B Harassment of 5492 marine mammals that include low- mid- and high- frequency cetaceans (LFC MFC HFC) and phocid pinnipeds (PW). This Level B harassment includes fifty-seven takes of highly-endangered whale species including twelve (12) North Atlantic right whales. This will also result in Level A Harassment Takes of 77 marine mammals. Table J10 in the Draft EIS (Appendix J J-15) ("Number of Marine Mammal Level A and Level B Takes Requested for Impact Pile Driving of Either OSS Scenario (Three 8-/11-meter Monopiles or Three Jacket Foundations Composed of 16 2.44-meter Pin Piles Each) for the Effective Period of the Letter of Authorization (5 Years Total)") shows that if approved Ocean Wind 1 will result in Level B harassment of 211 or 1423 marine mammals and a Level A harassment of 3 or 19 marine mammals including a minke whale respectively. The Draft EIS however does not take into account the significance of these impacts on marine mammals and fails to account for cumulative impacts and their harm from other projects in the geographic analysis area and in the NY/NJ Bight.</p>	<p>activities, i.e., planned actions that could occur during the life of the Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives. Appendix F (<i>Planned Activities Scenario</i>) describes the methodology used for assessing impacts from planned activities in the EIS. Using the methodology described in Appendix F, each resource-specific environmental consequences section in Chapter 3 of the EIS discusses cumulative impacts.</p> <p>The comment does not raise a specific concern with the analysis in the Draft EIS and no revisions were made to the Final EIS in response to the comment.</p>
1259-0075	<p>NOAA's 2018 "Revision to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts" includes preliminary findings of a 2017 study on acoustic thresholds for harbor porpoises and also notes that these findings were recent and would be included during its Version 3.0 revision. [Footnote 65: See National Marine Fisheries Service 2018 Revision to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) NOAA Technical Memorandum NMFS-OPR-59 (2018) https://media.fisheries.noaa.gov/dam-migration/tech_memo_acoustic_guidance_(20)_(pdf)_508.pdf.] And yet the Draft EIS never refers to this study by Kastelein et al. from NOAA's technical guidance.</p>	<p>NOAA's 2018b study is addressed in Section 3.2.6.2. of the NMFS BA for the Project.</p>
1259-0078	<p>The DEIS describes pile driving (PD) impacts from (i) other offshore wind activities (Section 3.15.3.2) and (ii) Proposed Action (Section 3.15.5). The Draft EIS states: "In the planned activities scenario (see Appendix F) the construction of up to 3109 (Appendix F shows an estimate of 3159) new WTG and OSS foundations in the geographic analysis area would create underwater noise and</p>	<p>The planned activities scenario was updated prior to publication of the Final EIS and cumulative WTG counts were updated across Chapter 3.</p>

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	may affect marine mammal species in the area (see Section I.5.1 of Appendix I)". This seems to be an incorrect reference/typographic error it is not found).	
1259-0081	COA comments on Pile Driving Impacts in DEIS. Per the Draft EIS BOEM prepared a Biological Assessment (not cited correctly had to search the web) for the potential effects on NMFS federally listed species which found that the Proposed Action may adversely affect marine mammals (BOEM 2022). This document also states that consultation with NMFS under Section 7 of the ESA is ongoing. Indirectly this is an admission that the impacts to marine mammals from the Project and Proposed Action could be more adverse. The DEIS does not state what these consultations are and if and how the public will have a timely opportunity to review those and offer recommendations. The DEIS merely states that individual fitness-level impacts are likely. But it does not quantify what these impacts are and which species would be impacted. Additionally it merely states that these impacts would be further reduced with implementation of project-specific measures required as conditions of compliance with the ESA MMPA and other federal regulations. This is a very simplified assumption and could be erroneous to conclude. At present there are not enough regulations to monitor underwater noise.	Consultation with NMFS under Section 7 of the ESA is ongoing. This is typical at this point in the NEPA process. The BA is available on the BOEM website and results are consistent with information presented in the EIS. There is not a public comment period for consultations separate from the comment period for the Draft EIS.
1259-0082	As per the Draft EIS the Proposed Action does not have any plans for concurrent monopile location at more than one location. Will this be upheld? The reason for this concern stems from the subsequent statement in the DEIS which is provided below. The DEIS states: [Underlined: "It is likely that concurrent pile driving may be considered] appropriate or desirable if scheduled to avoid critical periods when sensitive or particularly vulnerable populations (e.g. North Atlantic right whales) are present in high densities and thus result in increasing the (i) geographical extent (ii) sound intensity of exposure (iii) greater potential for TTS and PTS effects for marine mammals present." However the Draft EIS does not factor this in the assessment and investigate the likely harm from such activities in the project area. Concurrent pile driving will cause serious harm and its impacts are not clearly quantified and needs to be avoided.	The acoustic modeling provided for this Project does not analyze concurrent pile driving, and the NMFS BA assumed that only one monopile would be installed at a time. The measures required by the final MMPA Letter of Authorization would be incorporated into COP approval, and BOEM or BSEE would monitor compliance with these measures.
1259-0083	The DEIS also acknowledges a potential scenario of multiple planned construction activities due to which it is likely that some individual marine mammals would experience two or more impact pile-driving noise exposure days within the same year. COA reiterates that this could cause serious harm to vulnerable populations and must be avoided at all costs.	Mitigation for planned activities will be reviewed for each planned project independently during that that project's NEPA review, ESA consultation, and MMPA application (Letter of Authorization).
1259-0092	Turbine operations growing concerns: -Offshore WTGs produce continuous non-impulsive underwater noise during operation mostly in lower-frequency bands below 1500 Hz (summarized in Section 3.15.3.2).- Current and near-term	Effects of sound generated by operating WTGs are assessed in the NMFS BA for the Project. The NMFS BA determined that

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	<p>commercially available WTGs likely used for the Project range from 12.4-MW to 14.7-MW WTGs using the direct-drive GE Haliade-X 12-MW WTG. SPLs measured from direct-drive WTGs within this size range do not currently exist in the literature and modeling scenarios are limited to two studies with a high degree of uncertainty. Effects related to the large direct-drive WTGs to be used for the Project are likely like those outlined for offshore wind activities (without the Proposed Action) and would include behavioral and masking effects. Masking of the low-frequency calls emitted from LFC and phocid pinnipeds in water would be more likely to occur. However without further information regarding larger direct-drive WTGs the extent of these effects are unknown. In addition as the modeled values presented in StÖber and Thomsen (2021) extended upward of 177 dB re 1 μPa SPLRMS exceedances for cumulative TTS thresholds are considered possible. Turbine operations and the persistent noise from these installations have not been investigated in detail. With changes in turbine capacities design emitted noise research into their impacts is an important priority. This is an urgent priority in the proposed geographic analysis area and its likely impacts on marine mammals including highly endangered species and the DEIS is deficient in not addressing this important impact.</p>	<p>noise generated by WTG operation is not likely to adversely affect ESA-listed cetaceans, and the analysis completed for the NMFS BA is incorporated by reference into the EIS. ESA consultation with NMFS is underway and findings of the Biological Opinion are incorporated into the Final EIS.</p>
1281-0007b	<p>An even more appalling aspect of the within proposal could be seen in the lack of scientific method with any attempt at a complex economic evaluation to be applied to the critically threatened North American Right Whales. This species is in dire jeopardy due to this specific proposal and the threat of pollution generating windfarms proposed to be constructed directly in the right Whales' primary and sole migratory waterways off the New Jersey Coast. With approximately three hundred fifty (350) North Atlantic Right Whales left in the entire world the DEIS barely touches the surface as to the potential devastating if not terminating impact of this vast industrial project itself and numerous ongoing adverse impacts presented. From a noise perspective pollution generating standpoint and otherwise the construction operation and totally ignored dismantling and decommissioning process of the gigantic wind turbines themselves has insufficiently been addressed.</p>	<p>Noise impacts on NARWs are discussed in Section 3.2.6.4 of the NMFS BA for the Project.</p>
1012-0007a	<p>The presentation of noise impacts on marine mammals in the DEIS is not adequate. It downplays and tries to dismiss the impacts of operational turbine noise which are very significant and could cause non-compliance issues with both the Endangered Species and Marine Mammal Protection Acts. As explained below in detail it arbitrarily dismisses two excellent studies based on noise measurements of smaller and moderate size turbines that show a clear straight-line increase in noise source decibel (dB) level versus the power of the</p>	<p>These comments are focused on the assessment of the operational noise generated by WTGs. The comprehensive overview of WTG-generated noise (pages 3.15-24 to 3.15-25 of the EIS) provides a summary of available information, including the two studies/papers by</p>

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	<p>turbine that can easily be extrapolated to estimate the noise source level from the larger turbines proposed here. Its claim that these studies are too uncertain to make those estimates are not supported by the study data and are inconsistent with the numerous places in the DEIS where conclusions are reached with far less or no data and where other numerical estimates are used with far more uncertainty when that serves to reduce an impact as opposed to the situation here where a new and serious impact emerges.</p>	<p>Tougaard et al. (2020) and Stöber and Thomsen (2021) the commenter states have been dismissed in the Draft EIS. The Draft EIS does not state that these studies are too uncertain to make source level estimates but correctly points out the small sample size used in the modeling of these two papers introduces a level of uncertainty to the modeled results. Noting areas of uncertainty in the results of any paper or report allows the results to be considered in the appropriate context. The Draft EIS further points out that the Tougaard et al. (2020) and Stöber and Thomsen (2021) papers relied on geared turbines rather than the direct-drive turbines proposed for use in Ocean Wind 1. These are some of the reasons why the results of these papers cannot be extrapolated, as the commenter suggests, to the Ocean Wind 1 turbine assessment. Additionally, the Draft EIS notes that “the source levels and frequencies emitted from the larger direct-drive WTGs to be used for the Project would fall somewhere between those recorded for smaller-gear driven WTGs (e.g., 109 to 128 dB re 1 µPa SPL_{RMS} [at varying distances]) (Tougaard et al. 2009a; Lindeboom et al. 2011; Pangerc et al. 2016) and those modeled in Stöber and Thomsen (2021) (e.g., 170 to 177 dB re 1 µPa SPL_{RMS}).”</p>
1012-0007b	<p>With regard to other noise sources discussed in the DEIS e.g. that of pile driving during construction there are no impacts on marine mammals presented in the DEIS body itself which one might expect in an impact statement. The discussion of mitigating measures forces the reader to go to an Appendix and then to other documents to try to find what the actual distances are from the source to meet criteria what the incidences of noise exposures are i.e. "take" numbers are what</p>	<p>Given the extent of information on the impacts on marine mammals from noise generated during construction pile driving, the impact results were presented in an EIS appendix with references to other documents where additional details can be</p>

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	<p>the physical impact of those takes are on the whales. This makes the presentation essentially incomprehensible to a lay person.</p> <p>Further as shown below even after going all through all those documents key factors are never presented e.g. noise source levels noise loss or dissipation factors used (to enable comparison with mainstream factors used) the assumptions made regarding animal reaction to the noise and the effect on right whale's migration. So in addition to comprehensibility there is a full disclosure problem here as well. Table 1. Presentation of Marine Mammal Impact Construction Pile Driving Information Source: DEIS 1.Source Noise Level: N2.Noise Loss Factor: N3.Assumptions re animal behavior determining exposure range: N4.Exposure Range: N5.Animal Densities: N6.Takes: N7.Take Impact (specific to Migration): N Information Source: Appendix J1.Source Noise Level: N2.Noise Loss Factor: N3.Assumptions re animal behavior determining exposure range: N4.Exposure Range: N5.Animal Densities: Y6.Takes: Y (different from LOA)7.Take Impact (specific to Migration): N Information Source: LOA Application1.Source Noise Level: N2.Noise Loss Factor: N3.Assumptions re animal behavior determining exposure range: N4.Exposure Range: Y5. Animal Densities: N6.Takes: Y7.Take Impact (specific to Migration): N Information Source: COP VOL III App R-21.Source Noise Level: Y2.Noise Loss Factor: N3.Assumptions re animal behavior determining exposure range: N4.Exposure Range: N5.Animal Densities: Y6.Takes:Y7.Take Impact (specific to Migration): N</p> <p>BOEM can and should restructure this discussion. They can do this with two tables and then a good analysis of the potential for serious harm or fatality from level B takes as discussed below in our comments on operational noise. The first table can simply contain the noise source level the effective noise propagation loss factor that was used and the area affected to get to criteria. The second table should take the area affected multiplies it by animal density times the number of days of the activity and present the level A and level B takes.</p>	<p>found. It is duly noted that this makes it more challenging for readers to easily locate the relevant impact information and that some of the relevant information, such as source level for some of the pile-driving types, has not been included.</p> <p>However, the level of detail that the commenter is suggesting be included in the main body of the EIS instead of in appendices would make the document equally incomprehensible for most readers. This is the very purpose for moving the more technical information to appendices. Tables of the marine mammal takes associated with the proposed activities are presented in the document, but it is unclear why the commenter is suggesting that the take computation be redone. The takes were correctly computed in Ocean Wind's Letter of Authorization Application using the best available densities and activity schedule available when the application was submitted. Ocean Wind updated its Letter of Authorization Application with new marine mammal density models released by the Duke Marine Geospatial Ecology Lab on June 20, 2022. New density estimates and updates to Ocean Wind's exposure calculations have been incorporated into Final EIS Section 3.15 and Appendix J. The commenter is referred to Ocean Wind's Letter of Authorization Application and Update Memo for a comprehensive presentation of the take request.</p>
1012-0008	<p>[Bold: B. Vessel Surveys.] With respect to high resolution geophysical surveys the DEIS down plays the impact as well by using an unjustified low noise source level of 203 dB for the Dura Spark-240 unit versus 211dB found in other sources</p>	<p>The supposition that the location of the WTGs adjacent to the migratory corridor of the NARWs will likely block the migration</p>

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	<p>and a high 20 dB noise propagation loss factor which is not justified scientifically or consistent with the 15 dB loss factor used by the National Marine and Fisheries Services in many other take authorizations. Our detailed comments on these problems of February 25 2022 to the NMFS on the Ocean Wind 1 vessel surveys are provided in a separate comment submittal and intended to be considered by the BOEM in support of the above comment. Taken together this is not a full disclosure objective understandable presentation of noise impact to marine mammals and the BOEM should go back to the drawing board and restructure its presentation as described below.</p> <p>2. [Bold: The Impact of Operational Turbine Noise on the right whale.]T he action proposed and all of the alternatives would place a large number extremely large and noisy wind turbines next to the primary migration corridor of North Atlantic right whale. It will very likely block its migration and jeopardize it continuing existence because that corridor would be permeated with noise levels above the 120 dB disturbance criteria from continuous long term operational noise from the 12 megawatt(mw) and higher power gearbox turbines proposed. Two excellent consistent studies of measured noise levels from smaller and moderate sized turbines showing a clear straight-line trend increase in turbine source noise level with turbine power were provided to the BOEM during the NOI comment period NOI1 that can readily be used to estimate the noise source level of the proposed turbines and analyze and determine the extent of that noise permeation into the corridor. A subsequent document was provided to the BOEM addressing their questions on the studies [Footnote W20: Email from Dr. Robert Stern to BOEM staff December 20 2021 ASOW WTG Acoustic Source Level Discussion.]. This is likely the worst impact of this proposal. It potentially could violate both the ESA and MMPA and make the project not viable. But rather the DEIS presents no analysis of the problem at all and tries to obfuscate and dismiss it. It falls back to an extensive discussion of smaller turbine noise levels which are not relevant to this proposal. It makes passing reference to the two studies and dismisses their use without justification. Compounding this omission and as required By CEQ NEPA Rule Section 1502.9(b) that a draft environmental impact statement discuss all major points of view on the environmental impacts and alternatives including the proposed action the DEIS presents nothing regarding the purpose and strength of these two studies by either by the authors or by Save LBI Inc. in its detailed calculations and comments on the notice of intent NOI1 and in subsequent communications [Footnote W20: Email from Dr. Robert Stern to BOEM staff December 20 2021 ASOW WTG Acoustic Source Level Discussion.]. Because this problem can bring into question the projects inappropriate location and legal compliance issues with the ESA and MMPA we</p>	<p>of the NARW is baseless and without merit. The commenter provides no evidence that such a displacement is reasonably likely. The protection of the highly endangered NARW from disruptive noise levels is of utmost concern to BOEM and Ocean Wind.</p> <p>Operational noise from operating WTGs is low frequency (60 to 300 Hz) and at relatively low SPLs near the foundation (100 to 151 dB re 1 µPa), decreasing to ambient levels within 1 kilometer (Lindeboom et al. 2011; Tougaard et al. 2009; Dow Piniak et al. 2012). Noise generated by operating WTGs would be detectable out to a few kilometers in areas with very low ambient noise levels but would be below ambient in areas with high ambient noise from shipping or wind. While underwater sound generated by WTGs is audible to marine mammals, including NARWs, the sound levels are lower than the regulatory injury threshold, typically are lower than the behavioral thresholds, and often are lower than the ambient sound levels that these animals typically experience. Given the attenuation of the WTG-generated sound levels within 1 to 2 kilometers, it is highly unlikely that migrating NARWs would be behaviorally affected by the operating WTGs. It is highly unlikely that WTG operations would cause behavioral responses in the NARW to cause displacement.</p>

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	<p>believe that the presentation of the operational noise issue or rather the lack of it in the DEIS is a deliberate attempt to avoid it mislead the reader and is an abuse by BOEM of its authority. We can think of no reason for an agency to spend a full-page rambling on about the noise levels from smaller turbines which have no relevance to this proposal and then devote two lines to a passing mention of the two studies that it could use to actually illuminate the issue.</p>	
1012-0009a	<p>[Bold: This issue must be addressed in detail in a revised DEIS to allow for public comment and a professional treatment of it.] The necessary analysis is described below.</p> <p>The Ocean Wind project proposes turbine placement 15 to 23 miles offshore (Figure S-1 of the DEIS). The North Atlantic right whale's primary migration corridor here extends from about 20 miles to 32 miles offshore (Exhibit B1). That critically endangered whale must migrate through that corridor south/north each year between its calving and feeding grounds to survive. Its numbers are already low and recently are declining rapidly (Exhibit A).</p> <p>Three miles of the project intersects that corridor. As shown below noise from just the outer row of the 12 mw turbines to be used will extend another 3 miles across that corridor at levels above 120dB that will disturb its behavior. So 6 miles or half of the corridor will potentially be blocked impairing the whale's migration and threatening its existence.</p> <p>Given the severity of these impacts the analysis of operational noise is perhaps the most important one to be undertaken and should have been or be presented in the DEIS the Biological Assessment (BA) and the Biological Opinion (BO). To do that analysis the DEIS BA and BO should have:</p> <ul style="list-style-type: none"> A. Described the precarious status of the right whale B. Estimated the source noise levels of the turbines C. Estimated the noise transmission loss and the distance over which noise levels are above criteria using appropriate noise loss factors. D. Disclosed the available data on animal densities within those distances that would clearly show its primary migration corridor adjacent to the lease area E. Estimated animal "takes" i.e. the number of events during which an animal experiences noise above thresholds F. Determined the likelihood that those takes especially Level B disturbances would block the right whale's migration G. Presented a realistic and transparent assessment of the whale's reaction to those events particularly those that could result in serious injury or fatality 	<p>As previously noted, protection of the NARW along with all other marine mammals is of utmost concern to BOEM and Ocean Wind.</p> <p>The data in the enclosed exhibits are undisputed. However, the conclusions drawn in regard to the proposed sound transmissions from the WTGs transecting the migratory corridor are not supported by the physics of sound attenuation. The sound generated by the operating WTGs is highly likely to be at ambient noise levels at the migratory corridor, not forming a "wall of sound" that would affect NARW behavior and would not block the NARW's seasonal migration. These suppositions are unsupported.</p>

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	<p>H. Provided an analysis of how the masking of the right whale's communication by the turbines could impact its migration and/or result in serious injury or harm and</p> <p>I. summed up and compared those results in items 8 and 9 to pre-set criteria to avoid a threat to its existence.</p> <p>The DEIS does not present any of this as discussed below but first by way of explanation some technical back ground regarding underwater noise.</p>	
1012-0009b	<p>A. [Bold: The DEIS does not clearly show the precarious status of the right whale.] The number of critically endangered North Atlantic right whales (NARW) is already low at 366 animals and in steep decline- Exhibit A. There are less than 94 females of reproductive age left.</p> <p>B. [Bold: Turbine operational source noise levels were not disclosed.]</p> <p>[Bold: Critical to the needed analysis is an estimate of the noise level emanating from the large turbines to be used.] There are no measurements currently available from the larger turbines so the use of the best scientific data available requires that we rely on the trends shown by measurements from smaller and moderate -sized turbines.</p>	<p>The critical status of the NARW population is not in question. The Draft EIS clearly describes the population of the NARW as well as the existing threats to its existence, principally from fishing gear entanglement and vessel strikes.</p> <p>The WTGs' operational noise levels were not disclosed because they have not yet been measured. This same issue of the application of the model results from the Tougaard et al. (2020) and Stöber and Thomsen (2021) papers has been discussed herein in other comments (see responses to comments 1009-0007a, 1009-0009c, 1009-0009d).</p>
1012-0009c	<p>[Bold: Critical to the needed analysis is an estimate of the noise level emanating from the large turbines to be used.] There are no measurements currently available from the larger turbines so the use of the best scientific data available requires that we rely on the trends shown by measurements from smaller and moderate -sized turbines. Two such studies [Footnote W2: Uwe Stober and Frank Thomsen How could operational underwater sound from future offshore wind turbines impact marine life? The Journal of the Acoustical Society of America 149 1791 (2021); https://doi.org/10.1121/10.0003760] [Footnote 17: Tougaard Hermansen Madsen How loud is the Underwater Noise from operating offshore wind turbines Journal of the Acoustical Society of America 1482888(2020)] exist that do that and show a clear linear trend of increasing noise source level with turbine power. That trend can be extrapolated out further to get an estimate of the noise level emanating from a larger turbine. The BOEM finally acknowledges in the DEIS the existence of those studies but arbitrarily</p>	<p>The importance and relevance of both the Tougaard et al. (2020) and Stober and Thomsen (2021) papers are without question, which is why both papers have been included in the Draft EIS. The conclusions of the commenter and BOEM regarding these results differ.</p> <p>It should be noted that the relationship between sound level and turbine size that the commenter notes showing "a clear linear trend of increasing noise source level with turbine power" from the Tougaard et al. (2020) paper is not accurate. Their models assumed that SPL increases linearly with WTG capacity,</p>

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	<p>refuses to use their results to estimate the noise from larger turbines as we describe below.</p> <p>It continues to base conclusions on the noise levels from smaller turbines which is technically indefensible and dismisses the issue with a single paragraph discussion. This is an egregious omission in the DEIS. A detailed noise impact analysis using the predicted source levels from those studies for 12 mw and higher power turbines must be done as described below.</p> <p>Such an analysis is also required By CEQ NEPA rule §150221. which states that when essential information to a reasoned decision is not directly available the agency must provide "a summary of existing credible scientific evidence that is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; [Bold: and the agency's evaluation of such impacts] based upon theoretical approaches or research methods generally accepted in the scientific community". The extrapolation of results from clear trends is generally accepted in the scientific community.</p> <p>The DEIS does not present estimates of the elevated underwater noise levels expected from the large gearbox turbines to be used based on two credible scientific studies [Footnote W2: Uwe Stober and Frank Thomsen How could operational underwater sound from future offshore wind turbines impact marine life? The Journal of the Acoustical Society of America 149 1791 (2021); https://doi.org/10.1121/10.000376] [Footnote W17: Tougaard Hermansen Madsen How loud is the Underwater Noise from operating offshore wind turbines Journal of the Acoustical Society of America 1482888(2020)] that show clearly increasing noise levels as the power of the turbine increases. Using those trends based on actual measurements the noise source level for the larger turbines can be estimated as shown below which is critical to analyzing the problem of the impact to the whales.</p>	<p>which contrasts with what is known of typical mechanical systems. The relationship is logarithmic, not linear. To illustrate this, Equation 1 from the Tougaard et al. (2020) paper was implemented using a value of 15 m/s (twice the mean windspeed in New York City harbor) and a turbine size of 12 MW, which produced an L_{eq} value of 175 dB re $1\mu Pa^2$ at a range of 1 meter. However, the value at 200 meters range drops below 120 dB re $1\mu Pa^2$, which is the NMFS behavioral criteria for continuous sounds.</p> <p>The sound levels drop below ambient noise levels within 1 kilometer of each turbine. The monopiles for the wind farm are planned to be spaced approximately 1 nm (1.85 kilometers) by 0.8 nm (1.48 kilometers) in a southeast-northwest orientation. Therefore, from the perspective of an animal swimming through those waters, only one turbine would likely be heard at a time, and only at relatively close range to the turbine.</p> <p>As noted previously, most of the data used in the analysis of the Tougaard et al. (2020) paper are from geared turbines, while the wind turbines proposed for Ocean Wind 1 are direct-drive turbines. Therefore, data are not interchangeable as the commenter suggests, as direct-drive turbines are expected to be quieter than geared turbines. The commenter suggests that the EIS basing conclusions on the noise levels from smaller turbines than planned for use is technically indefensible, yet they suggest a similar approach in using data from an entirely different type of</p>

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		louder turbine than planned for use in Ocean Wind 1.
1012-0009d	<p>Using the Stober referenced study [Bold: broadband noise source levels for 12 mw gearbox turbines are predicted at 176 dB W2] using the root mean square trend line of Figure 1 of the study below.</p> <p>[See original comment for image]</p> <p>That 176 dB dB source noise level is confirmed by the second Tougaard study [Footnote W17: Tougaard Hermansen Madsen How loud is the Underwater Noise from operating offshore wind turbines Journal of the Acoustical Society of America 1482888(2020)]. The authors there also tabulated correlated and plotted broadband sound levels as a function of wind speed power and distance. Figure 3(C) below shows the trend in received noise level at 100 meters from the source versus turbine power for monopile foundations. Drawing a trend line through that monopile data and extrapolating it out to 12 megawatts results in noise level of 130 dB. Back calculating that from 100 meters to the turbine source at 1 meter adds 47.4 dB (page 21) resulting in a [Bold: 177 dB noise source level consistent with the Stober study.]</p> <p>[See original comment for image]</p> <p>In study 1 following author Stober's suggestion the spectral root means square line is actually a better indicator of the increase in noise level as turbine power increases because it is more indicative of frequency range that the whale hears. Extrapolating that trend line in his Figure 1 out to 12 mw-for gearbox turbines to be used [Bold: results in a turbine noise source level of 186 dB.]</p> <p>[Bold: Subtracting 10 dB for direct drive turbines] as Stober suggests yields a broadband source level of 167 dB and a spectral source level of 176 dB.</p> <p>So the Stober and Tougaard studies are consistent credible and reliable and show that we are actually looking at turbine source [Bold: operational noise levels between 167 and 176 dB]. These source levels should have but were not used in the DEIS to assess the operational noise impact on the whales.</p> <p>The DEIS acknowledges a 177 dB level from the studies for a smaller 10 mw gearbox turbine but even refuses to use that for an analysis and instead reverts back to an irrelevant discussion of a 6-mw turbine.</p> <p>The DEIS dismisses these studies because of their uncertainty and small sample size. But Tougaard states in his study that it has "good explanatory power" due to an ample sample size of 46 and a coefficient of determination of 0.67 indicating that a good part of the uncertainty (in any set of measurements)</p>	<p>The Draft EIS does not dismiss the results of the Tougaard et al. (2020) or Stöber and Thomsen (2021) papers but includes them in the following source-level conclusion (Draft EIS page 3.15-45): "It is likely that source levels and frequencies emitted from the larger direct-drive WTGs to be used for the Project would fall somewhere between those recorded for smaller-gear driven WTGs (e.g., 109 to 128 dB re 1 µPa SPL_{RMS} [at varying distances]) (Tougaard et al. 2009a; Lindeboom et al. 2011; Pangerc et al. 2016) and those modeled in Stöber and Thomsen (2021) (e.g., 170 to 177 dB re 1 µPa SPL_{RMS}).....In addition, as the modeled values presented in Stöber and Thomsen (2021) extended upward of 177 dB re 1 µPa SPL_{RMS}, exceedances for cumulative TTS thresholds are considered possible." Effects of sound generated by operating WTGs are assessed in Section 3.2.6.2.4.2 of the NMFS BA for the Project. Using the least-squares fits from Tougaard et al. (2020), SPLs from 11.5-MW turbines (in 20-m/s, gale-force wind) would be expected to fall below the 120 dB re 1 µPa behavioral threshold within 245 meters (about 800 feet). In lighter, 10-m/s winds (approximately 20 knots), the predicted range to threshold would be 140 meters (about 460 feet). It is noted that these ranges are substantially lower than the commenter's suggested ranges. The ranges presented in the NMFS BA have been added to the Final EIS. In addition, discussion of the uncertainty around</p>

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	is explained by the trend line results. In addition the Stober study has an ample sample size of at least 24 measurements.	operational noise sources has been added to Appendix D (<i>Analysis of Incomplete and Unavailable Information</i>), Section D.1.12 (<i>Marine Mammals</i>).
1012-0009e	<p>Another example of disparate approaches lies in his estimation of exposure ranges from noise sources and its impact on endangered mammals. Here it purports to use a model without any explanation of the model's key equations assumptions and inputs to predict the actual behavior of the North Atlantic right whale approaching a noise source and its reactions to various noise levels for which there is virtually no measured data.</p> <p>The BOEM is simply avoiding the issue because it knows that it has significant implications is regard to compliance of the project with the Endangered Species Act and the Marine Mammal Protection Act. This avoidance of what may be the most important environmental impact of this project is not acceptable.</p>	Detailed discussion of the underwater acoustic and exposure modeling assumptions for the Project (including results of animal movement modeling) can be found in COP Appendix R-2 posted to BOEM's website and in Ocean Wind's Letter of Authorization Application. The key assumptions of the acoustic modeling are also summarized in EIS Appendix J (<i>Underwater Sound and Acoustic Modeling Results</i>). BOEM has initiated consultation with NMFS under the ESA and has incorporated results of the consultation and the Biological Opinion into the Final EIS.
1012-0009f	<p>C. [Bold: The distance to meet Noise Disturbance Criteria was not Estimated.] The DEIS does not analyze and disclose the distance necessary for source noise to fall below the 120 dB National Marine and Fisheries Service (NMFS) level B criterion for disrupting marine mammal behavior from continuous noise [Footnote W4: Madsen et al. Wind turbine underwater noise and marine mammals: implications of current knowledge and data needs Marine Ecology Progress Series Vol 309:279-2952006 https://www.int-res.com/articles/meps2006/309/m309p279.pdf] [Footnote W5: Nowacek et al. North Atlantic right Whales ignore ships but respond to alerting stimuli The Royal Society may 20 2003.http://myweb.facstaff.wvu.edu/shulld/ESCI%20432/Nowacek2004.pdf] [Footnote W6: Van Der Hoop et al. Foraging Rates of ram-filtering North Atlantic right whales Functional ecology Volume 33 pages 1290-1306. https://core.ac.uk/download/pdf/323987541.pdf]. Using the formula in the first studyW2 for transmission loss $15 \log_{10}(r/r_0)$ it takes 0.8 miles [Footnote W2: Uwe Stober and Frank Thomsen How could operational underwater sound from future offshore wind turbines impact marine life? The Journal of the Acoustical Society of America 149 1791 (2021); https://doi.org/10.1121/10.0003760] [Footnote W17: Tougaard Hermansen Madsen How loud is the Underwater Noise from operating offshore wind turbines Journal of the Acoustical Society of</p>	<p>120 dB is the acoustic threshold for behavioral effects relevant to sound generated by non-impulsive or continuous sources. When offshore wind turbines are operating continuously, they can be considered a continuous source to which the 120-dB behavioral threshold applies.</p> <p>Effects of sound generated by operating WTGs are assessed in Section 3.2.6.2.4.2 of the NMFS BA for the Project. Using the least-squares fits from Tougaard et al. (2020), SPLs from 11.5-MW turbines (in 20-m/s, gale-force wind) would be expected to fall below the 120 dB re 1 μPa behavioral threshold within 245 meters (about 800 feet). In lighter, 10-m/s winds (approximately 20 knots), the predicted range to threshold would be 140 meters (about 460 feet). It is noted that these ranges are substantially lower than the</p>

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	<p>America 1482888(2020)] [Footnote W3: Thomsen et al. The Effects of Offshore Wind Farm Noise on Marine Mammals and Fish July 06 2006. https://seagrant.gso.uri.edu/oceansamp/pdf/presentation/present_gill_europe.pdf] for the noise from a single turbine with the more conservative source noise level of 167 dB to drop to 120 dB.</p> <p>The 0.8-mile distance above is for a single turbine 180 dB source. At distances close to that source it dominates the received noise level. But at distances miles away the contributions from neighboring turbines become comparable and must be considered. For example with a one mile spacing just the six other turbines closest to a receiver 6 miles away will add 8.3 dB to the received noise level again using the $15 \log_{10} (r/r_0)$ formula.</p> <p>That is equivalent to having a single equivalent source for all seven turbines of 175.3 dB and that requires 3 miles to bring that level down to 120 dB. This would envelop half of the entire 12-mile-wide right whale migratory corridor with noise above the 120 dB disturbance criterion since the project also intersects another 3 miles of the corridor in the other direction.</p> <p>It is of course worse for the higher derived spectral noise source levels of 184.3 dB. In that case the distance to reach the 120 dB criteria is 12 miles and would envelop the entire corridor with levels above that. These distances relative to the width of the right whale's migratory corridor are shown below.</p> <p>[See original comment for table]</p> <p>[Bold: Therefore from half to all of the primary migration corridor is essentially blocked depending on whether the broadband or spectral noise source level is used.]</p> <p>When the entire wind complex is considered the zone of influence for behavior disruption will be even larger and the sound levels within the migratory corridor more intense. Also since the noise zone of influence is much larger than the turbine spacing of about a mile the 120 dB level will also be exceeded everywhere in the project lease area.</p> <p>These distances and their associated areas should have but were not presented in the DEIS. That presentation should consider all the turbines proposed as sources and provide tables and isopleths on maps showing the distances required for noise levels to decline to threshold criteria superimposed on the right whale's primary migration corridor.</p>	<p>commenter's suggested ranges. The ranges presented in the NMFS BA have been added to the Final EIS. In addition, discussion of the uncertainty around operational noise sources has been added to Appendix D (<i>Analysis of Incomplete and Unavailable Information</i>), Section D.1.12 (<i>Marine Mammals</i>).</p>
1012-0011f	<p>E. [Bold: The impact on the Whale's Migration from operational turbine noise was not addressed in the DEIS.] The noise levels described above create a "wall" of noise across the turbine complex and the whale's migration corridor</p>	<p>As noted in response to the previous comment, SPLs from 11.5-MW turbines (in 20-m/s, gale-force wind) would be</p>

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	<p>potentially blocking it but this is not addressed in the DEIS. It will be extremely difficult for the whales to avoid that expanse of elevated noise and continue their migration. Attempting to do so could expose them to high cumulative sound exposures potentially exceeding hearing threshold shift criteria cause loss of communication between and separation of females from calves stranding and loss of echolocation and other navigational abilities. Experiments have shown [Footnote W5: Nowacek et al. North Atlantic right Whales ignore ships but respond to alerting stimuli The Royal Society may 20 2003.http://myweb.facstaff.wvu.edu/shulld/ESCI%20432/Nowacek2004.pdf] that one reaction of the right whale to such sound disturbances is to ascend and swim just under the surface where it is vulnerable to vessel strike. The proposed use by the Coast Guard [Footnote BG2: BOEM Commercial and Research Wind Lease and Grant Issuance on Site Assessment Activities on the OCS of the NY Bight Draft EA August 2021 page 41 and Figure 9.] of the right whale's migration corridor as a new deep draft vessel lane (Exhibit C) would significantly increase the risk of vessel strike once it ascends. Mitigating measures involving detection and turbine shut down are not viable for the large noise influence zones and multi-year operational time frames here leading to the need to re-consider this lease area as unsuitable for large turbine placement.</p>	<p>expected to fall below the 120 dB re 1 µPa behavioral threshold within 245 meters (about 800 feet). In lighter, 10-m/s winds (approximately 20 knots), the predicted range to threshold would be 140 meters (about 460 feet). WTG spacing for the Project would be 1 nm (6,076 feet) by 0.8 nm (4,860 feet) between WTGs in a southeast-northwest orientation, which would allow for the passage of whales through the array without operational WTG noise above the behavioral threshold.</p>
1116-0005	<p>The DEIS fails to use the best scientific evidence. The DEIS states at 3.15-4: "Based upon the most recent NOAA Fisheries stock assessment the western North Atlantic stock of NARW consists of 412 individuals (as outlined in Appendix I) (Hayes et al. 2021)." NARW population is now estimated to be at only 336 individuals.</p> <p>[Footnote 6: H.M. Pettis et al. North Atlantic Right Whale Consortium 2021 Annual Report Card: Report to the North Atlantic Right Whale Consortium (2022) https://www.narwc.org/uploads/1/1/6/6/116623219/2021report_cardfinal.pdf.]</p> <p>"North Atlantic right whales are vulnerable to vessel strike due to their coastal distribution and frequent occurrence at near-surface depths and this is particularly true for females with calves. The proportion of known vessel strike events involving females calves and juveniles is higher than their representation in the population (NMFS 2020)." Federal Register Vol. 87 No. 146 at 46922-46923 (2022) ("NMFS Proposed Speed Rules"). "Reducing vessel speed is one of the most effective feasible options available to reduce the likelihood of lethal outcomes from vessel collisions with right whales." Id. at 46923. "Vessel strikes continue to occur all along the U.S. coast from the Gulf of Maine to the Florida coast. There is no indication that strike events only occur in "hot spots" or limited spatial/ seasonal areas." Id. at 46924. in many cases the location of the strike</p>	<p>Under the current version of the Vessel Strike Reduction Rule (73 <i>Federal Register</i> 60173 and as amended in 78 <i>Federal Register</i> 73726), Ocean Wind has proposed a Vessel Strike Avoidance Plan composed of two subplans. Plan A complies with Seasonal Management Area speed restrictions for vessels greater than 65 feet. However, instead of slowing down to 10 knots in response to (voluntary) Dynamic Management Areas, Plan A involves relying on a robust, site-specific, real-time passive acoustic and visual monitoring system to trigger vessel slow-downs in specific Project action zones. Plan B voluntarily complies with suggested vessel speed restrictions in Dynamic Management Areas (in addition to required Seasonal Management Area speed</p>

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	<p>event remains unknown." Id. "[T]he current speed rule and other vessel strike mitigation efforts are insufficient to reduce the level of lethal right whale vessel strikes to sustainable levels in U.S. waters." Id. at 46925. "It remains unclear how right whales respond to close approaches by vessels (<1509 ft (460 m)) and the extent to which this allows them to avoid being struck." Id. at 46926. NMFS has determined that the PBR for the NARW defined by the MMPA as "the maximum number of individuals not including natural mortalities that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population" is 0.7 whales. NMFS Proposed Speed Rules at 46922. "This means that for the species to recover the population cannot sustain on average over the course of a year the death or serious injury of a single individual due to human causes." Id. NMFS has determined that speed of vessels is the most relevant factor in causing death from vessel strikes. Id. at 46923. Yet the DEIS has failed to take a hard look at what speed limit on all Ocean Wind's and other offshore wind vessels must be imposed all the time as part of the measures so as to result in the least practicable impact on the NARW and so as to ensure (i.e. guarantee make certain) that no death or serious injury to even a single whale from Ocean Wind's and other offshore wind vessels occurs. The DEIS has failed to take a hard look at the measures needed to ensure that there is no death or serious injury to even a single whale from Ocean Wind's and other offshore wind vessels occurs. But what is clear from the NMFS Proposed Speed Rules is that a 10-knot speed limit or lower on all vessels at all times of the year (with no exceptions) practicable and is the maximum that could be allowed but even then with speed limit below 10-knots a strike to a single NARW would cause serious injury violating BOEM's statutory duty to ensure (i.e. guarantee make certain) that there is no death or serious injury to even a single whale from Ocean Wind's and other offshore wind vessels occurs.</p>	<p>restrictions) in the event that passive acoustic monitoring systems are not fully operational. Ocean Wind's Vessel Strike Avoidance Plan, provided to NMFS in June 2022, provides more detail about these two subplans and is still in review by NMFS. Until the Final Rule is passed, Ocean Wind continues to request the aforementioned plans be reviewed for approval. However, Ocean Wind notes that it will comply with any and all vessel speed restrictions specified in the revised Vessel Strike Reduction Rule once finalized. BOEM believes that the proposed mitigation measures and the Vessel Strike Reduction Rule will be sufficient to address the impacts of vessel strikes on marine mammals.</p> <p>BOEM also notes that dynamic speed zones are only activated in the event a detection of NARW is recorded, not "whales of any kind."</p>
1116-0006	<p>The DEIS also fails to take a hard look at the timeframe in which there should be a complete shut-down of all Ocean Wind and other offshore wind activity for a minimum number of days (such as 10 days as proposed in NMFS Proposed Speed Rules in the case of dynamic speed zones) if a whale of any kind is located either through passive acoustic monitoring or sonar or visually by anyone including a report made to WhaleAlert app.</p>	<p>See response to comment 1116-0005.</p>
1116-0007	<p>The DEIS fails to take a hard look at the cumulative impact on the NARW from all the take already authorized and the cumulative impact from those and Ocean Wind and other offshore wind activity. NMFS has already authorized take since 2019 of 337 NARW as shown below: [Footnote 7: NMFS has an additional</p>	<p>The Draft EIS is not intended to be a take assessment. Takes of NARW are authorized and managed by NMFS through take authorizations and Biological</p>

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	incidental harassment application pending where the public comment period has closed that would result in take of the NARW which is Vineyard Northeast LLC Marine Surveys offshore from Massachusetts to New Jersey (40 NARW).]	Opinions. If NMFS determines too many takes have been authorized, no further takes will be issued. However, it is not the purpose of the EIS to rule on this topic.
1116-0009	Proposed measures include initiating each pile driving event with a "soft start" where the pile driving hammer will be throttled back to less than maximum power thus giving the whales a "warning" of what is to come. The theory is that the "soft start" will convince the whales to leave the construction zone before the full-magnitude pile driving begins. The "soft start" however is not incidental harassment but purposeful intentional harassment a type of hazing designed to push the NARW out of their habitat. It is not accidental. See 50 C.F.R. 216.103 ("Incidental harassment incidental taking and incidental but not intentional taking all mean an accidental taking.") Thus soft start constitutes an intentional take that neither NMFS nor BOEM can authorize	As outlined below, soft starts will not be initiated until the pre-start clearance zones have been monitored and kept clear for 30 minutes. The pre-start clearance zones and shutdown zone for NARW are "any distance," meaning if a NARW is sighted by a protected species observer at any distance from the pile-driving activity, the activity would be delayed or shut down. In addition, the NARW passive acoustic monitoring pre-start clearance zone was set equal to the Level B monitoring zone to avoid any unnecessary behavioral disturbance. Impact pile driving will also not occur during from January 1 to April 30 to avoid the times of year when NARWs are present in higher densities.
1116-0010	Soft start also constitutes unauthorized Level A harassment. Level A harassment as defined in the MMPA for non-military readiness activities (Section 3(8)(A)) is any act of pursuit torment or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild. Even if the "soft start" strategy effectively pushes all right whales out of the Level A exposure zone (i.e. 7.25 km from the pile driving area) there is no evidence the whales will be safe. On the contrary there is considerable evidence that the whales will be exposed to increased threats from fishing gear entanglement and vessel strikes. By forcing right whales out of the WDA the soft start program will drive the whales right into networks of fishing ropes heightening the threat of entanglement. The threat of vessel strikes against whales will also increase outside the WDA as vessels in this area are not subject to NMFS's sometimes applicable 10 knot speed limit; nor are they required to have a PSO onboard looking for whales.	Soft starts will not be initiated until the pre-start clearance zones have been monitored and kept clear for 30 minutes. The pre-start clearance zones for most marine mammals are based upon the maximum Level A zones for the whale group. These zones are to a maximum distance of 2,490 meters for impact pile-driving activities for mid- and low-frequency cetacean groups as outlined in Table 1-5B in Appendix H. It is unclear what the commenter is referring to with the 7.25-kilometer Level A exposure zone. For NARW the pre-clearance and shutdown zone is "any distance," meaning if a NARW is sighted by a protected species observer any distance from the pile-driving activity,

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		<p>the activity would be delayed. In addition, the NARW passive acoustic monitoring pre-start clearance zone was set equal to the Level B monitoring zone to avoid any unnecessary Level B takes. Impact pile driving will also not occur during from January 1 to April 30 to avoid the times of year when NARWs are present in higher densities. Vessels required for the Project will comply with NMFS regulations and speed restrictions and state regulations as applicable for NARW and will maintain, to the extent practicable, separation distances of greater than 500 meters from any sighted NARW or unidentified large marine mammal. In addition, between May 1 and October 31, all underway vessels (transiting or surveying) operating at greater than 10 knots will have a dedicated visual observer (or NMFS-approved automated visual detection system) on duty at all times to monitor for marine mammals within a 180-degree direction of the forward path of the vessel (90 degrees port to 90 degrees starboard).</p> <p>The MMPA Authorization will outline the number of Level A and B takes permitted for the Project. Level B monitoring zones are outlined in the MMPA Application and will also be monitored by protected species observers to keep track of the number of Level B takes associated with the Project. This monitoring would occur during the proposed soft-start period.</p> <p>Furthermore, the impact of driving whales outside the Wind Farm Area where vessels are not adhering to NMFS's voluntary dynamic speed zones is not controlled by</p>

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		the Project. If the No Action Alternative were considered with this logic, whales would be exposed to increased risk of vessel strikes because participation in Dynamic Management Areas is voluntary at this time.
1116-0011	In addition to the extent the soft start forces feeding whales to leave and try to locate food elsewhere the loss of foraging opportunity in itself may be damaging especially given data showing that malnutrition has caused female North Atlantic right whales to lose weight and exhibit signs of reduced physical health. NMFS contends that right whales which have been prevented from foraging in the WDA during pile driving will simply come back and resume feeding once the pile driving stops. There is however no evidence to support this argument and the DEIS fails to take a hard look at that and the risk its measures pose to the NARW	As outlined above, soft starts will not be initiated until the pre-start clearance zones have been monitored and kept clear for 30 minutes. The pre-start clearance zones and shutdown zone for NARW are “any distance,” meaning if a NARW is sighted by a protected species observer at any distance from the pile-driving activity, the activity would be delayed or shut down. In addition, the NARW passive acoustic monitoring pre-start clearance zone was set equal to the Level B monitoring zone to avoid any unnecessary behavioral disturbance. Impact pile driving will also not occur during from January 1 to April 30 to avoid the times of year when NARWs are present in higher densities. These measures significantly reduce the potential for a NARW to be forced from feeding activities through soft starts.
1259-0084	The Draft EIS states that "due to the observed avoidance behavior of several marine mammal species during impact pile-driving activities certain marine mammal species (MFC HFC and pinnipeds) [<u>Underlined: are less likely to be exposed</u>] to underwater noise for sufficient duration to cause PTS and TTS." This cannot be true. The Draft EIS does not specify how these conclusions were drawn for a large group of species and what type of pile driving activities were used to derive these assumptions.	The paragraphs that follow this statement in the EIS outline the research that was used to draw this conclusion (please see Würsig et al. 2000; Brandt et al. 2009, 2011; Thompson et al. 2010; Tougaard et al. 2009; Lindeboom et al. 2011; Russell et al. 2016; Southall et al. 2021; and Blackwell et al. 2004).
1259-0085	The Draft EIS acknowledges that [<u>Underlined: studies that examine the behavioral responses of baleen whales to pile driving are absent from the literature.</u>] It further states that behavioral avoidance of other impulsive noise sources have been documented and could be used as a proxy for impact pile	The Draft EIS uses Malme et al. (1986) as well as Dunlop et al. (2017), which observed migrating humpback whales in response to seismic activities. It is

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	driving. The Draft EIS refers to a 1986 study (Malme et al. 1986) that investigated migrating gray whales' responses to seismic exploration in the Bering Sea as a proxy. Gray whales have not been sighted and its relevance to the marine mammals at potential risk in the Project is not accurate. This renders the Draft EIS flawed and incomplete for its assessment on pile driving/noise impacts.	common in effects assessments to use appropriate species as surrogates if behavioral studies on the specific species in question are not available in the literature. This information is used to help describe potential effects. In this case, behavioral studies for gray whales and humpback whales were considered appropriate surrogates for other LFC.
1259-0088	The DEIS refers to a study conducted in the North Sea on impacts of pile driving on porpoises: "Results from Brandt et al. (2011) indicate an overall reduced abundance of harbour porpoise during the 5-month installation period of the piles with the authors postulating that this was either a direct (e.g. sensory disturbance communication masking) or indirect (reduced prey availability) effect of pile-driving noise". The Project and its vicinity experience harbor porpoises throughout the year and such extended reduced abundance during the course of this Project and also with other proposed activities could pose a serious risk to porpoises and its associated ecosystem and has not been discussed in detail. Behavioral responses to changes in the acoustic environment could impact the health and vital rates of protected species or have top down effects on ecosystems and thus are critical to understand for decision makers especially when proposed actions such as the development and operation of offshore wind facilities will increase sound levels. Bottlenose dolphins in the Mid- Atlantic Bight are not habituated to elevated ambient sound levels as evidenced by their altered habitat use (Fandel et al. 2022).	Potential effects on harbour porpoises are discussed thoroughly in Section 3.15.5. Brandt et al. (2011) is referenced throughout as necessary.
1259-0089	DEIS states that impact pile-driving activities from other offshore wind development projects are likely to exceed PTS and TTS thresholds for all marine mammal functional hearing groups. However it oversimplifies the impacts and states that "due to the observed avoidance behavior of several marine mammal species during impact pile-driving activities certain marine mammal species (MFC HFC and pinnipeds) are less likely to be exposed to underwater noise for sufficient duration to cause PTS and TTS." This contradicts the Ocean Wind 1 COP which states that temporary noise from pile driving is anticipated to be the most important IPF for marine mammals and reaffirms COA's concern. The biggest concern is that studies that examine the behavioral responses of baleen whales to pile driving are absent from the literature. But the DEIS states that behavioral avoidance of other impulsive noise sources have been documented and could be used as a proxy for impact pile driving and refers to	The EIS considered the potential effects of impact pile driving thoroughly. The statement that some species may have stronger avoidance reactions to this activity that may reduce the potential for PTS and TTS effects is just one piece that was included in the assessment. Stating this does not contradict the COP. The Draft EIS uses Malme et al. (1986) as well as Dunlop et al. (2017), which observed migrating humpback whales in response to seismic activities. It is common in effects assessments to use

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	<p>Malme et al. (1986) study on the responses of migrating gray whales to seismic exploration in the Bering Sea. This type of comparison lacks the required evidence or thoroughness and cannot be applied directly to other cetaceans in the Project Area.</p> <p>[Footnote 68: See Construction & Operations Plan Ocean Wind 1 Wind Farm (2022) https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/OCW01_COP%20Volume%20I_20220614.pdf.]</p>	<p>appropriate species as surrogates if behavioral studies on the specific species in question are not available in the literature. This information is used to help describe potential effects. In this case, behavioral studies for gray whales and humpback whales were considered appropriate surrogates for other LFC.</p>
1259-0090	<p>The Draft EIS primarily relies on a comprehensive paper by Southall (Southall 2021) which is a compendium of several research studies to estimate likely PTS TTS and Exposure Ranges to marine mammals. While this is a reasonable approach it does not completely address the urgent and priority concerns pertaining to ALL marine mammals in the project area and its vicinity. Southall (2021) DOES NOT address baleen whales and the DEIS not addressing this category specifically and relying on supplementary information is a glaring omission. Southall (2021) summarizes some challenges and limitations which are produced below:·Mysticetes and odontocetes should be considered separately given their different life history strategies. Mysticetes are known to be capital breeders accumulating energy on feeding grounds and transferring energy to calves in breeding grounds whereas odontocetes are generally considered income breeders with less discrete feeding and breeding periods occurring throughout the year. Given that anthropogenic activities generally focus on specific habitats within an animal's home range (e.g. feeding or breeding grounds) this may affect their ability to compensate for disturbances. Toothed whales and baleen whales show varying levels of sensitivity to mid-frequency impulsive noise sources (i.e. active sonar pile driving) with observed responses ranging from displacement to avoidance behavior (animals moving rapidly away from the source) decreased vocal activity and disruption in foraging patterns.</p>	<p>The Draft EIS does not rely primarily on Southall et al. 2021. This paper reviews several research studies to estimate the severity of behavioral reactions of several species of marine mammals to a variety of anthropogenic activities. It does not estimate likely PTS, TTS, and exposure ranges to marine mammals. To understand the potential exposure ranges, the Draft EIS relied on underwater noise modeling as outlined in Appendix J. The Southall et al. 2021 paper was used to supplement the existing understanding of behavioral reactions of marine mammals to several in-water activities. Other marine mammal behavioral research studies were also used and are referenced throughout the EIS. In addition, the EIS does separate out the potential effects on mysticetes and odontocetes, with odontocetes being classified as MFC and HFC and mysticetes being classified as LFC.</p>
1259-0091	<p>Acoustic masking. Acoustic masking can occur if the frequencies of the activity overlap with the communication frequencies used by marine mammals. Acoustic or auditory masking is a growing and serious threat to marine mammals (Erbe et al. 2016) and studies are increasingly focusing on how acoustic masking can affect reproduction in marine mammals (Nabi et al. 2018).</p> <p>[Footnote 69: Ghulam Nabi et al. The possible effects of anthropogenic acoustic pollution on marine mammals' reproduction: an emerging threat to animal</p>	<p>Impacts of masking are discussed in Sections 3.15.3 and 3.15.5. Please refer to the BA for a more detailed discussion on the impacts of masking on listed species.</p>

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	<p>extinction 25 Environmental Science and Pollution Research 19338-345 (2018) DOI: 10.1007/s11356-018-2208-7.]</p> <p>Low-frequency cetaceans (LFC) and pinnipeds are more likely to experience acoustic masking than MFC and HFC; however the impacts are not discussed and could be serious. Underwater sonar activities were observed to result in decompression sickness and fatalities in beaked whales.</p> <p>[Footnote 70: Acoustic Pollution and Marine Mammals Nature (2014) https://www.nature.com/scitable/spotlight/acoustic-pollution-and-marine-mammals-8914464/.]</p> <p>Impacts of acoustic masking are not given due consideration in DEIS. The highly endangered North Atlantic right whale could also be subject to increasing threats from noise pollution which has not been discussed thoroughly in the Draft EIS.</p>	

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O.6.15 Navigation and Vessel Traffic

Table O.6.15-1 Responses to Comments on Navigation and Vessel Traffic

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1118-0001	The American Waterways Operators (AWO) has long advocated for the creation of a 9 nautical mile safety fairway to protect longstanding towing vessel transit routes. We have worked with the Coast Guard to identify the width and location of these routes through the Atlantic Coast Port Access Route Study (ACPARS) process and urged the Coast Guard to expedite its rulemaking to establish Atlantic Coast fairways based on the ACPARS recommendations. Throughout this rulemaking process the towing industry has observed that once BOEM has made decisions pertaining to the size and siting of offshore wind areas it is difficult to impossible for the Coast Guard to deconflict established lease areas from traditional maritime navigation routes. As a result the Coast Guard's advance notice of proposed rulemaking to establish Atlantic Coast Fairways published in June 2020 did not allot sufficient space for towing vessels on coastwise voyages to transit safely past the wind farms. We understand that the Coast Guard is working on a revised rulemaking that it intends to publish later this year. Without knowing what precisely this revised proposal will recommend for the width of the fairways it is difficult for navigation industry stakeholders to recommend additional mitigation measures beyond what BOEM has included in the DEIS. [Bold: We therefore ask that BOEM (1) work closely with the Coast Guard to mitigate any conflicts between the Ocean Wind WEA and the Coast Guard's revised fairway proposal and (2) give industry stakeholders an opportunity to provide further comment on the expected impacts of the Ocean Wind lease areas after the public has seen the forthcoming Coast Guard revisions to its fairway proposal.]	Discussion of the Port Access Route Study has been added to Final EIS Appendix F (<i>Planned Activities Scenario</i>) and Final EIS Section 3.16.3.1. BOEM coordinated with USCG as a cooperating agency during development of the EIS and has reviewed and referenced the USCG Port Access Route Studies within the EIS.
1118-0001	AWO generally agrees with BOEM that the Ocean Wind lease areas covered by this DEIS will have less direct impact than the surrounding lease areas at least for towing vessel traffic. Oceangoing towing vessels will not transit through the windfarms as other types of vessels might and so AWO has no comment on BOEM's proposals regarding the placement of turbines within the Ocean Wind space. We are concerned however that this DEIS acknowledges the impact this WEA will have on maritime traffic overall but makes no apparent effort to mitigate any of those impacts. For instance BOEM acknowledges the impact the Ocean Wind area will have on fishing vessel traffic and yet has rejected a proposed alternative that would create a buffer area for fishing vessels to transit between Ocean Wind 1 and Atlantic Shores South. AWO	Alternative C would create a separation between WTGs in the Ocean Wind 1 and Atlantic Shores South lease areas to provide a clear visual distinction between the separate projects and provide for sufficient maneuvering space for both surface and aerial (helicopter) navigation. No change has been made to the Final EIS in response to the comment.

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	<p>does not presume to comment on what safety accommodations are appropriate for fishing vessels but for BOEM to acknowledge significant maritime impacts and yet to propose no resulting safety mitigations is frustrating and undermines the spirit of collaboration that is essential to protecting navigation and facilitating the growth of wind energy. We stress this point here because we understand and indeed BOEM has acknowledged that the WEAs surrounding Ocean Wind will have an even greater impact on navigation safety especially for towing vessels. It is imperative for BOEM to work with the Coast Guard and the navigation community to address these conflicts and to take measures necessary to ensure the safety of maritime transportation.</p>	
0837-0008	<p>In the Resource category of Navigation and Vessel Traffic BOEM acknowledges that Alternatives A through E will have a major impact. To equate the No Action Alternative with Alternatives A through E BOEM used the Alternative Combined with Other Foreseeable Impacts to elevate the No Action Alternative to a major impact. This conclusion is untenable based on BOEM's report on vessel traffic attributed to the Project in the span of one year which includes approximately 1539 vessel trips during construction and installation 3392 vessel trips per year during operations and maintenance and approximately the same number of vessel trips per year during decommissioning as during construction and installation. [Footnote 9: BOEM. Ocean Wind: Draft EIS 2-15]. In order to achieve the predetermined major impact in the No Action Alternative column BOEM eliminated the instant Project from the equation but [Italics: included] three other wind farm projects. "Under the No Action Alternative three offshore wind projects in the analysis area Ocean Wind 2 Atlantic Shores South and Atlantic Shores North would generate vessel traffic during construction. Only one of these projects Atlantic Shores South has a published COP with estimated vessel trip numbers. The Atlantic Shores South project may generate a maximum of 51 vessels at any given time during construction (Atlantic Shores 2021). For the other two projects BOEM assumed vessel traffic would be similar to that of the Proposed Action: between 20 and 65 vessels operating simultaneously during construction depending upon the activity (COP Volume I Section 6.1 pp. 110-111 and 115-117; Ocean Wind 2022). Atlantic Shores South is estimated to be under construction between 2025 and 2027 and Ocean Wind 2 and Atlantic Shores North are estimated to be under construction between 2026 and 2030. In 2026-2027 when all three projects would be under construction at the same time a maximum of 181 vessels could be operating simultaneously." [Footnote 10: BOEM. Ocean Wind: Draft EIS 3-16]. This interpretation of BOEM's No Action</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6 of the Final EIS.</p>

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	Alternative specifically the elimination of Ocean Wind 1 but [Italics: inclusion] of three other wind farm projects directly conflicts with the terminology No Action Alternative and is a misrepresentation of the facts.	
0984-0023	3.16 Navigation and Vessel Traffic. The definition of a shipping lane is "an official route that ships must follow when they sail from one place to another". Changing the name to "transit lanes" does not give BOEM or the Coast Guard the authority to change the historic safety regulation and rules associated with shipping lanes. The United States standard requirements of fixed structure in and around shipping lanes in the Gulf of Mexico should be consistent with the Atlantic. "No structure may be placed within two Nautical miles of any shipping lane". That goes for transit lanes also. The developer wanting to maximize the development site for electric generation should not be at the cost of life and property. The standards for placement of structures to the proximity of shipping lanes should be consistent in all waters.	Section 3.16 of the Draft EIS does not identify transit lanes as part of the Proposed Action or any of the action alternatives. Vessels would not be prohibited from transiting through the Lease Area if the Project is constructed, but no transit lanes are specified under any action alternative. Alternative C would create a separation between WTGs in the Ocean Wind 1 and Atlantic Shores South lease areas to provide a clear visual distinction between the separate projects and provide for sufficient maneuvering space for both surface and aerial (helicopter) navigation. The Draft EIS does not identify a transit lane in the Ocean Wind 1 Lease Area and no change has been made to the Final EIS in response to the comment.
0984-0052	Since Draft Publication of the Draft EIS Both cooperating agencies BOEM and USCG admit that the rushed process of assessment of shipping lanes (transit lanes) will require continued consultations over the length of the project along with further assessments on other alternatives as it relates to navigational safety and (what other aspects?). BOEM and USCG are cognitive of the failed outreach and the loss of life that has already occurred because of not addressing shipping lanes before the installation of the first turbines in USA waters. The EIS should also address the increased mortality rate based on the configuration.	The NSRA marine risk analysis modeled the frequency of non-Project vessel accidents that could result from installation of the Proposed Action wind farm structures. The model estimates frequencies for marine accidents accounting for Project- and location-specific environmental, traffic, and operational parameters. The Draft EIS discloses that increased navigational complexity associated with navigating through WTGs in the Lease Area could increase the risk of allision or collision and resultant injury or loss of life. Increased risk of collision or allision pertains to risks for vessels transiting the Lease Area, and

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		does not correlate to increased risks within shipping lanes. The comment does not provide new information that would result in a revision to the findings of the Draft EIS and no change has been made in the Final EIS in response to the comment.
1086-0016	<p>Vessel Traffic. For generations fishermen have relied on unobstructed pathways between their fishing grounds and ports. Ocean Wind 1 in addition to several other wind farms planned immediately offshore of Cape May County pose significant risks to captains that include traffic and congestion in and around ports congestion of fishing grounds and traffic through the wind farm. Fishermen have major concerns about transit in and out of wind farms and protocols on ingress and egress from various points along the coast. The Construction and Operation Plan cites that construction would involve roughly 3847 vessel trips during construction and installation and over 1100 annual trips for operation and maintenance. In addition construction activities would require anywhere from 20-65 simultaneous vessels stationary or transiting within the Ocean Wind 1 area and local ports. This traffic could negatively affect fishermen by delaying offloading requiring crews to search for new fishing grounds and disturbing existing fishing grounds during transit.</p> <p>Navigational Safety. Another area of major concern is navigational safety especially under low-visibility and high-seas conditions created by weather. Some vessel operators have stated that they would be forced to fish elsewhere due to safety issues while navigating through the array. Other vessel operators have said they would not transit the wind farm at all while some said that they would not transit the wind farm during poor weather conditions. Radar and communications will also be degraded within the turbine array. This issue is only likely to grow as thousands of turbines are installed along the Eastern Seaboard.</p>	<p>The NSRA conducted a robust analysis of all vessel traffic around the Project area. It is acknowledged that, due to AIS carriage requirements, fishing vessels are not fully captured in the data and the analysis assumes that this category is underrepresented; therefore, a reasonable maximum number of transits of non-AIS commercial fishing vessels was added to the base-case model. Catch-analysis summaries show that commercial fishing vessels encompass 19.6% of vessel traffic in the geographic analysis area but do not indicate significant commercial fishing occurring within the Project area, with the possible exception of surfclam. While vessel traffic is likely to increase during construction and O&M, the traffic is likely to be spread out among several different ports and across time, not all at once, so as to cause minimal disruption to the fishing vessel fleet.</p> <p>All components of the wind farm will be properly marked and navigation charts updated as required. Proper seamanship practices will reduce any risk to mariners, vessels, or equipment. In accordance with proposed mitigations (GEN-16), prior to the start of operations, Ocean Wind will implement a Navigational Safety and Training program that addresses navigational safety by providing eligible</p>

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		commercial, charter, and for-hire fishing vessels operating in and near the Wind Farm Area with reimbursement for new radar equipment or training courses. Navigation equipment will include Pulse Compression Radar Systems or AIS transceivers. Professional training and experiential learning for fishermen may include a captain course, license upgrade, radar course, or rules-of-the-road refresher training.
1222-0003	[Bold: Transit:] The plot below is a heat map of surfclam and quahog vessels in transit through the Ocean Wind lease area. As can be seen from this heat map most all the clam vessel traffic through the Ocean Wind lease area is coming from or going to a single point; that being Atlantic City. Most of the traffic is transiting in a North and South direction or in a Northwest and Southeast direction. Two things are clear comparing the transit heatmaps with the Ocean Wind 1 layout options: (1st) The layout options for Ocean Wind 1 do not safely accommodate transiting in a North or South direction through the lease the line of sight through the WEA in these directions is narrow. Vessels will likely avoid the lease area altogether when approaching from the north or south and must pass by to the west of the lease as opposed to transiting through; (2nd) There is enough traffic transiting Northwest or Southeast across the northeast portion of the lease to warrant providing room to transit between the Ocean Wind and Atlantic Shores wind energy areas. There needs to be room for transit between the Ocean Wind and Atlantic Shores wind energy areas of at least 2.44nm like what was provided between other NY Bight leases where transit was known to occur to accommodate transit in all reasonably foreseen weather conditions. The setbacks suggested by the DEIS will be inadequate in inclement weather and forcing fishing vessels to transit around Atlantic Shores to the north or Ocean Wind to the south is simply not acceptable. Reasonable accommodations must be made for transit between these two leases for the sake of safety and to mitigating transit time and distance. [See original comment for images pulled from Draft Environmental Impact Statement]	The predominant orientation of transit was considered during the development of Alternative C, which creates an 0.81-nm buffer between Ocean Wind 1 and Atlantic Shores South. Section 3.16 of the Draft EIS does not identify transit lanes as part of the Proposed Action or any of the action alternatives. Vessels would not be prohibited from transiting through the Lease Area if the Project is constructed, but no transit lanes are specified under any action alternative. Alternative C would create a separation between WTGs in the Ocean Wind 1 and Atlantic Shores South lease areas to provide a clear visual distinction between the separate projects and provide for sufficient maneuvering space for both surface and aerial (helicopter) navigation. The Draft EIS does not identify a transit lane in the Ocean Wind 1 Lease Area and no change has been made to the Final EIS in response to the comment.
1259-0150	xii. Navigation and Vessel Traffic (3.16) Clean Ocean Action is deeply concerned about the negative impacts that the Ocean Wind 1 project will have on navigation and vessel traffic. It will clearly lead to unsafe conditions at sea-potentially endangering human life-while simultaneously exacerbating the	The nearest established anchorage is Big Stone Beach Anchorage Ground, 38 nm (70 kilometers) from the Project. USCG has proposed the establishment of three

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	<p>nation's ongoing supply chain issues. If approved Ocean Wind 1 would have significant negative impacts on navigation and vessel traffic off the NJ coast. The first type of these impacts that the Draft EIS considers are those on anchoring. To start the document describes the harmful effects that Ocean Wind 1 would pose to anchoring of both small and large vessels. "Small commercial or recreational vessels anchoring in the offshore wind lease areas may have issues with anchors failing to hold near foundations and any scour protection" the document observes. [Footnote 130: DEIS at 3.16-8.] Nevertheless it concludes that "it is unlikely that offshore wind activities would affect vessel-anchoring activities" because of "the small size of the geographic analysis area compared to the remaining area of open ocean as well as the low likelihood of that any anchoring risk would occur in an emergency scenario[.]" [Footnote 131: Id. at 3.16-8.] This conclusion cannot be justified by the information that precedes it and the underlying reasoning is inherently flawed. The analysis cannot presume that the small size of the geographic analysis area compared to the open ocean will necessarily translate into a low likelihood of anchoring risk in an emergency scenario as this does not take into account the pre-existing frequency risk of emergency scenarios within the geographic analysis area nor the degree to which the presence of turbines and related infrastructure in the geographic analysis area may increase the risk of emergency scenarios occurring at the site.</p>	<p>new anchorage areas in the vicinity of the Cape Henlopen to Delaware Traffic Lane to provide additional usable grounds to support port demands and enhance navigational safety in the area (84 <i>Federal Register</i> 65727). If established, proposed anchorage areas notionally referred to as Anchorage B – Breakwater Anchorage and Anchorage C – Cape Henlopen would be slightly closer to the Project area than Big Stone Beach Anchorage Ground. The Project is not anticipated to affect routine vessel anchorage operations within the existing anchorage areas or the additional proposed anchorage grounds (COP Volume III, Appendix M, NSRA, p. 96; Ocean Wind 2023). Smaller vessels anchoring in the Wind Farm Area may have issues with anchors failing to hold near foundations and any associated scour protection, or, alternately, where the anchors may become snagged and potentially lost. During construction, installation, and decommissioning operations, smaller recreational and fishing vessels would most likely not transit the Wind Farm Area and therefore not anchor within the Project area. Consequently, any potential impacts from smaller vessels anchoring within the Wind Farm Area would primarily occur during the O&M phase. If BOEM approves the COP, Ocean Wind would be required to develop a CBRA (refer to COP Volume I, Section 6.1.1.5; Ocean Wind 2023) that will incorporate relevant information including seabed conditions and risks associated with fishing gear and vessel anchors to determine target burial depth. In context of</p>

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		<p>reasonably foreseeable environmental trends, the Proposed Action would contribute an undetectable increment to the anchoring impacts from the cumulative impacts of the Proposed Action, which would be short term and minor due to the small size of the offshore wind lease areas in the geographic analysis area compared to the remaining area of open ocean, as well as the low likelihood that any anchoring risk would occur in an emergency scenario. In addition, the establishment of the anchorage areas described above would limit the potential impacts on routine anchorage operations across the geographic analysis area. No change has been made to the Final EIS in response to the comment.</p>
1259-0151	<p>Furthermore with respect to deep-draft vessels the Draft EIS indicates that "any risk [...] would come from anchoring in an emergency scenario specifically near the Delaware Bay TSS or in the approach to New York Harbor." [Footnote 132: Id. at 3.16-8.] In the event of a vessel accidentally dropping anchor on export cables associated with Ocean Wind 1 the consequences could include "damage to the export cable damage to the vessel anchor or anchor chain and risks associated with an anchor contacting an electrified cable." [Footnote 133: Id. at 3.16-8.] The safety risk that such an encounter would pose to all individuals aboard the vessel to which the anchor is attached would be significant and a damaged export cable could prove to be both environmentally harmful and expensive for ratepayers. However the Draft EIS lacks any analysis concerning such a scenario or steps that Ocean Wind 1 will take to prevent it from taking place.</p>	<p>Design parameters for the Proposed Action exclude the routing of cables through an anchorage or lightering area. In the event an anchor does make contact with a buried export cable, impacts could include damage to the export cable and potential damage to the vessel anchor or anchor chain. Depending upon the extent of the damage to the export cable, the risks associated with an anchor contacting an electrified cable can pose issues to Project equipment (an overload and shut-down of converter or transformer stations) but is not anticipated to cause electrical shock to the ship involved because seawater is a good conductor of electricity (Sharples 2011:111). If the export cable is damaged to the point of requiring repair, there could be impacts associated with additional vessel activity to conduct</p>

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		<p>damage assessment and repair. Secondary impacts would be repercussions on the vessel operator's liability and insurance. Combined with the low likelihood that any anchoring risk would occur in an emergency scenario, impacts on navigation and vessel traffic would be minor, localized, and temporary to short term. No change has been made to the Final EIS in response to the comment.</p>
1259-0152	<p>In a similar vein the Draft EIS states that anchoring-related risks from Ocean Wind 1 will be avoided in light of "[o]ffshore wind developers [being] expected to coordinate with the maritime community and USCG to avoid laying export cables through any traditional or designated lightering/anchorage areas." [Footnote 134: Id. at 3.16-7.] This avoidance plan is woefully inadequate. At the very least BOEM must exercise the legal authority at its disposal to ensure that such coordination between Ocean Wind 1 the maritime community and USCG is [Italics: required] rather than merely [Italics: expected].</p>	<p>USCG is a cooperating agency and has been a robust participant in the planning and development of the Project. As previously discussed, if BOEM approves the COP, Ocean Wind would be required to develop a CBRA with the end result of implementing appropriate mitigating measures to ensure the safety of maritime stakeholders. Moreover, as indicated in the EIS, the design parameters for the Proposed Action exclude the routing of cables through an anchorage or lightering area. No change has been made to the Final EIS in response to the comment.</p>
1259-0153	<p>Human safety may likewise be imperiled by the structures and traffic associated with Ocean Wind 1. Turbines from the project for example pose navigational hazards to vessels transitioning in and around the Ocean Wind 1 lease area particularly by interfering with marine vessel radars and making it more difficult to see other vessels in the area. These risks will only be exacerbated by the reef effect that is anticipated around the turbine foundation which will likely lead to additional activity from recreational fishing vessels. Plus in addition to the increased risk of collisions and spills posed by the presence of "slow-moving (or stationary) installation or maintenance vessels" [Footnote 135: Id. at 3.16-16.] the Draft EIS identifies a variety of harms likely to result from higher vessel traffic levels that will necessarily flow from the presence of vessels associated with Ocean Wind 1. The increased congestion and navigational complexity "could result in crew fatigue damage to vessels injuries to crews engagement of</p>	<p>The Draft EIS discloses these impacts; therefore, no revision to the Final EIS is warranted.</p>

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	USCG SAR and vessel fuel spills." [Footnote 136: Id. at 3.16-9.] Modeling cited in the Draft EIS even predicts that authorizing Ocean Wind 1 will cause accident frequency to increase by 0.403 accidents per year. [Footnote 137: Id. at 3.16-17.]	
1259-0154	<p>Separate from the risk that Ocean Wind 1 will pose to human safety the navigational and vessel traffic implications of the project are particularly objectionable in light of the anticipated impact that it will have on port utilization. Specifically the Draft EIS concedes "[O]ffshore wind construction activities may result in competition for scarce berthing space and port services potentially causing short- to medium-term adverse impacts on commercial shipping." [Footnote 138: Id. at 3.16-8.] This increased competition for scarce berthing space and port services it must be noted would not be occurring in a vacuum. To the contrary this dynamic would unfold against a backdrop of historically severe supply chain issues and skyrocketing inflation across the nation. Given the importance of the ports of New Jersey and New York to the U.S. economy particularly by virtue of the volume of ships and cargo that they already handle Ocean Wind 1 exacerbating competition for berthing space and port services in the area could increase shipping costs thereby raising the cost of goods and exacerbating inflation nationwide.</p> <p>In sum Ocean Wind 1 would negatively impact our region with respect to navigation and vessel traffic. On top of the radar interference from turbines which may potentially imperil search and rescue missions Ocean Wind 1 will lead to an influx of vessels swarming the area to construct operate and maintain the turbines. The increased abundance and density of vessels in the area will not only lead to more accidents at sea but also more competition at port for limited resources such as berthing space as fuel during a time when inflation and supply chain issues are historically severe. In light of these impacts BOEM should not allow the project to move forward with the characteristics-including the scale-identified in the Draft EIS.</p>	The Draft EIS discloses these impacts; therefore, no revision to the Final EIS is warranted.
1272-0005, & - 0006	There are many examples of the gigantic mistakes made by BOEM. One is their lack of understanding the need for transit zones... The classic example for the fishing industry is off of Atlantic City NJ where Ocean Wind and Atlantic Shores are connected to each other. There is a fleet of large clam boats that operate out of Atlantic City. The two leases cover more than 50 miles south to north along the NJ shore. If the COPs for those two leases allow the two leases' holders to have their turbines within one NM of each other or less and those Atlantic City vessels want to fish east of those leases they will be forced to transit through a very narrow lane to get through the two wind farms. The	BOEM cannot establish transit lanes. USCG prefers lines of orientations, which will encourage traffic dispersal. Both leases aligned their WTGs with fishing transit in the area. Ocean Wind and Atlantic Shores consulted with USCG to come to a mutually agreeable setback from the lease boundary. The buffer distance between the WTGs of both

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	<p>afterthought of BOEM was to have one line of turbines on each side of the intersection of the two leases be removed to open a two mile transit zone. There is a problem the lease are connects with a line that runs Northwest and south east which means the transit lane is much longer and for the most part goes in the wrong direction. BOAM could have put the bounders of each lease running due east so the vessels could steam through the two wind farms with the shortest distance. With the proposed separation zone any between the two leases vessel working east of Atlantic city when a storm comes up will need to decide to go north around the Atlantic Shore lease or steam south to the transit zone which is south of Atlantic. Depending on the storm the vessel captain has few chooses and no good options. Getting caught in a bad storm with high seas fog and in the dark most captains will not attempt to steam through the farms therefore depending on their situation the vessel would have to steam either north or south for about 30 miles and then steam back inside in wind farms for another 30 miles to get to home port. So these vessels and their crews are at great risk so the developers can have a few more turbines in their array.</p> <p>BOEM must require the developers of Ocean Wind 1 and Atlantic Shore to take out one row of turbines on each side of their common boundary to create a transit zone of about 2 NM. The transit zone is the wrong place but is better that nothing. If BOEM had required the fishing industry's request that required the turbines to be 2 NM apart in both directions transit zones would not have been an issue.</p>	<p>projects will be greater than 1,500 meters (0.8 nm) in the interest of facilitating navigational safety and SAR operations. This alternative (Alternative C-2) will be included as part of the Proposed Action preferred alternative (Alternative A). No change has been made to the Final EIS in response to the comment.</p>

O.6.16 Other Uses (Marine Minerals, Military Use, Aviation)

Table O.6.16-1 Responses to Comments on Other Uses (Marine Minerals, Military Use, Aviation)

Comment No.	Comment	Response
0007-0005	Further there are many key issues for which the DEIS states that project design changes may happen re mitigation information/needed studies are not available or that inputs from key government agencies are still required. For example in Section 3.17 of the DEIS re radar systems "BOEM assumes that project proponents would conduct an independent radar analysis and coordinate with FAA to identify potential impacts and any mitigation measures specific to aeronautical military and weather radar systems." That analysis has not yet been done.	<p>The text highlighted in this comment is from Section 3.17.3.2, <i>Cumulative Impacts of the No Action Alternative</i>, which describes potential impacts from other offshore wind projects in the region, not including the Ocean Wind 1 Project. BOEM assumes that for these offshore wind projects, lessees will conduct independent radar analysis and coordinate with the FAA.</p> <p>Ocean Wind has committed to continuing to coordinate with the FAA, DOD, NOAA, and BOEM to assess and mitigate impacts on radar operations. Ocean Wind has completed a line-of-sight study (Ocean Wind 1 COP, Volume II, Section 2.3.7) to determine the scope of radar impacts. Additionally, Ocean Wind has coordinated with the North American Aerospace Defense Command, which reviewed the COP and identified minor but acceptable impacts on its radar operations.</p>
0175-0011	Coast Guard Search & Rescue efforts will be hindered resulting in possible loss of lives	Impacts on USCG SAR efforts, including how the increase in navigational complexity due to WTGs may affect searches, are described in Section 3.17.5, <i>Impacts of the Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation)</i> .
0984-0024	3.17 Other Uses National security should be the utmost concern of our federal government. The displacement of our underwater at sea activities by the sale of this and other development sites is a [Bold: Major Impact.] The reduction of space to conduct at sea drills to produce the best military in the world is a [Bold: Major Impact.] The declaration of at sea monuments around the world to offset the loss of waters for at sea military efforts is a [Bold: Major Impact] on other blue water economy industries. To pinpoint where our military is working by reducing the areas they can conduct operations is a [Bold: Major Impact] to this nations national security. This lease site enables foreign countries to spy on and interrupt our electrical grid is a Major Impact. For national security reasons it is understood that the details of the [Bold: Major Impacts] are not described in detail but it does not excuse the EIS from informing the public of the precarious situation the	The Military Aviation and Installation Assurance Siting Clearinghouse, responsible for evaluating potential risks of new energy projects to national security and DOD missions, completed a review of the COP on 10/20/2021. It determined that the Ocean Wind 1 Project would result in minimal impacts on DOD's mission. As a result, the Proposed Action would result in minor adverse impacts on military and national security uses other than USCG SAR operations.

Comment No.	Comment	Response
	development of this and other sites is placing the country in militarily.	
0984-0048	The Coast Guard has eliminated potential uses within the leased area. It is military concerns that dictate many of the exclusion sites pre-determined. The impacts of this site will have a great impact on many air and sea operations that can not be provided in the EIS but are dictating the feasibility of the application	Impacts on military uses, including USCG, within the Lease Area are evaluated in Section 3.17.5, <i>Impacts of the Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation)</i> . Coordination with the Military Aviation and Installation Assurance Siting Clearinghouse, responsible for evaluating potential risks of new energy projects to national security and DOD missions, found that the Proposed Action would result in minor adverse impacts on military and national security uses other than USCG SAR operations.
0222-0009	[Bold: Potential impacts on scientific research and surveys would generally be major] particularly for [Bold: NOAA surveys supporting commercial fisheries and protected-species] research programs. The presence of structures would [Bold: exclude certain areas] within the Project area occupied by Project components (e.g. WTG foundations cable routes) [Bold: from potential vessel and aerial sampling.]	Impacts on scientific research and surveys, including how the increase in navigational complexity due to WTGs may affect surveys, are described in Section 3.17.5, <i>Impacts of the Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation)</i> .
1243-0003	Another overlooked impact from WEAs on commercial fisheries is that the de facto development of marine protected areas along the East coast due to the clustering of wind turbines in many additional WEAs planned will also negatively impact many standardized NMFS fishery independent surveys that are critical components to the stock assessments of the Federally managed marine resources in the Mid-Atlantic and New England region. The displacement of sampling stations and other modifications that must be made to these surveys because of the existing WEAs will introduces elements of scientific uncertainty that in fisheries management necessitates more precautionary management. Both the MAFMC's and the NEFMC's Scientific and Statistical Committees' (SSC) determination of Overfishing Limits Allowable Biological Catch and Annual Catch Limits aka "quotas" in any given year will decrease as scientific uncertainty increases in the stock assessments of the resources because sampling will be compromised with the creation of WEAs.	Analysis of the impacts of the Project on scientific research and surveys, including those that contribute to stock assessments in the Mid-Atlantic and New England regions, is included in Section 3.17.5, <i>Impacts of the Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation)</i> . BOEM is working with NOAA to mitigate potential impacts of the Project on NOAA scientific research and surveys.

O.6.17 Recreation and Tourism

Table O.6.17-1 Responses to Comments on Recreation and Tourism

Comment No.	Comment	Response
0011-0003	<p>Visual impacts of turbines in the Proposed Project on Tourism should be considered "major" instead of "moderate" and a new study is needed to determine potential economic costs. No Final EIS should be issued for any project until that study is available.</p> <p>BOEM states under the topic Recreation and Tourism on 3.18 - 22 "Overall the impacts of the Proposed Action are anticipated to be moderate and minor beneficial". The turbines will be 15 miles off Atlantic City are 906' tall and will be "theoretically visible to a viewer at the ocean surface or at beach elevations at distances up to 39.6 miles with clear-day conditions".</p> <p>BOEM quotes a University of Delaware study 3.18-8 "evaluating the impacts of visible offshore WTGs on beach use found that WTGs visible more than 15 miles from the viewer would have negligible impacts on businesses dependent on recreation and tourism activity (Parsons and Firestone 2018).</p> <p>The study participants viewed visual simulations of WTGs in clear hazy and nighttime conditions (without ADLS)". Below is a copy of the chart quoted from the UD study. The University of Delaware study did its survey by showing panning photomontages on a computer screen of 579' tall turbines respondents were also provided instructions on the distance to the screen from which they should view the images and were asked to view the project at three distances offshore - near medium and far. After each distance was viewed respondents were asked whether the presence of the wind power project would have affected their beach experience/enjoyment -- making it worse somewhat worse neither worse nor better somewhat better or better. If they responded worse or somewhat worse they were then asked a certainty-response question. They used the response to this question to construct certainty-adjusted data. Note no such certainty adjustment was used for those who favored wind turbines. Results from nighttime views were never released. The survey group also included about 35% of respondents who never actually visited the beach.</p> <p>In March 2021 one of the authors (Parsons) stated in a Delaware Today Magazine interview the study is no longer applicable because turbines used today are so much larger. However even with the studies problems it has some use. The figure below shows at 10 miles 29% found the view worse</p>	<p>At an eye level of 5.5 feet (1.7 meters) above sea level, the Delaware study's 579-foot (176.5-meter) WTGs would be visible out to 32.4 miles (52.1 kilometers). The 906-foot (276-meter) Ocean Wind WTGs would be visible out to 39.6 miles (63.7 kilometers). Greater eye-level heights would increase the visible distance in both cases. At Ocean Wind's distance from the nearest beach of 15.3 miles (24.6 kilometers), the upper 476 feet (145.1 meters) of the Delaware study's 579-foot (176.5-meter) WTG would be visible to viewers. At this distance, the upper 803 feet (meters) of Ocean Wind WTGs would be visible. Therefore, in both the 2018 Parsons and Firestone study and Ocean Wind's cases, the WTGs' hubs, nacelles, navigation lights, and rotor blades would be visible to viewers on the nearest beach.</p> <p>The taller Ocean Wind WTGs would result in increased numbers of WTGs visible in the wind farm. Such additional WTGs would be seen as lower than/below the tops of the forward row of WTGs and would be increasingly obscured by those intervening in the view. The wind farm would be perceived as a mass of WTGs, rather than as individual WTGs.</p> <p>Additional information clarifying the difference in WTG heights between the studies used and those proposed for Ocean Wind 1 Project was included in the Final EIS.</p> <p>BOEM has determined that impacts on</p>

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	<p>while only 10% found it better for a 19% difference choosing worse. At 7 miles 38% found the view worse compared to 7% favorable a 31% difference.</p> <p>In looking at the cumulative impacts of immediately adjacent planned offshore wind projects Ocean Wind 2 is only 8.9 miles from the beach Atlantic Shores South is 8.8 miles and Atlantic Shores North is 9.1 miles. So ignoring the taller towers in the Ocean Wind 1 project we see perhaps 25% of tourists will find the cumulative impact worse.</p>	<p>recreation and tourism from the presence of structures would be moderate because affected activities or communities would likely have to adjust somewhat to account for disruptions due to the Project. This impact level reflects survey results suggesting a range of visitor experience related to views of offshore wind farms, with some respondents reporting their beach experience would be worsened, while other respondents reported that their experience would be improved or took a neutral position (would neither improve nor worsen their experience).</p> <p>The cumulative impacts of the Proposed Action in combination with planned offshore wind projects in the region are described in Section 3.18.5.1, <i>Cumulative Impacts of the Proposed Action</i>. BOEM determined that cumulative impacts on recreation and tourism would also be moderate.</p>
0011-0003	<p>The impact of taller towers can be approximated by assuming the towers are 1.56 times closer (the ratio of 579' tall towers to 906' tall towers). That suggests the adjacent projects will have the impacts of turbines 5 miles off the coast in the UD study and the proposed Ocean Wind project would be equivalent to about 10 miles off the coast. The proposed project then should be considered to have a major impact on tourism.</p> <p>BOEM also referenced a 2017 visual preference study conducted by North Carolina State University that evaluated the impact of offshore wind facilities on vacation rental prices. "The study found that nighttime views of aviation hazard lighting (without ADLS) for WTGs close to shore (5 to 8 miles) would adversely affect the rental price of properties with ocean views (Lutzeyer et al. 2017). It did not specifically address the relationship between lighting nighttime views and tourism for WTGs 15 or more miles (24.1 or more kilometers) from shore. More than 95 percent of the WTG positions likely to be present based on anticipated offshore wind lease area build-out in the geographic analysis area would be more than 15 miles from coastal locations with views of the WTGs".</p> <p>The study by Lutzeyer et.al. (2017) "The Amenity Costs of Offshore Wind</p>	<p>See response to comment 0011-0003 above.</p> <p>Additional analysis of impacts on the vacation rental market was added to the Final EIS.</p> <p>Impacts on vacation rentals and visitor preferences would be lower than described in the Lutzeyer et al. 2017 study for nighttime views because Ocean Wind 1 would implement ADLS. The ADLS would reduce the duration of the FAA hazard lighting system lighting to a total of 1 hour 19 minutes and 17 seconds per year, compared to standard continuous FAA hazard lighting analyzed in the Lutzeyer et al. 2017 study. As described in Section 3.20.5, <i>Impacts of the Proposed Action on Scenic and Visual Resources</i>, the limited timeframe of ADLS-activated lighting would reduce impacts from major to moderate.</p>

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	<p>Farms: Evidence from a Choice Experiment³ was quite a contrast to the UD study. The Lutzeyer study worked with beach home rental companies and surveyed only people who had recently rented a house on or near the beach. The study found 38 percent of beach renters would likely not come back to a beach with daytime visible turbines regardless of the distance as shown in the study quote below with visualizations showing turbines from 5 miles to 18 miles from shore (not the 8 mile limit stated in the DEIS).</p> <p>In addition others would return only with a rental discount depending on the distance. Overall the willingness to accept estimates for the Never View class imply that these respondents would likely exit the local rental market if turbines were present rather than make intensive margin tradeoffs among rental price and characteristics of the viewshed. The Lutzeyer study also showed nighttime visualizations of red flashing aircraft warning lights and respondents stated even higher rates of objection with 54 percent not likely to return to a beach with nighttime visible turbines. The visualizations showed 5 to 7 MW turbines about the same size as the UD study. Again this study confirms visible turbines in the propose project will have a major impact on tourism.</p>	
0995-0001	<p>I oppose Ocean Wind I because of the negative visual impact will have on tourism and because the consideration of this in the DEIS impact is flawed. The DEIS references the 2018 Parson and Firestone study when assessing visual impact. On page 8 Parsons and Firestone say they surveyed peoples' reaction to turbines that are 574 feet tall. However according to the DEIS the wind turbines will be 906 feet tall that 157% bigger. The DEIS also references the North Carolina State study (Lutzeyer et al. 2017). Page 3 of Lutzeyer states their studies are based on turbines that are 500 feet tall and page 8 says they showed images of 5 MW turbines. However the turbines proposed in the DEIS are 12MW and 906 feet tall. An evaluation of adverse impact is inherently a subjective effort of balancing available information. It is critical that the information used is relevant and used properly. There is evidence in the DEIS that the information is not used properly. For example page 412 of the DEIS report repeats the finding from page 8 of Parsons that the distance where opinions are 50/50 is 15 miles. Obviously 15 miles is different for a 574' turbine than it is for a 906' turbine. The DEIS makes no provision for this. The DEIS simply makes the Parson's conclusion part of the record for the DEIS. Therefore the DEIS conclusions about tourism are invalid because they were based on studies of different technology that what is being proposed because there is no evidence that provisions were made</p>	Please see the response to comment 0011-0003.

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	<p>to consider these differences and because there is evidence (the 50/50 example) that the DEIS incorrectly used the information. Ocean Wind I is a massive bait and switch and the DEIS should be rejected. Excerpt from Parsons and Firestone 2018."The stated-preference survey covered 1725 beachgoers in a sample drawn from GfK's Knowledge Panel to be representative of the beachgoing population on the East Coast. An expanded version of the data includes non-beachgoers and their attitudes and preferences as well. Using an internet-based survey respondents were shown visual simulations of a wind power project at different distances from shore and in different conditions (clear hazy nighttime) and then were asked if the projects might affect their beach experience and/or cause them to change their trip plans. All simulated projects had 100 turbines: each turbine was a 6 megawatt (MW) machine with a rotor diameter of 492 feet so that when a blade was at the apex the turbine was 574 feet high. The turbines were spaced 8 rotor diameters (0.75 miles) apart in a 10by 10 configuration."Break even point from DEIS page 412"At 15 miles (24.1 kilometers) the percentage of respondents who reported that their beach experience would be worsened by the visibility of WTGs was about the same as the percentage of those who reported that their experience would be improved" Excerpt from Lutzeyer et al. 2017 "To understand the potential visual impact of an offshore wind farm it is important to recognize that the current vintage of offshore wind turbine extends over 500 feet above the water - approximately the height of a fifty story building. "and" Our images depict 5-megawatt (MW) turbines which were thought to be the most likely turbines for offshore deployment at the time of our survey. "</p>	
1071-0004	<p>The critical flaw in the analysis is a University of Delaware study (Parsons and Firestone 2018). This 2018 paper is often referred to when assessing the impacts of offshore windmill farms on beach tourism when the wind farms are viewed from varying distances. Based on this 2018 paper the DEIS utilizes a 15 mile distance as a common distance of support for the decisions and impact analysis. This Parsons 2018 study found that windmills 15 miles from the viewer would only have a negligible impact on businesses dependent on recreation and tourism activity. From the Parsons report "The dominant reason reported for why an offshore wind power project would have made a beach experience worse was the visual disruption of the seascape." However citing these data is a significant deficiency in the DEIS. The flaw lies in the fact that this 2018 Parsons and Firestone paper was based on imaging of 100 windmills each 170 meter high (tip of blade) in a</p>	<p>Please see the response to comment 0011-0003.</p>

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	10x10 configuration at varying distances and assessing their impact on beach-goer behavior. In fact almost all of the studies cited in this document were primarily completed with windmills that are approximately half the size of the ones contemplated for Ocean Wind and other projects.	
1071-0007	<p>The Ocean Wind proposal is for windmills that are almost double the size studied in the Parsons and Firestone 2018 paper (approximately 300 meters) therefore the conclusions reached should utilize different data points which are readily available in this same paper. Trigonometry allows for this analysis. The formula is very simple.... The apparent height of an object on the horizon is equal to actual height divided by distance. Said another way a 300 meter windmill viewed from 15 miles appears approximately the same size as a 150 meter windmill viewed from 7.5 miles. Using that same Parsons and Firestone 2018 paper. There is a radically different outcome when one accounts for an almost 300 meter windmill 15 miles from shore. No longer would Ocean Wind have a negligible impact on the local community. In this case the 2018 Parsons report states that 38% of respondents said their experience would be worse and it is further estimated that Ocean Wind proposal would result in a 20% trip reduction to impacted communities. Again this data is all available in that exact same 2018 Parsons report. The counter-argument could be made that using the 7.5 mile dataset overstates the negative impact as it does not account for viewing from a distance and how atmospheric conditions impact views from 15 miles away. However a rebuttal to this argument is that photosimulations underestimate the viewshed impact (see Palmer 2022 Landscape and Urban Planning September 2022 "Deconstructing viewshed analysis makes it possible to construct a useful visual impact map for wind projects") where he stated "These studies found that photographs or realistic photosimulations underrepresented visual prominence." Palmer also referred to the work of Takacs and Goulden 2019 and Palmer and Sullivan 2020 which also report the underestimate of impact of photosimulations. Additionally the cumulative number of windmills is far greater than that used in the Parsons and Firestone 2018 paper. The massing of windmills will have a greater negative impact than a smaller array of windmills.</p>	Please see the response to comment 0011-0003.
1071-0008	<p>From page 3.10-8 of the DEIS "Up to 574 WTGs with a maximum blade tip height of 1049 feet (320 meters) above mean sea level (AMSL) would be added within the analysis area for cumulative visual effects."Citing that same Palmer 2022 peer-reviewed paper "Those who prepare wind energy VIAs (visual impact assessments) seem in general agreement that visual impacts</p>	Please see the response to comment 0011-0003.

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	result from three objective factors: distance zone or the effect of distance on how a turbine is perceived; exposure or the amount of the turbine that is visible; and extent or the number of turbines that are visible (Palmer 2022). Also "Turbine visual prominence is a function of distance and turbine exposure" and "Project visual impact is a function of Turbine Visual Prominence and the number of visual turbines" The impact of the 100 windmill grid cited in the Parsons and Firestone paper underestimates the negative impact on viewshed that a much larger windmill grid would have as outlined in the DEIS. Utilizing the 7.5 mile dataset from the Parsons and Firestone 2018 paper the estimate of 20 percent project trip reduction is a fair estimate of the impact that Ocean Wind will have on the southern New Jersey beach communities.	
TRANS-0066-000	The first was that there is a study a study quoted done in 2018 I think by some folks at the University of Delaware about the visual impact of the wind turbines sort of they showed people simulations of wind turbines that were approximately 580 feet tall and ask them what they thought whether it would be negative whether they would come back to that beach and then sort of the summarized that report they said there was about 15 miles kind of the point of indifference and it wasn't too bad. But you know also in the same EIS you know it says that the wind turbines that are contemplated for Ocean Wind 1080 feet long. So by admission the part of the EIS discussing the visual impact is inaccurate because the study they are relying on they used wind turbines probably just about a little over half the size of the ones that are actually going to be used so that's sort of point one.	Please see the response to comment 0011-0003.
0111-0001	On page 3.17-7 it states the maximum blade tip height could be 1049 feet. But the Firestone and Parsons 2018 study that stated the point of indifference visually is 15 miles from the shore used simulations with wind turbines of a height of 574 feet. Are there plans to get a revised study where the simulations shown have blades reaching as high as 1000 feet in the sky? If not the section regarding the visual impact is flawed.	Please see the response to comment 0011-0003. The Ocean Wind 1 PDE includes a maximum blade tip height of 906 feet (276 meters) AMSL; however, one or more of the other foreseeable offshore wind projects in the region has a maximum blade tip height of 1,049 feet (320 meters) AMSL. This taller WTG is considered in the cumulative analysis for both Section 3.18, <i>Recreation and Tourism</i> , and Section 3.20, <i>Scenic and Visual Resources</i> .
1071-0006	The erroneous conclusions reached in the DEIS included among others the following:1. From page 3.18-8 of the Draft Environmental Impact Statement	Please see the response to comment 0011-

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	<p>"A University of Delaware study evaluating the impacts of visible offshore WTGs on beach use found that WTGs visible more than 15 miles from the viewer would have negligible impacts on businesses dependent on recreation and tourism activity (Parsons and Firestone 2018)."2. From page 3.18-20 of the DEIS "Beaches with views of WTGs could gain trips from the estimated 2.5 percent of beach visitors for whom viewing the WTGs would be a positive result offsetting some lost trips from visitors who consider views of WTGs to be negative (Parsons and Firestone 2018)."3. From page 3.18-22 of the DEIS "The main drivers for this impact rating are the minor visual impacts associated with the presence of structures and lighting..."</p>	<p>0003.</p>
1071-0009	<p>Another peer reviewed and published paper from University of Manchester published in Marine Policy Journal in 2017 paints a very dire picture. That paper states that 36% of respondents said they would not visit a beach where windmills were in the viewshed. In fact 63% said they would not come to that beach as often or at all. Still another further study (also peer reviewed and published) and cited by Parsons and Firestone. (Lutzeyer et al. 2017). found that 55 percent of existing customers would not re-rent their most recent vacation property if wind turbines were placed offshore. These impacts bleed over into the economic and societal impacts as recreation and tourism are the primary drivers of the economy along the Jersey shore with scenery playing a vital role in drawing in tourist dollars.</p>	<p>Please see the response to comment 0011-0003.</p> <p>Additional analysis of impacts on the vacation rental market was added to the Final EIS.</p>
1071-0005	<p>Additionally BOEM is not following their own guidance. From the BOEM report "Assessment of Seascape Landscape and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States" (OCS Study BOEM 2021-032). "Current heights for proposed offshore wind energy facilities far exceed those observed in the studies discussed above and the results of these studies while relevant cannot be considered to apply to turbines currently used or proposed for offshore wind projects. It can be assumed that at a given distance larger turbines would create larger visual contrasts and up to some limit would be visible at longer distances."</p>	<p>Please see the response to comment 0011-0003.</p>
0011-0004	<p>In Appendix D "Analysis of incomplete or unavailable information" D.1.15 BOEM states "BOEM has determined that incomplete and unavailable resource information for recreation and tourism or for other resources on which the analysis of recreation and tourism impacts rely was either not relevant to reasonably foreseeable significant adverse impacts was not essential to a reasoned choice among alternatives alternative data or methods could be used to predict potential impacts and provided the best</p>	<p>Please see the response to comment 0011-0003.</p> <p>Additional information was included in the recreation and tourism analysis to account for the differences in height between the turbines included in the referenced studies and those</p>

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	<p>available information or the overall costs of obtaining the information were exorbitant or the means to do so were unknown. Therefore the information provided in the EIS is sufficient to support sound scientific judgments and informed decision-making related to the proposed uses of the onshore and offshore portions of the geographic analysis area". In fact all the currently available studies on the impact of visible turbines on tourism are out-of-date as the turbine size has increased dramatically. Existing studies used turbine heights of 579' to 600'. The proposed project uses 906'. The Kitty Hawk North COP uses turbines 1042' tall. A new study is needed that focuses on the economic impact of taller turbines on tourism similar to the NC State study. We note BOEM paid the University of Delaware only \$350000 for its study a small price considering over \$100 billion may be invested on planned offshore wind projects.</p>	<p>proposed as part of the Project.</p>
0111-0002	<p>On page 3.18-17 it states "Ocean Wind has committed to voluntarily implement ADLS....". Are there any teeth to their commitment? Why is it voluntary? Why didn't BOEM make it a requirement? Also is there another installation in the world of an ADLS on hundreds of offshore wind turbines or will this be a first?</p>	<p>Ocean Wind included a series of mitigation and monitoring measures (APMs) in the COP, including implementing ADLS. If BOEM decides to approve the COP or approve the COP with conditions, Ocean Wind would be required to certify compliance with these mitigation and monitoring measures under 30 CFR 285.633.</p> <p>ADLS has been used successfully on onshore wind turbines and will be used in the Vineyard Wind 1 and South Fork Wind Farm projects.</p>
0210-0005	<p>Most people will choose to take their beach vacation somewhere else rather than choosing a shoreline with hundreds of wind turbines in their view. This departure of tourists from the South Jersey coastline will significantly affect the tourism and restaurant industry in addition to the real estate and the family-owned business that line this beautiful coast. For your consideration I have attached an article discussing a survey done on the shores of North Carolina. [See original comment for Offshore Wind Turbines Will Drown North Carolina's Tourism] This survey asked tourists if they would continue to vacation at the North Carolina beaches if the proposed wind turbines were installed there. Fifty-four percent said they would not rent along that shoreline at all and would vacation somewhere else. Over the course of several years the economic impact of this would be multi millions of dollars lost to the North Carolina beach tourism industry. I ask you to please read</p>	<p>Additional analysis of impacts on the vacation rental market was added to the Final EIS.</p>

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	the attachment which will go into greater detail. It is relevant to New Jersey in that the Jersey Shore towns are a major source of tourism dollars as well.	
0837-0009	<p>According to N.J. Division of Travel and Tourism the travel sector is one of the largest employment drivers and revenue generating industries in the State. Tourism Economics (TE) prepared a study for VisitNJ the official tourism website for the State of New Jersey entitled the [Italics: Economic Impact of Tourism in New Jersey 2021]. [Footnote 11: Tourism Economics (TE). 2021. Economic Impact of Tourism in New Jersey 2021. Available: https://visitnj.org/sites/default/files/Economic_Impact_of_Tourism_in_New_Jersey_2021_Final.pdf?tag=itinerary. accessed: August 2022.] TE is an Oxford Economics company with a singular objective to combine the understanding of the travel sector with proven economic tools. TE has a regional headquarters in Philadelphia and Oxford with offices in Belfast Buenos Aires Dubai Frankfurt. This company is the world's foremost independent global advisory firm on two hundred countries one hundred industrial sectors and over 3000 cities. The study conducted by TE covered a timeframe from 2017 through 2021. It was concluded that "the travel sector in New Jersey is an integral part of the State. Visitors generate significant economic benefits to households businesses and government alike and represent a critical drive of New Jersey's future." [Footnote 12: TE. Tourism in New Jersey 2.] In 2021 visitors spent \$37.3 billion in New Jersey recovering nearly half of the pandemic losses of 2020. Visitors grew to 96.6 million after a decline to 84.6 million in 2020. Visitor spending in New Jersey supported 270566 jobs and \$18.8 billion in state GDP in 2021. In addition to direct tourism industries such as lodging recreation food services and retail TE incorporated the economic impact of indirect and induced forms of income that included spending wages employment federal state and local taxes. Considering the totality of this impact in terms of employment New Jersey tourism supported 430000 jobs in 2021 which represents 8.1% of all jobs in the state or one out of every twelve jobs. In reference to fiscal (tax) impacts visitor spending generated \$10 billion in government revenue. The coastal counties of New Jersey Atlantic Cape May Monmouth and Ocean accounted for 48.6% of state and local tax receipts. This equates to a savings of \$1400 per New Jersey household. Rebound visitors to the coastal areas led to near pre-pandemic levels while other counties remained significantly below. TE's study provides a comprehensive overview that indisputably recognizes tourism as the lifeblood of New Jersey. The statistical data from 2017 through 2021 establishes a definitive baseline for</p>	<p>The Final EIS sections have been reorganized to clarify that the No Action Alternative includes ongoing activities, including ongoing offshore wind projects, and the cumulative analysis of the No Action Alternative considers the impacts of the No Action Alternative in combination with other planned non-offshore wind and planned offshore wind projects.</p> <p>Information was added to the Final EIS to further describe tourism to New Jersey during 2021.</p>

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	<p>BOEM to utilize before Alternative Impacts and Alternative Combined with Other Foreseeable Impacts are introduced. TE's estimate for a significant increase in visitors to New Jersey should be included in the Foreseeable Impacts which escalate from 2022 through 2025 when an anticipated 124.3 million visitors are expected in the State. According to BOEM's Table the No Action Alternative combined with Foreseeable Impacts equates to a moderate to minor beneficial impact the same results as Alternatives A through E. This conclusion is difficult to reconcile when considering the studies compiled by TE a neutral third party and the details of this Project and future offshore wind projects in New Jersey. For instance BOEM cites the aforementioned vessel trips (1539 vessel trips during construction; 3392 vessel trips per year during operations and maintenance; 1539 vessel trips per year during decommissioning) 175 miles of underground offshore cable a 50 foot wide construction corridor for cable [Italics: onshore] and a 30 foot permanent easement [Italics: beyond] the 50 foot construction corridor. BOEM presented a diagram with the designated cable route for the BL England plan. The corridor for the cable will run 30 blocks through the heart of the island of Ocean City. Offshore cable will be installed along 60% of Ocean City's beachfront. According to the cable route land designated as Green Acres will be confiscated at a state park on the island. Indeed a reconciliation to suggest that the No Action Alternative is comparable to Alternatives A through F is a formidable task. For this reason BOEM was forced to misrepresent facts by integrating other proposed offshore wind projects into the Foreseeable Impacts. This skewed version of the No Action Alternative is another example of the methodology utilized by BOEM to arrive at a preordained conclusion. The noted frequency of this strategy runs counter to society's accepted moral code of values and has the impact of undermining public trust.</p>	
0967-0001	<p>Broadly we would like to reiterate our strong recommendation also expressed in our comments on the NOI that impacts to the charter/for-hire sector and private recreational anglers be considered or at least presented jointly rather than separately under the "3.9: Commercial Fisheries and For-Hire Recreational Fishing" and "3.18: Recreation and Tourism" sections of the DEIS respectively. Charter/for-hire and private recreational anglers fish similar areas target the same species use the same gear and are subject to management under the same authorities. For fishermen fishery managers and other interested parties struggling to provide constructive feedback on a document of this magnitude separating the expected impacts of alternatives</p>	<p>While there is overlap in the types of impacts described in Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, and Section 3.18, <i>Recreation and Tourism</i>, for offshore recreational anglers, Section 3.18 also addresses impacts on other recreational activities and the impacts on tourism as a whole. The impacts described in both sections are consistent with one another.</p>

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	to these two groups by over 200 pages in the document only further complicates the process.	
0984-0026	3.18 Recreation and TourismThe suggestion that the recreational fishing industry will benefit from the additional artificial sites is one of the systemic racist components contained in the EIS and within BOEM as a whole. The site will have a negative biological inventory affect. The site that had provided a source of seafood will be removed economically.The study that shows an increase in tourism is a farce promoted by the wind industry through the funding of the study referenced. The industry paid for people to stay at the bed and breakfasts before going out fishing around the Rhode Islands at sea development site. The area around the site that they fished was already EFH for Black Seabass prior to development. I guess a argument can be made that there will be an increase in the amount of environmental activists going into the industrial at sea wind energy development sites to look at all the dead seabirds floating around and to protest the sites existence. The proactive protesting and forceable intentional destruction of the towers propagated by the lack of police enforcement currently being seen in the United States would suggest that the development sites may become exclusion zones. This will remove any viability to tourism and recreation creating a [Bold: Major Impact.]	Evidence from the Block Island Wind Farm indicates that there is an increase in recreational fishing near WTGs as a result of the fish aggregation and reef effects of the turbines. As described in Section 3.9.5.2, while impacts on commercial fishing activities would vary by fishery, it is estimated that the majority of operations would be able to adjust to account for disruptions due to impacts.
1071-0010	In Cape May County alone over 60% of employment is related to tourism. The location and size of this project will have a devastating impact on the seasonal tourism of the Jersey Shore and employment in the area. This reduction in trips and related tourism dollars would irreparably harm the tourist economy of the Jersey Shore where employment is primarily dependent on tourism. Based on these scientific papers already cited in the report the negative impact to Ocean City NJ alone would be well over \$100 million annually if the current proposed installation moves forward.	Information was added to the Final EIS about the economic impacts of a potential decrease in tourism.
1071-0011	The DEIS spent a lot of time focusing on fishing and boating tourists which is a small fraction of the tourist dollar and economy of the Jersey shore. The DEIS should spend as much time or more on beach going tourists who are the main drivers of the local economy.	Analysis of the potential impacts of the Proposed Action on beach visits, including overnight stays, is included in Section 3.18.5, <i>Impacts of the Proposed Action on Recreation and Tourism</i> .
1086-0001	Cape May County is home to nearly 100000 full-time residents and welcomes over 8.2 million summertime visitors generating over \$36 billion in visitor spending. [Footnote 1: 2021 Economic Impact of Tourism in Cape May County [Embedded Hyperlink Text (

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	<p>Chamber-Economic-Impact-of-Tourism))]] Cape May County is also home to some of the most desirable real estate in America that has been built around prized natural landscapes that provide bountiful seafood stocks and expansive 360-degree views of the Atlantic Ocean and open marshland. [Footnote 2: Stone Harbor Ranked Among Most Expensive Real Estate Markets in U.S. [Embedded Hyperlink Text (https://philadelphia.cbslocal.com/2013/11/07/stone-harbor-ranked-among-most-expensive-real-estate-markets-in-u-s/))] Tourism and commercial fishing are Cape May County's two primary sources of economic revenue with tourism supporting over 393000 Cape May County jobs or roughly 7% of the jobs in the entire State of New Jersey.¹ In addition the Port of Cape May is the largest in New Jersey and the second largest along the Eastern Seaboard ranking in the top 20 in landings and value in the nation. In 2020 the fishing industry both commercial and recreational supported approximately 27000 jobs. Both the tourism and fishing industries are at significant risk as a result of the Ocean Wind 1 offshore wind project. In addition the County has major concerns about impacts to the local ecosystem including fisheries marine mammals benthic habitats and birds each of which play an integral role in the Jersey Shore economy. Many traditions such as fishing sailing bird whale and dolphin watching have been practiced for centuries. Exceptional views of the ocean and coastal landscape have driven extensive real estate development which is a vital source of tax revenue for local communities and the State of New Jersey. Ocean Wind 1 threatens critical environmental cultural and scenic resources that have made the Jersey Shore what it is today.</p>	
1086-0019	<p>Tourism. Cape May County's economy rests heavily on tourism which is extremely fragile worldwide due to natural and manmade disasters taking a toll on the economy of local counties states and countries. Tourism is the largest industry in the County generating nearly \$7 billion in direct tourism spending annually. In fact nearly 1 in every 5 dollars spent in New Jersey is spent in Cape May County with tourism expenditures outpacing all other counties in the state in the food and beverage retail and recreation sectors. [Footnote 30: Cape May County Department of Tourism [Embedded Hyperlink Text (https://capemaycountynj.gov/DocumentCenter/View/10037/2022-Cape-May-County-Tourism-Book-Final))] Cape May County tourism generated \$615 million in state and local taxes and another \$16 million in occupancy taxes. More than 63% of the County's total jobs are linked to the tourism industry. Rentals dominate the lodging sector with \$2.4</p>	<p>Information was added to the Final EIS to analyze potential impacts of the Proposed Action on vacation rentals.</p>

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	billion generated in rental income in 2021. The summer resident population grows eight-fold compared to the winter resident population with an annual visitor base of over 10 million people. The overwhelming reason people visit and buy properties in Cape May County is our beaches. The County is concerned that Ocean Wind 1 will diminish property values rental prices and the cultural value of the Jersey Shore that will have long-lasting economic impacts.	
1212-0001a	<p>We provide these comments in the hope that the Bureau of Ocean Energy Management (BOEM) will change course with regard to these ill-conceived projects and the inadequate economic review accompanying them. We therefore strongly oppose the project as currently proposed as the visual pollution of the turbines will have a negative effect on shore rentals. VRJS is a local NJ based company that advertises and markets over 2200 vacation rentals along the Jersey Shore from Long Beach Island to Wildwood. Over the last 4 years we have helped arrange over 100000 "stays" for the owners who advertise with us. The Ocean Wind Projects as currently proposed with the wind turbines visible from shore WILL have a negative impact on tourism. Not only is it common sense but there are a number of studies and surveys of persons shown images of turbines including several sponsored by the BOEM that have concluded significant reductions in rental and tourism revenues and property values will occur from visible turbines. I bring you attention to the following studies: New Jersey Global Insight Report 2008 North Carolina State University Study 2017BOEM/University of Delaware Study 2018BOEM Viewshed Analysis. 2015 New York State Turbine Exclusion Distance 2018. Of these studies mentioned above the North Carolina study found that 55 percent of those surveyed would not rent that property if turbines were visible regardless of the degree of visibility or any rental discount offered. It also found that the negative reaction to wind turbines was primarily due to the offshore distance as opposed to the number of turbines. So even just a few visible turbines WILL have a negative effect on tourism. What does this equate to? New Jersey visitor spending in 2019 was 46.4 Billion which contributed over 5 Billion in taxes to the State of NJ and 540500 jobs making it the 6th largest employer in the state (Source: NJ Economic impact of Tourism in NJ 2019) with lodging being the #1 revenue sector. Breaking out the 4 shore counties from the above figures the Jersey Shore contributes 22.3 Billion to the overall tourism economy or about half. If the North Carolina study is correct that 55% of shore vacationers would not return that would equal a 12.3 Billion dollar ANNUAL</p>	<p>Information was added to the Final EIS to analyze potential impacts of the Proposed Action on vacation rentals.</p> <p>BOEM has determined that impacts on recreation and tourism from the presence of structures would be moderate because affected activities or communities would likely have to adjust somewhat to account for disruptions due to the Project. This impact level reflects survey results suggesting a range of visitor experience related to views of offshore wind farms, with some respondents reporting their beach experience would be worsened, while other respondents reported that their experience would be improved or took a neutral position (would neither improve nor worsen their experience).</p> <p>The cumulative impacts of the Proposed Action in combination with planned offshore wind projects in the region are described in Section 3.18.5.1, <i>Cumulative Impacts of the Proposed Action</i>. BOEM determined that cumulative impacts on recreation and tourism would also be moderate.</p>

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	loss in tourism revenue and a 1.4 Billion dollar loss of annual tax revenue for the state of New Jersey! We cannot afford or accept this!	
1212-0001b	<p>It has come to our attention that there IS a BOEM screened and approved lease area 30 - 57 miles off shore that is bigger and has more wind capacity. I am referencing the "Hudson South" call area. Locating the wind farm in this area a minimum of 30 miles off shore and even with the bigger 12MW turbines will solve the visual pollution that the current lease area emits thus saving our Tourism economy which is so important to the state. We strongly urge you to slow this project down and consider relocation of both the Ocean Wind AND the Atlantic Shores projects to the Hudson South area. It's just common sense NOT to have those turbines visible from the shore! To us Jersey folks the Jersey Shore is our Grand Canyon! If you have never seen a sunrise on our shore I encourage you to get up early one morning and watch one. Our pristine ocean landscape will become industrialized completely ruining the natural unobscured view to the horizon. If our horizon becomes picketed with rows and rows of wind turbines this pristine sight will forever be ruined. I am sure you wouldn't approve wind turbines on the rim of the Grand Canyon. Please don't ruin our Jersey Shore with them either. Please evaluate moving them further out so they can't be seen from shore to the Hudson South Call area. - Vacation Rentals Jersey Shore LLC</p>	<p>In the Draft EIS (Chapter 2, Table 2-3), BOEM considered, but dismissed from further consideration, alternatives for alternate locations for the wind energy facility outside of the Lease Area. BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Lease Area. This alternative would effectively be the same as selecting the No Action Alternative.</p>
1278-0021	<p>Sport divers are also fishermen (spearfishing) and the NJCD&C is concerned with the impact of this industrialization of the ocean on fish and how it impacts recreational and commercial fishermen. Generally fish are attracted to structure similar to shipwrecks and artificial reefs. How the buried electrical cable will affect the fish and lobsters appears to be uncertain or unknown especially with the concentrated inter-array cables in the WTG area.</p>	<p>Based on findings at Block Island Wind Farm, the turbines for the Project are expected to have a reef effect and cause fish aggregation similar that of to shipwrecks or artificial reefs.</p> <p>As described in Section 3.13.3.2, a few studies have documented that the presence of direct current cables and domestic electrical power cables result in subtle changes in lobster activity (e.g., broader search areas, subtle effects on positioning, and a tendency to cluster near the EMF source) and only occur when lobsters were within the EMF.</p> <p>More information on the impacts of EMF on fish and invertebrates is included in Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>.</p>

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0984-0076	<p>The one item that became evident during beach replenishment was the flosem that carries the bacteria into bathing areas closing down beaches. The impact of sediment deposition will have a [Bold: major impact] to the shore tourism industry. Beach closures will be part of the everyday beach experience since normal maintenance will be consistent for decades. There is plenty of science that describes the relationship between sediment drift and beach closings due to fecal coliform. The applicant has chosen not to include this impact in the EIS. The health and safety of the other sea users should take president over the establishment of nascent industry. The applicant states in the application that there will be long term impacts from sediment deposition. The use of non-native sediments will entice the development and growth of non-native species. The impacts to the foundation of the eco- system in the estuaries and tidal waters will stagnate growth of an already fragile eco-system for this major impact and others mentioned the EIS should be rejected as incomplete.</p>	<p>The use of nonnative sediments at landfall locations is not anticipated.</p> <p>There are multiple mitigation and monitoring measures included in Appendix H, <i>Mitigation and Monitoring</i>, that focus on ensuring that sediment dispersion is minimized during construction including GEN-06, GEN-11, and GEO-02.</p>

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O.6.18 Sea Turtles

Table O.6.18-1 Responses to Comments on Sea Turtles

Comment No.	Comment	Response
1259-0156	<p>xiii. Sea Turtles (3.19). The analysis of impacts to Sea Turtles are included in Appendix G and not in the main body of the Draft EIS as " these impacts are no greater than minor adverse impacts" and impacts of most concern are discussed in the main body of the Draft EIS (Section G.1 DEIS). This is an incomplete and premature assessment to conclude as all impacts to sea turtles including cumulative impacts arising from this project and other potential projects in the region have not been investigated thoroughly. This has been ably supported in a 2020 report by the Sea Turtle Working Group to New York State Energy Research and Development Authority (NYSERDA 2020) which acknowledged the following: Substantial data gaps at spatial and temporal level in our understanding of sea turtle populations and distributions in wind energy areas. Substantial data gaps in our understanding of the potential effects posed by Offshore wind (OSW) development to sea turtles. Need for multiple approaches to understand the cumulative impacts of OSW development on sea turtles. Need to prioritize research to fill gaps in baseline data on sea turtle distributions abundance habitat use and movements above stressor-specific investigations of effects to turtles such as artificial reef effects entanglement vessel strike or EMF. This included an emphasis on understanding the environmental drivers of sea turtle presence and movements. Need to focus in the immediate term (e.g. within the next five years) on improving our understanding of the potential effects of OSW on sea turtles as development proceeds including the above-listed stressors as well as potential effects from cabling landfall near sea turtle nesting beaches. [Footnote 139: G. Gitschlag et al. Sea Turtle Workgroup Report for the State of the Science Workshop on Wildlife and Offshore Wind Energy 2020: Cumulative Impacts. Report to the New York State Energy Research and Development Authority (NYSERDA) (2021) https://www.nyetwg.com/2020-workgroups.]</p>	<p>EIS Appendix D, <i>Analysis of Incomplete and Unavailable Information</i>, Section D.1.16, <i>Sea Turtles</i>, acknowledges that there is incomplete information on the distribution and abundance of sea turtle species that occur in the Atlantic OCS and the Lease Area. Section D.1.16 also acknowledges that some uncertainty exists about the effects of certain IPFs on sea turtles and their habitats and that the effects of EMF on sea turtles are not completely understood. As discussed in Section D.1.16, BOEM considered the level of effort required to address the uncertainties described above for sea turtles and determined that the methods necessary to do so are lacking or the associated costs would be exorbitant. Therefore, where appropriate, BOEM inferred conclusions about the likelihood of potential biologically significant impacts from available information for similar species and situations to inform the analysis in light of this incomplete or unavailable information. These methods are described in greater detail in Section 3.19, <i>Sea Turtles</i>, and in the BA submitted to NMFS (BOEM 2022). Therefore, the analysis provided is sufficient to support sound scientific judgments and informed decision-making about the proposed Project with respect to its impacts on sea turtles.</p>
1259-0157 & - 0158	<p>The Research and Monitoring Initiative (RMI) established by NJDEP in collaboration with NJ Board of Public Utilities (BPU) describes its goal as follows: "To pursue a rigorous scientific research approach to uphold the State's mandate to protect and responsibly manage New Jersey's coastal and marine resources while supporting the State's Offshore Wind Economic</p>	<p>See response to 1259-0156. BOEM does not concur that data gaps would result in a different impact conclusion for sea turtles than presented in EIS Section 3.19.</p>

Comment No.	Comment	Response
	<p>Development Act Executive Order 8?and Executive Order 92 and the and the Energy Master Plan which respond to climate change and protect our environment for future generations. [Footnote 140: https://www.nj.gov/dep/offshorewind/rmi.html.] In 2021 the RMI identified sea turtles as one of the highest priorities for research and monitoring during the pre-construction phase to address the following knowledge gap about the species: 1. Collate existing data for sea turtle movement distributions and habitat use patterns; conduct beach surveys where possible (i.e. how do these animals use the space?) 2. Conduct tagging on rehabilitated/released sea turtles. [Footnote 141: https://nj.gov/dep/offshorewind/docs/erwg-slides-20211220.pdf]</p> <p>In a recent quarterly update meeting of the New Jersey Department of Environmental Protection ("NJDEP") Offshore Wind Environmental Resources Working Group which was attended by a COA staff member the status of this research priority is still not addressed. With so many concerns and data gaps yet to be addressed the Draft EIS's conclusion that impacts of the Proposed Action or its Alternatives range from negligible to minor as well as minor beneficial cannot be true and needs to be investigated thoroughly. The sea turtle geographic analysis area encompasses two large marine ecosystems (LMEs) namely the Northeast US OCS and the Southeast US OCS to capture most of the movement range of sea turtles and their likely occurrence in the Project area. Impact factors to sea turtles include accidental releases including marine debris vessel strikes EMF noise and climate change all of which can be assessed more thoroughly and specifically by way of a Pilot Project instead of a full-blown industrial expansion in the geographical analysis area.</p>	
1259-0159	<p>Section 3.19 of the Draft EIS discusses potential impacts on sea turtles from the Ocean Wind 1 including alternatives and ongoing and planned activities in the sea turtle geographic analysis area. [Footnote 142: DEIS at Figure 3.19-1.] The geographic analysis area does not include all areas that could be transited by Project vessels including vessel transits from Europe. This is a serious limitation because impact producing factors (IPFs) for sea turtles describe impacts from vessel strikes and vessel noise. [Footnote 143: Id. at 3.19.3.1.] Vessel strikes are also an increasing concern for sea turtles. For example the percentage of loggerhead strandings attributed to vessel strikes has increased from approximately 10% in the 1980s to a record high of 20.5% in 2004. [Footnote 144: NMFS and USFWS 2007.] Sea turtles cannot reliably avoid being struck by vessels exceeding two (2) knots and typical</p>	<p>Vessel traffic effects on sea turtles involving transits from Europe were analyzed in Section 3.3.5.6 of the NMFS BA and are incorporated by reference into Section 3.19 of the EIS. ESA consultation with NMFS is ongoing and findings of the Biological Opinion were incorporated into the Final EIS.</p>

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	<p>vessel speeds in the geographic analysis area may exceed ten (10) knots. [Footnote 145: Hazel et al. 2007.] Increased vessel traffic could result in sea turtle injury or mortality. Excluding the European estimate the Draft EIS states that the Proposed Action would generate approximately 3847 vessel trips just during the construction and installation phase.</p>	
1259-0160 & - 0161	<p>Description of the Affected Environment for Sea Turtles (3.19.1). According to BOEM (2019) sea turtles that occur on the Atlantic OCS may migrate the entire eastern seaboard therefore all activities occurring in their migratory range have the potential to contribute impacts. Four species of sea turtles are known to occur in or near the Ocean Wind Project area all of which are protected under the federal Endangered Species Act (16 USC 1531 et seq.) These include the leatherback sea turtle (<i>Dermochelys coriacea</i>) loggerhead sea turtle (<i>Caretta caretta</i>) Kemp's ridley sea turtle (<i>Lepidochelys kempii</i>) and green sea turtle (<i>Chelonia mydas</i>). [Footnote 146: DEIS at Section 3.19.1 Table 3.19-1.] There is potential for the four primary sea turtle species identified above to seasonally inhabit offshore waters in the Project area in the spring (March-May) summer (June-August) and fall (September-November) including the area of direct effects during the winter months (December-February). Water temperature is a primary factor influencing sea turtle distribution; sea turtles typically occur in the coastal waters off New Jersey when water temperatures exceed 59°F. [Footnote 147: NJDEP 2010.] However not all sea turtles leave the area during winter and there are occasional strandings of sea turtles that become incapacitated or "cold-stunned" at temperatures below 50°F. [Footnote 148: Id. citing Mrosovsky 1980.]</p> <p>In peak summer months loggerhead turtles' density in the Project Area is estimated to be 26.799 animals per 100 Km². [Footnote 149: DEIS at Table 3.19-2.] MARCO's data portal shows above average populations of leatherback and loggerhead sea turtles in summer. [Footnote 150: MARCO Mid-Atlantic Ocean Data Portal (last accessed Aug. 22 2022) https://portal.midatlanticocean.org/visualize/#x=-74.40&y=39.13&z=10&logo=true&controls=true&dls%5B%5D=true&dls%5B%5D=0.5&dls%5B%5D=60&dls%5B%5D=true&dls%5B%5D=0.5&dls%5B%5D=4027&dls%5B%5D=true&dls%5B%5D=0.5&dls%5B%5D=4041&ls%5B%5D=true&dls%5B%5D=0.8&dls%5B%5D=3312&basemap=nautical&themes%5Bids%5D%5B%5D=2&t%5B%5D=legend&legends=false&layers=true.] Estimating the distribution and relative density of satellite-tagged loggerhead sea turtles using geostatistical mixed effect models reconfirm their</p>	<p>The comment cites the statements and findings presented in Section 3.19 of the Draft EIS and BOEM concurs that all four species of sea turtles occur in the geographic analysis area for sea turtles. The commenter's concluding statement that impacts are oversimplified in the EIS is not supported and there are no specific challenges to data, methods, or findings of the Draft EIS analysis for BOEM to consider.</p>

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	<p>abundance and show that both leatherback and loggerhead directly lie within the project boundaries in summer. [Footnote 151: Marine Ecology Progress Series 586: 217-232].] The highest likelihood of occurrence for Kemp's Ridley sea turtle is in coastal nearshore areas adjacent to Ocean City and Barnegat Bay where the offshore export cable is anticipated to make landfall as they seek protected shallow-water habitats. The Draft EIS acknowledges the following challenges related to sea turtles. Yet the impacts are oversimplified inaccurately without any supporting scientific evidence.</p>	
1259-0162 & - 0163	<p>Without a thorough analysis of the Impact Producing Factors in near term short term and long-term including cumulative impacts and impacts from climate change the Draft EIS fails to account for all adverse impacts to sea turtles from the Project and simplifies the impacts to be either minor or incremental to the impacts arising from No Action Alternatives. The geographic analysis area is likely estimated to undergo the following activities from other offshore wind projects (Section 3.19.3.2 DEIS): Installation of 3109 WTG and OSS foundations; Installation of 4988 miles (8027 kilometers) of offshore export cable and 5309 miles (8544 kilometers) of inter-array cable; Disturbance of 27126 acres (110 km²) of seabed for WTG foundations and scour protection cable emplacement and anchoring; Storage of 5300 gallons (19041 liters) of diesel fuel oils lubricants and coolant per WTG.</p> <p>With all of this in mind it is imperative to consider that loggerhead turtles live in three ecosystems: (i) terrestrial zone - the nesting beach where oviposition embryonic development hatching and hatchling transit to the sea occur; (ii) the neritic zone -the nearshore marine environment (from the water surface to the sea floor) where water depths do not exceed 200 m; and (iii) the oceanic zone - the vast open-ocean environment (from the water surface to the sea floor) where water depths are greater than 200 m. Threat analysis matrix for such endangered species must include all life stages occurring in those ecosystems. [Footnote 153: Bolten et al. 2021.]</p>	<p>The impacts of climate change are analyzed as an ongoing activity in Final EIS Section 3.19.3, and cumulative impacts of the Proposed Action in combination with other ongoing and planned activities are analyzed in Final EIS Section 3.19.5.1. As described in Section 3.4, <i>Definition of Impact Levels</i>, all Chapter 3 resource sections consider the duration of impacts that are characterized as short term, long term, or permanent.</p> <p>The Final EIS analyzes impacts associated with all construction, O&M, and decommissioning activities described in Ocean Wind 1's COP including offshore construction of WTGs and OSS, offshore cable laying, cable laying in state waters and nearshore, construction of cable landfalls, and construction of onshore export cables and substations, which correspond to the commenter's terminology of terrestrial zone, neritic zone, and oceanic zone.</p>
1259-0164	<p>Accidental Releases. According to the Draft EIS "Accidental releases from other offshore wind activities would likely result in minor impacts for sea turtles and are unlikely to result in population-level effects although consequences to individuals would be detectable and measurable." [Footnote 154: DEIS at 3.19-12.] The document continues "In context of reasonably foreseeable trends the Proposed Action would contribute an undetectable increment to the combined accidental release impacts on sea turtles from ongoing and planned activities including offshore wind which are expected to be minor." [Footnote 155: Id. at 3.19-23.] The risk of accidental</p>	<p>BOEM concurs that there is risk of accidental release from offshore wind activities and that there is low risk of a high-volume release of fuels, oils, lubricants, and coolants as described in EIS Section 3.19. Accidental releases have lower potential impacts on sea turtles due to their low probability of occurrence and relatively limited spatial extent. As such, while the impacts of large spills could</p>

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	<p>releases exists during all phases of the Project and it is unclear how these impacts could only be minor or unlikely to cause population level effects. According to the planned activities scenario provided in Table F2-3 of the Draft EIS there would be a low risk of a leak of fluids from any single one of approximately 2946 WTGs each with approximately 5300 gallons (19041 liters) of diesel fuel oils lubricants and coolant stored. The Draft EIS estimates that a release of 128000 gallons is likely to occur no more often than once per 1000 years and a release of 2000 gallons or less is likely to occur every 5 to 20 years using a BOEM modeling reference. [Footnote 156: See Adriana C. Bejarano et al. Environmental Risks Fate and Effects of Chemicals Associated with Wind Turbines on the Atlantic Outer Continental Shelf Bur. Ocean Energy Mgmt. (2013) https://espis.boem.gov/final%20reports/5330.pdf.]</p>	<p>be significant, a large spill is unlikely to result from construction, O&M, and decommissioning of offshore wind facilities.</p>
1259-0167	<p>Section 3.19.5 acknowledges that accidental release of trash and debris may occur from Project vessels during construction operations and decommissioning. BOEM assumes operator compliance with federal and international requirements for managing shipboard trash but in the event the stakes are high in the event that an operator fails to comply. Sea turtle ingestion of debris including plastics can be fatal and it is well known that marine debris is a serious problem that is adversely affecting the marine ecosystem. Plastic pollution in our oceans may therefore soon exceed estimated safe concentrations for many pelagic species. [Footnote 158: Egger et al 2022. https://www.nature.com/articles/s41598-022-17742-7.] The Draft EIS should further analyze this specific concern rather than assume operator compliance.</p>	<p>EIS Section 3.19 acknowledges the threat that marine pollution poses related to the ingestion of trash and debris by sea turtles. However, it is not reasonable to assume that operators would disregard regulatory requirements and intentionally discharge trash and debris overboard. Therefore, BOEM maintains that accidental releases would likely be small and localized events with minor impacts for sea turtle populations.</p>
1259-0168, & -0169	<p>Potential Interactions Between Sea Turtles and Electromagnetic Fields (EMF). The Draft EIS states that EMFs produced by cables have the potential to affect sea turtle migration because they are known to possess geomagnetic sensitivity and use cues from Earth's magnetic field for orientation navigation and migration. [Footnote 159: DEIS at 3.19.3.2 3.19-12.] Loggerhead sea turtles which are present on both the Atlantic and Pacific Coasts use magnetosensitivity to navigate during their migration and then reorient to return home. [Footnote 160: See U.S. Offshore Wind Synthesis of Environmental Effects Research Electromagnetic Field Effects on Marine Life (2022) https://tethys.pnnl.gov/sites/default/files/summaries/SEER-Educational-Research-Brief-Electromagnetic-Field-Effects-on-Marine-Life.pdf.] A 2021 Report prepared for NJDEP (Bilinski 2021) highlights how the</p>	<p>EIS Appendix D, <i>Analysis of Incomplete and Unavailable Information</i>, Section D.1.16, <i>Sea Turtles</i>, acknowledges that the effects of EMF on sea turtles are not completely understood. However, the available relevant information is summarized in the BOEM-sponsored report by Normandeau et al. (2011). Although the thresholds for EMF disturbing various sea turtle behaviors are not known, the evidence suggests that impacts may only occur on hatchlings over short distances, and no adverse effects on sea turtles have been documented to occur from the numerous</p>

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	<p>navigation behavior of sea turtles is related to interactions between ocean circulation and dynamics in the geomagnetic field. [Footnote 161: See Joseph Bilinski Review of the Impacts to Marine Fauna from Electromagnetic Frequencies (EMF) Generated by Energy Transmitted through Undersea Electric Transmission Cables N.J. Dept. Envmtl. Prot. (2021) https://www.nj.gov/dep/offshorewind/docs/njdep-marine-fauna-review-impacts-from-emf.pdf.] The report describes that results-to-date based on scientific evidence remain inconclusive on the actual impacts (positive or negative) of submarine cables and associated EMFs on marine life including sea turtles and warrant further study.</p> <p>Sea turtles have a detection threshold of magnetosensitivity and behavioral responses to field intensities ranging from 0.0047 to 4000 microteslas for loggerhead turtles and 29.3 to 200 microteslas for green turtles with other species likely similar due to anatomical behavioral and life history similarities. [Footnote 162: Normandeau et al. 2011.] In the planned activities scenario up to 4988 miles (8027 kilometers) of offshore export cable and 5309 miles (8544 kilometers) of inter-array cable would be added in the geographic analysis area for sea turtles producing EMFs in the vicinity of each cable during operations (Appendix F Table F2-1). Submarine power cables in the geographic analysis area for sea turtles are assumed to be installed with appropriate shielding and burial depth to reduce potential EMF from cable operation to low levels. The details are not clearly described. Juvenile and adult sea turtles may detect the EMF over relatively small areas near cables (e.g. when resting on the bottom or foraging on benthic organisms near cables or concrete mattresses). [Bold: The impacts on sea turtles from EMFs generated by underwater cables is presently unknown] but anthropogenic magnetic fields can and do influence migratory deviations. [Footnote 163: See Peter A. Klimley et al. A call to assess the impacts of electromagnetic fields from subsea cables on the movement ecology of marine migrants Conservation Science and Practice (2021) https://conbio.onlinelibrary.wiley.com/doi/pdf/10.1111/csp2.436.]</p>	<p>submarine power cables around the world. BOEM considered the level of effort required to address the uncertainties described above for sea turtles and determined that the methods necessary to do so are lacking or the associated costs would be exorbitant. Therefore, where appropriate, BOEM inferred conclusions about the likelihood of potential biologically significant impacts from available information for similar species and situations to inform the analysis in light of this incomplete or unavailable information. These methods are described in greater detail in Section 3.19, <i>Sea Turtles</i>, and in the BA submitted to NMFS (BOEM 2022). Therefore, the analysis provided is sufficient to support sound scientific judgments and informed decision-making about the proposed Project with respect to its impacts on sea turtles.</p> <p>The cable burial details of each offshore wind project are described in the COP for each project, but are anticipated to be similar to the proposed Ocean Wind 1 Project that has a target burial depth of 4 to 6 feet (1.2 to 1.8 meters) below the stable seabed (see Final EIS Section 2.1.2.2.3).</p>
1259-0171	<p>Noise [Bold: Per] the Draft EIS underwater noise will be caused by impact pile driving (installation of WTGs and OSS) vibratory pile driving (installation and removal of cofferdams) HRG surveys detonations of UXO vessel traffic aircraft cable laying or trenching and turbine operation (other offshore wind activities without proposed action Sec. 3.19.3.2 3.19-14). Section 3.19.5 of the Draft EIS acknowledges that underwater noise generated by Ocean Wind 1 may result in potential adverse effects on sea turtles in the Project area</p>	<p>Data regarding sea turtle hearing abilities are summarized in EIS Table 3.19-4. In the absence of NMFS acoustic thresholds, the U.S. Navy has adopted acoustic thresholds for the onset of PTS, TTS, and behavioral disruptions for sea turtles as presented in Finneran et al. (2017) (and shown in Table</p>

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	<p>including PTS TTS or behavioral disturbance. Given the high energy levels of offshore wind energy survey and installation noise sources it can be concluded that sea turtles could be affected by associated noise. The Draft EIS also mentions the following serious limitations pertaining to underwater noise:· The lack of available empirical data on noise threshold levels that impact sea turtles upon exposure;· Limited data pertaining to behavioral responses of sea turtles and the absence of specific data pertaining to sounds generated from offshore wind activities; and· Lack of regulatory noise threshold criteria for sea turtles. Despite these huge data gaps and the potential harm to a highly endangered species from the Project the Draft EIS erroneously and presumptively concludes that the impacts of noise on sea turtles from other offshore wind activities would be minor. The planned activities scenario involves the construction of 3 109 WTG and OSS foundations that would result in acute chronic and persistent noise during all phases of the Project and would cause potential harm at the species and population level as well as cumulative impacts. However the Draft EIS additionally concludes without evidence that in the context of foreseeable trends which are undefined as such the combined noise impacts on sea turtles from ongoing and planned activities including offshore wind are expected to be minor. The Draft EIS is deficient in this regard as well.</p>	<p>3.19-5). Section 3.19.5 concludes that underwater noise generated by impact installation of monopiles and pin piles, vibratory installation and removal of sheet piles for cofferdams, detonations of UXO, vessel activity, and WTG operation would increase sound levels in the marine receiving environment and may result in potential adverse effects on sea turtles in the Project area including PTS, TTS, or behavioral disturbance. EIS Section D.1.16 acknowledges some uncertainty regarding the cumulative acoustic impacts associated with pile-driving activities and whether sea turtles affected by construction activities would resume normal feeding, migrating, or breeding behaviors once daily pile-driving activities cease, or if secondary impacts would continue. However, as noted in response to previous comments, BOEM has determined that the analysis provided is sufficient to support sound scientific judgments and informed decision-making about the proposed Project with respect to its impacts on sea turtles (see EIS Section D.1.16 for additional explanation).</p>
1259-0172, & -0173	<p>The scientific community's knowledge of the impacts of sound on sea turtles lags behind other animals such as whales and dolphins. [Footnote 164: Office of Protected Resources Sea Turtles in a Sea of Sound Natl. Oceanic and Atmospheric Admin. (June 12 2022) https://www.fisheries.noaa.gov/feature-story/sea-turtles-sea-sound.] Data gaps abound with respect to sea turtle interactions. It is important to first understand how they perceive and respond to anthropogenic sounds if methods to reduce potential impacts are to be developed. assessment procedures and subsequent regulatory and mitigation measures are often</p>	<p>Detailed discussion of the underwater acoustic and exposure modeling conducted for the Ocean Wind 1 Project can be found in the NMFS BA for the Ocean Wind 1 Project, COP Appendix R-2 posted to BOEM's website,¹ and Ocean Wind's Letter of Authorization Application.² BOEM has initiated consultation with NMFS for ESA-listed sea turtles and has incorporated findings of the Biological Opinion</p>

¹ The Ocean Wind 1 COP is available at: <https://www.boem.gov/ocean-wind-1-construction-and-operations-plan>.

² Ocean Wind 1's Letter of Authorization Application is available at: <https://www.fisheries.noaa.gov/action/incidental-take-authorization-ocean-wind-lcc-construction-ocean-wind-1-wind-energy-facility>.

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	<p>severely limited in their relevance and efficacy due to the absence of data. [Footnote 165: See A.N. Popper et al. Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report prepared by ANSI-Accredited Standards Committee S3/SC1 and registered with ANSI SpringerBriefs in Oceanography (2014) DOI: 10.1007/978-3-319-06659-2_1.]</p> <p>Where is the documentation which determined the effects of the project noise would only be minor or incremental? The ANSI technical guidance on sound exposure for fish and sea turtles highlights a collaborative effort among various multidisciplinary international and national experts. Was this consulted in this assessment in the Draft EIS?</p>	<p>into the Final EIS.</p>
1259-0174	<p>The Draft EIS says that effects of different sized monopile diameter would change the level of impact but does not describe how it would impact sea turtles. Further discussion and analysis is warranted.</p>	<p>EIS Appendix J reports acoustic modeling results for 8- to 11-meter-diameter tapered monopiles and 2.44-meter-diameter pin piles, which cover a wide range of potential pile diameters.</p>
1259-0175	<p>The Draft EIS uses Block Island Wind Farm ("BIWF") as the primary reference to conclude that effects of Ocean Wind 1 will be similar in nature to what was observed during the construction of BIWF. As stated in these comments and also during the virtual public hearing sessions hosted by BOEM on Ocean Wind 1 this project varies considerably from BIWF and relying on BIWF alone will result in incomplete analysis of impacts to sea turtles. This is especially true because Ocean Wind 1 will include as many as 98 monopile foundations and other structures dramatically different in scope and scale than the jacket-frame turbines at BIWF. Also the sedimentation caused by turbulence from currents moving around the monopile were not present in Block Island example.</p>	<p>BOEM does not concur that the EIS findings for the Ocean Wind 1 Project rely primarily on studies sourced to the Block Island Wind Farm. Although some relevant studies related to Block Island Wind Farm are cited in the Ocean Wind 1 EIS, there are hundreds of additional citations referenced in EIS Chapter 3 sections and consultation documents to support EIS impact conclusions.</p>
0984-0027a	<p>Sea turtles are susceptible to EMFs. Similar to the marine mammal impacts Sea turtles will be corralled into the shipping lanes and experience an increased mortality rate creating a scenario of a [Bold: major impact on the threatened species. Intentional discharge of fuel oil and hazmat as the industrial energy site ages will have a Major Impact on the turtles. The [Bold: Major Impact] on turtles will result in long term and permanent impacts including auditory injuries stress disturbance harassment and behavior responses. The noise from current marine uses should not be discussed and used as a consideration within the EIS. The applicant and the [Bold: Major Impacts] must stand alone as a prior non existent impact. The use of oil and gas platforms interactions as a suggestion that the turtles will use the stationary wind platforms is a negligent comparison and an intentional</p>	<p>BOEM does not concur that sea turtles would be "corralled into the shipping lanes" or that offshore wind developers would intentionally discharge fuels, oils, and hazardous materials into the environment. BOEM's assessment of noise effects on sea turtles is described in detail in Section 3.3.5.1 of the NMFS BA and summarized in EIS Section 3.19, <i>Sea Turtles</i>. Final EIS Section 3.19.5 analyzes impacts of the Proposed Action alone and Section 3.19.5.1 analyzes the cumulative impacts of the Proposed Action in combination with other</p>

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	falsification of the truth. The EMFs from exposed wires as reported scientifically will be a deterrent for the turtles from coming to the stations to rest or feed.	ongoing and planned activities in the geographic analysis area. BOEM does not expect the presence of exposed wires at offshore wind structures.
0984-0027b	The consideration of increased mortality rate from ghost recreational fishing gear on the cables is not included in the EIS. Currently there is a device used around the world to remove fishing line to reduce the turtle mortality rate from recreational fishing line lost on the cables. The omission of this fact is with criminal intent to mislead the public and the prosecution of the writers of this EIS should be started immediately for falsifying a public document of environmental Impacts on threatened and endangered species. Potential major impacts of other marine users should not be used to justify the creation of use by a nascent industry who wishes to create environmental degradation. The applicant will have [Bold: Major Impacts] on sea turtles.	Final EIS Section 3.19.3.1 identifies the threat to sea turtles from their unintended capture in fishing gear, which can result in drowning or cause injuries that lead to injury and mortality (e.g., swallowing hooks) under the gear utilization IPF. Based on the information, analysis, and findings on the EIS, BOEM determined that impacts of the Proposed Action and action alternative on sea turtles would be negligible to minor and potentially minor beneficial.
0984-0027c	The co-existence of the sea turtle with the offshore wind industry is questionable at best. The secondary impacts threatens the very existence of some species. I would side with the turtle and ask that the development be denied especially since the turtle will be here long after the stationary wind industry. Conclusions The proposed project will have potentially permanent [Bold: Major impacts] on sea turtles. The presence of structures pile driving and EMFs will all have [Bold: major impacts] that will be permanent when considering the cumulative impact. The secondary impacts of corraling intentional poisoning harassment and starvation by the Industrial energy Development zones will have a significant biological impact. The application to develop the site due to the [Bold: Major Impacts] to the turtles should be denied.	Final EIS Section 3.19.5 describes BOEM's assessment of impacts of the proposed Ocean Wind 1 Project on sea turtles due to presence of structures, underwater noise (including from pile driving), and EMF. Based on the information, analysis, and findings on the EIS, BOEM determined that impacts of the Proposed Action and action alternatives on sea turtles would be negligible to minor and potentially minor beneficial. BOEM does not concur that corraling, intentional poisoning, or starvation are anticipated effects. Low-level behavioral exposures could occur and these effects are described in more detail in the NMFS BA for the Ocean Wind 1 Project.
0984-0108, & -0109	Sea turtle are susceptible to EMFs. Similar to the marine mammal impacts Sea turtles will be corralled into the shipping lanes and experience an increased mortality rate creating a scenario of a permanent Major Impact on the threatened species. Intentional discharge of fuel oil and hazmat at the anticipated impact as the industrial energy site ages will have a permanent Major Impact. The Major Impact on turtles will result in long term and permanent Major Impacts including auditory injuries stress disturbance harassment and behavior responses. The noise from current marine uses	See responses to 0984-0027a, b, and c.

Comment No.	Comment	Response
	<p>should not be part of this EIS. The EIS and the Major Impacts must stand alone. The use of oil and gas platforms interactions as a suggestion that the turtles will use the stationary wind platforms is a negligent comparison and an intentional falsification of the truth. The EMFs from exposed wires as previously reported scientifically will be a deterrent for the turtles from coming to the stations to rest or feed. The consideration of increased mortality rate from ghost fishing gear on the WTGs is instantiated. The applicants use of other marine users potential impacts with marine life to justify their own environmental degradation should not be considered. The applicant will have permanent Major Impacts on sea turtles. The co-existence of the sea turtle with the offshore wind industry is questionable at best. The secondary impacts threatens the very existence of some species. I would side with the turtle and ask that the permit be denied especially since the turtle will be here long after the stationary wind industry.</p> <p>The proposed project will have potentially permanent adverse Major Impacts on sea turtles. The presence of structures pile driving and EMFs will all have adverse impacts that will be permanent when considering the cumulative impact. The secondary impacts of corralling intentional poisoning harassment and starvation by the Industrial energy Development zones will have a significant biological impact. The EIS should be rejected as a means for further development of the nascent Industrial wind energy system by the developer.</p>	
TRANS-0069-0003	<p>Moving on there are numerous scientific deficiencies in the DEIS. Limited studies have been done and results are not yet available for current limited studies yet projects in leased areas are forging ahead and permits being granted without knowing the consequences. Scientists and state officials have admitted to numerous deficiencies in information and data gaps about the impacts of offshore wind on marine life. Studies being used in DEIS are outdated and more than a majority of identified short term studies in this region have not even started yet. For example for sea turtles.</p>	<p>As noted in response to comments 1259-0156 through -0175, BOEM's analysis of incomplete and unavailable Information and the basis for BOEM's determination that the analysis provided is sufficient to support sound scientific judgments and informed decision-making about the proposed Project is described in EIS Appendix D generally and in Section D.1.16 for sea turtles specifically.</p>

O.6.19 Scenic and Visual Resources

Table O.6.19-1 Responses to Comments on Scenic and Visual Resources

Comment No.	Comment	Response
0011-0003	Not referenced by BOEM in the DEIS is a 2015 BOEM study about a viewshed analysis it did for the New York Outer Continental Shelf Area (Renewable Energy Viewshed Analysis and Visual Simulation for the New York Outer Continental Shelf Call Area: Compendium Report OCS Study BOEM 2015-044)4. It simulated the visual impact of one hundred and fifty-two 6.2 MW wind turbines from 16 observation points in New York and New Jersey. The simulation most relevant to LBI is the Jones Beach observation point because the turbine array was roughly parallel to that shore. The closest point of the turbine array to Jones Beach was 15 miles the same distance as the Proposed Project. The study ranked the visible impact on a scale from 1 to 6. The visual impact from Jones Beach scored a 6 its highest rating. A 6 rating was defined as; "Dominates the view because the study subject fills most of the field for views in its general direction. Strong contrast in form line color texture luminance or motion may contribute to view dominance". Since the height of a 6.2 MW turbine is two-thirds that of the proposed project turbines that visual impact would be equivalent to the project turbines at 23 miles. So the proposed project would still register a major visual impact based on the BOEM study. We note based on this study officials in New York and BOEM determined that the proposed offshore wind turbine lease area off the Hamptons is too close and ruins the serene ocean viewshed and created a 20 mile exclusion zone. They also noted it is a threat to navigation fishing and endangered marine mammals. The Fairway lease area sat as close as 12 miles off the Long Island coast near the Hamptons.	BOEM released its guidance for assessing visual impacts in April 2021: <i>Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States</i> (BOEM 2021). Impact assessments involve a valid and reliable range of valid measures involving comparisons of wind farm noticeability, horizontal and vertical FOVs, visual contrasts, size and scale, and view prominence. Based on applicable onshore to offshore wind farm distances, consideration of variable meteorological conditions result in valid and reliable levels of visibility and effects. Consideration of these factors affirms minor to major impacts on seascape and landscape resources and viewer experiences from KOPs within the geographic analysis area (see Final EIS Section 3.20 and Appendix M).
0111-0003	the study on the visual impact is flawed since it doesn't contemplate the impact of lights flashing throughout the night.	The Ocean Wind ADLS limits navigation lighting to the times when aircraft are present. Analysis of visual impacts from KOP-13 and KOP-23 in Appendix M specifically consider nighttime visibility.
0111-0004	What are the requirements for maritime lighting at the base of the wind turbines? This is not addressed in the EIS. This is a material omission.	Per USCG requirements, the mid-tower light is 256 feet (78 meters) above sea level, the yellow tower base reaches 50 feet (15 meters) above highest astronomical tide, and the landing deck is at sea level. Chapter

Comment No.	Comment	Response
		2, Section 2.1.2.2.3, of the Draft EIS noted that WTGs and OSS would be lit and marked in accordance with USCG lighting standards. Clarification of mid-tower lighting per USCG requirements has been added to Section 3.20.5.
0175-0005	At distances of 12 miles or closer the form of the WTG may be the dominant visual element	This comment is consistent with EIS Section 3.20 and Appendix M analyses and disclosures.
0175-0006	At a Distance of 15.3 to 28 Miles Visual Susceptibility is High That would include from Brigantine south to Sea Isle PLUS Galloway and Upper Townships With Major Impacts including the Atlantic City Beachfront - Nighttime	The high susceptibility of these locations is based on their intrinsic value to the public and may not translate to visual contrasts and prominence of the wind farm and associated impact levels. In the case of the Atlantic City Beachfront-Nighttime, the COP VIA simulation of nighttime lighting indicates strong contrast and a higher level of prominence.
0175-0012	Wind Turbines will be Highly Visible along the Barrier Islands	The visibility of the WTGs would be variable throughout the days and nights, depending on current meteorological, sunlight, and moonlight conditions. In views seaward from the Barrier Islands, based on wind farm distance, there would be periods of moderate, low, and no visibility.
0212-0002	When I heard about this wind farm project I was really curious to know just how prominent the wind-turbines would be from the shore. I watched the simulation videos on the Bureau of Ocean Energy Management web site and I looked at the simulated pictures in the Ocean Wind Project Overview Document. The wind-turbines depicted were pretty small. But were the simulations accurate in their depiction? Would those 900' towers really look that small from shore and what about from a beach front mansion?	<p>The COP VIA and cumulative project simulations are based on valid and reliable methods.</p> <p>The distance-based comparison of the perceived size of a typical onshore cell tower with the perceived size of an Ocean Wind offshore turbine is as follows: a 100-foot (30.5-meter)-tall microwave tower seen at 1.7 miles (2.7 kilometers) distance would be perceived as the same height and occupy the same vertical portion of the view (0.64-degree vertical in the overall 55-</p>

Comment No.	Comment	Response
		degree vertical FOV) as a 906-foot (276.1-meter)-tall Ocean Wind WTG seen at 15.3 miles (24.6 kilometers) distance.
0212-0003	I created a spreadsheet to calculate just how big a 906 foot turbine would appear from various vantage points along the coast. To my pleasure the BOEM simulations appear accurate. At the point on land closest to the towers between Ocean City and Atlantic City where the towers are roughly 15 miles offshore standing on the beach holding my arm outstretched and using my thumb and index finger spread apart to measure the height of the towers they will be less than a 1/4" tall and the blades will sweep up another 1/4 inch high. So less than a total 1/2" tall that's it. If I climb to the second story of a beach front mansion the towers and blades grow to appear almost an inch tall. About the same height as a fishing boat passing by. Visible but not obtrusive. Back on the beach and moving 6 or 7 miles up from AC or down the coast from OC and the towers shrink to half the size they appeared in OC or AC. Another 6 or 7 miles and they are half that half size again essentially invisible. And these calculations don't address actual visibility of the towers just their apparent height on a PERFECTLY clear day with no humidity no haze no clouds no atmospheric distortion just perfect visibility. How often do you look at the weather app on your phone and see it say there is 15 miles or more of visibility? Not very often. In reality much of the time the towers will be largely or completely obscured by typical atmospheric conditions.	Comment noted.
0390-0003	The proposed turbines will dramatically alter the landscape and character of the area both in the immediate locality and from important vantage points such as Ocean City's Music Pier.	Comment noted. The visibility of the WTGs will be variable, depending on current meteorological, moonlight, and sunlight conditions. In views seaward from the shoreline and Ocean City's Music Pier there will be periods of high, moderate, low, and no visibility.
0433-0001	The BOEM must address how the hundreds of planned Wind Turbines will appear at night and how that will affect the environment. Will these Wind Turbine require lighting at night? Could these lights disturb the environment and cause damages? Who is liable for these damages? Could these lights disturb birds and endangered mammals? Please refer to their published video of the Wind Turbines appearance from the shoreline where the BOEM doesn't address to the public what they may look like at night.	The COP VIA includes nighttime view simulations. The Ocean Wind ADLS would limit nighttime lighting to those times when nighttime aircraft are present, which would significantly reduce potential impacts on birds and mammals. It is estimated that lights would be activated for only 10.9 hours over a 1-year period.

Comment No.	Comment	Response
0658-0002	Deceptive Industrial Developers' Renditions of Visual Impact at 9 mi is egregious conflict with BOEM Visibility Studies off NY's Long Island concluding that turbines 15 mi off beaches have "dominant" visual effect. [See original attachment for photo]. (Photo above is closer to reality on LBI.) Massively visible filed of turbines. Fully illuminated & visible day & night. Destroying the natural beauty of our coastline.	<p>The visibility of the WTGs will be variable, depending on current meteorological, moonlight, and sunlight conditions. In views seaward, there will be periods of high, moderate, low, and no visibility.</p> <p>The COP VIA includes nighttime view simulations. The Ocean Wind ADLS will limit lighting to those times when aircraft are present.</p>
1071-0003	Additionally the photo simulations in the DEIS are not utilizing the current standard practice for viewshed analysis.	The photo simulations do utilize the current standard practice and the viewshed analyses are based on the valid and reliable ArcGIS algorithm.
1071-0012	I respectfully request that the written draft report be amended to reflect the true impact of 300 meter windmills as shown in the multiple scientific papers (peer-reviewed) already referenced in the document and referenced above. The photosimulation analysis to assess the visual impact of Ocean Wind is inadequate and utilized outdated methods. The simulations primarily utilized a 50mm focal length when it should have used a 75mm focal length. The 50 mm focal length understates the impact that the windmills will have on the viewshed. This is discussed in the peer-reviewed "Visual Prominence as Perceived in Photographs and In-Situ" (Palmer and Sullivan Journal of Digital Landscape Architecture 2020) "... the visual prominence ratings made in-situ are higher than for the ratings of the simulations and as-built photographs taken with the 50 mm EFL. However with a 75 mm EFL this difference diminished to a level that is not statistically significant." (Palmer and Sullivan 2020). Palmer and Sullivan 2020 go further as to state "...we feel it should become standard practice that the photosimulations are peer reviewed for technical accuracy and proper presentation instructions and related information. If they are found inadequate by peer review the simulations should be removed from the record and the permitting process stopped until corrected." Other have also stated that 75mm should be used for example. Takacs and Goulden 2019 questioned the validity of using standard photographic simulations to investigate the experience of viewing wind turbines and in response to this The Landscape Institute (2019) now recommends using a 75 mm equivalent focal length lens for wind turbine simulations.	The photo-simulations were prepared following accepted professional and accepted industry practices.
1071-0013	All photosimulations were completed in 2022 and were all at 50mm focal length.	The photo-simulations were prepared

Comment No.	Comment	Response
	This is not in accordance with current standard practice which was in effect at the time these photosimulations were completed. Additionally it has been proven in peer reviewed articles that 50mm photosimulations understate the impact that windmills will have on the viewshed. I respectfully request that all simulations be updated to the current accepted practice of 75mm focal length and these photosimulations be peer reviewed for technical accuracy and be recirculated for review by the public.	following accepted professional and accepted industry practices.
1071-0015	Finally for 3.20 I cannot fathom how the no action alternative has a "minor to moderate negative impact" that conclusion should be revisited. Doing nothing by its nature will not have a moderate impact on scenic views. The baseline "no action" alternative for 3.20 should be changed to green and negligible as all the events described are transitory in nature.	The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. Ongoing activities include constructed and permitted offshore wind projects. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Reasonably foreseeable future actions include the build-out of executed renewable energy lease areas. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6 of the Final EIS.
1125-0013	While this level of detail presented in the DEIS may be useful to some reviewers it tends to lose two key facts. First as stated on the top of page 3.20-14 "Typical meteorological conditions limit visibility of the Wind Farm Area from inland and the coast on 77% of days and provide clear visibility on 23 percent of days (1 in every 4 to 5 days) (Atlantic Shores2021)". The paragraph continues to note that "Therefore affected environment and VIAs of the Project are based on clear-day and clear-night visibility." The analysis is therefore focused on conditions which occur on only 1 day in 4 or 5. This should be clearly stated as should the fact that under typical conditions (atmospheric haze precipitation fog) the Wind Farm Area will not be visible from shore. The issue of nighttime visibility/aircraft warning lights is addressed on page 3.20-17 but the reader needs a keen eye to learn that the use of an ADLS limits night time illumination to 11 hours per year (or approximately one quarter of one percent of night time hours).	The EIS discloses that the visibility of the WTGs will be variable, depending on current meteorological, moonlight, and sunlight conditions. In views seaward, there will be periods of high, moderate, low, and no visibility. In addition, as noted in the comment, the EIS discloses that use of ADLS would limit nighttime activation of aircraft warning lights.
1275-0008	[Bold: Visualization]: will you update your assessment of visual and psychological impacts to the public due to the changes in view using the actual dimensions and lighting of these offshore wind structures? The visualization	Ocean Wind's COP VIA contains a visual simulation of the Ocean Wind 1 wind farm from Stone Harbor. Though not referred to

Comment No.	Comment	Response
	done looking Northeast from Stone Harbor which does not include Ocean 1 for example shows the view of the wind farms. It looks like the emerald city. Gone is the open water on the horizon. That will certainly have a psychological impact which I am not sure has been thoroughly vetted.	as “psychological impacts,” Draft EIS Section 3.20 and Appendix M do discuss the impacts of the Proposed Action in terms of viewer experience.
1275-0009	[Bold: Lighting]: what will the lights look like from land from Ocean 1 and other farms in the region?	Ocean Wind’s COP VIA contains visual simulations of the turbines’ lighting at night. See simulation V13, Atlantic City Beachfront (Night), and V23, Stone Harbor Beach Access (Night).
TRANS-0005-0002	My husband and I are not opposed to wind energy however 900 foot turbines 98 of them with Ocean Wind 1 placed 15 miles off the coast and three substations will produce a dominant impact on the beach view. I use the word dominant impact because this is actually what BOEM your organization concluded in an earlier study with -- when assessing 600 foot turbines produced dominant impact 15 miles offshore. In fact the fairway lease area which was planned for 12 miles off the coast near the Hamptons was determined to be too closed posing a threat to navigation fishing and marine mammals by New York and BOEM. What makes Ocean City New Jersey different.	BOEM released its guidance for assessing visual impacts in April 2021: <i>Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States</i> (BOEM 2021). EIS Section 3.20 and Appendix M address the noticeability and impact levels of the Ocean Wind turbines in accordance with BOEM 2021. The analyses and disclosures include the turbines’ features in view at applicable distances, percentages of views occupied, visual contrast ratings, size, prominence, and impacts.
TRANS-0038-0005	My first concern is that the wind turbine are planned to be placed 15 miles or so outside of Atlantic City for the Ocean Wind 1. Likely they will be visible from Brigantine to Stone Harbor possibly, North Wildwood and even Angle Sea.	EIS Section 3.20 and Appendix M and COP VIA analyses concur with visibility from these locations.
TRANS-0066-0002	Point two is regarding the ADSL which for everybody who is on the phone who maybe is not aware this is the automated lighting system because due to FAA regulations these wind turbines need to be lighted up you have multiple lights on them so they will be easily visible for nighttime from the shore and for aircraft nearby. Now according to the EIS the developers here have said that they are committing to put in a system that will use a radar detection such that the lights won't be on unless they are -- there is an aircraft nearby which would be actually pretty rare but the issue is that they are not -- they don't have to do it and there is no requirement so we have the prospect now of having hundreds of wind turbines out in the ocean with flashing like Christmas trees throughout the night. There is no commitment that they don't have to -- that they have to put in this	Ocean Wind has committed to installation of the ADSL.

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	radar system. And the other thing is I have done a little bit of research and I asked at the Orsted meeting in Ocean City last year nobody can seem to tell us where an ADSL system has been used on this size of project on the wind turbines anywhere in the world. So it will be a first to see if it actually can work so obviously that's a potential problem an as well.	

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O.6.20 Water Quality

Table O.6.20-1 Responses to Comments on Water Quality

Comment No.	Comment	Response
0984-0029	3.21 Water Quality The two [Bold: Major Impact] Issues with water quality is the creation of flotsam that carries the bacteria to the swimming areas closing beaches. Creating a financial hardship for residents whom are minorities whom are in a food desert. Second is the change of salinity within the Industrial wind development areas that affect the reproduction of sea life creating a secondary effect on seabirds and marine mammals. These Major Impacts on water quality should have been included in the EIS.	The accidental releases IPF, which would include materials such as flotsam (usually defined as marine debris associated with vessels in the marine environment) is addressed in Draft EIS Section 3.21.3.2 and Section 3.21.5. The adverse effect of water quality impacts on aquatic resources are addressed in other sections of the Draft EIS (e.g., benthic resources; finfish, invertebrates, and EFH; marine mammals). The Draft EIS water quality section focuses on the potential chemical and physical impacts on surface waters from construction and operation of the Project.
1192-0005	Finally the DEIS completely ignores the most important part of any construction project: Green Infrastructure and the Stormwater Management Plan. Instead the Oyster Creek site discharges runoff to Barnegat Bay using an existing outlet and has designed two basins which under the new stormwater regulations neither of these are applicable.	As stated in Draft EIS Section 3.21, Ocean Wind would need to comply with all federal and state requirements to avoid and minimize impacts on water quality. Ocean Wind will be required to obtain the applicable New Jersey Pollutant Discharge Elimination System permits for runoff and stormwater management during construction and operations (including at substations) to ensure water quality standards are not exceeded. As part of this permitting process, Ocean Wind could incorporate green infrastructure design into the onshore Project components. Ocean Wind would not be able to use an existing outlet that discharges surface water not meeting water quality standards.
1192-0007	Two ways to address these threats is to adopt Low Impact Development and use ecosystem services to keep the water [<i>Italics: in situ</i>] (where it falls). Ecosystem	See response to comment 1192-0005. Ocean Wind could incorporate low-impact

Comment No.	Comment	Response
	services are nature-based processes that mitigate imperviousness and stormwater by using Low Impact Development and Green Infrastructure. The existing project proposals neglect to address the importance of these services.	development and green infrastructure into onshore Project components during the New Jersey Pollutant Discharge Elimination System permitting process. Ocean Wind would still need to ensure that stormwater discharge meets water quality standards regardless of the stormwater management methods Ocean Wind chooses to design/implement.
1192-0009	This is a group with the USACE that works with ecosystem services to mimic nature in restoring the environment. EWN [Footnote 13: The U.S. Army Corps of Engineers (USACE) Engineering With Nature® (EWN) Initiative enables more sustainable delivery of economic social and environmental benefits associated with infrastructure. https://ewn.ercd.dren.mil/?page_id=7] encourages the use of Green Infrastructure and the Beneficial Reuse of Dredge Materials. It would be significant for all the Wind projects to adopt a similar program in interactions with nature especially in Barnegat Bay.	Under CWA Section 404, Ocean Wind and any future offshore wind project proponents would need to work with USACE on any mitigation requirements (that could include compensation or restoration) related to impacts on wetlands and other waters of the United States. Should USACE incorporate Engineering with Nature principles and practices into the permitting process to achieve the mitigation requirements, then Ocean Wind would need to incorporate those measures into the Project.
1192-0017	The drainage plan reuses an existing outlet from the decommissioned Nuclear Power Plant and has two basins.[See original comment for image of drainage plan]Under the new stormwater regulations neither of these are applicable. Moreover any area in the Pinelands Preserve should follow the higher standards found in the rules of the Pinelands Commission (Appendix C). [Footnote 17: Appendix B] NJ Stormwater Rules are the minimum expected - it is ok to go for the gold standard but that is not what is proposed. Some ideas of what this means follows. Since 2006 there existed important rule amendments in the Pinelands that required the use of smaller distributed BMPs including: LID site design and limited site disturbance to save the trees. Currently the applicant's stormwater design includes two large ponds. In addition since the total volume of stormwater must be infiltrated; and no direct discharge of runoff of wetlands wetlands transition areas or surface water bodies will be permitted the current level of imperviousness will have to change the approved design standards. Below is excerpts from a power point on the new Stormwater Rules by the NJ Pinelands Commission: In the Pinelands new or reconstructed projects must meet the goals of the new	As stated in Draft EIS Section 3.14.1, the entirety of the Onshore Project area is outside of the state-designated Pinelands Area and, therefore, not subject to the rules of the State of New Jersey Pineland Commission's Pinelands Comprehensive Management Plan (including stormwater requirements of the plan). BOEM notes that portions of the export cable corridors are still within the federally designated Pinelands National Reserve. Despite the onshore Project components not being subject to the state's Pinelands Comprehensive Management Plan and its stormwater requirements (as detailed in the comment), Ocean Wind would still be

Comment No.	Comment	Response
	<p>stormwater management rules that is to use green infrastructure (GI) to create hydrologically functional landscapes to maintain or reproduce the natural cycle for the developed area. [Footnote 18: https://www.nj.gov/pinelands/home/presentations/Feb_9_2022_Pinelands_Speaker_Series_Stormwater_Management.pdf]The longstanding Pinelands Stormwater regulations is that stormwater management required for all "Major Development" (disturbance greater than 5000 sf):</p> <ul style="list-style-type: none"> Volume Control: All major development must retain and infiltration rainfall from the net increase in impervious surfaces from the 10-year storm of 24-hour duration - that is approximately 5 inches plus rainfall. This rule ensures that almost all stormwater is recharged to the Kirkwood Cohansey Aquifer. Runoff Rate Control: Rate of runoff generated on the parcel by the by the 2- 10- & 100-year storm of 24 hours duration shall not increase post development. This rule ensures that flooding is minimized. Since 2006 important rule amendments required the use of smaller distributed BMPs including: Low Impact Development Site Design, Limited Site Disturbance to save the trees. The [Italics: new] policy goals for the Pinelands amended stormwater will harmonize Pinelands & NJDEP stormwater rules in a manner best suited for the Pineland Area minimize impact of increased stormwater runoff due to climate change - which is likely to bring more intense storm events and strengthen and enhance stormwater management in the Pinelands Area while establishing reasonable requirements for home builders and developers.[Italics: Effective March 2021] NJDEP requires GI to manage stormwater. The recently adopted Pinelands stormwater rule follows suit. This manages stormwater close to the source. Store stormwater runoff for reuse (in a rain barrel). Treat stormwater through infiltration into the subsoil or through filtration by vegetation or soil.[Italics: In the Pinelands Area] there is a stricter treatment standard for nitrogen removal. For new major development requires reduction of total nitrogen load in stormwater runoff from the water quality storm by a minimum of 65% including permanent lawn and turf areas intended for human use. This protects surface water from algal blooms low DO and invasive species resulting from nutrient inputs. To attain and demonstrate 65% removal of Nitrogen from stormwater runoff use a series of GI best management practices (BMPs) - bioretention basin infiltration basin or vegetative filter. Using Soil as a treatment medium. Soil as a treatment medium - removal of positively charged pollutants. Note: Neither sandy soils nor loam (silty/clayey) soils are effective in removing NO₃. This is where plants play a major role via nutrient uptake.Exceptions and Mitigation. If stormwater management requirements cannot be met on- site based on NJDEP standards applicants may request: A municipal variance (for private development). An exception from the Pineland Commission (for public development). Variance and exceptions may 	<p>required to comply with all federal, state, and local requirements for the management and discharge of stormwater. If BOEM approves the Project, Ocean Wind would need to obtain the applicable New Jersey Pollutant Discharge Elimination System permits to ensure water quality standards are not exceeded. Ocean Wind would not be able to use an existing outlet that discharges surface water not meeting water quality standards.</p>

Comment No.	Comment	Response
	<p>only be granted from the on-site design and performance standard for green infrastructure groundwater recharge runoff quality and runoff quantity.· No decrease in the total volume of stormwater required to be infiltrated will be permitted.· No variance or exception may be granted from the CMP's prohibition on direct discharge of runoff of wetlands wetlands transition areas or surface water bodies. Off-site Mitigation Requirements. If a variance or exception is approved an off-site mitigation project must also be identified and approved.· Variance or exception can only be granted for the portion of the standard that cannot be met onsite. That is if only half of the required volume can be retained and infiltrated onsite and the remaining volume obligation may then be retained and infiltrated off-site.· All mitigation projects must be in the same HUC-14 drainage area as the proposed development. Sites in the larger HUC-11 drainage area may be approved if necessary.· All mitigation projects must be in the Pineland Area.· The same requirements will be applied to all public and private development.[Underlined: Recommendations:]· Explain building in a wetland area cutting down trees taking parkland.· Explain how these sites are not in the FEMA Hazard area. Building in wetlands indicates lower areas which will flood quicker.· Provide location of the Save Trees in Island Beach State Park and Lacey Township in the same HUC.· Compare the preferred site with other alternatives to find the least impacted.</p>	
1259-0093	<p>iv. Water Quality (3.21)BOEM anticipates the impacts on water quality resulting from Ocean Wind 1 will be minor.[Footnote 71: DEIS at 3.21-5.1.] However this conclusion is not adequately substantiated by the Draft EIS. To start this offshore wind energy development project and its geographical analysis area lie predominantly in Atlantic County and Cape May Counties in the vicinity of Pine Barrens and a large Wildlife Management Area. Any onshore activity related to the project will impact these sensitive and valued ecosystems as well as a variety of inland waterways and the impacts thereof need to be fully investigated.</p>	<p>The comment does not indicate how BOEM's conclusions are not adequately substantiated or specifically how impacts on inland waterways need to be fully investigated. BOEM has described the water quality affected environment, including all the impaired waterbodies designated under CWA Section 303(d) (see Draft EIS Section 3.21.1, and Appendix I, Figure I.4). As stated in response to comment 1192-0017, the Onshore Project area is outside of the state-designated Pinelands Area and, therefore, not subject to the rules of the State of New Jersey Pineland Commission's Pinelands Comprehensive Management Plan (including stormwater requirements of the plan). Furthermore, the</p>

Comment No.	Comment	Response
		Onshore Project area is outside of any National Wildlife Refuge, including the Edwin B. Forsythe and Cape May national wildlife refuges.
1259-0095	Additionally the water quality geographic analysis area overlaps with most but not all of the Atlantic Shores South (OCS-A 0499) Atlantic Shores North (OCS-A 0549) and the Ocean Wind 2 (OCS-A 0532) lease areas. Together these projects will include as many as 468 WTGs and construction activities will occur for years with possible overlap between each project in terms of timing. The magnitude of water quality impacts must be considered from this perspective in all thoroughness without making simpler assumptions that the Draft EIS describes.	BOEM acknowledges the other future offshore wind development in the water quality geographic analysis area, including Atlantic Shores North, Atlantic Shores South, and Ocean Wind 2 (see Draft EIS Section 3.21.3.2), and incorporates elements of those projects in the analysis. For example, the accidental releases IPF discussion in Draft EIS Section 3.21.3.2 states, "This EIS estimates that up to approximately 1,527,193 gallons of coolants, 2,121,777 gallons of oils, and 471,492 gallons of diesel fuel could be stored within WTG foundations and the OSS within the water quality geographic analysis area," and then goes on to provide an analysis. These gallons of petrochemicals are the combined amounts specific to Atlantic Shores North, Atlantic Shores South, and Ocean Wind 2.
1259-0099	The proposed project includes waterways being monitored by NJDEP annually for water quality parameters. Many sites in the project area are impaired and non-attaining for Dissolved Oxygen including Barnegat Bay Manahawkin Bay Upper and Lower Little Egg Harbor. Nearly all water quality assessment units of Barnegat Bay and associated tidal tributaries in the geographic analysis area are listed as 303(D) impaired and do not meet one or more of the designated uses - fish consumption ecological function recreation arising from pathogen exceedances turbidity oxygen depletion and organic contaminants including PCBs and pesticides. It is well known that New Jersey's Waterways suffer from varying degrees of impairment. The most recent 2018/2020 New Jersey Integrated Water Quality Assessment Report reconfirms that the Atlantic Coastal region which includes the onshore Project area does not fully support the designated uses and is largely impaired for water quality. [Footnote 73: https://www.state.nj.us/dep/wms/bears/assessment-report20182020.html .]	Draft EIS Section 3.21.1, and Appendix I, Figure I.4, disclose all impaired surface waters (as designated under CWA Section 303(d)) in the water quality geographic analysis area.

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	Barnegat Bay is heavily impaired for nutrients and other pollutants including pathogens.	
1259-0101	In the interest of brevity immediately below are several more points that BOEM fails to address to evaluate impacts to water quality in the Draft EIS:1. Potential microclimate effects of wind turbines - Wind turbulence behind turbines and its likely impacts on water quality.	The Draft EIS covers the effects from the presence of wind turbines on water quality under the presence of structures IPF in Sections 3.21.3.2 and 3.21.5.
1259-0102	2. Enhanced vertical mixing from turbulence created by turbine rotors increases night time surface air temperature by 0.5 degrees while lowering daytime temperatures by 2-3 degrees. Potential impacts on water temperature must be included in a full and fair analysis of Ocean Wind 1's environmental impacts.	The Draft EIS covers the effects from the presence of wind turbines on water quality under the presence of structures IPF in Sections 3.21.3.2 and 3.21.5; the analysis includes effects on water temperature. The analysis is based on extensive modeling BOEM conducted in the mid-Atlantic Bight— <i>Hydrodynamic Modeling, Particle Tracking and Agent-Based Modeling of Larvae in the U.S. Mid-Atlantic Bight</i> —cited as BOEM 2021c. Details can be found in the report here: https://espis.boem.gov/final%20reports/BOEM_2021-049.pdf .
1259-0104	4. Building arrays of offshore wind turbines off the Mid-Atlantic states could have effects on the annual cycle of ocean water temperatures that are critical to the region's fish and shellfish habitat. In addition to impacts on the Atlantic cold pool and the high regional fishery productivity that it supports heat absorbed by Ocean Wind 1's steel monopoles will warm the surface water and water column including local benthic areas and this may extend to cumulative effects from the heat dissipated by the entire 98-turbine array. [Footnote 75: See Travis Miles et al Could federal wind farms influence continental shelf oceanography and alter associated ecological processes? A literature review. SCMFIS (2020) https://scemfis.org/wp-content/uploads/2021/01/ColdPoolReview.pdf .] This would have significant and serious impacts on the ecosystem including cumulative impacts.	Impacts from the presence of wind turbines on aquatic resources, including the Atlantic cold pool, are addressed in Draft EIS Section 3.6, <i>Benthic Resources</i> , and Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> , specifically the presence of structures IPF analysis for both the Proposed Action and offshore wind (not including the Proposed Action) sections.
1259-0105	5. Similarly the EIS needs to include a more thorough analysis of the potential impacts of extreme weather events on Ocean Wind 1.6. The turbines' presence may lead to changes in the surrounding wind speed and surface stress of the water in the turbines' wake which may lead to increased turbulence and heat fluxes. [Footnote 76: See S. Afsharian and P.A. Taylor On the Potential Impact of Lake Erie Wind Farms on Water Temperatures and Mixed Layer Depths: Some	BOEM conducted a model offshore Rhode Island and Massachusetts that evaluated ocean processes in the presence of wind turbines during two extreme weather events, including a hurricane. A brief summary of the results has been added to

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	<p>Preliminary Modeling Using COHERENS 124 J. Geophysical Rsch.: Oceans 1736- 49 (2019) https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2018JC014577.] The turbines' effects on near-surface wind speeds and the warming of near- surface water temperature has even been documented in the context of extreme weather events [Footnote 77: See Tsung-Yu Lee et al. Impacts of offshore wind farms on the atmospheric environment over Taiwan Strait during an extreme weather typhoon event 12 Scientific Reports 823 (2022) https://www.nature.com/articles/s41598-022-04807-w.pdf.] but no such interactions are analyzed in the Draft EIS.</p>	<p>Final EIS Section 3.21.3.2 and Section 3.21.5. The full report (BOEM 2016) and results can be found here: https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Studies/Renewable-Energy/NE-Ocean-Forecast-Model-Final-Report.pdf.</p>
1259-0170	<p>Cable emplacement. New undersea cables required to bring electricity generated from other offshore WTGs onshore would affect seafloor (32356 acres) and this disturbance would cause increases in suspended sediment (DEIS Appendix F Table F2-2) both of which could have more serious impacts than what is stated in the Draft EIS. According to the Draft EIS the impacts from these cable emplacement methods are variable but typically include suspension of seabed sediments that vary in extent and intensity depending on the project and site-specific conditions. The Draft EIS states the following:· These impacts would be spatially and temporally localized· Suspended sediment concentrations due to jet plow would be within the range of natural variability· Potential impacts to sea turtles from construction activities would be due to increased turbidity and short term (1-6 hours)· Sea turtles would be expected to swim away from the sediment plume and return to the area once turbidity has returned to background levels· [Bold: It is expected that mitigation measures would be implemented to minimize and reduce the potential for adverse effects from water quality changes on sea turtles.]· Dredging for sand wave clearance may be necessary in places to ensure cable burial below mobile seabed sediments which could result in additional impacts on sea turtles related to impingement entrainment and capture associated with mechanical and hydraulic dredging techniques· [Bold: Given the available information the risk of injury or mortality of individual sea turtles resulting from dredging necessary to support other offshore wind projects would be minor and population-level effects are unlikely to occur.] The Draft EIS vastly simplifies the impacts from turbidity and makes a lot of assumptions related to avoidance and overlooks elevated mortality risks from dredging and cable emplacement activities.</p>	<p>The comment does not indicate specifically how BOEM vastly simplified turbidity impacts and overlooked sea turtle mortality risk or how the Draft EIS is deficient on this topic, so BOEM cannot provide a detailed response. However, the Draft EIS addresses Project-related turbidity and its potential impact in Sections 3.6, 3.13, 3.15, 3.19, and 3.21. The NMFS BA further addresses turbidity impacts on federally listed aquatic species, including sea turtles.</p>
1259-0176	<p>Sediment grain size effects are stated to be minor and refers to evaluation studies done in Massachusetts Rhode Island and Virginia. Were any local studies such as the seabed characterization of New Jersey's middle and outer shelf [Footnote 166:</p>	<p>BOEM currently does not have a site-specific sediment dispersion model for Ocean Wind, but the EIS includes</p>

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	See John A. Goff et al. Seabed characterization on the New Jersey middle and outer shelf: correlatability and spatial variability of seafloor sediment properties 209 Marine Geology 147 (2004) https://www.sciencedirect.com/science/article/abs/pii/S0025322704001677.] evaluated for purposes of the Ocean Wind 1 EIS?	information on sediment dispersion for three other offshore wind projects with conditions representative of the Wind Farm Area. BOEM notes that Ocean Wind is currently in the early stages of a site-specific sediment dispersion model for the Ocean Wind 2 project, which would partially cover this Project. This information will be included in the Final EIS if the results of the Ocean Wind 2 model are available prior to the time of document issuance.
1267-0003	Appendix G Section 3.21 page 18 understates the issues of ground water. The Kirkwood-Cohansey aquifer is the sole-source aquifer for the public supply wells which currently do not serve all of the properties along the proposed export cable route. The un-served properties are provided water from shallow wells along the proposed route that are in an unconfined aquifer. The Dewatering will adversely impact individual drinking water supplies unless the discharge is collected and trucked or piped to a safe discharge location. In crossing the barrier islands the groundwater will be encountered at a depth from 12 to 36 inches. An issue in Ocean City the Storm water collection system is not designed with capacity to convey dewatering flows along with rainfall events. Figure 2-3 of the draft EIS includes two landfalls that follow routes that travel along West Avenue in Ocean City. The West Avenue right-of-way is 100 feet wide with the existing utilities that include sanitary sewer collection mains two sanitary force mains underground telephone conduits water supply mains a High Pressure Gas main storm water pipe crossings and the former West Jersey Railroad bed. The construction along West Avenue will encounter Known Historic Fill and pass by Known Contaminated Sites as well as a Public Water Supply Well and an elementary school. This creates significant concerns regarding dewatering operation.	See comment 1203-0012 from NJDEP on dewatering regulatory requirements and permitting for the Project. If BOEM approves the Project, and Ocean Wind decides to construct the Project, Ocean Wind would be required to obtain all applicable federal and New Jersey state permits for dewatering activities to ensure the protection of surface and groundwater. Ocean Wind would be required to implement the terms and conditions of the applicable permits.
TRANS-0004-0005	Coming to water quality the DEIS assumes erroneously that the no action alternative combined with all planned activities would result in minor temporary impacts and are not anticipated to exceed the water quality standards this is just not correct. It is well-known that New Jersey's waterways actually suffer from varying degrees of impairment and the most recent integrated water quality assessment report from 2018-2020 confirms this fact. The Atlantic coastal region which includes the onshore project area is part of that impairment and does not fully support the designated uses. Barnegat Bay is heavily impacted with nutrients	The comment does not indicate specifically why BOEM's conclusions are erroneous. BOEM has described the water quality affected environment, including all the impaired waterbodies designated under CWA Section 303(d), and the water uses are non-attaining (see Draft EIS Section 3.21.1 and Appendix I, Figure I.4). As

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	<p>and other pollutants including pathogens. Any additional contamination from accidental spills would impact upstream creatures changing weather patterns warming temperatures the thermocline of the Atlantic Continental shelf and the impact to these ecosystems from large offshore wind farms have not been addressed.</p>	<p>stated in Section 3.21.1, nearly all water quality assessment units of Barnegat Bay and associated tidal tributaries in the geographic analysis area are listed as 303(d) impaired. Ocean Wind would need to ensure that any action that would affect surface waters, including those listed as impaired under Section 303(d) (e.g., Barnegat Bay), would not result in exceedances of water quality standards and would comply with any existing total maximum daily load requirements for any waters designated as impaired under CWA Section 303(d). All future projects (wind or non-wind projects) with the potential to affect surface waters would need to comply with federal and state requirements to avoid and minimize impacts on water quality.</p>
1259-0096	<p>Furthermore according to the Draft EIS there will be increased vessel activity in the region during construction activities for Ocean Wind 1 that will continue through 2023. Risks and occurrence of surface water exposure to contaminants during routine vessel use and also potential accidental spills are quite high. Increased vessel traffic also increases the risk of collisions and consequent chemical spills. More specifically the Draft EIS estimates that up to approximately 1527193 gallons of coolants 2121777 gallons of oils and 471492 gallons of diesel fuel could be stored within wind turbine foundations at Ocean Wind 1 and the offshore substation within the water quality geographic analysis area. Other chemicals including grease paints and sulfur hexafluoride will also be used at the offshore wind projects and black and gray water may be stored in sump tanks on facilities.</p> <p>The Draft EIS describes a modeling study that was conducted to determine the likelihood and effects of a chemical spill at offshore wind facilities and concludes that revealed the most likely type of spill (i.e. non-routine event) to occur is from the WTGs at a volume of 90 to 440 gallons (341 to 1666 liters) at a rate of one time in 1 to 5 years or a diesel fuel spill of up to 2000 gallons (7571 liters) at a rate of one time in 91 years. The modeling effort was conducted based on information collected from multiple companies and projects and would therefore apply to the</p>	<p>The modeling study referenced in the comment and cited in the Draft EIS (as Bejarano et al. 2013) was a BOEM-commissioned study developed by three consulting companies with expertise in modeling the risk, fate, and effects of chemicals associated with wind turbines. Seven different models were thoroughly reviewed and evaluated, with two of the models determined to provide the most comprehensive capabilities of spill impact assessment. The report was technically reviewed by BOEM and was approved for publication by BOEM. BOEM believes the modeling effort and results are the best available information BOEM has to address potential spills related to offshore wind projects.</p>

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	<p>other projects in the water quality geographic analysis area. However it is not clear from the Draft EIS whether these studies are peer-reviewed comparisons were made with other offshore wind installations elsewhere or the estimates from this study were compared with those from the oil and gas platforms. In brief the EIS for Ocean Wind 1 has not established the accuracy of this study strongly enough to rely on it in foregoing further analysis regarding the impact of oil spills from this offshore wind energy development project on water quality.</p>	
1259-0165	<p>In the next five years (2022-2027) as per Table F2-Appendix F of the Draft EIS more than 300 WTG (312) foundations will be installed including 101 WTG foundations from this Project. More than 850000 gallons of coolant fluids and more than 800000 gallons each of coolant fluids and total oils and lubricants will be used in these WTGs. Bejarano et al. 2013 predicted spill scenarios using a selected number of chemicals at three areas (call area in North Carolina as well as two WEAs in MD and RI/MA). The incident rates were roughly grouped into five categories of probability - very high high medium low and very low (Table 3.22) that varied from 1 in every month to one in 1000 years. The highest release probabilities (1 time per month) were in the North Carolina Call Area resulting from vessel collisions causing small releases of up to several hundred gallons while at all Call Area/WEAs the probability of catastrophic spills (all oils totaling 129000 gallons and all chemicals totaling 29000 gallons) would be very low (1 time in &ge;1000 years). Why did the Draft EIS only pick the very conservative estimate of 1 event in 1000 years? This is an extremely conservative estimate and does not examine all risks - from Wind Turbine Generators and Electric Service Platform and all scenarios including natural disaster vessel traffic and simple human error. [Footnote 157: https://meridian.allenpress.com/iosc/article/2014/1/869/197950/Potential-Impacts-from-a-Worst-Case-Discharge-from.] Moreover how did the Draft EIS arrive at this conclusion: "The likelihood of a spill occurring from multiple WTGs and OSS at the same time is very low and therefore the potential impacts from a spill larger than 2000 gallons are largely discountable"?</p>	<p>The Draft EIS states there would be a catastrophic spill one time in 1,000 or more years because that is what the modeling effort produced for a result. As stated in the modeling report (Bejarano et al. 2013), the probabilities in the modeling report were derived using a series of conservative assumptions (e.g., allision analysis, assumption of a complete release in the event of a catastrophic event), leading to a potential over-estimation of release probabilities. The full report can be found here: https://espis.boem.gov/final%20reports/5330.pdf.</p> <p>Regarding the comment on the likelihood of releases from WTGs and OSS occurring at the same time, BOEM believes it is reasonable to assume that all WTGs and OSS would not fail and release all petrochemicals in the water at the same time, which would be considered discountable (i.e., extremely unlikely to occur).</p>
1259-0166	<p>The Draft EIS does not appear to address the following data gaps and challenges identified in Bejarano et al. (2013). For instance: 1. What are the types of chemicals and oils used? New products continue to be developed and need to be included in the modeling scenarios?2. What information is available on toxicity data for these chemicals?</p>	<p>As stated in Draft EIS Section 3.21, petrochemicals used include coolants, oils, and diesel fuel. Other chemicals include grease, paints, and sulfur hexafluoride. The Bejarano et al. (2013) modeling provides the specific types of coolants, oils, and fuels for offshore wind facilities, including petroleum distillate oils (mineral</p>

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		oil, diesel, hydraulic fluids, lubricating oils, gear oils, motor oils); biodegradable ester oil (e.g., vegetable oil, biodiesel, and commercial product dielectric fluid MIDEL® 7131); electrolytes (sulfuric acids); and anti-freezers (ethylene or propylene glycol). Toxicity from spills of petrochemicals in the offshore environment on the biological environment are addressed in those Draft EIS sections that cover aquatic biological resources (e.g., marine mammals, birds, sea turtles).

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O.6.21 Wetlands and Waters of the U.S.

Table O.6.21-1 Responses to Comments on Wetlands and Waters of the U.S.

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0950-0002	We also urge you to ensure that impacts to sensitive habitats such as submerged aquatic vegetation wetlands and forests are avoided as much as possible and any unavoidable effects are mitigated.	Ocean Wind has proposed various measures to avoid and minimize impacts on sensitive areas and vegetation. The full list of measures Ocean Wind has committed to implementing are in EIS Appendix H.
0984-0030	3.22 Wetlands. The purposeful destruction of wetlands to avoid the expense of running cables through private lands is a monetary decision and should not be permitted. The destruction of wetlands is a [Bold: Major Impacts] that can be avoided. If the developer does not have the means to purchase the property to avoid the wetland destruction in the states parks and estuary they are not financially capable to handle the project as a whole and should have any and all permits rescinded for not meeting the financial requirements of the contract and for being in violation of the EO requirements of financial feasibility.	As stated throughout the EIS, Ocean Wind would locate the onshore export cable corridors within existing rights-of-way (e.g., existing public roads) or previously disturbed/developed lands to the extent practicable. This is one of Ocean Wind's stated avoidance and minimization measures (GEN-01) listed in EIS Appendix H. In addition, Ocean Wind has committed to using installation technologies, to the extent practicable, to minimize disturbance to wetlands (see measure GEN-08 in EIS Appendix H).
0984-0033	The Army Corps of Engineers (ACOE) assessment of impacts on rivers streams and estuaries in the Clean Water Act section 404/Rivers and Harbors Act of 1899 section 10 individual permit will also have to be denied. The delays within the United States standards for Offshore Wind have not been completed and the intent of BSEE to have the developers write their own standards for each individual development site undermines the public process.	The Section 404 and Section 10 permits are under the purview of USACE, and it will be USACE's decision in determining the issuance of the permits. Under CWA regulations, USACE can issue permits only if the Least Environmentally Damaging Practicable Alternative is identified for a project. USACE is a cooperating agency for the Ocean Wind EIS and would support USACE's NEPA process in issuing its permits.
1192-0030	Clarify the loss of wetlands on the Oyster Creek site. Two cables on the west side will impact the SAVs on either side of the "channel". Is that channel wide enough? Was there any consideration of channeling the cable on the land next to Route 9 and not in Barnegat Bay.	The channel on the west side of Island Beach State Park in Barnegat Bay is an area that has been previously dredged, resulting in deeper water than the surrounding water. This results in a near-absence of wetland because the water is too deep to be considered wetland, and an absence or low amounts of SAV (also because the water is too deep). While the Proposed Action under the PDE approach includes both the north and south crossings of Island Beach State Park depicted on Draft EIS Figure 3.22-2, there would be a small difference in wetland impact between

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		<p>both crossings. While the southerly crossing would cross more wetlands compared to the northern crossing, impacts on the wetlands at the south crossing would be avoided via HDD. The north crossing (which would be the only crossing option under Alternative E) would result in some wetland impacts from trenching (the narrow band of wetland showing on Figure 3.22-2). BOEM did consider an alternative that would have traveled along U.S. Highway 9 and would have avoided crossing Barnegat Bay. The alternative, identified as <i>SAV Avoidance Alternative E-3</i>, would land at an existing parking lot in Ship Bottom, New Jersey, with the cable then following Route 72 and then U.S. Highway 9 to the Oyster Creek onshore substation. This alternative was dismissed from further considerations for the reasons explained in Draft EIS Table 2-3.</p>
1259-0177	<p>xiv. Wetlands (3.22) According to the calculations included in the Draft EIS allowing Ocean Wind 1 to move ahead with industrial-scale wind energy development at Lease Area OCS-A 0498 will substantially impact NJ's wetlands and by extension the many ecosystems and species that rely on them as well. Wetlands are important features in the landscape that provide numerous beneficial services or functions. [Footnote 167: DEIS at 3.22-3.] Some of these include protecting and improving water quality providing fish and wildlife habitats storing floodwaters providing aesthetic value ensuring biological productivity filtering pollutant loads and maintaining surface water flow during dry periods. [Footnote 168: Id.]</p>	<p>Draft EIS Section 3.22 addresses potential impacts on wetlands, including the functions wetlands provide.</p>
1259-0178	<p>Additionally the majority of the wetlands in the geographic analysis area are tidally influenced saline marshes which provide shelter food and nursery grounds for coastal fisheries species including shrimp crab and many finfish. [Footnote 169: Id.] Saline marshes also protect shorelines from erosion by creating a buffer against wave action and by trapping soils. [Footnote 170: Id.] In flood-prone areas saline marshes reduce the flow of flood waters and absorb rainwater. [Footnote 171: Id.] Tidal wetlands also serve as carbon sinks holding carbon that would otherwise be released into the atmosphere and contribute to climate change. [Footnote 172: Id.]</p>	<p>Draft EIS Section 3.22 addresses potential impacts on wetlands, including the functions wetlands provide.</p>

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1259-0179	<p>In and around New Jersey's iconic Barnegat Bay in particular wetlands provide flood protection during storm events and function to sequester a significant amount of the nitrogen and phosphorus loading to the bay. [Footnote 173: Id.] This is particularly important as the 2021 Comprehensive Conservation and Management Plan for Barnegat Bay observed that more than twenty-eight (28) percent of Barnegat Bay's salt marshes have been lost to development. [Footnote 174: Barnegat Bay Partnership 2021 Comprehensive Conservation and Management Plan for the Barnegat Bay-Little Egg Harbor Sanctuary 45 (2021) https://www.barnegatbaypartnership.org/wp-content/uploads/2021/10/BBP-CCMP-2021-for-web-FINAL.pdf.] Consequently DEP has affirmed the "significant importance" of stabilizing and restoring existing wetlands as well as preventing the loss of any more wetlands in and around Barnegat Bay. [Footnote 175: Phase Two: Moving Science into Action N.J. Dept. Enviro. Prot. (Feb. 2 2021) https://www.nj.gov/dep/barnegatbay/wetlands.html.]</p>	<p>The coalition is required to obtain a CWA Section 404 permit for any proposed filling of jurisdictional wetlands. Section 404 requires that all appropriate and practicable steps be taken first to avoid and minimize impacts on these resources; for unavoidable impacts, compensatory mitigation is required to replace the loss of wetland and associated functions. This permit and process would apply to all waters of Barnegat Bay and any wetland associated with Barnegat Bay.</p>
1259-0180	<p>Even though the Draft EIS acknowledges the unique importance of NJ's wetlands it nevertheless goes on to propose a variety of actions that if approved would irreparably harm acres upon acres of wetlands. To start the document states "Onshore construction activities would require heavy equipment use and HDD activities and potential spills could occur as a result of an inadvertent release from the machinery or during refueling activities." [Footnote 176: DEIS at 3.22-8.] Likewise the Draft EIS notes that water quality within wetlands may be affected by sedimentation from nearby exposed soils. The Draft EIS similarly anticipates significant disturbance of wooded wetland ecosystems from cable burial and maintenance activities. 4.98 acres of long-term disturbance will occur within wooded wetlands while roughly 0.53 acre of short-term wetland impacts could potentially occur as a result of cable burial at BL England. [Footnote 177: Id. at 3.22-8 3.22-9.] Additionally 20.04 acres of short-term and long-term impacts are projected to occur as a result of cable burial at Oyster Creek. As if this were not concerning enough these widespread disturbances are occurring in addition to the 150 acres of wetlands that Orsted is developing for a Wind Port in Lower Alloways Creek. [Footnote 178: Tom Johnson Wetlands no more. NJ redraws map to boost offshore wind project</p>	<p>Offshore wind projects span the offshore and onshore environment and commonly cover large geographic areas. It is difficult to design and construct such projects to completely avoid all sensitive resources, such as wetlands, given that the onshore environment is along the coast where wetlands and surface waters are prevalent. BOEM is required to disclose these potential impacts in the EIS, some of which are cited in this comment. However, under CWA Section 404, Ocean Wind is required to take all appropriate and practicable steps to first avoid and minimize impacts on wetlands; for unavoidable impacts, compensatory mitigation is required to replace the loss of wetland and associated functions. USACE cannot issue the Section 404 permit until the avoidance and minimization steps are demonstrated; for any unavoidable impacts that require compensatory mitigation, USACE must approve the compensatory mitigation to ensure there is no net loss of wetland functions. This process ensures that USACE issues the Section 404 permit for the Least Environmentally Damaging Practicable Alternative.</p>

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	NJ Spotlight News (Mar. 25 2022) https://www.njspotlightnews.org/2022/03/wetlands-pseg-power-150-acres-reclassified-wind-port-project/.]	BOEM understands the concern with the Project's potential impact on wetlands resources but anticipates that the permitting process/requirements and the avoidance and mitigation measures proposed by Ocean Wind to minimize the impacts (see EIS Appendix H) would ensure the Project would avoid and minimize impacts on wetlands to the extent practicable.
1259-0182	In sum activities associated with Ocean Wind 1 will destroy fish and wildlife habitat in sensitive NJ wetlands while impeding natural water filtration and storage functions disrupting natural carbon sinks and paving the way for wave action to more quickly erode NJ shorelines. This is particularly troublesome with respect to Barnegat Bay where the proposed development will disrupt wetlands' ability to filter nitrogen and phosphorus. Moreover the Draft EIS analysis of Ocean Wind 1's effects on wetlands is incomplete because it does not provide any meaningful commitments regarding mitigation which will plainly be required.	See responses to comments 1259-0179 and 1259-0180. Ocean Wind would be required to provide compensatory mitigation for any wetlands that cannot be avoided or minimized as part of the Section 404 permitting process. The details of that mitigation would be part of the final Section 404 permit issued to Ocean Wind.
1259-0183	In addition to demonstrating the inadequacy of the Draft EIS's analysis Ocean Wind 1's expected impacts upon wetlands are a testament to the need for a pilot offshore wind energy project off the New Jersey coast before rushing straight into industrial-scale development. The implications for the Garden State's wetlands including those around Barnegat Bay are substantial and potentially irreversible. A pilot project would improve the quantity and quality of the data upon which industrial-scale OSW in the region can be more safely developed and also provide more time to determine how the impacts of Ocean Wind 1 and similar offshore wind projects can best be averted and mitigated over the long-term.	Draft EIS Section 3.22, <i>Wetlands</i> , focuses on the onshore environment where wetlands are found, so without a specific suggestion or details on a "pilot-scale project" for wetlands impacts, it is unclear what this would look like and the value it would have on the impact analysis for wetlands in the onshore environment. Wetland impact types and mechanisms from constructing and operating onshore electric cables and constructing substation facilities (as would be done for the Ocean Wind Project) are generally well understood and these facilities have been permitted and constructed throughout the United States. While BOEM acknowledges the sensitivity of wetlands, including wetlands associated with Barnegat Bay, there is nothing new or novel about constructing onshore electric cables and associated infrastructure (e.g., substations), and the potential effects these activities have on wetlands. In addition, and as stated in previous comment responses (1259-0182, 1259-0180, 1259-0179), under CWA Section 404, Ocean Wind is required to take all appropriate and practicable steps to

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		first avoid and minimize impacts on wetlands; for unavoidable impacts, compensatory mitigation is required to replace the loss of wetland and associated functions.
TRANS-0068-0002	Clean Ocean Action is also deeply concerned about a comment in section 3.22 of the DEIS where it says that Ocean Wind will identify compensatory mitigation based on the requirements of the Army Corps and the NJDEP Ocean Wind is coordinating wetlands mitigation options with State and Federal agencies and may identify a mix of banking and on site restoration depending on agency preference and availability. This comment is problematic for two reasons. First it is unacceptable that Ocean Wind 1 has not yet identified the concrete steps that it will undertake to mitigate the unavoidable permanent consequences of its activities. The information is critical to understanding the project's true overall impacts and Ocean Wind 1's wetlands mitigation plan must be submitted to public review and comment as a matter of transparency and insuring that it is as well informed as possible. Second Clean Ocean Action objects to the implication that Ocean Wind 1's wetlands mitigation efforts will largely be left to the developer and moreover will ultimately be limited by administrative capacity. The EIS must impose more oversight on Ocean Wind 1's plans for wetlands mitigation and the EIS must mandate that the wetlands mitigation plan must ultimately reflect the scientific needs of the impacted ecosystems rather than artificial constraints.	As part of the CWA Section 404 permit process, Ocean Wind needs to demonstrate specifically how it would first avoid and minimize impacts on wetlands, and, if needed, compensate for any wetland loss (see responses to comments 1259-0179 and 1259-0180). This process is ongoing concurrently with BOEM's NEPA process. BOEM notes that the EIS is not a permit document, although USACE (as a cooperating agency) will use BOEM's EIS to support its Section 404/Least Environmentally Damaging Practicable Alternative decision. BOEM is confident that the EIS will support USACE's decision because BOEM works closely with USACE to ensure USACE's concerns are addressed in the EIS. The details on mitigation will be part of the Section 404 permit and USACE will follow all of its regulatory requirements to ensure public review of the permit process and information. Based on the Public Notice issued by USACE for Ocean Wind's Section 404 permit application (NAP-2017-00135-84 [USACE 2022] found here: https://www.nap.usace.army.mil/Portals/39/docs/regulatory/publicnotices/Public-Notice-2017-00135-84-Amended.pdf), Ocean Wind proposes to purchase 2.05 acres of wetland credits from the Great Bay Wetland Mitigation Bank through Evergreen Environmental, LLC, the mitigation bank sponsor.
0941-0001	Under the Project Design Envelope (PDE) the applicant has estimated that onshore activities associated with Oyster Creek substation parcel and export cables will result in an estimated 4.98 acres of long-term disturbance in wooded wetlands primarily a change to herbaceous wetlands including 2.39 acres of Atlantic white cedar (<i>Chamaecyparis thyoides</i>). However because the impacts to wetlands are not broken down by the individual alternative cable routes (Table 3.22-3) it is impossible to determine	Per CWA Section 404, Ocean Wind is required to take all appropriate and practicable steps to first avoid and minimize impacts on jurisdictional wetlands, and, for those impacts that are unavoidable, provide compensatory mitigation to replace the loss of wetlands and associated functions. This is not required for the NEPA process but this process is ongoing concurrently with BOEM's NEPA process as part of Ocean Wind's

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	<p>which routes would have the least long-term impact and therefore would be a preferred alternative. This is especially true for impacts to Atlantic white-cedar forest which is a particularly scarce coastal wetland type. While the applicant has indicated that wetland mitigation options are being coordinated with state and federal agencies (APM TCHF- 03) there are no details provided to allow for a determination of the appropriateness of the proposed mitigation.</p>	<p>Section 404 process with USACE. BOEM notes that the EIS is not a permit document, although USACE (as a cooperating agency) will use BOEM's EIS to support its Section 404/Least Environmentally Damaging Practicable Alternative decision. BOEM is confident that the EIS will support USACE's decision because BOEM works closely with USACE to ensure USACE's concerns are addressed in the EIS. Ocean Wind will identify compensatory mitigation based on the requirements of USACE and NJDEP as part of the Section 404 permitting process; this process includes a requirement for USACE/NJDEP to provide a public notice for Ocean Wind's Section 404 application. Based on the Public Notice issued by USACE for Ocean Wind's Section 404 permit application (NAP-2017-00135-84 [USACE 2022] found here: https://www.nap.usace.army.mil/Portals/39/docs/regulatory/publicnotices/Public-Notice-2017-00135-84-Amended.pdf), Ocean Wind proposes to purchase 2.05 acres of wetland credits from the Great Bay Wetland Mitigation Bank through Evergreen Environmental, LLC, the mitigation bank sponsor.</p>

O.6.22 Mitigation and Monitoring

Table O.6.22-1 Responses to Comments on Appendix H (Mitigation and Monitoring)

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0024-0001	We encourage BOEM to encourage developers to add well-designed turbine foundation reef enhancement on top of the scour protection rock to enhance fishing and to improve fish stocks. We request from BOEM that an implementation of the "rigs to reef" program (just like in the Gulf of Mexico) to ensure that after decades of ecosystem enhancement these valuable reefs can be retained and locations shared with fishermen and divers.	BOEM does not require lessees to design and install reef enhancements, although the EIS notes the beneficial artificial reef effects that would result from the introduction of offshore structures.
0201-0002	In addition the report should provide guidance for the design of a monitoring and reporting system for the recording and reporting of actual impacts. The reports should be made public with results published and archived for reference as offshore wind development continues.	Monitoring and reporting requirements associated with APMs or agency-proposed mitigation are described in Appendix H.
1233-0001	As BOEM works toward issuing a final environmental impact statement (FEIS) for Ocean Wind 1 the conservancy wants to relay that we continue to [Bold: believe robust avoidance minimization mitigation and monitoring practices for wildlife offer the best path forward to meet energy goals and protect imperiled marine wildlife and habitat.] With these guideposts in mind we urge you to consider the following: Robust monitoring data collection and reporting is essential to evaluating impacts of offshore wind projects on marine coastal and avian wildlife. The FEIS should account for the limitations in the survey methods used to assess the project area for species present and Ocean Wind should employ pre- during and post-construction monitoring. An adaptive management approach to identifying appropriate mitigation should be generated from the ongoing knowledge gained by data collection and reporting. Alternative E-Submerged Aquatic Vegetation Avoidance which alters the route of offshore export cables through ecologically important eelgrass in Barnegat Bay which is considered essential fish habitat habitat area of particular concern and a Special Aquatic Site under the Clean Water Act is preferred. Ocean Wind should not employ 24-hour pile driving due to the increased prolonged exposure of vulnerable species to noise impacts from pile-driving activities and the limitations of detecting species in the clearance zones at night. BOEM and Ocean Wind should evaluate other turbine foundation options in particular quiet foundations to reduce noise impacts to vulnerable species and should provide that analysis to the public for their review	Ocean Wind and BOEM recognize that monitoring after construction may be necessary. For example, the lessee's Avian and Bat Post-Construction Monitoring Framework, SAV Monitoring Plan, and SAV Preliminary Mitigation Plan propose post-construction monitoring. As part of monitoring plans, adaptive management may be required (i.e., new mitigation measures and monitoring may be required by BOEM if impacts deviate substantially from the impact analysis in the EIS). Specific mitigation for nighttime pile driving is included in Appendix H. Alternate foundation types that avoid the use of pile driving, such as gravity-based, suction bucket, or floating foundations, were considered but not carried forward for detailed analysis due to local site conditions as well as technical and supply chain considerations, as described in Chapter 2, Table 2-3.

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1259-0080	<p>The DEIS also includes 3.15.9 which is a very brief section on proposed mitigation measures. A review of the impacts and the proposed mitigation measures clearly shows that despite using references and studies to model and estimate likely impacts of pile driving the DEIS does not adequately address the complex nature of the impacts on the various categories of marine mammals that inhabit the geographical analysis area nor does it thoroughly address the impacts to highly endangered North Atlantic Right Whale. This will cause significant harm.</p>	<p>EIS Section, 3.15, <i>Marine Mammals</i>, provides a summary of proposed mitigation measures for marine mammals. Additional detail on BOEM-proposed mitigation is included in EIS Appendix H and in BOEM's BA. Ocean Wind has also proposed many measures to avoid and minimize impacts on marine mammals, including pile-driving impacts as described in Appendix H and the BA. The Final EIS incorporates the results of BOEM's consultation with NMFS under the ESA and NMFS's Biological Opinion.</p>
1259-0181	<p>The Draft EIS's approach to the mitigation thereof also leaves much to be desired. Notably the document concludes that "compensatory mitigation would likely be necessary because of unavoidable permanent impacts" from Ocean Wind 1. [Footnote 179: DEIS at 3.22-11 12.] While the Draft EIS notes that such mitigation measures "would likely include a combination of onsite restoration of wetlands temporarily affected during construction and a wetland enhancement or mitigation banking credit purchase" the document provides no binding assurances about what the mitigation measures required by Ocean Wind 1 will entail. Instead the Draft EIS merely indicates that "Ocean Wind will identify compensatory mitigation based on the requirements of USACE and NJDEP. Ocean Wind is coordinating wetland mitigation options with state and federal agencies and may identify a mix of banking and onsite restoration depending on agency preference and availability." [Footnote 180: Id. at 3.22-9.] This is problematic for two reasons. First it is unacceptable that Ocean Wind 1 has not yet identified the concrete steps that it will undertake to mitigate the unavoidable permanent consequences of its activities. This information is critical to the Project's overall environmental impacts and Ocean Wind 1's wetlands mitigation plan must be subject to public review and comment as a matter of transparency and ensuring that interested parties are not only well-informed but also able to provide helpful input on aspects of the mitigation plan where appropriate. Second Clean Ocean Action objects to the implication that Ocean Wind 1's wetland mitigation efforts will largely be left to the developer and moreover will ultimately be unnecessarily limited by administrative discretion. The Final EIS must provide clearer commitments regarding Ocean Wind 1's wetlands mitigation plan and it is imperative that this wetlands mitigation plan ultimately reflects the scientific needs of the</p>	<p>Per CWA Section 404, Ocean Wind is required to take all appropriate and practicable steps to first avoid and minimize impacts on jurisdictional wetlands and, for those impacts that are unavoidable, provide compensatory mitigation to replace the loss of wetlands and associated functions. Details of wetland mitigation requirements will be determined as part of Ocean Wind's Section 404 permitting with USACE. BOEM notes that the EIS is not a permit document, although USACE (as a cooperating agency) will use BOEM's EIS to support its Section 404/Least Environmentally Damaging Practicable Alternative decision. Ocean Wind will identify compensatory mitigation based on the requirements of USACE and NJDEP as part of the Section 404 permitting process, which includes a requirement for USACE/NJDEP to provide a public notice for Ocean Wind's Section 404 application. Based on the Public Notice issued by the USACE for Ocean Wind's Section 404 permit application (NAP-2017-00135-84 [USACE 2022] found here: https://www.nap.usace.army.mil/Portals/39/</p>

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	impacted ecosystems rather than artificial constraints.	docs/regulatory/publicnotices/Public-Notice-2017-00135-84-Amended.pdf), Ocean Wind proposes to purchase 2.05 acres of wetland credits from the Great Bay Wetland Mitigation Bank through Evergreen Environmental, LLC, the mitigation bank sponsor.
TRANS-0085-0001	I am the Water Outreach Specialist at Pinelands Preservation Alliance and we will be speaking on behalf of Pinelands Preservation Alliance. Pinelands Preservation Alliance encourages the Bureau of Ocean Energy Management the New Jersey Department of Environmental Protection and the developers of Ocean Wind 1 to be candid about the risk to the environment posed by horizontal directional drilling. We would like to see improved mitigation efforts in relation to the inadvertent returns that will occur during the construction of Ocean Wind 1. These inadvertent returns often occur in loose sandy soils as indicated in a fall 2021 report released by the New Jersey Department of Environmental Protection. We have seen drill fluid leak from natural gas pipeline projects in the Pinelands and in recent years using the horizontal directional drilling method causing harm to natural ecosystems within the Pinelands such as wetlands where 13 failures documented during drilling. Inadvertent returns will almost certainly occur during the construction of Ocean Wind 1. We would like to see a more accurate representation of the risks posed by practice -- by the practice of horizontal directional drilling in the final environmental impact statement and we would like to see more innovative techniques to avoid these risks posed by the technique of HDT to the wetlands and the natural environment overall more than what is currently in the draft environmental impact statement. Pinelands Preservation Alliance supports the environmentally responsible development of wind energy off the coast of New Jersey and believes it will provide many benefits to the environment economy and our national security.	Discussion of the risks of inadvertent returns has been added to Final EIS Section 3.6, <i>Benthic Resources</i> , and Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> . Additional descriptions of Ocean Wind's Inadvertent Return Plan, which will be implemented where HDD methods are used, were added to Final EIS Appendix H, Mitigation and Monitoring.
0941-0001	Monitoring and mitigation of critical bay resources. The applicant has proposed an array of site-specific monitoring programs for various aquatic biota but with the exception of submerged aquatic vegetation (SAV) all of the monitoring appears to be related to the "wind farm area" and the "offshore export cables" and nothing associated with the "inshore export cables." Monitoring and mitigation of several bay resources are a critical issue as two living resources impacted by the proposed project (i.e. eelgrass and hard clams) are identified as holistic ecosystem targets in the BBP's 2021 CCMP.	Ocean Wind has developed a SAV Preliminary Mitigation Plan that has been included as an APM in the Final EIS to reduce impacts on SAV. The lessee's mitigation and monitoring plan includes monitoring, restoration, and reporting requirements to reduce impacts on SAV. Ocean Wind's SAV Preliminary Mitigation

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	<p>The applicant has committed to conduct a SAV survey of the proposed inshore export cable route (applicant proposed mitigation [APM] BENTH-03) and to avoid seagrass communities where practicable and restore any damage to these communities (APM GEN-02). Additionally the applicant has tentatively identified an alternative export cable route (Alternative E) that would substantially reduce seagrass impacts based on its estimates (Table 3.6-5). While additional surveys and the minimization of impacts are important we have several concerns. The first is in regards to the methodology used to determine seagrass impacts. As described in our comments on the Notice of Intent to Prepare an EIS (see our letter dated April 29 2021 to BOEM) seagrass surveys should be conducted in the late spring when numerous studies within the Barnegat Bay have documented seagrass beds are at their maximum density and extent. The current studies conducted by the applicant were undertaken during the end of the growing season which likely represents identifies only the minimum bed extent.</p> <p>Moreover within the DEIS no mention of a during-construction or post-construction monitoring plan for SAV has been made. Barnegat Bay contains the overwhelming majority of the eelgrass remaining in New Jersey's waters; moreover individual Barnegat Bay populations exhibit little genetic diversity (Campanella et al. 2010). For these reasons eelgrass beds have been identified in the BBP's 2021 CCMP as one of the bay's most critical habitats. Thus it seems important that the applicant develop a pre- during- and post - construction monitoring plan which includes adequate surveys throughout the lifetime of the project including anytime disturbance to the cable corridor occurs in proximity to eelgrass beds.</p> <p>And lastly with regard to SAV mitigation there are no details of what a SAV mitigation plan might entail. Eelgrass beds support populations of commercially recreationally and biologically important species; loss of SAV beds potentially has adverse impacts to other living resources within the bay. Thus development of a mitigation plan which includes losses from initial construction and any subsequent actions which disrupt SAV resources should be provided for the life of the wind project and not just for the first few years as is most often the case.</p>	<p>Plan proposes to conduct in-water surveys during the SAV growing season (May–October) starting in 2023 (pre-construction and post-construction) and continuing annually during post-construction monitoring (2024–2033).</p>
1194-0002b	<p>With these guideposts in mind we urge you to consider the following: BOEM and Ocean Wind should implement additional protective measures for the critically endangered North Atlantic right whale and other vulnerable marine species including but not limited to noise-mitigation technologies. Robust monitoring data collection and reporting is essential to evaluating impacts of</p>	<p>BOEM-proposed mitigation to reduce impacts on marine mammals, sea turtles, and fish, including impacts related to underwater noise, is outlined in EIS Appendix H, Table H-2 and in BOEM's BA.</p>

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	<p>offshore wind projects on marine coastal and avian wildlife. The FEIS should account for the limitations in the survey methods used to assess the project area for species present and Ocean Wind should employ pre-construction construction and post-construction monitoring.</p>	<p>Ocean Wind has also proposed measures to avoid and minimize impacts on marine mammals from underwater noise and vessel strike, as described in Appendix H, Table H-1, the NMFS BA, and Ocean Wind's Protected Species Mitigation and Monitoring Plan included as Appendix AA to Ocean Wind's COP. The Final EIS incorporates the results of BOEM's consultation with NMFS under the ESA for ESA-listed marine mammals, sea turtles, and fish.</p>
1241-0002a	<p>3. [Italics: A requirement for Ørsted and Atlantic Shores to partner with the fishing industry and credible independent scientists to co-develop cooperative monitoring and research plans that are well coordinated between the two projects.]</p> <p>The environmental impacts of Ocean Wind will be cumulative to those of other projects for multiple fish stocks (and oceanographic processes) and these must be coordinated to maximize the utility of any data that is collected. To date RODA is not aware of any plans for the Ocean Wind project to coordinate cooperative research and monitoring plans with developers of geographically relevant lease areas including Atlantic Shores Offshore Wind Dominion Energy US Wind and permit holders for NY Bight OSW leases.</p> <p>Given the immediate adjacency of the Ocean Wind and Atlantic Shores Offshore Wind project areas and their strong importance to the clam fishery it is especially important for these projects to work together to provide relevant information for testing scientific hypotheses about the impacts of OSW to the clam resource and fishery. We strongly urge BOEM to require these developers to partner with the fishing industry and credible independent scientists to co-develop cooperative monitoring and research plans for the leases and ensure that each project's research is well coordinated with the other. This should be common practice for all wind development lease areas but particularly for abutting leases such as these. The lack of coordination between these two lease areas elucidates the need for a cumulative approach to analyses and mitigation measures beginning at the earliest stages of any project.</p>	<p>Comment noted.</p>
1241-0002	<p>II. [Bold: SCOPING AND FRAMING CONSIDERATIONS] A. [Bold: Fisheries Mitigation in NEPA Analysis]</p>	<p>BOEM considered, but did not analyze in detail, an alternative with a 2-nm by 2-nm wind turbine layout to provide safe access</p>

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	<p>This EIS should explicitly include <u>alternatives for analysis that serve to mitigate the project's impacts to fishing</u> including the five specific requests above and others raised during scoping in previous comment letters incorporated by reference above and listed on RODA's website. [Footnote 10: See https://rodafisheries.org/offshore-wind/.] Unfortunately as stated above none of the alternatives in the DEIS serve as mitigation measures and BOEM's practice to date has been to incorporate any mitigation measures under consideration as appendices or Record of Decision conditions rather than analyzing them fully as alternatives.</p> <p>Since the scoping period for this DEIS BOEM issued a new policy that has the effect of excluding alternatives from environmental review that would specifically reduce or mitigate fisheries impacts. The "Process for Identifying Alternatives for Environmental Reviews of Offshore Wind Construction and Operations Plans pursuant to the NEPA" [Footnote 11: See https://www.boem.gov/sites/default/files/documents/renewable-energy/BOEM%20COP%20EIS%20Alternatives-2022-06-22.pdf.] released in June 2022 standardizes the alternatives BOEM will consider during the NEPA process and clarifies BOEM's policy of considering only a narrow range of alternatives consistent with a developer's preferred project plans. [Footnote 12: This document was issued without any opportunity for the public to participate in or provide input on its development thus to our knowledge has not been the subject of any public comment.] Indeed it affords the terms of cost-competitive procurement agreements "more deference than a typical contract between two private for-profit entities" although such contracts are nearly entirely driven by profit and energy maximization and without environmental review. The document only references mitigation in the context of what should not be considered as a NEPA alternative; that is it suggests actions with "substantially similar effects" to other options should be considered outside of the range of alternatives. [Footnote 13: This statement contradicts NEPA's implementing regulations which specify the alternatives of an Environmental Analysis or Environmental Impact Statement must "include appropriate mitigation measures not already included in the proposed action or alternatives." 40 C.F.R. § 1502.14(e).]</p> <p>We urge BOEM to reconsider this policy. Specifically for the Ocean Wind and all other proposed OSW projects the agency should include alternatives for analysis in each of its environmental review documents describing specific fisheries mitigation solutions and afford these full neutral consideration. Stand-alone alternatives will more clearly inform public comment and allow better</p>	<p>for fishing vessels. Additional information regarding this analysis is provided in Chapter 2. <i>Alternatives</i>, and Appendix C, <i>Additional Analysis for Alternatives Dismissed</i>. A comprehensive list of mitigation measures is provided in Appendix H, <i>Mitigation and Monitoring</i>, and mitigation measures are analyzed in the relevant Chapter 3 resource section of the EIS.</p> <p>Alternatives screening criteria used for this EIS are provided in Appendix C. <i>Additional Analysis for Alternatives Dismissed</i>. Comments on BOEM's Process for Identifying Alternatives for Environmental Reviews of Offshore Wind Construction and Operations Plans pursuant to NEPA are outside the scope of this EIS.</p>

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	evaluation of potential mutual benefits or tradeoffs. As a public agency BOEM's consideration of alternatives should include those that reasonably mitigate impacts to fishing whether or not a developer has voluntarily proposed to incorporate them in its Construction and Operations Plan (COP) and whether or not they could require reasonable modifications to private contracts. This is especially true as in the case of this Ocean Wind DEIS when highly affected members of the public have properly proposed specific fisheries mitigation alternatives for analysis and public input through the scoping process.	
1194-0002e	Ocean Wind should pursue opportunities to support healthy fisheries in and around the project site for the long term including but not limited to carefully designed reef-enhancement at turbine foundations and a decommissioning plan that considers preservation of the reefs expected to form at foundations over the project's lifespan. The FEIS should account for impacts on fisheries and engage fishing industry stakeholders at all possible opportunities.	BOEM does not require lessees to design and install reef enhancements, although the EIS notes the beneficial artificial reef effects that would result from the introduction of offshore structures.
1234-0002	[Bold: Environmental / Ecological Issues] By nature of their reliance on the ocean for their way of life fishermen must be good stewards of the environment. Any proposed opening of fishing grounds or increase in allowable catch requires years of intensive scientific study. This scientific work falls in part to the National Marine Fisheries Service and their annual trawl survey. This survey is the foundation for fish population estimates and the basis for quota allocation and stock assessment. The impact of this site and cumulative impact of others will limit the NMFS historic survey locations resulting in impacts to the data and the industry this science supports specifically the nations commercial and recreational sectors. [Bold: Cumulative impacts of these projects must be considered in this EIS!] BOEM through this document and working with the developers must ensure the NMFS Survey is fully funded going forward and must account for the mitigation to amend this historic scientific study. Without this mitigation the resulting survey and supporting data will result in additional uncertainty which will directly impact fish stocks and allocations to the State's and the commercial and recreational fishing industries relaying on these allocations. These natural resources are a common good and impacts on new development must address these historic uses.	BOEM has committed to working with NOAA to implement the Federal Survey Mitigation Strategy program (https://repository.library.noaa.gov/view/noaa/47925). As of May 2023, implementation is pending. As discussions between BOEM and NOAA on implementation of the program continue, specific details on appropriate mitigation measures will be added to the environmental analysis.
Compensatory Mitigation for Commercial Fishing		
1222-0004	It is quite important that offshore wind is developed in a manner that does not unnecessarily harm the Atlantic Surfclam industry. Any loss of access should be mitigated with stock enhancement efforts to protect the business that	Direct compensation for lost income was identified as a way to mitigate impacts from offshore wind projects on commercial and

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	<p>currently depend on this area both directly and indirectly for revenue. The vessels fishing for Atlantic surfclams out of Atlantic City New Jersey will lose all meaningful access to the Ocean Wind I lease area that is eventually built out but will also lose access to all the other wind energy areas that overlap with surfclam habitat making mitigation very important for all wind lease areas. Financial contributions equal to the dockside value of the biomass that the surfclam fleet is losing access to should be made by Ocean Wind LLC towards stock enhancement for the Atlantic surfclam fishery. Stock enhancement using methods where clams are spawned in a hatchery grown in a nursery and disbursed in the ocean for future harvest by the commercial sector has the potential to mitigate both the loss of access that will be suffered by the Atlantic surfclam fleet due to offshore wind energy development as well as mitigate all the downstream losses that would be suffered by support businesses and the coastal communities. Stock enhancement has the potential to produce much better outcomes than displacing the fishery and then trying to financially compensate the harvesters and downstream service businesses impacted.</p>	<p>recreational fisheries and fishing in BOEM's draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585. Establishment of a direct compensation program for fishermen affected by the Ocean Wind 1 Project has been proposed by Ocean Wind and analyzed in Section 3.9 of the Final EIS.</p>
1234-0006	<p>[Bold: Mitigation and Spacing] Also worth noting is the majority of fishing gear types will be unable to work in these arrays. Specifically gill net bottom trawls midwater trawls and clam and scallop dredges need at least a 2nm spacing between each array. This has been shared countless time and to date never been included in a design proposal. As such the DEIS/COP must consider a greater array spacing to allow commercial operation or assume these areas will be closed to most gear types fished in NJ commercially. Thus mitigation must be considered that includes the fact that these areas will be closed to commercial fishing. And this compensatory mitigation or impact fees fully offset these fisheries losses. Finally this mitigation funds must be identified and distributed by an independent source with no relationship or control by the developers.</p>	<p>Section 3.9 of the EIS states that, "Clam industry representatives (Atlantic surfclam and ocean quahog fisheries) state that their operations require a minimum distance of 2 nm (3.7 kilometers) between WTGs, in alignment with the bottom contours, for safe operations (BOEM 2021b; RODA 2021)." BOEM considered, but did not analyze in detail, an alternative with a 2-nm by 2-nm wind turbine layout to provide safe access for fishing vessels. Additional information regarding this analysis is provided in Chapter 2, <i>Alternatives</i>, and Appendix C, <i>Additional Analysis for Alternatives Dismissed</i>. Establishment of a direct compensation program for fishermen affected by the Ocean Wind 1 Project has been proposed by Ocean Wind and analyzed in Section 3.9 of the Final EIS.</p>
TRANS-0073-0001	<p>The chamber has been involved with the ocean wind project from its inception and is dedicated to insuring the success of this new industry as a supplement</p>	<p>BOEM's draft guidance for Mitigating Impacts to Commercial and Recreational</p>

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	<p>to and not at the expense of our existing and thriving fishing and tourism sectors. The successful coexistence of these three industries is the ideal but to see this come to a reality we must plan for any unforeseen and unintended consequence that could negatively impact any one of these areas. This is why the chamber is supporting Orsted's request to ask that BOEM develop a mitigation plan and compensation process that speaks to the very real concerns to the commercial and recreational fishing industries. Cape May County is a unique area where the ecosystem and the economy are firmly intertwined. As such the chamber supports renewable energy and any endeavor which seeks to protect and enhance both sides of this rare coin. The chamber has and will continue to speak up for our commercial and recreational fishing industries and we urge BOEM to be proactive in insuring that while we welcome the wind industry to our waters it is not the expense of another. This is why we are advocating for an approach to a mitigation and compensation process that is forward thinking innovative and fair to both industries. This is truly an opportunity for BOEM to set a pioneering standard that welcomes the new while not forgetting to protect the existing industry that is not only important for its economic impact but also for its product. No matter how thorough the planning process the final outcome always contains unknowns. That's why we ask that as BOEM finalizes the plan they develop mechanisms for mitigation and compensation that do not create undue hardship but instead show true support and care for the success and growth of our communities. Thank you.</p>	<p>Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585 discusses guidelines for mitigating fisheries impacts. Consistent with this draft guidance, Ocean Wind proposes three fisheries mitigation programs, which consist of a gear claim procedure to request reimbursement related to lost/damaged gear, direct compensation program for lost income, and the navigational safety fund for navigation equipment upgrades. Mitigation measures are listed in Appendix H of the EIS and analyzed in the respective Chapter 3 resource sections.</p>
1228-0001	<p>Some commercial fishermen also stand to have their usual operations greatly altered. Orsted has made strides to ease any transitional strain by implementing a Navigation Safety Fund and a Gear Loss Program; however I strongly recommend that BOEM create a loss mitigation strategy that accounts for any anticipated harm to our historic South Jersey fishing fleet.</p>	<p>Ocean Wind proposes three fisheries mitigation programs, which consist of a gear claim procedure to request reimbursement related to lost/damaged gear, direct compensation program for lost income, and the navigational safety fund for navigation equipment upgrades.</p> <p>BOEM's draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585 discusses guidelines for mitigating fisheries impacts.</p>
1234-0001	<p>BOEM and its federal partners must make clear that developers should set aside reserve funds based on transparent consistent and equitable scientific and economic impact estimates. We also believe BOEM should be involved in</p>	<p>BOEM's draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf</p>

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	implementing regional mitigation plans that fully account for regional cumulative environmental and fishery business impacts from wind development.	<p>Pursuant to 30 CFR 585 outlines guidelines for determining adequate reserve funds for compensation.</p> <p>Ocean Wind proposes a claims-based Direct Compensation Program for which Ocean Wind would use the annual average commercial landings values and for-hire revenue stated in the Final EIS as a baseline for commercial and for-hire fishing and would hold in reserve an amount determined by the formula set out in the BOEM's draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585 using the baseline amounts.</p>
1241-0002	<p>4. Italics: A full transparent equitable and science-based impact fee program.] RODA has submitted extensive comments on BOEM's Draft Guidance for Fisheries Mitigation including recommendations for equitable development and execution of compensatory mitigation. [Footnote 9: See http://rodafisheries.org/wp-content/uploads/2022/08/220822_BOEM-Fisheries-Mitigation.pdf.] We will not reiterate them here but BOEM must incorporate these transparent fair and science-based recommendations for any future possible project approval including Ocean Wind 1. While BOEM's fisheries mitigation guidance is still under development Ørsted must work with fishermen shoreside businesses economists and scientists to propose alternative compensation frameworks as an alternative for analysis and potential incorporation into Terms and Conditions if BOEM approves this project. Compensation should not be limited to landings values but also include value-added multiplier effects and shoreside and supporting infrastructure losses particularly given this project's proximity to key New Jersey fishing ports.</p>	<p>Section 3.9.9 of the Draft EIS analyzed a proposed measure for the compensation for lost fishing income. This measure would require Ocean Wind to implement a compensation program consistent with BOEM's draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585 or as modified in response to public comment. After publication of the Draft EIS, Ocean Wind updated its COP to include a Direct Compensation Program. Ocean Wind's implementation of its Direct Compensation Program is analyzed in the Final EIS as part of the Proposed Action in Section 3.9.5.1. Section 3.9.9 of the Final EIS analyzes a mitigation measure that requires Ocean Wind's Direct Compensation Program to include losses to shoreside business and requires Ocean Wind to conduct a shoreside seafood business analysis that would be used to further supplement funds available</p>

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		for settling claims of lost (unrecovered) economic activity as a result of the Ocean Wind 1 Project.
1258-0043, & - 0050	We need to compensate commercial fishermen if their ability to harvest scallops and other shellfish is curtailed because of turbines. We need to insure that turbines do not affect radar on boats.	Ocean Wind proposes three fisheries mitigation programs, which consist of a gear claim procedure to request reimbursement related to lost/damaged gear, direct compensation program for lost income, and the navigational safety fund for navigation equipment upgrades. Ocean Wind's fisheries mitigation programs are analyzed as part of the Proposed Action in Section 3.9 of the Final EIS.
1272-0008	<p>We have read the mitigation and compensation plan in Ocean wind 1 COP. What little is there is a joke the only thing that the developer current feels any responsibility for is if their survey vessels cause damage to fixed gear that happens to be in their way and is damaged or destroyed. It is clear that they really do not care. There have been a few issues where fishing gear was damaged or destroyed in the last few years. Since each lease holder takes care of any problems that takes place within their lease there is no standardized system to deal with the problems. Today if the developers has harmed a fisherman one of their employees is to resolve the issues. However there is no way of knowing if developer is even willing to resolve the issue. It is unfair for a fisherman be required to sue the developers for harm that they have caused. There is also a question regarding where the funds would come from without having a federal judge find the developer liable and issuing a judgement against them. That would take years and lawyers' fees and could cost more than the damage done to the fisherman. As of today there has been little to no regard for any ocean user from the developers they do not care about the harm they caused and their fisheries specialist are window dressing.</p> <p>If BOEM does not set standards that apply to all of the current and future leases every developer will have a different set rule on what they consider a reasonable claim. Each would have different payment schedule for the many different possible claims. With so many developers there is no way to get them to agree on what the claim policies would be. Who is going to be the judge that sets the standard for claims? How are the claims going to be the same so there is a sense of fairness? Are the courts going to set the standards? What are the settlement amounts for each type of claim in different</p>	<p>Ocean Wind proposes three fisheries mitigation programs, which consist of a gear claim procedure to request reimbursement related to lost/damaged gear, direct compensation program for lost income, and the navigational safety fund for navigation equipment upgrades. Ocean Wind's fisheries mitigation programs are analyzed as part of the Proposed Action in Section 3.9 of the Final EIS. Gear loss and damage and income loss would be compensated using a claims-based approach, which is consistent with BOEM's draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585. The Direct Compensation Program would be managed by a third party, and the third party would determine eligibility. Eligibility would be based on demonstrated fishing history in the Project area. The third party would also approve and deny claims, and there would be an appeals process for those seeking to review a denied claim. Ocean Wind would use the annual average commercial landings</p>

Comment No.	Comment	Response
	<p>regions? The objective we hope is an attempt to keep all claims payouts out of federal court.</p> <p>The simplest way to resolve this is a single standardized mitigation and arbitration (M&A) for conflict resolution and compensation of claims. There are many mitigation and arbitration firms that address such conflict. BOEM should find a firm that can handle such a program and require the developers to agree by making it part of their COP and EIS. Small claims are a problem because their fees could be as much as the compensation. There are M&A firms that have a section for small claims and are set up to handle large conflicts.</p> <p>How to get the developers to fund a compensation plan? One way would add the requirement to each wind farmer COP and EIS that requires them set up an escrow account with funds to cover anticipated claims. The claims would be handled by the arbitration firm and they would have authority to pay the claim from the developers escrow account.</p> <ul style="list-style-type: none"> • For the first two years the developer funds an escrow account with \$1750.00 Per MWh of each turbine name plates in the wind farm. The escrowed funds may be deposited in a national bank yearly. The escrow must have the current year's claims and the following years estimated needs. • As turbines are installed the fund is increased accordingly. • Once all turbines are contributing to the escrow fund the fund deposit should be equal to two worth of claims on hand. After six years of claim history the wind farm operator will average three highest claim years from the last 6 years as the payment for the coming year. That is to be repeated yearly for the time that the wind farm is intact WITH BOEM'S APPROVAL. • By the time that the construction is complete there should be some understanding to what can be expected in claims and the amount of the current and the following estimate must be on hand. • There escrowed funds should be in the wind operators name and can be released by the arbiter when the arbitration claim has been determined. • In the case of a ruling against a claimant the claimant must post a bond or pay the expenses of the mitigation and arbitration. • When the farm has all of the turbines operating the payment will run for two years after the farm is decommissioned and all turbines converter stations cables both in array and export are removed along with the foundation and cable protection covers and foundation rocks are removed. 	<p>values and for-hire revenue stated in the Final EIS as a baseline for commercial and for-hire fishing and would hold in reserve an amount determined by the formula set out in BOEM's draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585 using the baseline amounts. Claims for loss or damaged gear are reviewed and either accepted or rejected in whole or in part. If rejected in whole or in part, the fishermen may appeal the decision to an independent third party. The independent third party's review is final.</p>

Comment No.	Comment	Response
	<ul style="list-style-type: none"> • Other claim can come in for damaged gear and loss of access for 90 days after completion except for possible claims for environmental issues that may become known sometime once the wind farm is removed. • However a two year period will be allow for any biological or ecological harm that may show up even after the wind farm is removed. • Once the wind farm is removes and the claims are settles any funds left over will be returned to the wind farm owner. <p>It is clear that the claim issues for damaged fishing gear and loss of access to traditional fishing areas are problems that need to be addressed. The suggestion is to have an independent third party plus two representatives from the wind energy industry and two for fishing and a fifth a M&A arbitrator to set the policies as to what claims are appropriate and make the decision as to what is a fair compensation. The four industry people would be the expert's contractors and advisor to the M&A arbiter. This group would have a fund to pay the claims from the start of the program. The independent third party will direct the payment of the claims. Once a claim history is developed for each wind farms payments to the fund will be adjusted to assure there are funds for each wind farm account to stays solvent and able to pay their claims.</p> <p>BOEM cannot tell the developers what to do but for the EIS/COP to be approved it must have a section in the document detailing the operators responsibility. Each EIS will have the same statement in their EIS/COP before it can be approved.</p> <p>Loss of access to fishing grounds should be payout out over 10 year instead of 5 years.</p> <p>Each developer creates a claims escrow account for funds to pay the claims. How much should a developer pay into the claims fund? Each developer would have their payments kept as a separate account to pay their claims. Each developer would start with a payment of the number of MW operating in the wind farm X \$1750.00 per MW a year. When under construction as a turbine goes on line the payment for that turbine starts. Once the wind farm has been built out and claims have balanced become stable the developer will have their payment reduces or increase to make sure that there are adequate funds to pay the claims but not create a large surplus. However the surplus must be enough to cover the claims both current year and a estimate for all of the next year.</p>	

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O.6.23 Planned Activities Scenario and Cumulative Impacts

Table O.6.23-1 Responses to Comments on Planned Activities Scenario and Cumulative Impacts

Comment No.	Comment	Response
0007-0001	One of my purposes in commenting on the NOI for scoping for this project EIS in April 2021 was to request that consideration be given to the many changes that have occurred since the BOEM Programmatic EIS for Alternative Energy Development was prepared in 2007 and the Final EA was completed for Commercial Lease Issuance in 2012. Such changes should be recognized and fully evaluated in the DEIS. Information needs to be brought up to date yet as stated in Section 1.4 of the DEIS the 2007 and 2012 documents were utilized to "inform the preparation of this Draft EIS" and were incorporated by reference. Changes include: the automation of the operation and maintenance of offshore wind energy systems thereby reducing potential for jobs; the reliability of such systems for base load power absent commercially available energy storage capability; the lack of demonstration of these massive wind energy projects in the U.S. ; the reliability of such systems in adverse weather conditions as illustrated by the events in Texas in the winter of 2021; the advancement of alternative low carbon or carbon free renewable energy generation technologies; the country's once gained but recent loss of energy independence and the effect on world peace and inflation and increased greenhouse gas emissions; the Supreme Court ruling on June 30 2022 finding that EPA doesn't have the authority to regulate carbon emissions from power plants; and the cost impact comparing offshore wind to these alternative technologies particularly the cost impact on electric rate payers who can ill afford significant increases in these times of high inflation.	BOEM is committed to using the best available science and will consider incorporating applicable studies as they become available.
0007-0011	Similarly use of onshore clean energy technologies will have a Foreseeable Impact combating climate change. Did the Foreseeable Impact analysis for the Proposed Action and the No Action Alternative consider the beneficial impact of development of onshore clean energy technologies. If not such an analysis is needed. If done what assumptions were made for the energy mix in the short term and long term considering conservation fossil nuclear hydrogen anaerobic digestion other technologies.	Onshore clean energy technologies were not considered in the analysis. BOEM will take this comment under consideration.
0007-0016	That BOEM not "silo" this project i.e. limit it to the only clean energy project in the future but consider onshore clean technology development as having a Foreseeable Impact in the DEIS. By doing include the future benefits and reduction of climate impacts from onshore development of clean energy	Onshore clean energy technologies were not considered in the analysis. BOEM will take this comment under consideration. The Proposed Action will add 1,100 MW of

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	projects. It is likely that said onshore benefits will result in more significant future beneficial changes on climate and these should be recognized in the impact analysis. (When evaluating onshore clean technologies in the Foreseeable Impact analysis please list the assumptions for each technology type for future power generation and transportation listing % assumptions for conservation and for future use of fossil nuclear wind solar hydrogen AD other types of clean energy production. In other words what is the short and long term energy future assumed to be with and without the Proposed Action and what are the Foreseeable Impacts in that instance.)	wind energy to New Jersey. The foreseeable impacts of the Proposed Action, as well as the No Action Alternative, are analyzed throughout the EIS.
0158-0002	Lastly I would like to know if there has been a cradle to grave environmental impact analysis of the proposed wind farms particularly relative to other forms of energy including nuclear. And if it has been conducted would you please point us to it?	A comparison to other forms of energy, such as nuclear, has not been done.
0390-0022	The cumulative environmental impacts of multiple offshore wind projects along the Atlantic Coast including fisheries commercial and recreational fishing and endangered species-may be significant and irreversible. Also mining the raw materials for offshore wind turbines especially rare-earth minerals has significant environmental impact because those materials primarily are mined overseas where environmental regulations are less stringent than in the United States. Dismissing environmental impacts that occur outside the U.S. while championing offshore wind's alleged worldwide climate change benefits is hypocritical.	Further clarification of ongoing activities contributing to impacts of the No Action Alternative and planned activities contributing to cumulative impacts have been included in the Final EIS.
0837-0001	The final objective presented by the DEIS includes the installation of 1370 WTGs offshore New Jersey. The identified proposals to accomplish this goal include Ocean Wind 1 (OCS-A-0498) and Ocean Wind 2 (OSC-A 0532) Ocean Wind X (no OSC designation) Atlantic Shores North (OCS-A 0549) and Atlantic Shores South (OCS-A 0499) Empire (OCS-A 0512)1 Central Bight (OCS-A 0537) Hudson South B (OCS-A 0538) Hudson South C (OCS-A 0539) Hudson South E (OCS-A 0541) Hudson South F (OSC-A 0542) and Hudson North (OCS-A 0544). Although the names Empire and Hudson indicate a nexus to the New York region they are offshore of New Jersey's coast according to BOEM's mapping. Although BOEM categorizes these projects as part of the New York/New Jersey Region there are no projects identified offshore New York. To ensure the general population has a true understanding of the facts BOEM should explain New York's role in the Region. Further the Ocean Wind X project with 33 WTGs is noteworthy because it receives minimal attention within the DEIS and yet it is the closest to the coast at 9 miles from Atlantic City. An OSC lease is not associated with this project on the BOEM mappings; it is merely a gray outlined area. Ocean Wind X appears in [Italics: Attachment M-2	The label "Ocean Wind X" as shown on the cumulative visual simulation refers to the remaining capacity of the Lease Area and is already accounted for in Appendix F, <i>Planned Activities Scenario</i> (Table F2-1).

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	Cumulative Visual Simulations] of the DEIS. It is unclear if this project is defined within the legal parameters of the outer continental shelf (OSC) for leasing purposes.	
0948-0002b	<p>POINT III THE CURRENT BIFURCATED NARROW REVIEW PROCESS OF SEPARATING OCEAN PROJECTS SUCH AS THAT OF "OCEAN WIND 1" MUST BE REJECTED IN FAVOR OF A THOROUGH SCIENTIFIC REVIEW OF THE CUMULATIVE AND INDIRECT IMPACTS {EMPHASIS ADDED} AS TO THE ELEVEN (11) OTHER CONCURRENTLY PROPOSED WIND FARM PROJECTS WITH NINE HUNDRED PLUS (900+) ADDITIONAL TURBINES TO BE CONSTRUCTED OFF THE NEW JERSEY COAST.</p> <p>If BOEM remains determined to reject the "no action alternative" for this massive industrial offshore development and BOEM similarly decides not to develop a comprehensive and useful pilot project with peer reviewed research and study I would hereby object to BOEM's artificial and arbitrary procedures being utilized and the scientifically unsupportable consideration for just one (1) project and its limited Draft Environmental Impact Statement alone. As far ranging and large scale as the currently proposed "Ocean Wind 1" project is in and of itself the current scope of review inappropriately is overly narrow and insufficiently comprehensive if not bureaucratically fabricated. Meaning no disrespect to any one BOEM official or employee I rendered the last comment to underscore the urgent and absolute need to engage in a thorough review of the cumulative and indirect impacts (emphasis added) about the currently proposed Ocean Wind 1 project along with the eleven (11) other vast industrial projects currently being proposed for the construction of over nine hundred (900) gigantic turbines off the valuable precious New Jersey Coastline. It is entirely arbitrary if not environmentally unsound to attempt to segregate allegedly separate and distinct projects such as the focus of the pending Draft Environmental Impact Statement without the required scientific review of all of these cumulative and indirect impacts.</p> <p>As I had argued in my testimony in the virtual hearing it is entirely in appropriate and lacking in scientific support to limit and separate out such individual industrial projects off our coast without a full consideration of the massive overall cumulative and indirect impacts as to the greater than five hundred thousand more acres now planned for such an invaluable public resource in the form of the Atlantic Ocean.</p> <p>Migratory birds valuable commercial and recreational fisheries marine mammals and the ocean life and our precious ocean environment itself all deserve a cumulative scientifically supportable overall review process. To carve out</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Clarification regarding BOEM's methodology for assessing impacts has been provided in Section 1.6 of the Final EIS. The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>

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	<p>separate artificially drawn piece meal project sites is contrived inappropriate and unsupportable. In fact proceeding in this manner underscores the very definition of arbitrary and capricious.</p> <p>The offshore expanse of the New Jersey Coast is one magnificent portion of our Atlantic Ocean and should not be carved up with artificially drawn manmade profit driven bureaucratic boundaries for individual though still massive industrial construction sites. Our ocean happens to be one of the richest most valuable and even economic treasures in the world. The critically endangered North Atlantic Right Whale and some of the other inhabitants of our Atlantic Ocean fisheries truly do not recognize any fabricated non-scientific boundaries. The cumulative effects and indirect impacts of the currently projected eleven (11) other projects with massive turbines off our coast have been virtually discounted if not ignored.</p> <p>As such I would reject the current procedures and limited approach to fabricate and to segregate out one particular focus for a Draft Environmental Impact Statement. A cumulative scientific review is warranted. The study of the cumulative and indirect impacts of the areas other pending projects off the New Jersey Coast and the construction of over nine hundred (900) massive turbines is absolutely necessary rather than the far too limited sole review purpose of the pending draft EIS of "Ocean Wind 1 ". Absent such a cumulative study with a thorough review of the cumulative and indirect impacts the current proposal must be seen as arbitrary and capricious.</p> <p>As I had also previously argued in various BOEM created forums as to the premature award of lease sales and otherwise the above referenced exhaustive and cumulative study is essential. This critically necessary BOEM study should involve a complete review of the cumulative and indirect impacts with all the vast areas of public lands off the New Jersey Coast which have already been sold off yet have similarly not yet been fully studied and certainly not developed. Similarly the same cumulative and indirect comprehensive review must be applied as to all pending projects and their too limited Draft Environmental Impact Studies.</p> <p>All these numerous impacts should initially be thoroughly investigated before such a totally unvetted experimental technology is the subject matter of what are tantamount to be irreversible actions. Included in such a non-exhaustive list of the potential impacts to be first thoroughly reviewed and studied as to the specific Atlantic Shores Ocean Wind I Project itself as well as from a cumulative standpoint with all the other Ocean sites and/or various stages of wind farm construction certainly should be the following:</p>	

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	<ol style="list-style-type: none"> 1. A vital habitat for birds fish and marine mammals both in the water as well as throughout the wetlands and other coastal areas of our State 2. Commercial fishery sites as well as the interests of recreational fishing. 3. Air quality and water quality and the specific effects such a massive industrial construction project itself would have as well as the on-going operation of the vast wind turbines and the ultimate not even explained process of trying to decommission or dismantle this huge industrial construct once its useful life has ended or it has been rendered obsolete by the already ongoing development of more efficient technologies. 4. Issues of environmental standing and environmental justice as to the Atlantic Ocean itself and the ocean environment. 5. The cumulative effect upon navigation and ocean vessel traffic in this busy commercial corridor which is already the subject matter of numerous potentially conflicting uses. 6. The interests of recreation and tourism. 7. The visual effects and indeed visual resources of the coastal and the ocean setting in the vicinity of this massive industrial site. 8. Independent of the overall effects upon mammals marine and bird wildlife this gigantic untested industrial construction project has the potential for causing a devastating impact upon threatened endangered species including the extremely endangered North Atlantic Right Whale. The Right Whale frequents this very ocean area in question and may indeed be crowded out and pushed aside from some of the already leased ocean lands subject to the prior rapid bidding process and awards through BOEM. 	
0984-0001	A SEIS needs to be required by BOEM to look at the cumulative impacts of the concentrated development of the Ocean Wind 1 (OCS-A 0498) the Atlantic Shores North (OCS-A 0549) the Atlantic Shores South (OCS-A 0499) and the Ocean Wind 2 (OCS-A 0532) sites as a whole.	BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific environmental consequences section in Chapter 3 of this Final EIS. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.
0984-0034	The function of the ACOE is engineer regiment military construction and civil works. The EIS fails to address the known environmental impacts that the ACOE	USACE serves as a cooperating agency pursuant to 40 CFR 1501.8. USACE

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	<p>will have to mitigate. The omission of known cumulative impacts associated with needed ACOE projects that facilitate the offshore wind applicant is a reason that the ACOE should reject such permit. With holding the intended projects environmental impacts that will be placed on the ACOE is a violation of public trust. The ACOE application should be denied and the applicant should be held liable for any costs associated with green washing information within its application. The United States Attorney General should be notified immediately. A immediate stay should be placed on the application until a thorough investigation is completed and a determination of guilt with fines is accessed. Cooperating agencies will use the Record of Decision (ROD) to deny as support within their decision making process.</p>	<p>provided independent review of the EIS. BOEM worked with USACE to sufficiently address any comments raised.</p>
0984-0036	<p>Look what is not in the EIS. The impacts to non-game or non-marketable species the irreversible impact to the spawning grounds of the fish that lay their eggs at sea and swim to the estuaries The irreversible impact of the change in salinity of surface water The irreversible event of collisions by vessels not under command The irreversible loss of tourism when increased moisture hits the beaches The irreversible loss of agricultural lands due to less heating degree days and higher salinity The irreversible loss of life with the increase of shark predation along beaches the irreversible loss of mental capacity to learn by the youth who come from homes of the food insecure The irreversible extinction of the right whale The irreversible extinction of the American Grebe The irreversible impacts on the razorbill The irreversible extinction of the Black Capped Petrel The irreversible impacts of increased predators like starfish the secondary irreversible impact to the scallop and clam population. The irreversible impact to the flounder population. The irreversible impact to the horseshoe crab population. The secondary impact of extinction of the red knot. The secondary impact of the needed medical uses of the horseshoe crab the irreversible impact to the monarch butterfly the extinction of benthic species not discovered and more impacts the EIS has failed to address.</p> <p>The applicant has not invested the necessary resources to produce a EIS on the impacts that meet the requirements for approval. The application should be disapproved with no modifications.</p>	<p>Appendix L, <i>Other Impacts</i>, addresses potential unavoidable adverse impacts as well as irreversible and irretrievable commitment of resources to environmental resources, including marine mammals, navigation and vessel traffic, and recreation and tourism activities, Potential impacts in the EIS were gauged based reliable existing data and resources in accordance with 40 CFR 1502.23.</p>
0984-0041	<p>The impacts of abandonment needs to be included in the application and was purposely omitted. The mitigation of removal of obsolete cables is currently cost prohibitive and was not included to avoid the need for development of a system to remove cables without additional seafloor disturbances that affect the many ocean users inclusive of marine life. The EIS impacts are not based on repeated installations or removals.</p>	<p>The Final EIS assesses impacts that could result from construction, O&M, and conceptual decommissioning of the proposed Project using reliable existing data and resources in accordance with 40 CFR 1502.23.</p>

Comment No.	Comment	Response
		<p>Section 2.1.2.4 of the Final EIS describes decommissioning activities and that, per BOEM regulations, Ocean Wind would be required to remove all cables and clear the seafloor of all obstructions created by the proposed Project. Ocean Wind would need to obtain separate and subsequent approval from BOEM to retire in place any portion of the proposed Project. Approval of such activities would require compliance under NEPA and other federal statutes and implementing regulations.</p> <p>The conceptual decommissioning plan, as proposed by Ocean Wind, is analyzed in the Final EIS. Prior to implementation of any activities associated with decommissioning, BOEM would require Ocean Wind to submit a decommissioning application for technical and environmental review.</p>
0984-0053	<p>Around the world the installation of stationary wind turbines at sea has increased the amount of at sea travel time from one place to another. The cumulative impact to the additional fossil fuel consumption must be staggering because the proprietary studies are not contained in the EIS. The applicants has an obligation to provide a thorough EIS. The Application should be denied based on the failure to provide a detailed EIS inclusive of economic and environmental damages that result from the project even if it makes the development not feasible.</p>	<p>The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>
0984-0062	<p>All the Ocean related industries referenced are and continue to upgrade their foot prints to come into greater compliance within the environmental regulations of which many go beyond the regulations because they are the small businesses and people whom live work and play on the ocean. The industrialization of the</p>	<p>The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the</p>

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	Atlantic ocean by foreign owned and managed companies has been publicly and regulatory removed over the years. The cumulative lease and development of the ocean will have significant coastal impacts and must be highlighted within the EIS.	Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.
0984-0092	The model used by BOEM on accidental releases of fuel oil and hazmat from 2013 is outdated. With the estimated 20 gallons of accidental discharge risk assessment increasing doubling every five years at the end of the life span of over WTGs there will be leaking a estimated 800 - 1000 gallons of oil over the years of operation and during decommissioning. It is easy to rationalize; 20 year old leaky car engines suspended over the ocean for ten years waiting to be towed away to the dump. Which in fact is not considered accidental. If your car leaks oil we have laws on land that makes the owner responsible for the dripping on to the land and into the water. If the owners refuse to address the leak immediately the act is not an accident. It is negligence. BOEM is quick to defend the application with the unfounded self-serving statement that 'The likelihood of an oil spill occurring from multiple WTGs and ESPs at the same time is very low'. It should also be noted that the estimate does not include the support vessels pre post and during decommissioning. BOEMs suggestion that the cumulative damages from fuel oil and hazmat are within the normal ranges of acceptability is ludicrous since there is none of this discharge occurring with any legal acceptability within the maritime industry and that the industrial Energy development zones impacts would be in addition to anything that currently exists. It is unconscionable to approve any industrialization of the ocean with the known degradation that is presented and not in this EIS. The EIS should be rejected with a resounding NO.	Section 2.2, <i>Non-Routine Activities and Events</i> , of the Final EIS describes actions that would be taken in the event of a spill or release. Ocean Wind will comply with its Oil Spill Response Plan (Appendix A of the COP) and USCG and BSEE regulations relating to the prevention and control of oil and fuel spills. The conceptual decommissioning plan, as proposed by Ocean Wind, is analyzed in the Final EIS. Prior to implementation of any activities associated with decommissioning, BOEM would require Ocean Wind to submit a decommissioning application for technical and environmental review.
1012-0004c	c. [Bold: Decommissioning Feasibility.] It does define what decommissioning means or address the technical feasibility let alone the cost of returning the lease area to its original state without which thousands of acres of ocean could be irrevocably lost forever. Without that any decision to move forward with the project would be irresponsible.	The conceptual decommissioning plan, as proposed by Ocean Wind, is analyzed in the Final EIS. Prior to implementation of any activities associated with decommissioning, BOEM would require Ocean Wind to submit a decommissioning application for technical and environmental

Comment No.	Comment	Response
1012-0004d	<p>3. [Bold: It does not address Common and Cumulative Impacts.]The DEIS fails to acknowledge the restoration of the definition of cumulative impact in the recent CEQ NEPA rule change which for a number of key impacts requires the summation of impacts from both the Ocean Wind area and the Atlantic Shores project area. The Biden Administration in the CEQ rulemaking of April 20 2020 re-instituted the definition of cumulative effects in section 1508.1(g)(3). That definition now states that cumulative impacts are "effects on the environment that result from the incremental effects of the action when added to the effects of other past present and reasonably foreseeable actions regardless of what agency (federal or non- federal) or person undertakes such other actions". Actions by the BOEM in the Ocean Wind area and the Atlantic Shores area are incremental in terms of certain important impacts as discussed below and clearly underway and therefore clearly reasonably foreseeable and therefore this DEIS must include the impacts of those actions as well. In addition. CEQ NEPA rule section 1502.4(b)(1)(i) says that when preparing statements on programmatic actions (including proposals by more than one agency) agencies may find it useful to evaluate the proposals "geographically' including actions occurring in the same general location such as body of water region or metropolitan area". As mentioned above there is a program being implemented.</p>	<p>review.</p> <p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Clarification regarding BOEM's methodology for assessing impacts has been provided in Section 1.6 of the Final EIS. The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>
1012-0004e	<p>For example the primary migration corridor of the critically endangered North Atlantic right whale is adjacent to and goes past both areas (see Exhibit B1). The DEIS is dismissing it but as shown in detail in Enclosure I the predicted noise from the operation of larger turbines based on the two noise measurement studies cited will envelop that corridor causing noise levels that will disturb the whale and potentially block its migration. So this impact must be evaluated in this EIS. It is not scientifically credible to assess impacts on a critically endangered species in a piecemeal fashion so addressing both areas in this EIS would allow for the analysis and presentation of the full impact from operational turbine noise to these endangered whales. Other such impacts that must be evaluated together in one EIS to get to the proper cumulative impact include visible impact the impact to the cold pool decommissioning impact and the</p>	<p>The scope of the EIS, per BOEM's regulations, is to analyze the COP Ocean Wind submitted for Lease Area OCS-A 0498.</p> <p>The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate</p>

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	<p>socio-economic impact of higher electric rates from the full program as opposed to one project. Visible impact is included because from certain shore points turbines from both the Ocean Wind and Atlantic Shores projects will be visible. By limiting the scope of this DEIS to only one project in one lease area the BOEM is unable to present the cumulative impacts as now required.</p>	<p>analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>
1012-0014b	<p>5. [Bold: Changes in Shore Breeze Wave Action Air Temperature and Humidity]Along with the visible turbine impacts the DEIS should have provided an analysis of the potential impacts of the wind turbine complex on shore wind speed air temperature humidity and wave action as was requested in our comments on the NOI. This is also a common impact that will occur from development in both lese areas. Several prior measurement studies of such downwind impacts from smaller turbine complexes indicate the potential for reduced wind speeds and higher temperatures. An extrapolation of those results for the wind turbine sizes and atmospheric settings expected here should have been presented in the DEIS. One study [Footnote OS1: New York Bight Area Identification Memorandum Pursuant to 30 C.F.R. § 585.211(b)] deals with the wind velocity deficit the percentage decrease in the free flow wind speed approaching the turbine and concludes that it takes about 10 km (6.25 miles) downwind of the complex for that wind speed to get back to within 7 percent of its free flow value (Figure 5-for offshore winds). Those measurements were for 2 megawatt (mw) turbines. With 13.6 mw or higher power turbines the wind speed reduction at the shore here only 10 miles away from the complex will likely be considerably greater. Since the wind speed drives the currents the wind complex will also have an effect on the longshore currents which in essence will have an effect on the nearshore currents and thus will be impactful on our coastline. Given the size and scope of this project this needs to be analyzed and results presented in the EIS including a description of what type of studies the BOEM and others have conducted on this subject to support any conclusions reached. Another study [Footnote OS2: NREL Assessment of Offshore Wind Energy Leasing Areas for the BOEM New Jersey Wind Energy Area October 2013 Figures ES-1 and ES -2.] speaks to air temperature increases and humidity changes. It finds (see its conclusions) temperature increases up to 0.6 degrees kelvin (1.1 degrees Fahrenheit) 45 kilometers (28 miles) downwind of the wind complex. Here again these measurements are for smaller turbines- a combination of 3.6 mw and 6.2 mw.</p> <p>With larger turbines and the shorter turbine to shore distances here the temperature and humidity changes could be significant and should be analyzed</p>	<p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures downwind depending on local meteorological conditions. Increased mixing near the ocean surface can take up moisture from the ocean, increasing the humidity and salinity of the air. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 15 miles), substantial effects on wind speed, temperature and humidity are unlikely to occur over land.</p>

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	<p>in the EIS for the turbine sizes proposed. These are important public issues and concerns that jeopardize the shore resource and deserve a study of the effect of larger turbines so close to shore. The DEIS should be revised and reissued to address it.</p>	
1012-0014d	<p>6. [Bold: Decommissioning] The DEIS says that project decommissioning impacts will be deferred until the lease expires. That is not consistent with NEPA requirements that reasonably foreseeable impacts be included in an EIS. This also creates a cumulative impact regarding disposal sites on shore and acres of ocean resource that may not be returned to an original state.</p> <p>As far as we can tell there are also no decommissioning requirements spelled out in the construction and operations plan or the New Jersey BPU power purchase approval. Even the word itself decommissioning is the wrong one for this situation. Decommissioning merely means putting something out of service and that could mean just shutting a turbine down and leaving it in place. As long as that is an option there is nothing to prevent the foreign corporations from just turning off the switch heading back to Europe and sticking the U.S. taxpayer with the cost of removal. And once the project is approved for construction there is no incentive for the applicants to agree to anything more than that.</p> <p>Therefore in addition to its NEPA flaws this defer it for later approach is the height of arbitrary capricious and irresponsible U.S. decision-making because it could easily foreclose the use of hundreds of thousands of acres of a precious ocean resource in perpetuity. This is precisely the kind of irrevocable environmental loss that the NEPA was passed to avoid and for an EIS to disclose before any decision is made. Therefore at a minimum there must be a condition of project approval that for turbines "decommissioning" means dismantling removal and disposal of the blades the nacelle and the tower entirely and for the foundation removal to a minimum of 15 feet below the seabed. Corresponding overarching requirements should be specified for the cables and substations as well. The DEIS should then first present the technical feasibility of doing this and then assuming it can be done the environmental impacts of the various technical options that can be employed e.g. for cutting the foundation by diamond wire or water jetting. In addition if these structures can be dismantled removed and disposed of decommissioning expenses are estimated to be significant (one study for an 1100 MW offshore wind project shows \$590 million or \$19.5% of the total project cost) and the scope of the effort is major (each of around 200 structures will be 850 feet above the surface and each monopile base is said to be 40 feet in diameter and weigh up to 5 million lbs.).Decommissioning is an important part of any credible economic and</p>	<p>BSEE's regulations at 30 CFR 285 and commercial Renewable Energy Lease OCS-A 0498 require that Ocean Wind remove or decommission all facilities, projects, cables, pipelines, and obstructions and clear the seafloor of all obstructions created by the proposed Project.</p> <p>The conceptual decommissioning plan, as proposed by Ocean Wind, is analyzed in the Final EIS. Prior to implementation of any activities associated with decommissioning, BOEM would require Ocean Wind to submit a decommissioning application for technical and environmental review.</p>

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	<p>environmental impact assessment for a project of this magnitude. A dedicated escrow fund must be set up from annual revenues to assure that the funding is available for it.</p> <p>The DEIS should therefore present a plan for decommissioning. Using one turbine for discussion what is going to be removed? What will remain in place? How is it going to be removed? How many ships how big what flag how many trips how many workers will be involved? What equipment will be needed? How long will the removal process take? For each component what are the disposal options? What is the decommissioning cost per turbine?</p>	
1012-0020a	<p>[Bold: 3. Need to Address Common and Cumulative Impacts in One EIS.]The Biden Administration in the CEQ rulemaking of April 20 2020 re-instituted the definition of cumulative effects in section 1508.1(g)(3). That definition now states that cumulative impacts are "effects on the environment that result from the incremental effects of the action when added to the effects of other past present and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions".</p> <p>The actions underway by the BOEM in the Hudson South area and in both leases in the New Jersey wind energy area are incremental in terms of certain important impacts as discussed in Enclosure I and clearly underway and therefore clearly reasonably foreseeable and therefore this EIS must include the impacts of those actions as well. CEQ NEPA rule section 1502.4(b)(1)(i) also says that when preparing statements on programmatic actions (including proposals by more than one agency) agencies may find it useful to evaluate the proposals "geographically including actions occurring in the same general location such as body of water region or metropolitan area". Here there are such geographical areas that will be impacted by development in the Hudson South area and in Lease areas A-0498 and A-0499.</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Clarification regarding BOEM's methodology for assessing impacts has been provided in Section 1.6 of the Final EIS. The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>
1012-0020b	<p>For example the primary migration corridor of the critically endangered North Atlantic right whale lies between the Hudson South area and lease areas A-0498 and A-0499 and along both A-0498 and A-0499(see Exhibit B1).</p> <p>The DEIS is dismissing it but as shown in detail in Enclosure I the predicted</p>	<p>The scope of the EIS, per BOEM's regulations, is to analyze the COP Ocean Wind submitted for Lease Area OCS-A 0498.</p>

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	noise from the operation of larger turbines based on the two noise measurement studies cited there will envelop that corridor causing noise levels that will disturb the whale and potentially block its migration. So this cumulative impact must be evaluated in this EIS. It is not scientifically credible to assess impacts on a critically endangered species in a piecemeal fashion. Addressing the impact from all three areas in this EIS is required to allow for the analysis and presentation of the full impact from operational turbine noise to these critically endangered whales.	The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.
1012-0020c	Other such impacts that must be evaluated together in this EIS to get to the proper cumulative impact include visible impact the impact on migratory birds passing through the Hudson South and one of the other two areas to get to onshore nesting grounds such as the piping plover and the red knot the impact to the cold pool decommissioning impact and the socio-economic impact of higher electric rates from the full program as opposed to that from just one project. With respect to the Piping Plover it is our understanding that USFWS Regional Office 5 is preparing such a cumulative analysis. We suggest that the BOEM consult with them toward including that in the DEIS. Visible impact is included because from certain shore areas turbines from both the Ocean Wind and Atlantic Shores projects will be visible. In addition as mentioned above the Coast Guard proposal to make the right whale's migratory corridor a deep draft vessel lane would have a synergistic impact on the whale because it has been shown to surface as a result of the turbine noise where it is exposed to vessel strike. So the combined impact of the foreseeable turbines and the Coast guard proposal should also be analyzed in the DEIS. [Bold: Therefore the scope of the EIS needs to be expanded to include these connected actions and to address cumulative impacts.]The BOEM has already done some internal analysisWEP1 regarding the impacts of turbine placement in the Hudson South lease areas which can be used to provide a comparison of impact there to the other areas consistent with the direction in 40 CFR §1502.21(c).	The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives. Cumulative visual impacts are discussed in Section 3.20, <i>Scenic and Visual Resources</i> , and Appendix M, <i>Seascape, Landscape, and Visual Impact Assessment</i> . Cumulative impacts on migratory birds are discussed in Section 3.7, <i>Birds</i> . USFWS and USCG are serving as cooperating agencies on the EIS, pursuant to 40 CFR 1501.8. USFWS and USCG provided independent review of the EIS. BOEM worked with USFWS and USCG to sufficiently address any comments raised.
1086-0004a	The DEIS is also deficient in that it does not examine cumulative impacts as required by Federal regulations. [Footnote 4: 32 CFR §651.16 In addition	The No Action Alternative consists of the current baseline conditions as influenced

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	<p>Federal courts have recognized the importance of including cumulative impacts under NEPA. For example see <i>Kleppe v. Sierra Club</i> 427 U.S. 390 413 (1976)] Since this project is just 1 of 25 or more proposed wind farms along the Eastern Seaboard the cumulative impacts must be understood prior to construction. NEPA Implementing Regulations encourage the use of programmatic environmental impact statements to reduce redundant paperwork and direct the lead agency to include "actions that may be connected actions which means they are closely related and therefore should be discussed in the same impact statement."</p> <p>[Footnote 5: Council on Environmental Quality 40 CFR Parts 1500-1508 (May 20 2022. §1500.4(k) and §1501.9(e). In addition §1502.4 notes that a programmatic EIS is useful to evaluate proposals that are in the same general location such as a body of water.] Under 40 C.F.R. §1508.7 cumulative impacts are defined as the effect on "the environment which results from the incremental impact of the [proposed] action when added to other past present and [Italics: reasonably foreseeable future actions [emphasis added]]."</p> <p>Ocean Wind 1 and Ocean Wind 2 overlap geographically with one to be constructed before the other. In turn Atlantic Shores to the North is already in the EIS process. To ignore cumulative impacts which result from the "incremental impact of the action when added to other past present and reasonably foreseeable future actions" on the environment is a failure to account for immediate and consequential incremental impacts. Cumulative impacts should have been incorporated into BOEM's NEPA process as part of both EA and EIS documents. [Footnote 6: Considering Cumulative Effects Under the National Environmental Policy Act [Embedded Hyperlink Text (https://digital.library.unt.edu/ark:/67531/metadc31126/m2/1/high_res_d/CumulativeEffects.pdf)] See also [Embedded Hyperlink Text (https://www.epa.gov/sites/default/files/2014-08/documents/cumulative.pdf)] for adoption of CEQ's guidance in the U.S. Environmental Protection Administration's NEPA analyses.]</p>	<p>by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Clarification regarding BOEM's methodology for assessing impacts has been provided in Section 1.6 of the Final EIS. The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>
1086-0004b	<p>Additionally decommissioning is a reasonably foreseeable action and its impacts should be quantified and discussed in the DEIS. The Administration has modified NEPA regulations to ensure that every federal agency considers the direct indirect and cumulative impacts of a proposed action.[Footnote 7: 87 FR 23453; also see CEQ Restores Three Key Community Safeguards during Federal Environmental Reviews; White House Press Release April 19 2022] Therefore the County requests that BOEM conduct a cumulative Programmatic Environmental Impact Statement (PEIS) of all lease areas along the coast of</p>	<p>The Final EIS assesses impacts that could result from construction, O&M, and conceptual decommissioning of the proposed Project using reliable existing data and resources in accordance with 40 CFR 1502.23.</p> <p>Section 2.1.2.4 of the Final EIS describes</p>

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	<p>New Jersey or in the alternative amend its DEIS to assure that cumulative impacts are fully evaluated. BOEM's failure to require a PEIS for the southern New Jersey offshore wind fields runs counter to its decision for a similar placement of turbine fields in the New York Bight.</p> <p>[Footnote 8: 87 FR 424 95; July 15 2022; Notice of Intent to Prepare a Programmatic Environmental State for Future Wind Energy Development in the New York Bight. Docket BOEM 2022-0034] As such it is an arbitrary exercise of its administrative authority.</p>	<p>decommissioning activities, and that, per BOEM regulations, Ocean Wind would be required to remove all cables and clear the seafloor of all obstructions created by the proposed Project. Ocean Wind would need to obtain separate and subsequent approval from BOEM to retire in place any portion of the proposed Project. Approval of such activities would require compliance under NEPA and other federal statutes and implementing regulations.</p> <p>The conceptual decommissioning plan, as proposed by Ocean Wind, is analyzed in the Final EIS. Prior to implementation of any activities associated with decommissioning, BOEM would require Ocean Wind to submit a decommissioning application for technical and environmental review.</p>
1194-0002g	<p>BOEM and Ocean Wind should ensure that there are responsible plans and policies for decommissioning transmission lines and turbines once they have surpassed their usefulness.</p>	<p>The conceptual decommissioning plan, as proposed by Ocean Wind, is analyzed in the Final EIS. Prior to implementation of any activities associated with decommissioning, BOEM would require Ocean Wind to submit a decommissioning application for technical and environmental review.</p>
1202-0011a	<p>The DEIS is incomplete because it fails to assess adequately Ocean Wind 1's cumulative impacts to Cape May County. Multiple wind farms are in development off the coasts of New Jersey and adjacent states. These offshore wind projects will have both separate and cumulative adverse visual impacts upon historic properties sites and districts listed or eligible for listing in the National Register of Historic Places. In specifically requiring cumulative impacts analyses NEPA and NHPA recognizes the significant effect that projects can have on the surrounding landscape beyond the scope of a single development.</p> <p>This Project and how it is evaluated and permitted will set a precedent for upcoming projects in the area and along the entire Atlantic Coast; therefore it is essential to apply consistent criteria to this project and subsequent future sites.</p>	<p>The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the</p>

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	<p>Due to the historic integrity of historic properties within the Project Area and Area of Potential Effect BOEM must establish and implement best practices. Based on the omissions described above the DEIS should be amended to reflect-and the Final EIS should include-a complete cumulative assessment of all impacts to historic and cultural properties and include additional cumulative visual simulations for Cape May County's historic properties including those reasonably foreseeable effects that Ocean Wind 2 Atlantic Shores and other planned projects will generate.</p>	<p>future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>Discussion of cumulative impacts on historic properties is included in Section 3.10, <i>Cultural Resources</i>, and Appendix N, <i>Finding of Adverse Effect for the Ocean Wind 1 Construction and Operations Plan</i>, which cites the <i>Cumulative Historic Resources Visual Effects Analysis for Ocean Wind Farm Project</i> report completed in 2022.</p>
1202-0011b	<p>Finally the DEIS fails to incorporate best practices and minimum guidelines that would apply to all offshore wind developments near Cape May County. In specifically requiring cumulative impacts analyses NEPA recognizes the significant effect that reasonably foreseeable projects can have on the surrounding landscape beyond the scope of a single development. However BOEM's confusing analysis and methodology for assessing cumulative impacts in the DEIS are unclear. Ocean Wind 1 and how it is evaluated and permitted will set the precedent for all future projects in the area and along the entire Mid-Atlantic Coast. Consulting parties and the public have a right to understand BOEM's conclusions and how it arrived at them. Currently no reasonable person can interpret them.</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Clarification regarding BOEM's methodology for assessing impacts has been provided in Section 1.6 of the Final EIS. The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>
1234-0003b	<p>There is also a lack of science as to the longer-term impacts of these proposed</p>	<p>The Final EIS presents a complete</p>

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	<p>industrial scale developments in US Waters. At a minimum BOEM working with the developers must require scientific fisheries monitoring for the life of the project. This will help address data gaps identified above but also help address un expected effects of turbine placement and development in these waters.</p>	<p>description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts, including potentially long-term impacts, of the action alternatives.</p> <p>Fisheries monitoring, as explained in Appendix H, <i>Mitigation and Monitoring</i>, will consist of regular surveys conducted with BOEM, BSEE, NMFS oversight.</p>
1243-0004a	<p>The subject of environmental impacts site-specific and cumulative in the foreseeable future from the development of WEAs on marine fisheries resources and their habitats has been debated at length. It is important that the wind development companies conduct before and after construction impact (BACI) surveys of the lease site before during construction and following construction of the WEA. I am certainly aware of some of these surveys fisheries and clams specifically being designed and implemented for the Ocean Wind 1 lease site and that approach is a major improvement in monitoring impacts on marine resources.</p>	<p>Appendix H, <i>Mitigation and Monitoring</i>, includes the expectations for Annual Monitoring Reports and Post-Construction Quarterly Progress Reports for environmental resources including marine mammals, birds, and bats.</p>
1259-0011	<p>Significantly the Draft EIS does not consider the many other wind farms being proposed on adjacent leased areas nor does it examine connected actions occurring onshore or the cumulative effects of this project in conjunction with subsequent Ocean Wind and other OSW proposals.</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Clarification regarding BOEM's methodology for assessing impacts has been provided in Section 1.6 of the Final</p>

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		<p>EIS.</p> <p>The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>
1259-0022	<p>Additionally consideration and assessment of cumulative impacts in the Draft EIS is deficient. While cumulative impacts are mentioned briefly in sections the Draft EIS does not broadly or specifically consider impacts as they relate to the twenty-four (24) other known projects and offshore wind lease areas in the NY/NJ Bight as they relate to Ocean Wind 1. As such impacts from any and all of these projects will be amplified in the geographic analysis area. Furthermore scientists admit there is a dearth of scientific knowledge and studies that identify cumulative impacts of offshore wind energy development on wildlife and yet BOEM and the federal government are fast-tracking this Proposed Action and similar large-scale commercial offshore wind development. More independent peer-reviewed scientific studies must be completed before permits are awarded and decisions are made on large-scale offshore wind projects such as Ocean Wind 1. The cumulative impacts can be grave and great to the North Atlantic right whale key benthic species and other important contributors to the ecosystem.</p>	<p>The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>
1278-0008	<p>Some of the motorized barges may be 400 ft long with very questionable maneuverability and I assume it will take a very powerful and heavy vessel to pull the cable digging equipment although I could not find any detailed information or description in the DEIS on the several methods used to dig and lay cable and how they actually work. And there was no explanation of how site leveling for the WTG area will be done. Perhaps it might be a good idea to threaten penalties for hitting a surveyed or know cultural resource (shipwreck) and require the marine archaeologist to check out all surveyed cultural</p>	<p>Section 3.16, <i>Navigation and Vessel Traffic</i>, includes a discussion of vessel types anticipated during construction and installation, O&M, and conceptual decommissioning. Construction and installation activities associated with the Proposed Action are described in Section 2.1.2.2. Marine archaeological resources</p>

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	resources before and after construction.	and investigations are discussed in Section 3.10, <i>Cultural Resources</i> , and Appendix N, <i>Finding of No Adverse Effect for the Ocean Wind 1 Construction and Operations Plan</i> .
1281-0003	<p>[Bold: THE CURRENT BIFURCATED NARROW REVIEW PROCESS OF SEPARATING OCEAN PROJECTS SUCH AS THAT OF "OCEAN WIND 1" MUST BE REJECTED IN FAVOR OF A THOROUGH SCIENTIFIC REVIEW OF THE [Underlined: CUMULATIVE AND INDIRECT IMPACTS] (EMPHASIS ADDED) AS TO THE ELEVEN (11) OTHER CONCURRENTLY PROPOSED WINDFARM PROJECTS WITH NINE HUNDRED PLUS (900+) ADDITIONAL TURBINES TO BE CONSTRUCTED OFF THE NEW JERSEY COAST.]If BOEM remains determined to reject the "no action alternative" for this massive industrial offshore development and BOEM similarly decides not to develop a comprehensive and useful pilot project with peer reviewed research and study I would hereby object to BOEM's artificial and arbitrary procedures being utilized and the scientifically unsupportable consideration for just one (1) project and its limited Draft Environmental Impact Statement alone.</p> <p>As far ranging and large scale as the currently proposed "Ocean Wind 1" project is in and of itself the current scope of review inappropriately is overly narrow and insufficiently comprehensive if not bureaucratically fabricated. Meaning no disrespect to any one BOEM official or employee I rendered the last comment to underscore the urgent and absolute need to engage in a thorough review of the cumulative and indirect [Underlined: impacts] (emphasis added) about the currently proposed Ocean Wind 1 project along with the eleven (11) other vast industrial projects currently being proposed for the construction of over nine hundred (900) gigantic turbines off the valuable precious New Jersey Coastline. It is entirely arbitrary if not environmentally unsound to attempt to segregate allegedly separate and distinct projects such as the focus of the pending Draft Environmental Impact Statement without the required scientific review of all of these cumulative and indirect impacts. As I had argued in my testimony in the virtual hearing it is entirely inappropriate and lacking in scientific support to limit and separate out such individual industrial projects off our coast without a full consideration of the massive overall cumulative and indirect impacts as to the greater than five hundred thousand more acres now planned for such an invaluable public resource in the form of the Atlantic Ocean.</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Clarification regarding BOEM's methodology for assessing impacts has been provided in Section 1.6 of the Final EIS. The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>
1281-0004	Migratory birds valuable commercial and recreational fisheries marine mammals and the ocean life and our precious ocean environment itself all deserve a cumulative scientifically supportable overall review process. To carve out	The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No

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	<p>separate artificially drawn piece meal project sites is contrived inappropriate and unsupportable. In fact proceeding in this manner underscores the very definition of arbitrary and capricious.</p> <p>The offshore expanse of the New Jersey Coast is one magnificent portion of our Atlantic Ocean and should not be carved up with artificially drawn manmade profit driven bureaucratic boundaries for individual though still massive industrial construction sites. Our ocean happens to be one of the richest most valuable and even economic treasures in the world.</p> <p>The critically endangered North Atlantic Right Whale and some of the other inhabitants of our Atlantic Ocean fisheries truly do not recognize any fabricated non-scientific boundaries. The cumulative effects and indirect impacts of the currently projected eleven (11) other projects with massive turbines off our coast have been virtually discounted if not ignored. As such I would reject the current procedures and limited approach to fabricate and to segregate out one particular focus for a Draft Environmental Impact Statement. A cumulative scientific review is warranted. The study of the cumulative and indirect impacts of the areas other pending projects off the New Jersey Coast and the construction of over nine hundred (900) massive turbines is absolutely necessary rather than the far too limited sole review purpose of the pending draft EIS of "Ocean Wind 1". Absent such a cumulative study with a thorough review of the cumulative and indirect impacts the current proposal must be seen as arbitrary and capricious.</p> <p>As I had also previously argued in various BOEM created forums as to the premature award of lease sales and otherwise the above referenced exhaustive and cumulative study is essential. This critically necessary BOEM study should involve a complete review of the cumulative and indirect impacts with all the vast areas of public lands off the New Jersey Coast which have already been sold off yet have similarly not yet been fully studied and certainly not developed. Similarly the same cumulative and indirect comprehensive review must be applied as to all pending projects and their too limited Draft Environmental Impact Studies.</p>	<p>Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>
1281-0005	<p>All these numerous impacts should initially be thoroughly investigated before such a totally unvetted experimental technology is the subject matter of what are tantamount to be irreversible actions. Included in such a non-exhaustive list of the potential impacts to be first thoroughly reviewed and studied as to the specific Atlantic Shores Ocean Wind I Project itself as well as from a cumulative standpoint with all the other Ocean sites and/or various stages of wind farm construction certainly should be the following:</p>	<p>The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate</p>

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	<ol style="list-style-type: none"> 1. A vital habitat for birds fish and marine mammals both in the water as well as throughout the wetlands and other coastal areas of our State. 2. Commercial fishery sites as well as the interests of recreational fishing. 3. Air quality and water quality and the specific effects such a massive industrial construction project itself would have as well as the on-going operation of the vast wind turbines and the ultimate not even explained process of trying to decommission or dismantle this huge industrial construct once its useful life has ended or it has been rendered obsolete by the already ongoing development of more efficient technologies. 4. Issues of environmental standing and environmental justice as to the Atlantic Ocean itself and the ocean environment. 5. The cumulative effect upon navigation and ocean vessel traffic in this busy commercial corridor which is already the subject matter of numerous potentially conflicting uses. 6. The interests of recreation and tourism. 7. The visual effects and indeed visual resources of the coastal and the ocean setting in the vicinity of this massive industrial site. 8. Independent of the overall effects upon mammals marine and bird wildlife this gigantic untested industrial construction project has the potential for causing a devastating impact upon threatened endangered species including the extremely endangered North Atlantic Right Whale. The Right Whale frequents this very ocean area in question and may indeed be crowded out and pushed aside from some of the already leased ocean lands subject to the prior rapid bidding process and awards through BOEM. The undersigned hereby strenuously would argue that to limit this Draft environmental Impact Statement and the accompanying review without consideration of the cumulative and indirect impacts must be deemed arbitrary and capricious. 	<p>analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>
TRANS-0003-0003	<p>Moreover BOEM has interpreted and tiered the NEPA review process for Ocean Wind 1 and other offshore wind projects in such away that it obscures the true cumulative impacts of rushing into so much offshore wind development across the northeast so quickly.</p>	<p>The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities</p>

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		(i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.
TRANS-0041-0001	The size scope and scale of all of these projects altogether being considered simultaneously is alarming. What are the true cumulative impacts of this? The limited studies and results are not available yet projects in leased areas are forging ahead without knowing the consequences	The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.
TRANS-0069-0001	In Ms. Baker's introductory statement she mentioned 28 leases for offshore wind in the nation. What are the true cumulative impacts of all of this development. The truth is and according to scientists they are not known. The size and scope and scale of all of these projects being considered simultaneously is concerning and alarming.	The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.
0950-0003	Finally we recommend that Ocean Wind 1 and each subsequent wind project be evaluated in the context of the full buildout scenario along the coast since some impacts to natural resources may be additive and because many of the projects are located in close proximity to one another.	The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a

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		current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.
1192-0021	There appear to be at least five other wind proposals for this part of the Atlantic Ocean off shore of New Jersey - why only mention one? Neither the BOEM or the Applicant can say whether or not other Wind Projects want to use the same space on land or the same cable. This is considered segmentation. The DEIS neglects to describe the electric grid for each of the on- land sites. The question here is whether or not Ocean County is bearing the burden of generating electricity for the entire state?	<p>The scope of the EIS, per BOEM's regulations, is to analyze the COP Ocean Wind submitted for Lease Area OCS-A 0498.</p> <p>The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>Analysis of the electric grid is outside of the scope of this EIS.</p>
0337-0001	The potential risks to the ocean and marine resources are great and grave and too many questions must be considered and answered. While green energy is an opportunity the risks and rewards must be understood: How will building Ocean Wind 1 dramatically reduce carbon dioxide (CO2) emissions? How many acres of wetlands or open space will be destroyed and impacted by Ocean Wind 1? What are the cumulative effects of the 11 other pending projects off NJ totaling over 900 turbines? These are just the beginning - 500000 more acres are still being planned-out for more turbines. How are these cumulative impacts being addressed? I support responsible and reasonable offshore wind energy but the current trajectory of offshore wind in the NY/NJ region is reckless	<p>Potential air quality, wetland, and land use impacts are discussed in Sections 3.4, 3.22, and 3.14, respectively.</p> <p>The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a</p>

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	privatization and will not ensure protection of marine life including whales dolphins turtles and the hundreds of other species that call the ocean home.	current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.

O.6.24 NEPA/Public Involvement Process

Table O.6.24-1 Responses to Comments on NEPA/Public Involvement Process

Comment No.	Comment	Response
Incomplete or unavailable information/Preparation of a SDEIS		
0007-0015	That BOEM commit to preparation of a Supplemental DEIS (before preparation of the Final EIS) to cover issues where information is not yet available or for which other government agencies are to make key decisions such as the NMFS re taking of the North American Right Whale or where Ocean Wind is still doing studies such as for radar impacts.	BOEM's EIS complies with the procedural and substantive requirements of NEPA. Appendix J noting incomplete or unavailable information is included in the Final EIS.
0351-0002	Also as was suggested in my original comments please prepare a Supplemental DEIS after key studies are complete and responses to requests have been received thereby allowing for a meaningful review of the EIS in draft stage before a FEIS is prepared.	
1259-0195	Conclusions. Clean Ocean Action is not opposed to offshore wind which is developed responsibly and reasonably. However based on all the above COA respectfully submits that the Draft EIS is incomplete inconsistent and misleading. It fails to present a responsible and reasonable "purpose and need" as required by the National Environmental Policy Act ("NEPA") for the proposed project as well as fails to evaluate all reasonable alternatives to the proposed Project as required by law.	
Public Involvement Process		
0837-0011	BOEM received comments expressing concern for the reliability of offshore wind power and several commenters suggested building the Project in a phased approach or building a much smaller pilot facility to confirm the benefits and impacts before building out the complete Project as proposed. This was described as a phased development or pilot facility with a "go-slow" alternative. BOEM responded that the alternative would negate Ocean Wind's ability to fulfill the terms of BPU's 2019 Order to construct and operate an 1100-MW commercial-scale wind energy facility within the Lease Area with operations targeted to begin in 2024 and does not address a specific environmental or socioeconomic concern. [Footnote 11: Tourism Economics (TE). 2021. Economic Impact of Tourism in New Jersey 2021. Available: https://visitnj.org/sites/default/files/Economic_Impact_of_Tourism_in_New_Jersey_2021_Final.pdf?tag=itinerary . accessed: August 2022.] Essentially BOEM conveyed they will not be deterred from fulfilling their 1100-MW goal regardless of adverse environmental impacts. The previously noted misrepresentations	Before the preparation of the Draft EIS, BOEM conducted a 30-day public scoping comment period and held three virtual public scoping meetings to solicit feedback and identify issues and potential alternatives for consideration. BOEM considered all scoping comments while preparing the EIS; the topics most referenced in the comments include commercial fisheries and for-hire recreational fishing; finfish, invertebrates, and EFH; the NEPA process; socioeconomics; and alternatives. Additional public input occurred during the Project's planning and leasing phases

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	highlight the extent of BOEM's shortsightedness in this respect. For this reason BOEM has undermined public trust and challenged the primary goals of EO 14008 which are to conserve our lands waters and biodiversity through clean energy technologies and infrastructure. The draft EIS provides BOEM an opportunity to correct transgressions and regain public confidence. This objective can be achieved through a realistic depiction of the facts wherein stakeholders can weigh the options. Truthfulness and transparency should not be viewed as an impediment to offshore wind farms but rather as an integral part of the process. To assist stakeholders the governor of New Jersey and state representatives should conduct a fact-oriented outreach to ensure their constituents are informed and prepared for a future referendum on this issue.	between 2010 and 2018. Publication of the Draft EIS initiated a 45-day comment period, which was extended by an additional 15 days, after which BOEM assessed and considered all the comments received in preparation of the Final EIS. See Appendix A for additional information on public involvement.
0984-0031	BOEM has failed to produce peer reviewed science in a rushed timeframe approach to public outreach. BOEM is in direct violation of human rights by accepting a systemic racist format of data collection and is why this EIS should be rejected.	
Document Length		
1012-0005	4. [Bold: Regarding the Presentation of Information to the Public] The full document is too long it contains too much background information and yet despite its length contains very little presentation of numerical or factual significant environmental impacts especially in the body of the EIS. It buries important impact information in lengthy Appendices versus placing it the body of the EIS. It forces the reader to those lengthy Appendices and to hundreds of technical documents and thousands of pages to try to find relevant environmental impacts which is not the readers job but rather was the BOEM's to ferret out relevant information and place it in the body of the EIS. Many of those references cited are not relevant to the proposal or readily accessible and are written for the scientific community not the general public. It presents results from "models" without explanation of the scientific or technical basis for the modeled result or of the key inputs to it forcing the reader to search for other documents to confirm whether those modeled results are accurate which often are not even available. This is a "full disclosure" problem with the EIS. It is not possible for a person to undertake such an extensive document review in 60 days nor should a reader have to. [Italics: It was the BOEM's job to do that show that it has done the "necessary environmental analysis" and to present the relevant impact itself in the EIS proper which it has not done.] The net result is to make the document virtually unreadable and incomprehensible to the general public.	BOEM has worked diligently to provide as much information as is possible, under current regulatory guidance, within the main body of the EIS with supporting or additional information provided in the appendices. One such example is Appendix G, <i>Assessment of Resources with Minor (or Lower) Adverse Impacts</i> ; to focus on the impacts of most concern in the main body of the EIS, BOEM included the analysis of resources within an appendix. The EIS uses a four-level classification scheme to characterize the potential beneficial and adverse impacts of alternatives as either negligible, minor, moderate, or major. The Final EIS considers the best available data and information that reflect the state of the science at the time of

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1281-0007a	As already noted herein there had been an insufficient time period during which to engage in a thorough review as to the fourteen hundred plus (1400+) page Draft Environmental Impact Statement for which comments are now being sought. Also we have had an insufficient opportunity to have submitted this huge document with its various attachments for even a cursory preliminary review by scientists and economists in the various specialties required.	publication of the EIS.
1012-0005	It promotes the project throughout the entire document by filling it with discussion of what it says are minor impacts which if true have no place in an EIS which is supposed to focus only on significant impacts. It devises a system of scoring impacts as to their severity and throughout the document substitutes a presentation of actual impacts with a discussion of those scores. It's scoring of impacts is in some cases biased towards diminishing impacts and neglects criteria that are in the country's environmental statutes so they present an alternate reality of what BOEM staff think is important versus what the country as a whole has expressed as important in law. Such scoring is not helpful in an EIS because it destroys the objectivity of the EIS i.e. it can drive the impact presentation to support the score rather than the other way around and therefore any such scoring should be reserved for the Record of Decision.	
1012-0005	For example the DEIS cherry-picks the studies used and references cited to show less turbine visible impact versus those that show greater. It avoids or dismisses studies on operational turbine noise impact to the right whale because those would raise significant public and legal concerns and score high. Conversely it embraces studies that show unrealistic turbine avoidance rates for birds and other studies that predict with virtually no data and with great uncertainty whale avoidance behavior when those studies show reduced impacts and low scores.	
1012-0006	[Bold: Conclusions and Recommendation]Taken together the DEIS has not fully disclosed the environmental impacts of the proposed action. It does not have the proper scope nor any true alternatives in the NEPA sense because they are all environmentally the same and is virtually unreadable and incomprehensible to the general public as well as to a decision-maker. It should be restructured into a shorter more focused document with full disclosure of all the relevant impacts meaningful alternatives and reissued if the BOEM continues to promote this project.	
1012-0024	[Bold: 6. EIS Length and Content]An EIS should provide [Bold: full] and fair discussion of [Bold: significant] environmental impacts §1502.1 and only [Bold: brief] discussion of [Bold: other than significant issues] §1502.2. It should be	

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	<p>concise clear and to the point and supported by evidence that the agency has made the necessary environmental analysis §1502.1. It should not be encyclopedic and shall be analytic and concise §1502.2. It should be less than 150 pages or 300 for a project of unusual scope or complexity §1502.7. It should inform federal decision making and the public §1502.1. it should avoid useless bulk and concentrate effort and attention on important issues §1502.15. Verbose descriptions of the affected environment are themselves no measure of the adequacy of an EIS §1502.15. The EIS's being prepared for offshore wind projects are the opposite of these criteria. The body of the EIS is far too long and yet despite its length presents few significant environmental impacts. There is far too much presentation of background information the affected environment and insignificant impacts.</p>	
1012-0025	<p>[Bold: 8. Emphasis on Insignificant Issues.] There is too much focus in these EIS's on insignificant issues. For example in the Vineyard Wind 1 final EIS comparison of alternatives Table on page ES-13 seventy five percent of the one hundred and twelve impact cells are rated as negligible or minor only twenty five percent as moderate or major. That proportionality is reflected in the discussion in the EIS. The focus of an EIS should be predominantly on the latter the former should be presented in one place and then dismissed not repeated over and over. The focus on the negligible and minor also turns the document towards an advocacy one as opposed to a neutral one in terms of just presenting credible impact information.</p>	
1259-0195	<p>The Draft EIS also makes clear the project will have a range of significant negative impacts to the marine environment and surrounding areas plus there is a dearth of scientific studies in certain areas critical to assessing the impacts from this project's effects on multiple ecosystems in the region as well as cumulative impacts.</p>	
0984-0031	<p>The Environmental Impact Statement (EIS) has been hastily written and fails to analyze reasonably foreseeable effects from expanded cumulative activities for offshore wind development. Fishing data safe transit lane alternatives corralling of threatened and endangered species affects on tourism quality of life food security agricultural impacts non- decommissioning projects known additional infrastructure the intent to divest system collapse scenarios supporting countering documents public comments and scientific peer reviewed considerations have been purposely omitted by the developer and representatives party too.</p>	

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Planned Actions		
1259-0024	Introduction. COA objects to the confusing overwhelming and obfuscatory approach that the federal government has taken to reviewing the environmental impacts of Ocean Wind 1 and numerous other OSW projects proposed off the NJ/NY coast. For instance there is an inappropriate bifurcation of the environmental reviews for the New York and New Jersey Bight Region which has undermined a comprehensive and cumulative assessment of the full scale and scope of the offshore wind industry proposals and activities in this region. This bifurcation in turn has resulted in an Alternatives analysis that is neither full nor fair.	Planned offshore wind projects are considered reasonably foreseeable activities, i.e., planned actions that could occur during the life of the Ocean Wind 1 Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives. Appendix F (<i>Planned Activities Scenario</i>) describes the methodology used for assessing impacts from planned activities in the EIS. Using the methodology described in Appendix F, each resource-specific environmental consequences section in Chapter 3 of the Draft EIS discusses cumulative impacts.
TRANS-0002-0006	How can the public access and understand the cumulative impacts of one project along with the other 24 projected lease areas in the works offshore. Are they being considered the cumulative impacts in whole?	
Adding Additional Projects to the Ocean Wind 1 EIS		
1012-0019	<p>In addition the DEIS must include connected actions. Therefore in accordance with the NEPA regulation on EIS scoping requirements §1501.9 (e)(1)(iii) development in these three areas are "connected" actions because as shown below they are: "Interdependent parts of a larger action and depend on that larger action for their justification" that larger action being the implementation of a State program that the BOEM has adopted and as such they should all be included in the scope of this DEIS.</p> <p>The real federal purpose and plan here is to meet the New Jersey State plan for 7500 megawatts (mw) of offshore wind power by 2035. NJ Executive Order No. 92 that directed the New Jersey Board of Public Utilities (NJBPU) the New Jersey Department of Environmental Protection and other state agencies with responsibilities arising under the Offshore Wind Economic Development Act (OWEDA) to take all necessary actions to promote the development of wind energy off the coast of New Jersey to secure 7500 megawatts of offshore wind energy generation by the year 2035. On February 28 2020 the Murphy Administration announced the offshore wind solicitation schedule to meet the 7500 mw offshore wind goal by 2035 and called upon the NJBPU to take all necessary actions to implement the schedule. The State has been and is proceeding with a specific defined plan with schedules for solicitations to achieve that objective as shown below. In addition it is proceeding to implement a</p>	Through a competitive leasing process under 30 CFR 585.211, Ocean Wind was awarded Commercial Renewable Energy Lease OCS-A 0498 offshore New Jersey and submitted a COP to BOEM proposing the construction and installation, O&M, and conceptual decommissioning of an offshore wind energy facility in the Lease Area (the Ocean Wind 1 Offshore Wind Farm). The submittal of the COP triggers a NEPA review by BOEM and this EIS is the result of that. Similarly, BOEM is preparing an EIS for the Atlantic Shores Offshore Wind Project for the same reason and will in the future be receiving COPs for the New York Bight Lease areas, which will also trigger a NEPA review. These are not connected actions, as they do not meet the criteria within the CEQ NEPA regulations at 40 CFR

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	<p>consolidated transmission network to bring power from Hudson South to the shore.</p> <p>[Bold: The BOEM has de facto adopted the State's Plan.] Its proposed actions in its Notices of Intent to Prepare an EIS for the Ocean Wind Project and the Atlantic shores projects directly match the NJPBU awards and projected ones. In addition, the BOEM has expressed support for the State's proposed consolidated transmission network the linkage that would make Hudson South an integral part of the State's Plan (BOEM Announces Next Steps for Proposed New York - New Jersey Wind Energy Transmission Line 06/17/2019). As further proof that BOEM's real purpose is to implement the State's program it now says it will not consider any alternative power levels other than what the State approves. If it is bound by each such approval then it is bound by all of them and so its real purpose is to implement a 7500 mw program. Within that context it is simply not rational for a decision-maker having options in other nearby areas that can meet the 7500 mw program with far less environmental impact not to assess them but rather to just say yes or no to this one application. Therefore, this DEIS should have as recommended in our comments on the NOI considered such alternative scenarios and we present several reasonable ones again here.</p> <p>[Bold: Wind Energy Potential]. The wind energy potential from lease area A-0498 (the Ocean Wind Project) A-0499 (the Atlantic Shores offshore wind project) and lease areas A-0538 through A-0543 (the Hudson south area) is shown below. The numbers for lease areas A-0498 and A-0499 from Figure ES1 of reference WEP2 were adjusted to a one nautical mile (8 rotor diameter) turbine spacing using the data in Figure ES2.</p> <p>The wind energy potential from all three areas based on a one nautical mile turbine spacing is 13500 mw 80 percent more than needed to meet the 7500-mw goal. Neither the Ocean Wind or the Atlantic Shores projects by themselves or combined can meet the 7500-mw program goal so executing the State plan requires development in Hudson South. Consequently, all three areas must be considered to execute the Program Plan. Connected Actions. [Italics: Therefore in accordance with NEPA regulation EIS scoping requirements §1501.9 (e)(1)(iii) development in these three areas are "connected" actions because they are: "Interdependent parts of a larger action and depend on that larger action for their justification" and as such they should all be included in the scope of this EIS.]The need to include these areas in this EIS is also required by NEPA rule §1502.4 which states that: "Agencies shall evaluate in a single environmental impact statement proposals or parts of proposals that are related to each other</p>	<p>1508.25. However, these other projects are reasonably foreseeable activities, i.e., planned actions that could occur during the life of the Ocean Wind 1 Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives.</p>

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	closely enough to be in effect a single course of action". Since as shown above development in all these lease areas is in effect a single course of action they should all be evaluated in this EIS.	
1012-002	<p>Several reasonable alternatives commensurate with that expanded scope are provided below. [Bold: 4. Alternatives Commensurate with the Proper EIS Scope][Bold and Italics: NEPA rules require that other reasonable courses of action and their impact should be identified and analyzed in the EIS in detail per 40CFR§1501.9(e) and §1502.14(b) and in comparative form to the proposal per 40CFR§1502.14.] §1502.14 Alternatives including the proposed action. requires that "the alternatives section should present the environmental impacts of the proposed action and the alternatives in comparative form based on the information and analysis presented in the sections on the affected environment (§ 1502.15) and the environmental consequences (§ 1502.16). In this section agencies shall: (a) Evaluate reasonable alternatives to the proposed action and for alternatives that the agency eliminated from detailed study briefly discuss the reasons for their elimination". Therefore §1502.14 requires the EIS to examine all "reasonable" alternatives to the proposal.</p> <p>In determining the scope of alternatives to be considered the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense rather than simply desirable from the standpoint of the applicant (March 16 1981 CEQ MEMORANDUM FOR FEDERAL NEPA LIAISONS FEDERAL STATE AND LOCAL OFFICIALS AND OTHER PERSONS INVOLVED IN THE NEPA PROCESS). Since as shown above the wind energy potential from all three areas exceeds the State's program requirement there are clearly alternative ways of proceeding that involve all three areas. The proper DEIS scope described above affords the opportunity to craft EIS alternatives that can meet the Governor's 7500 mw programmatic goal with much reduced environmental impact. Such alternatives could take the form below: [Bold: Table 4. EIS Alternatives]Area/Project: A-0498 Ocean WindAlternative A no Action on the Atlantic Shores Proposal: 2248Alternative B reliance on close-in areas: 3192 (Table 3)Alternative C greater reliance on Hudson South area: 305 Area/Project: A-0499 Atlantic ShoresAlternative A no Action on the Atlantic Shores Proposal: 0Alternative B reliance on close-in areas: 3418 (Table 3)Alternative C greater reliance on Hudson South area: 305 Area/Project: Hudson SouthAlternative A no Action on the Atlantic Shores Proposal: 5252Alternative B reliance on close-in areas:</p>	

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	<p>890Alternative C greater reliance on Hudson South area: 6890 (Table 3) Area/Project: AllAlternative A no Action on the Atlantic Shores Proposal: 7500Alternative B reliance on close-in areas: 7500Alternative C greater reliance on Hudson South area: 7500</p>	
1012-0021	<p>[Bold: Alternative A No Atlantic Shores Project] NEPA rule §1502.14 requires that each alternative be considered in detail and comparative form to evaluate their merits and detriments. That includes the no project action alternative. As shown in Tables 3 and 4 above not proceeding with turbine placement in the Atlantic Shores project area would still allow for the State's offshore power generation goal of 7500 mw to be met through development in the Ocean Wind and Hudson South areas. Alternative A would require 5252 mw from Hudson South which is greater than the 4209 mw that has already been secured through area purchases. However the additional 1043 mw can be secured through an expedited unsolicited bid process because there is 2681 mw of remaining wind energy potential in Hudson South and there has apparently has been no competitive interest in those remaining sections. The fact that the Hudson South areas do not yet have specific turbine size and location information need not be a deterrent to the preparation of such a useful comparison. The BOEM has done an internal analysisWEP1 regarding the impacts of turbine placement in the Hudson South lease areas which can be brought up to an EIS level and then used to provide a comparison of impact there to the other areas consistent with the direction in 40 CFR §1502.21(c).Therefore the EIS should at a minimum provide a realistic thorough and comparable analysis of the no Atlantic Shores alternative using the realistic scenario of 2248 mw of power from Ocean Wind and 5252 mw of power from Hudson South. Since the BOEM has repeatedly and in Court stated that it is under no commitment for turbine placement in the current lease areas the no action alternative could also include converting the use of the current lease area to a power transmission effort in support of the one consolidated transmission project to transmit all the power from Hudson South to New Jersey that the NJ BPU and the BOEM are pursuing (BOEM Announces Next Steps for Proposed New York - New Jersey Wind Energy Transmission Line 06/17/2019). The EIS should present the environmental benefit of that in contrast to the need for two transmission projects and the attendant greater sub-seabed excavation and substation construction if turbines are placed in both Hudson South and the current lease area. The Alternative A discussion should also recognize that the current Atlantic Shores lease area was identified over 10 years ago without public input and consideration of onshore visible turbine impact or operational noise impact to endangered whales and that the explosion</p>	

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	<p>in turbine power and dimension and the associated underwater noise now call that selection into question. Our analysis in the cover letter and Enclosure I of the operational noise problem indicates that there is no room for the turbines proposed in the project area consistent with the criteria in the ESA and MMPA because such placement would block the right whale's migration. Alternative A places greater reliance on development in Hudson South. The Hudson South area has been screened more recently by BOEM for relevant turbine placement factors such as visible impact navigation Coast Guard use other defense use fishery conflicts marine mammal conflicts water depth and cost and has been found to be suitable for offshore wind energy leasing. It offers several clear environmental advantages such as avoiding visible turbine impacts to shore communities. Those benefits should be described in the EIS.</p>	
1012-0021	<p>Further regarding the applicant's interests EDF Renewables has purchased the right to leases in a large area in the western part of Hudson south. So it is likely that EDF Renewables will come away with a substantial turbine effort in Hudson South and its interest can be served. Likewise Shell New Energy could use the its advantage with the current lease area to get involved in the substantial transmission project that will be needed to bring the power from Hudson South to shore. [Bold and Italics: To summarize while in many federal projects requiring an EIS the no action alternative is often summarily dismissed in the Atlantic Shores case it is extremely attractive. State power objectives can still be met through greater reliance on the Hudson South area which has substantial wind energy and has already been screened for environmental and other use factors. Impacts to endangered whales can be reduced by smart turbine placement. Using smaller direct drive turbines in Hudson South can limit buffer zones and reduce impact to the right whale. Visible turbine impact on local shore communities would be avoided. The jobs expected for New Jersey are still the same.]</p>	
1012-0021	<p>[Bold: Alternative B Maximum Use of the Closer-in Ocean Wind & Atlantic Shores Areas] would make greater use of the closer-in lease areas but that would exacerbate the visible turbine impact on shore communities and the operational noise danger to the endangered whales. Atlantic Shores has also said they will seek authorization in the next State solicitations (above 1510 mw) for up 20 mw power turbines that are 1042 feet high or about 200 feet higher than the Vestas-236 so this turbine size (and power) needs to be incorporated into this alternative. This would of course exacerbate the shore visible impact and the operational noise impacts on the whales even further. Since even the maximum wind energy potential in lease areas A-0498 and A-0499 combined</p>	

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	cannot meet the 7500-mw goal this alternative would still require some development in Hudson South further linking the three areas and requiring two transmission projects which is avoided under Alternative A.	
1012-0021	[Bold: Alternative C]. Alternative C is similar to alternative A but it places more reliance on Hudson South. That would allow for a more modest projects of 305 mw to proceed in lease areas A-0498 and A-0999 further away from shore. That would reduce the visible impact and the socio- economic impact to Long Beach Island and other shore communities and avoid the DOD turbine exclusion zone in Lease area A-0499 which goes out to 14 miles. It would require 6890 mw of power from Hudson South which is available in that area (See Table 3).	
1012-0021	<p>[Bold: BOEM Screening Criteria for Alternatives.] In requiring the alternatives above we did look at BOEM's recent screening criteria of June 22 2022 for alternatives for a COP EIS but found the criteria inconsistent with the Biden Administration's recent NEPA rule changes. We also found the screening criteria confusing contradictory not supported by the NEPA and subsequent case law and thus not helpful. For example on page 3 it discusses the purpose and need for a COP EIS but on subsequent pages it shifts focus and discusses the purpose and need for the proposed action. These are two different things and it is the purpose of the [Italics: proposed action] that drives reasonable alternatives. Regarding that purpose we agree that the Department of Interior has a broad mandate under the Outer Continental Shelf Lands Act (OCSLA) to make OCS energy resources now decided to be offshore wind power available for expeditious and orderly development subject to environmental safeguards and to ensure that any activity under that provides for a number of factors including protection of the environment. But we see nothing in the OCSLA - and certainly nothing in the NEPA which stresses the need for alternatives and calls them the "heart" of an EIS - that restricts Interior from considering projects in different wind energy and lease areas in the pursuit of that broad goal. In fact by not considering alternate locations for wind turbines - which is the most important environmental factor - at any point in its NEPA review process defeats the fundamental purpose of that Act as it precludes decision-makers from considering alternative ways to achieve program objectives with less environmental damage.</p> <p>Therefore screening criteria 1 that alternatives must be limited to only one lease area is not valid. Nor is criteria 2 that an alternative must meet the primary goals of the applicant. Regarding that issue the Guidance relies on rule language in the CEQ regulations put in place by the previous Administration that was removed by the current Administration in its final rulemaking of April 202022</p>	<p>BOEM evaluated the alternatives using the screening criteria presented in Appendix C, Section C.1, <i>Alternatives Screening Criteria</i>. The first criterion states that an alternative was considered but not analyzed if it is outside the jurisdiction of the lead agency, including resulting in activities that are not allowed under the lease (e.g., requiring locating part or all of the wind energy facility outside of the Lease Area), which is important because the Lease Area was delineated through consultation with the BOEM New Jersey Task Force (comprising federal agencies, state government, and locally elected officials), and public input with the intent of protecting ecologically sensitive areas and minimizing user conflicts while making available appropriate areas for wind development.</p> <p>Furthermore, Ocean Wind's lease pursuant to Section 2: Rights of the Lessee grants, "the exclusive right and privilege, subject to the terms and conditions of this lease and applicable regulations, to: (1) submit to the Lessor for approval a Site Assessment Plan</p>

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	<p>which seems strange and highly inappropriate. Therefore a project EIS should consider a reasonable range of alternatives that meet the agency's broader objective in this case the State goal of 7500 megawatts of offshore wind power which the BOEM has adopted.</p>	<p>(SAP) and Construction and Operations Plan (COP) for the project identified in Addendum 'A' of this lease; and (2) conduct activities in the area identified in Addendum 'A' of this lease ('leased area') that are described in a SAP or COP that has been approved by the Lessor." Accordingly, even if BOEM were to evaluate an alternative outside of the Lease Area, BOEM would not have the ability to approve COP activities for an area not leased to Ocean Wind.</p> <p>In the CEQ Phase 1 Final NEPA Rule's Preamble, CEQ states that when considering the purpose and need for a project sponsored by an outside party, in addition to the applicant's goals, other relevant factors include the agency's mission and policy directives, the specifics of the agency's decision, local needs, desired conditions on the landscape, other environmental outcomes, and the purpose and need of any other federal agencies completing the NEPA process for the same proposed project.</p>
1012-0021	<p>[Bold: 6. Segmentation Omission of Other Project in the Same Lease Area.] Section 1502.4 of the CEQ NEPA rules requires that agencies "shall evaluate a single environmental impact statement proposals or parts of proposals that are related to each other closely enough to be in effect a single course of action". It is inappropriate under the NEPA to segment a coherent proposal into pieces and avoid presenting full impacts. The DEIS should have presented all the projects envisioned for Lease area A-0498. Following the BOEM's own logic in the NOI an EIS should include "effects that occur at the same time and place as the Proposed Action and alternatives and such effects that are later in time or not at the same place".</p>	<p>The Ocean Wind 1 EIS analyzes the offshore wind energy project proposed for Lease Area A-0498. No other projects are proposed for Lease Area OCS-A 0498. Other offshore wind energy projects are analyzed as planned activities that could occur during the life of the Ocean Wind 1 Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives. Appendix F (<i>Planned Activities Scenario</i>) describes the</p>

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		methodology used for assessing impacts from ongoing and planned activities in the EIS. Using the methodology described in Appendix F, each resource-specific environmental consequences section in Chapter 3 of the Draft EIS discusses cumulative impacts.
Use of a Project Design Envelope		
1012-0021	[Bold: 2. Need for a Clear Proposal.] According to NEPA rule §1502.4(a) a DEIS should "define the proposal" that is the subject of the EIS. A statement regarding the proposal that the BOEM is considering "up to 200 wind turbine generators" does not provide that definition. In addition since the DEIS does not consider alternative power levels below what the State has approved it would seem that the proposal is actually for the maximum number. If so it should state that rather than misleading the public into thinking that 25 or 50 turbines will actually be selected. The public cannot meaningfully comment on such a vague description. The number and power of turbines proposed needs to be specified as well as their size dimensions drive and foundation type spacing approximate location and capacity factor. These are critical parameters necessary to describe the environmental impact. If the applicant does not know them or wish to share them this EIS cannot logically proceed.	The Proposed Action is to construct, operate, maintain, and decommission an approximately 1,100-MW wind energy facility consisting of up to 98 WTGs, which BOEM analyzes in the EIS. BOEM allows lessees flexibility with their project parameters by allowing the usage of a PDE approach. This approach uses a "maximum design scenario" process that analyzes the aspects of each design parameter that will cause the greatest impact for each physical, biological, and socioeconomic resource. Using a maximum design scenario, BOEM considers the parameters that represent the greatest effect for an individual impact for each environmental resource. See Appendix E, <i>Project Design Envelope and Maximum-Case Scenario</i> . If a lessee's COP is approved or approved with modifications, the lessee must submit a Facility Design Report and a Fabrication and Installation Report for BSEE's review pursuant to 30 CFR 285.700–702, prior to fabricating and installing those proposed facilities. In situations where a lessee's Facility Design Report or Fabrication and Installation Report describes a project that deviates substantially from the range of parameters outlined in the PDE of a
1012-0021	[Bold: 4.The use of a Project Design Envelope.] The substitution by the BOEM of a project design envelope (PDE) for what NEPA rules require as a proposed action is contrary to one the purposes of the NEPA EIS i.e. to identify agency options that can meet program objectives with lesser not the most environmental impact. First it should be noted that the BOEM 2018 guidance for the use of PDEs was never finalized. It its draft form it only related to BOEM's review of the COP there was no analysis or justification of its applicability to meeting the NEPA requirements for an EIS.	

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		lessee's approved COP, if necessary, BOEM may require a revision to a lessee's COP and may initiate additional NEPA review and other environmental consultations.
1012-0021	[Bold: 3. Failure to Specify Key Parameters in the Proposal.] Neither the DEIS or the COP state the power manufacturer drive type or foundation type of the turbines to be used. But the New Jersey BPU approval of 1510 mw for Project 1 was based on the use of Vesta-236 13.6 mw turbines and monopile foundations [Footnote BG1: NJ BPU Order IN THE MATTER OF THE BOARD OF PUBLIC UTILITIES OFFSHORE WIND SOLICITATION 2 FOR 1200 TO 2400 MW - ATLANTIC SHORES OFFSHORE WIND PROJECT 1 LLC June 302021 pages 18 and 22.]. We assume that Atlantic Shores will adhere to the conditions of the State's approval so these parameters should be specified in the proposal not buried in an opaque project design envelope approach as discussed below.	Chapter 2 of the EIS states that Ocean Wind has selected the GE Haliade-X 12-MW WTG; however, the environmental review analyzes the PDE as it is presented in the COP, which includes a WTG with a rotor diameter up to 240 meters.
1012-0025	[Bold: 7. Lack of Presentation of Significant Impacts.] The affected environment and environmental consequences sections are dominated by discussion of the affected environment i.e. the thing being impacted as opposed to an actual impact itself. Numbers appear when describing technical equipment to be used but very few quantitative environmental impacts are provided. Graphs and visual portrayal of impacts are missing. When impacts are presented it is very often in the form of qualitative conclusory statements as to the severity or the lack thereof of an impact again the focus on scoring discussed above. Some of these conclusions are not supported at all. Some are purportedly supported by references to other documents but on reading those documents they often are not relevant to the proposal and do not support the conclusion. In many cases mitigating measures or caveats regarding what the actual proposal will include are not pinned down so the actual environmental impact is further obscured.	CEQ NEPA Regulations (40 CFR 1502.15) require that the EIS "succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration, including the reasonably foreseeable environmental trends and planned actions in the area(s)." It is important that the affected environment be adequately described to assess the impacts of the Proposed Action and alternatives. Where possible, BOEM included graphs and visual portrayals of impacts and used quantitative rather than qualitative information.
1012-0025	[Bold: 9. Excessive Referencing.] Throughout these EISs including the Ocean Wind EIS the reader is referred to hundreds of references apparently for further information on impacts or to find support for the conclusions stated. But often these references just repeat the conclusion and/or provide no impact information relevant to the EIS proposal or alternatives. It is not the readers job to secure and sift through hundreds of technical documents and thousands of pages to try to ferret out relevant environmental impacts. [Bold: It is BOEM's job to do that show that it has done the "necessary environmental analysis" and to present the	References are used commonly in NEPA documents to point to content that did not originate with the agency authoring the NEPA document. References are also commonly used to support the information contained in the EIS. Conclusions are generally not found in reference documents; rather, information in the

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	<p>relevant impact itself in the EIS proper.] Its excessive referencing throughout the document is the proof that has not done so. The DEIS presents numerous conclusory statements as to what is minor or moderate with superscript references only without extracting a single salient point from those references into the body of the EIS. There are over 800 such references listed. Many are lengthy reports in themselves or of a specialized nature topically. It is impossible for any one person to review even a fraction of those within a 60-day time period to see if the BOEM's conclusion was justified nor should a reader have to. The document descends into a literature review as opposed to an impact statement and the net effect is to hide rather than illuminate the impacts in question. If the BOEM cannot find and present one salient piece of data or information to extract from a reference worthy of being placed in the DEIS proper then it should not list the reference. To compound the referencing problem the references cited are often not accessible or readily accessible. The location of the references is not provided in the Table of Contents. The list of references is also far removed from the actual discussion. So each time a reader wants to go to a reference he/she must scroll through hundreds of pages to get to it. When you get to a reference it is often not readily accessible. For example the DEIS for the Ocean Wind 1 project the EIS presents no impacts on birds in the body of the EIS. It refers the reader to an Appendix that just says the risk is low and refers the reader to a Biological Assessment prepared for the Fish and Wildlife Service. But searching the web does not produce any such document. This is unconscionable for EIS presentation. As mentioned above where there is important information in these references to understand the impacts the BOEM should extract that material and put it right in the DEIS. Where a document is available electronically it should put the website right next to the reference. Where a document can only be obtained through paid subscription BOEM should pay the bill and make the document readily accessible.</p>	<p>references cited in the EIS support the conclusion.</p> <p>BOEM provided as much information as is possible, under current regulatory guidance, within the main body of the EIS with supporting or additional information provided in the appendices. Appendix B, <i>List of Preparers and Reviewers, References Cited, and Glossary</i>, contains the references used throughout the EIS. Additionally, to focus on the impacts of most concern in the main body of the EIS, BOEM included the analysis of resources with minor or lower impacts within Appendix G, <i>Assessment of Resources with Minor (or Lower) Adverse Impacts</i>. References include as much information as possible, including web links where available in order to make them accessible to the reader.</p>
1012-0025	<p>[Bold: 10. Use of and Presentation of "modeled" results.] To compound the presentation problem even further the BOEM sites "models" that it uses and presents modeled results. But modeled results are not sacrosanct and like any other scientifically supported result depend on the mathematical equations or assumptions used in the model and the inputs to the model which may be disputed within the scientific community or have great uncertainty. Therefore when the BOEM sites a model it must explain the basic equations and assumptions being used in it the inputs provided to the model the scientific basis for both and the uncertainties involved. Without that there's no basis or justification to include that modeled result. Therefore whenever the EIS relies on</p>	<p>Where models are cited in the Ocean Wind 1 EIS, they are accompanied by a citation that further explains the model.</p>

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	"modeled" impact results it must present the key assumptions made in the model the inputs used their uncertainty and the scientific basis for all that in readily accessible documents.	
1192-0001	It is the responsibility of the applicant and/or lead agency to begin the environmental review as early as possible. Instead, this project has been reviewed and certified before the Environmental Assessment began totally ignoring the most sensitive and natural areas of Barnegat Bay Oyster Creek and Island Beach State Park. Additionally, this DEIS does not explain the full extent of the total wind energy project in the Atlantic Ocean in and around New Jersey. This is the definition of segmentation or should have been in a Generic EIS to alert the public of the agency's plans and allow an open discussion of environmental concerns. The DEIS neglects to describe the electric grid and its electric-shed (like watershed or sewersheds) for each of the on-land sites. The agency should not expect the public to understand the electric grid or how it works; therefore, that should be explained in the DEIS.	Impacts on Barnegat Bay, Oyster Creek, and Island Beach State Park are included in the EIS. Alternative E was developed to minimize impacts on SAV in Barnegat Bay. Other offshore wind projects are considered reasonably foreseeable impacts i.e., planned actions that could occur during the life of the Ocean Wind 1 Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives. Appendix F (<i>Planned Activities Scenario</i>) describes the methodology used for assessing impacts from ongoing and planned activities in the EIS. Using the methodology described in Appendix F, each resource-specific environmental consequences section in Chapter 3 of the Draft EIS discusses reasonably foreseeable impacts.
1192-0016	The DEIS should provide copies of the letters of comment from interested agencies not just list their names. A supplemental DEIS is acceptable for those areas that were not fully investigated or where adverse impacts are noted. List of required permits by federal state or municipality and type should be in the DEIS particularly the Executive Summary and not hidden in the Appendix. Appendix is for other documentation that is the basis for the information in the DEIS [Italics: not the Alternative Analysis that was rejected] which belongs in the DEIS.	Full text of comments can be found on www.regulations.gov by searching for Docket No. BOEM-2021-0024. There is no requirement to include these as part of a NEPA document. BOEM provided as much information as is possible, under current regulatory guidance, within the main body of the EIS with supporting or additional information provided in the appendices. To focus on the impacts of most concern in the main body of the EIS, BOEM included the list of permits and consultations within Appendix A, <i>Required Environmental Permits and</i>

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		<i>Consultations.</i>
1202-0013	<p>BOEM has violated the letter and spirit of NEPA and the NHPA by refusing to subject its permitting review to public scrutiny. BOEM has violated the NHPA by refusing to make public certain reports that would assist the public in determining impacts to the community. Section 304 of the NHPA allows federal agencies to keep confidential certain types of sensitive information about historic properties such that disclosure would result in a significant invasion of privacy cause damage to the historic property or impede the use of a traditional religious site by practitioners.[Footnote 16: 54 U.S.C. § 307103; 36 C.F.R. § 800.11(c).] Determining which material to keep confidential must be made in coordination with the Secretary of the Department of the Interior through the National Park Service. The policy behind the confidentiality rule is designed to balance the policy of transparency of environmental permitting laws against historic preservation needs where public disclosure could lead to harm. No consulting party has requested confidentiality in this matter. Despite this fact BOEM has apparently made the historic resource reports confidential in their entirety. To our knowledge BOEM has not coordinated its decision with the National Park Service to keep confidential nearly every document concerning historic property visual and cumulative effects assessments as Section 304 requires. Instead BOEM and Ørsted have prevented the public from having access to the identification of historic properties adverse effects visual simulations and the proposed resolution of adverse effects.</p> <p>For example BOEM has done so by removing or not posting on its project websites the following documents: Marine Archaeological Resources Assessment, Terrestrial Archaeological Resources Assessment, Memorandum on the Updated Historic Resources, Visual Effects Analysis Offshore Historic Resources, Visual Effects Analysis Onshore Historic Resources, Visual Effects Analysis Cumulative Historic Visual Effects Analysis, the memorandum on BOEM's Area of Potential Effect Delineation, BOEM's proposed Memorandum of Agreement to resolve adverse effects, and Ørsted's proposed mitigation measures to offset adverse effects.</p> <p>Nor has BOEM made public its consultation meeting transcripts presentations or meeting summaries. Instead BOEM has kept the public from having access to this information and purported to limit what consulting parties can share claiming some unspecified need for confidentiality. As elected officials with an affirmative duty to keep their community informed the County finds these vague requirements particularly troubling. Moreover BOEM has refused to respond to legitimate questions concerning the basis for its nondisclosure thus creating</p>	<p>BOEM has kept certain documents confidential in keeping with Section 304 of the NHPA. The National Park Service is a participating federal agency and an NHPA consulting party.</p> <p>BOEM's Cumulative Historic Resources Visual Effects Analysis was made available to the public with the publication of the Draft EIS.</p> <p>Public summaries of the Marine Archaeological Resources Assessment and Terrestrial Archaeological Resources Assessment have been made available to the public on BOEM's website. A non-technical summary and full version of the Visual Effects on Onshore Historic Properties (also referred to as the Historic Resources Visual Effects Assessment) have also been made available to the public on BOEM's website. Section 3.10, <i>Cultural Resources</i>, and Appendix N, <i>Finding of Adverse Effect for the Ocean Wind 1 Construction and Operations Plan</i>, of the Final EIS identify historic properties within the APE that would be adversely affected by the Project. The NHPA Section 106 consultation process culminates in a Memorandum of Agreement detailing avoidance, minimization, and mitigation measures to resolve adverse effects on historic properties caused by the Project. The Memorandum of Agreement is provided in Appendix N of the Final EIS.</p>

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	<p>confusion among consulting parties especially local governments who need public input to assist with consultation. Therefore BOEM must make public all documents associated with the Ocean Wind 1 and all other offshore wind consultations with appropriate redactions as necessary in coordination with the National Park Service.</p> <p>For the reasons discussed above BOEM should revise the DEIS so that it fully identifies historic properties within the Area of Potential Effects and resolve them appropriately for all of these properties. In addition because BOEM has refused to allow the public to review information related to Ocean Wind 1 it must reissue the DEIS and its associated appendices and allow the public a reasonable opportunity to comment.</p>	
Speed and adequacy of NEPA Process		
1259-0002	COA respectfully submits that the Draft EIS is incomplete inconsistent and misleading. It fails to present a responsible and reasonable "purpose and need" as required by the National Environmental Policy Act (NEPA) for the proposed project as well as fails to evaluate all reasonable alternatives to the proposed Project as required by law. The Draft EIS makes clear that Ocean Wind 1 is being fast-tracked and the document is written with a clear indication of a positive outcome for the Applicant here.	<p>The Ocean Wind EIS meets the requirements of NEPA.</p> <p>The Fixing America's Surface Transportation Act aims to improve the federal environmental review and authorization process for covered infrastructure projects rather than to fast-track reviews. NEPA regulations at 40 CFR 1501.10 provide time limits for NEPA documents to "ensure that agencies conduct NEPA reviews as efficiently and expeditiously as practicable."</p>
1259-0019	<p>Further the federal fast-tracking initiative "Fast 41" which refers to Title 41 of the Fixing America's Surface Transportation Act (FAST Act) (42 U.S.C. § 4370m et seq.) created a new governance structure set of procedures and funding authorities to advance the federal environmental review and authorization process for covered infrastructure projects. It is important to note that all of the offshore wind projects off the NJ coast are listed in the federal "FAST-41" program and set for advancement. According to the U.S. Department of Transportation's "Permitting Dashboard" "Participation in the FAST-41 program is voluntary and sponsors of projects that qualify under specific statutory criteria apply to obtain program benefits. The program helps ensure a deliberate transparent and predictable Federal environmental review and permitting process for certain large complex infrastructure projects." These federal agreements and initiatives fast-tracking and streamlining large projects are essentially giving the "green light" to private companies to control and the rights to develop a public resource the ocean. In short BOEM is violating its obligation to protect offshore resources under the public trust and limiting due process. Fast-tracked reviews for Ocean Wind 1 are not fair or just and they do not reflect good governance especially in combination with the many expedited government and agency agreements described above. There will be moderate to major</p>	<p>Additionally, the purpose of the New York Bight Programmatic EIS is to develop programmatic avoidance, minimization, mitigation, and monitoring measures; to provide a document from which to tier New York Bight lease-area-specific analysis; and to allow those documents to focus on the areas that have the greatest potential for impacts. No construction will be approved as part of the ROD that results from this EIS.</p>

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	impacts from this OSW project as noted in the Draft EIS. There will also be numerous Incidental Harassment Authorization applications state permits for onshore development U.S. Army Corps of Engineers permit applications state consistency reviews and again now the Programmatic environmental review for the six (6) recently leased areas for offshore wind in the NY/NJ Bight - all being fast-tracked with lengthy complicated materials to simultaneously review. Moving quickly and carelessly could prove devastating to marine life and impact onshore communities. BOEM must provide more time overall to review Draft EIS and Final EIS documents now and in the future.	
1259-0005	The primary purpose of an Environmental Impact Statement ("EIS") is to "provide full and fair discussion of significant environmental impacts and inform decision makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts." [Footnote 5: 40 CFR 1502.1.] The document is also required to specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action. [Footnote 6: Id. at 1502.13.] Here the Draft EIS does not provide a full discussion of the impacts nor a fair portrayal of the impacts of the proposed activities. The DEIS also does not present a sufficient purpose and need for the Proposed Action. As such it is procedurally and substantively flawed.	
1259-0198	In sum the impacts of offshore wind development-and Ocean Wind 1 in particular-should be evaluated fairly and completely to ensure transparency about the scope and magnitude of the impacts to the ocean and coastal ecosystems as well as to prove that this is in fact the safest fastest cheapest alternative to reducing carbon dioxide emissions which is so critically needed to reduce climate change. Despite this offshore wind appears to be getting a greenlight approach from the federal government without due process and scrutiny.	
TRANS-0002-0006	These projects are being fast tracked reviews are being fast tracked and it's not fair or just to the communities and the ocean that will be impacted.	
TRANS-0090-0001	I am not opposed to wind energy I am not denying a climate change issue but what I am opposed to is an aggressive fast tracked wind farm planned 15 miles off the coast that will desecrate the ocean view and destroy tourism in South Jersey beach communities. Orsted is able quite capable of building similar projects similar wind farm farther from coast in fact Hornsea 1 and 2 which are built by Orsted off the coast of England are 55 miles off the coast of England and 75 miles off the coast of England clearly out of ocean view coastal view and clearly not an impact to coastal communities. Why would we not demand that Orsted do the same for us. Why would we allow a Danish corporation to steam	

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	roll over our coastal communities. A leased area for Ocean Wind 1 was determined in 2009. At that time wind turbines were half the size of what is proposed for this project yet the lease area has not been reconfigured further from the coast to account for the changes in visual impact with these massive 900 foot turbines. The fairway lease area planned for 12 miles off the coast of the Hamptons was actually determined by BOEM to be too close. Ocean City New Jersey is the hottest vacation home market in the United States over 70 percent of mortgages are vacation homes. Those vacation homes serves as rentals for millions who have visited Ocean City New Jersey's beaches and rated it the number one beach in New Jersey. In a North Carolina state university study in 2016 which surveyed people who had recently rented houses on the coast of North Carolina 54 percent surveyed told researchers they would not rent a vacation home if offshore wind turbines were in view at all no matter how large a discount they were offered. After listening to these calls I have heard testimony from many again who Orsted is providing economic benefits.	
1259-0195	The Draft EIS makes clear that Ocean Wind 1 is being fast-tracked and the document is written with a clear indication of a positive outcome for the Applicant here.	
1259-0024	Importantly it is unclear how many of the studies used to justify the project have been peer reviewed or were primarily conducted through the Applicant's financial support. Furthermore many of the panels of reviewers for studies relied upon in the Draft EIS's analysis include representatives of BOEM or the Department of the Interior ("DOI"). This dynamic begs serious questions regarding the blurred line between the external peer review process and the agencies' consultative roles in the preparation of these documents. Timely and independent peer review must take place for all studies produced by Ocean Wind 1 BOEM or other federal agencies for the purposes of this OSW project.	The COP and associated appendices are prepared by the Applicant. However, these documents undergo extensive review by BOEM before they are deemed complete and sufficient. BOEM received the first version of the Ocean Wind COP on August 15, 2019, as detailed in Chapter 1 of the EIS. In accordance with 40 CFR 1506.5 BOEM independently evaluated the information submitted by Ocean Wind and is responsible for its accuracy, scope, and contents.
1259-0025	As a more specific example Section 1.2 of the Draft EIS indicates that the National Marine Fisheries Service ("NMFS") has received a request for an Incidental Harassment Authorization ("IHA") to take marine mammals during Ocean Wind 1's construction and operation activities. The Draft EIS explains that if NMFS issues the requested IHA it intends to adopt BOEM's Final EIS to support its decision and fulfill its NEPA requirements. This approach to fulfilling NMFS's obligations for the Ocean Wind 1 IHA process is a prime example of	NMFS is a cooperating agency in the preparation of the Ocean Wind 1 EIS and was involved at all stages of EIS preparation to ensure the EIS meets its needs to use it to fulfill its NEPA requirements. This is a common practice in NEPA documents. Information from the

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	how the federal government has stacked the deck for offshore wind developers at the expense of the public and the environment. It does not make sense for NMFS to close its public comment period for the IHA before the full scope of Ocean Wind 1's impacts on marine mammals can be fully vetted during the DEIS process.	Incidental Harassment Authorization documentation has been incorporated into the EIS.
1275-0005	Each comment I start to write many more questions come to mind and I wish there was another public hearing to gather more information. But all that requires time. I wish I had time to further digest the 4000 pages of documentation contained in the EIS produced by BOEM and their countless consultants and experts. I am a little confused about the EIS. Is this the EIS for Ocean 1 alone or will this be used for all the other planned projects since you look at cumulative impacts in the report?	The EIS is for the Ocean Wind 1 Project but considers impacts from all other planned projects consistent with CEQ NEPA regulations.
1281-0008	[Bold: THE DEIS CONTAINS INSUFICIENT DATA AND DISCLOSURE OF ALL FUNDING SOURCES OF THE APPLICANT AND ANY GROUPS ASSOCIATED WITH THE APPLICANT WHO PROVIDED TESTIMONY.] Any realistic estimate of the cost benefit analysis of the project and it's funding cumulative and indirect impacts should include the full disclosure of the project as well as funding of all groups associated with the applicant who provided testimony. Transparency and full disclosure of all funding of the applicant is also necessary for any realistic weighing process of alternative actions including a "no action alternative" to remain in place pending the implementation of a useful peer-reviewed pilot project. Similarly BOEM 's realistic credibility assessment as to the weight and value of the applicant's presentation requires such complex financial data and background. To render a determination as to the DEIS without such complete financial data and the full disclosure of all funding sources would be arbitrary and capricious. Based on all of the aforesaid procedural as well substantive arguments presented I would ask that BOEM rejects without prejudice the current Draft Environmental Impact Statement to implement a "no action alternative". Included in such a result would be an invitation to develop and to create a valuable pilot windfarm project from which to study cumulative and indirect impacts with independent comprehensive and peer reviewed research and findings to be generated. The State of New Jersey its citizens the magnificent precious and valuable New Jersey Coast and its environmentally rich section of the vast Atlantic Ocean are rapidly becoming collateral damage to a juggernaut of inadequately researched "feel good" experimentation and generational potentially irreversibly devastating impacts. As noted above I would object from a procedural standpoint to the within process and the Draft Environmental Impact Statement itself as violative of BOEM's own Rules	NEPA regulations do not require a cost-benefit analysis. Rather, if an agency conducts this analysis, it must do so in a fair and balanced way. Section 3.11, <i>Demographics, Employment, and Economics</i> , of Appendix G, <i>Assessment of Resources with Minor (or Lower) Adverse Impacts</i> , discusses potential impacts on demographics, employment, and economics.

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	<p>Regulations and Mission Statement and NEPA. From a substantive standpoint as well I would ask BOEM to reject the proposal in favor of a "no action alternative" which should be supplemented with a truly scientific pilot project and an accompanying cost benefit analysis as required by NEPA and otherwise. Such a review demands a complete assessment of the risks as applied to the vast economic value of our fisheries commercial and recreational fishing industries the recreation and tourism industry as well as the precious ocean environment itself.</p>	
TRANS-0002-0004	<p>There is a need for transparency and fairness. Where is the best place to get all the information about ocean wind and all the research that's happening about -- focusing on ocean wind and offshore wind? Is it BOEM is it with the DEP? Is it with other agencies? The developer itself? It's very confusing to find all the information all in one place especially when having to compare cumulative impacts to the ocean region and the marine resources.</p>	<p>Information regarding the Ocean Wind 1 Project can be found on BOEM's website.</p>
TRANS-0090-0001	<p>Thank you this will be the third call I have been on and surprisingly only very few Ocean City residents or any residents from these coastal communities have spoken and that is because the public is unaware. Through these calls we have heard all sorts of testimony from Orsted's partners in the project those that are going to benefit economically. We have heard from lobbyists and we have heard from Union members and all those that are getting some sort of economic benefit but we have not heard from Ocean City residents we have not heard from the homeowners of Ocean City residents and that is because around 70 percent of the homeowners in Ocean City New Jersey are absentee homeowners and they are not aware. So during my five minutes here I would like to just address two concerns one is that the lack of public notice to absentee homeowners and the industrialization of the ocean view an impact to South Jersey tourism. In a prior call I had asked how BOEM had notified residents of the public comment period and of Ocean Wind 1 project in general and the response was social media post on BOEM's social media channels which I don't know why any lay person would just randomly go to BOEM's social media channels. Press release issued by BOEM again if it's not picked up by a major media outlet again it's not going to reach anybody. Notices in the Star Ledger which is a Newark published distributed paper which is North Jersey not South Jersey. Asbury Park Press again a paper in North Jersey. It's become evident to me that any real means to notify absentee homeowners in the South Jersey communities such as Ocean City have been avoided. I have gotten letters in the mail to notify me in Ocean City if a house is being torn down for new construction yet not an email not a letter nothing about this project so</p>	<p>Appendix A, <i>Required Environmental Permits and Consultations</i>, provides an overview of the development of the Draft EIS, including public scoping, cooperating agency involvement, and distribution of the Draft EIS for public review and comment.</p>

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	<p>unfortunately the absentee homeowners in Ocean City New Jersey do not know what is going on. Additionally since becoming aware a few weeks ago I have approached many neighbors and they also too have had no knowledge of the project. Most people as I said speaking on the call are with organizations who are economically benefitting from Orsted many declare they live in a New Jersey coastal community yet many are living in North Jersey areas where their Coastal communities will not lose their coastal view or be impacted directly.</p>	
0984-0111	<p>The Project includes three offshore alternating current substations with array cables that can be contained within the leased areas by BOEM. During BOEM public outreach the cable routes and the substations locations are not disclosed for "security reasons". The fact that the intent was to increase the footprint of development was to be outside of the lease areas was not disclosed but should have been. This failure of disclosure should require BOEM to restart the public process of the impact of this and other lease areas. At a minimum require all cables and substations to be contained in the lease area or neighboring leased areas.</p>	<p>Figure 1-1 of the Draft EIS depicts the OSS locations and indicative array cable layout. BOEM's regulations (30 CFR 585.200(b)) provide the lessee the right to one or more Project easements for the purpose of installing gathering, transmission, and distribution cables on the OCS as necessary.</p>
1012-0015	<p>Therefore the BOEM has decided upon the turbine location the number of turbines and their power output without any NEPA review or public input contrary to the basic purpose and requirements of the NEPA and its implementing regulations. Now at the end of that decision process when all those keys decisions have been made by unelected persons it presents to the public only the applicant's proposal with some minor variations as "alternatives" that have virtually no benefit to the general public or any noteworthy environmental benefits. It then goes further to insult the intelligence of the general public by avoiding key issues such as the impact of operational turbine noise on endangered whales and turbine decommissioning creating an environmental scoring system that promotes insignificant impacts and downplays significant ones and presents material through the EIS lengthy Appendices and hundreds of references in a manner that makes it virtually impossible for a single person to read and understand. It never presents any criteria short of non-compliance with another law that would cause the BOEM to disapprove a project. So under that promotional scheme even the no action alternative is not despite BOEM's statements a real option.</p> <p>Therefore the BOEM has pursued a NEPA process culminating with this EIS that never provides reasonable alternatives for the public to weigh in on and an EIS without reasonable alternatives is not an EIS. Apparently not wishing to discuss this the DEIS presents a table titled the History of BOEM Planning and Leasing for Shore New Jersey that begins in 2011. But it conveniently leaves out the history before that when the most important decision for this project was made</p>	<p>BOEM's renewable energy program occurs in four distinct phases: (1) planning and analysis, (2) lease issuance, (3) site assessment, and (4) construction and operations with defined decision points that require a NEPA review.</p> <p>BOEM used public input received through scoping and coordination with cooperating agencies to develop a reasonable range of alternatives for consideration in the EIS, as described in EIS Chapter 2.</p>

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	i.e. the selection of the wind energy area. Since the BOEM has dismissed any consideration of alternate areas the public deserves to know what that selection process was how it was determined that this particular area is suitable for wind turbines and who made that decision.	
1086-0003	In addition BOEM should have conducted a more thorough NEPA analysis of the potential lease areas prior to leasing the Wind Energy Area for Ocean Wind 1. Grouping the coasts of New Jersey Maryland Delaware and Virginia into one site assessment is too large of a study area and did not provide the public with the needed depth of information prior to the lease sale that would have come from a Programmatic EIS. Once the lease sites were determined BOEM proceeded to develop a Draft EIS for only the Ocean Wind 1 project. Instead BOEM should have conducted a PEIS for Ocean Wind 1 and its surrounding projects as it has done for other lease areas in the New York Bight area. Had BOEM been more thorough prior to determining Wind Energy Area's in the Atlantic it would have allowed many of the issues raised in the County's comments to be addressed and perhaps resolved.	<p>BOEM's renewable energy program occurs in four distinct phases: (1) planning and analysis, (2) lease issuance, (3) site assessment, and (4) construction and operations with defined decision points that require a NEPA review. In <i>Fisheries Survival Fund, et al. v. Sally Jewell, et al.</i>, the D.C. Circuit Court of Appeals affirmed that BOEM does not need to produce an EIS under NEPA when granting an offshore wind farm lease.</p> <p>Additionally, the purpose of the New York Bight Programmatic EIS is to develop programmatic avoidance, minimization, mitigation, and monitoring measures; to provide a NEPA document from which to tier New York Bight lease area site-specific NEPA analysis; and to allow those site-specific NEPA documents to focus on the areas that have the greatest potential for impacts. As with the Ocean Wind 1 Project, once COPs for New York Bight lease areas are provided to BOEM, BOEM will prepare site-specific NEPA documents.</p> <p>BOEM's regulations require BOEM to review Ocean Wind's submitted COP and prepare an appropriate NEPA analysis. BOEM evaluates considerations such as the number of lease sales expected in each area, as well as where BOEM is in the overall leasing process, for determining whether a programmatic EIS</p>

Comment No.	Comment	Response
		is appropriate for a regional area.
1241-0002	<p>C. [Bold: The DEIS must adhere to current policy frameworks]</p> <p>BOEM and the U.S. Department of the Interior appear to be applying conflicting environmental regulations and policies to their OSW project reviews including NEPA and interagency agreements. Some of these contradictions are summarized in RODA's Ocean Wind scoping comments and others including those submitted on another recent Atlantic Ørsted project (South Fork). The public cannot be prepared to offer comment—and BOEM cannot release a DEIS for such comment—when there is no certainty as to what laws and policies will apply to the agency's review. The fishing industry and other sectors are persistently confused by BOEM's process how to engage and the potential benefits of engagement. Again we call on BOEM to provide this transparency and a balanced and coherent planning process.</p>	<p>The commenter's reference to their comments on the South Fork EIS were responded to in the South Fork Final EIS. That being said, BOEM believes there is no uncertainty as to what laws and policies apply to the review of the Ocean Wind 1 Project.</p>
0984-0031	<p>In consideration of the Draft Ocean Wind 1 Environmental Impact Statement I respectfully submit that the EIS does [Bold: not] meet the environmental safeguards (43 USC § 1332(3)) and does [Bold: not] take into consideration natural resources and existing ocean uses to the extent necessary to receive approval. Bureau Of Energy Management (BOEM) actions does [Bold: not] further United States Policy to make the Outer Continental Shelf energy resources available for development in an expeditious and orderly manner.</p>	<p>Environmental safeguards (43 USC 1332(3)), including consideration of natural resources and existing ocean uses, are examined throughout the Ocean Wind 1 EIS. Based on previous environmental reviews, subject-matter expert input, consultation efforts, and public involvement to date, BOEM identified the resources addressed in Chapter 3 as potentially affected by the Project. Each resource is examined in detail in the Ocean Wind 1 EIS. BOEM has focused the main body of the EIS on the impacts for resources of most concern and moved the analysis of other resources, including all resources consisting of only negligible to minor Proposed Action impacts, to Appendix H.</p>

O.6.25 Accidental Releases

Table O.6.25-1 Responses to Comments on Accidental Releases

Comment No.	Comment	Response
1086-0011	<p>According to the Construction and Operations Plan (COP) provided by Orsted in total across the 98 turbines and 3 offshore substations as part of just Ocean Wind 1 there will be a total of 741241 gallons of highly toxic and hazardous fluids contained within the offshore structures that are subject to accidents similar to offshore drilling platforms. Each individual turbine consists of as much as 3359 gallons of diesel fuels oils dielectric fluids sulfur hexafluoride (SF6) and coolants. In addition each of the 3 offshore substations includes a total of 137353 gallons of similar fluids. While the safety mechanisms account for the containment of accidental leaks they do not account for total failure which could result from high winds from tropical storms hurricanes and nor'easters or collision with a large vessel. Furthermore as 25 or more offshore windfarms come online many of which are larger than Ocean Wind 1 a simple data extrapolation shows that the total exposure of hazardous substances stored offshore within structures will grow to 18.5 million gallons or more. Summaries of potential volumes are shown below which have been taken directly from Orsted's Ocean Wind 1 COP. [Bold: Ocean Wind 1 Total Estimated Volumes Oils Fuels and Lubricants]Per Turbine Volumes: 3359 gallons Total Number of Turbines: 98[Bold Italics: 3359 x 98 = [Underline: 329 182 gallons]] Per Substation Volumes: 137353 gallons Total Number of Offshore Substations: 3 [Bold Italics: 137353 x 3 = [Underline: 412059 gallons]] All Atlantic Wind Farms Total Estimated Volumes Oils Fuels and Lubricants Per Turbine Volumes: 3359 gallons Estimated Number of Atlantic Turbines: 5500[Bold Italics: 5500 x 3359 = [Underline: 18474500 gallons]] Among the primary reasons for opposition to offshore oil drilling in the Mid-Atlantic are widespread concerns about oil spills and impacts to marine species. [Footnote 25: Grassroots Opposition to Offshore Drilling and Exploration in the Atlantic Ocean and off Florida's Gulf Coast [Embedded Hyperlink Text (https://usa.oceana.org/climate-and-energy-grassroots-opposition-offshore-drilling-and-exploration-atlantic-ocean-and-3/)] Citing the concerns about environmental impacts raised previously in the County's comments in addition to the enormous volumes of hazardous fluids contained within each WTG it is puzzling that Ocean Wind project is viewed any differently than offshore oil and gas drilling. [See original comment for Table 8.1-1. Summary of maximum potential volumes oils fuels and lubricants per WTG.] [See original comment for Table 8.1-2. Summary of maximum volumes oils fuels and lubricants per offshore substation.] Source: Ocean Wind 1 Construction and Operations Plan Page 165It is even more concerning to the County is that BOEM and Orsted have</p>	<p>Estimates of oil, diesel fuel, coolants, and lubricants contained in WTGs and OSS are presented in EIS Appendix F, Table F2-3 for the proposed Ocean Wind 1 Project and other ongoing and planned offshore wind projects. An analysis of the potential for total failure of the facility is discussed under the accidental releases IPF in EIS Section 3.21.</p> <p>As noted by the commenter, Ocean Wind's Oil Spill Response Plan is redacted because it contains trade secrets and commercial or financial information that is privileged and confidential, and that is exempt from public disclosure under the Federal Freedom of Information Act and the New Jersey Open Records Act.</p>

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	redacted the entire Emergency Response Plan including the Oil Spill Response Plan (Appendix A of the COP) citing it as confidential. As an American energy project Americans specifically citizens directly impacted by the project and citizen workers helping to construct the project should have full access to information that directly affects their health and safety as well as the health and safety of their surrounding ecosystem.	
1259-0051	<p>The Draft EIS provides the following details concerning sea bed anchoring disturbance and scour protection:</p> <ul style="list-style-type: none"> • Estimated foundation number is 101 including Offshore Survival Systems (OSS) with a foot print of 4 acres. • WTG seabed disturbance is 84 acres. • Offshore export cable disturbance is 1935 acres the highest among current leases in the NY/NJ area. • The disturbances to sea bed (including scour protection) from 101 WTG foundations (scour protection incl) construction/anchoring operation and hard protection offshore export cables and interarray is estimated to be 4 285 acres. • More than 400000 gallons (426671) of oils and lubricants will be used in WTGs and OSS. • About a quarter million (236216) gallons of total diesel fuel will be used. <p>All of these carry considerable risks and these have not been discussed more thoroughly in the Draft EIS. [Footnote 36: Jared Anderson You Can't Have Offshore Wind Power Without Oil Forbes (Mar. 1 2017) https://www.forbes.com/sites/jaredanderson/2017/03/01/you-cant-have-offshore-wind-power-without-petroleum/?sh=1d7507494f2f.] And yet the Draft EIS lacks information on the composition and toxicity of these lubricants. In particular worst case discharges ("WCDs") from electric service platforms have not been addressed but these may have adverse shoreline impacts and impacts on wildlife.</p>	<p>The estimated 101 foundations include foundations for up to 98 WTGs and 3 OSS.</p> <p>See EIS Section 3.6, <i>Benthic Resources</i>, for analysis of impacts of seabed disturbance and Section 3.21, <i>Water Quality</i>, for analysis of potential impacts associated with accidental release of fuel, oil, lubricants, and coolants contained in WTGs and OSS. BOEM assessed the toxicity of chemicals used at offshore wind facilities and conducted modeling to determine the likelihood and effects of a chemical spill at offshore wind facilities in a 2013 study (Bejarano et al. 2013), which is referenced in EIS Section 3.21.</p>
1259-0052	<p>Potential impacts include mortality from heat loss starvation or drowning. [Footnote 37: See Tim Gunter Potential Impacts from a Worst Case Discharge from an United States Offshore Wind Farm 2014 Oil Spill Conference 299032 (2014) https://tethys.pnnl.gov/sites/default/files/publications/Gunter%202014.pdf.] Weather events such as hurricanes need to be an important criterion for planning for WCD scenarios for an oil spill from an offshore wind farm with adverse events like Hurricane Katrina in 2005 serving as cautionary tales. In fact with respect to the possibility of a similar event occurring in the context of offshore wind development "A hurricane or powerful northeaster has the potential for causing structural failure and environmental damage if the ESP was blown off its moorings and either sank or grounded in a sensitive</p>	<p>EIS Section 2.2, <i>Non-Routine Activities and Events</i>, identifies severe weather and storm events as potential non-routine activities and events that could occur during construction and installation, O&M, or decommissioning of the proposed Project. See EIS Section 3.21, <i>Water Quality</i>, for analysis of potential impacts associated with accidental</p>

Comment No.	Comment	Response
	<p>area. While this may seem like an extreme case during Hurricane Katrina in 2005 a mobile offshore drilling unit the Ocean Warwick broke from its moorings drifted 66 miles before running aground near Dauphin Island AL. While the probability of a hurricane impacting the Northeast is less likely than in the Gulf of Mexico Superstorm Sandy similarly caused significant damage across New Jersey and New York in 2012." [Footnote 38: Id.]</p>	<p>release of fuel, oil, lubricants, and coolants contained in WTGs and OSS.</p>
1259-0054	<p>Accidental Releases</p> <p>The Draft EIS states that non-routine events such as accidental oil or chemical spills can have adverse or lethal effects on marine life. Applicant-proposed measures ("APMs") such as a spill prevention and a response plan would be developed and implemented during all phases of Ocean Wind 1. However this is inadequate for the following reasons:</p> <ul style="list-style-type: none"> • Unlike the Gulf Coast the Eastern Seaboard does not have the support vessel supply that can be relied upon during such events. • Regulatory requirements for offshore wind have not been developed and prescribed by the regulatory authority BOEM and this is an inherent challenge to developing appropriate response strategies for offshore wind farms. The closest comparative would be Offshore Facility plans that stipulate the amount of boom skimming capacity and storage capacity required in a 6-hour 12-hour and 24-hour timeline for offshore facilities with similar WCD scenarios. [Footnote 41: Offshore Wind Marine Spill Response Corporation (last accessed Aug. 22 2022) https://www.msrmc.org/industries/offshore-wind/] • Ocean Wind 1 will impact nearshore and offshore habitats but the Draft EIS does not detail the magnitude of these impacts the species at risk and recovery of habitats. Similarly the document does not specify which state Federal and local regulations are applicable and will be adhered to. • The COP Volume III for the proposed project does not provide any details on the OSRO instead stating that "Ocean Wind LLC has marked each Appendix in this COP which contains privileged and confidential material with the legend 'Contains Confidential Information' and requests that BOEM (and each federal and state agency to which a copy of this COP is provided) withhold these designated materials from public disclosure." <p>On the contrary Atlantic Shores has a draft Oil Spill Response plan that covers the offshore wind energy generation project within the southern portion of Lease Area OCS-A 0499 (the Lease Area). BOEM should impose the same requirement here for Ocean Wind 1 and adjust the Draft EIS's analysis concerning impacts to finfish and invertebrates as appropriate.</p>	<p>See discussion under the accidental release IPF in EIS Section 3.21, <i>Water Quality</i>, and Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>, for analysis of potential impacts associated with accidental release of fuel, oil, lubricants, and coolants contained in WTGs and OSS.</p> <p>As noted by the commenter, Ocean Wind's Oil Spill Response Plan is redacted because it contains trade secrets and commercial or financial information that is privileged and confidential, and that is exempt from public disclosure under the Federal Freedom of Information Act and the New Jersey Open Records Act.</p>

Comment No.	Comment	Response
1259-0072	<p>The Draft EIS states: [A]ccidental releases of fuel fluids hazardous materials trash and debris may increase as a result of the Proposed Action. [...] Ocean Wind would establish and implement a Spill Prevention Control and Countermeasures Plan which would include an Oil Spill Response Plan and Spill Prevention Control and Countermeasures Plan specific to vessels as part of the APMs (Appendix H Table H-1 GEN-11). [Footnote 60: DEIS at 3.15-55.] The Draft EIS goes on to state "All offshore wind projects would be required to comply with regulatory requirements related to the prevention and control of accidental spills administered by USCG and BSEE. Oil Spill Response Plans (OSRO) are required for each project and would provide for rapid spill response cleanup and other measures that would help to minimize potential impacts on affected resources from spills."</p> <p>However the Draft EIS does not provide a detailed draft OSRO for accidental spills which has been submitted for the Atlantic Shores South project. Does BOEM have any specific guidance/regulatory requirement for an OSRO for offshore wind farms? Likewise does BOEM require a regional OSRO as the proposed project will be concurrently developed with the other lessees?</p> <p>An equally important concern that could cause potential harm to marine mammals are the intakes and discharges related to cooling offshore wind conversion stations for Ocean Wind 1 alongside the intakes and discharges from other offshore wind projects. [Footnote 61: DEIS at 3.15-28.] This has not been given enough attention considering that the lifetime of the Project is 25-30 years. The Draft EIS acknowledges that potential effects are likely and include: altered micro-climates of warm water surrounding outfalls altered hydrodynamics around intakes/discharges prey entrainment and association with intakes if prey are aggregated on intake screens from which marine mammals scavenge. However it concludes that these long-term impacts would be localized and low in intensity as the number of offshore substations is small. What were the references used to determine this conclusion? One of the most recent reports by BOEM (BOEM 2022) on offshore wind substations specifically HVDCs states that innovations in cooling systems are being studied and developed [Footnote 62: See Bur. Ocean Energy Mgmt. Supporting National Environmental Policy Act Documentation for Offshore] but so far no new systems are tested and available for use on a commercial scale. Are there similar studies that the Draft EIS used to make this assessment?</p>	<p>As noted by the commenter, Ocean Wind's Oil Spill Response Plan is redacted because it contains trade secrets and commercial or financial information that is privileged and confidential, and that is exempt from public disclosure under the Federal Freedom of Information Act and the New Jersey Open Records Act.</p> <p>Lessees will independently develop an Oil Spill Response Plan to support the COP for each planned offshore wind project.</p> <p>The conclusion of localized low-intensity impacts for intakes and discharges is based on the fact that offshore wind projects typically have one to a few OSS associated with each individual offshore wind project. In addition, there are only a few projects proposed along the coast with OSS that have intake and discharges of seawater and these are geographically distributed.</p>
1259-0097	<p>On a separate note the Draft EIS states "All offshore wind projects would be required to comply with regulatory requirements related to the prevention and control of accidental spills administered by USCG and BSEE. Oil Spill Response Plans (OSRP) are required for each project and would provide for rapid spill response cleanup and other measures that would help to minimize potential impacts on affected resources from spills." This</p>	<p>Ocean Wind's Oil Spill Response Plan is redacted from the public posting of the Ocean Wind 1 COP because it contains trade secrets and commercial or financial information</p>

Comment No.	Comment	Response
	disclosure however begs an important question that is left unanswered by the Draft EIS: Does BOEM have any specific guidance/regulatory requirement for an OSRP for offshore wind farms? Similarly will BOEM require a regional OSRP since the proposed project will be concurrently developed with the other lessees? The Draft EIS does not provide a draft OSRP for accidental spills and this is a paramount consideration with respect to the environmental impacts of Ocean Wind 1.	that is privileged and confidential, and that is exempt from public disclosure under the Federal Freedom of Information Act and the New Jersey Open Records Act. Lessees will independently develop an Oil Spill Response Plan to support the COP for each planned offshore wind project.
1278-0020	Each WTG will have 187 gallons of grease 40 gallons hydraulic oil 106 gallons gear oil 1585 gallons of dielectric fluid 793 gallons of diesel fuel 243 lbs of sulfur hexafluoride 357 gallons of propylene glycol and 48 gallons of ethylene glycol that has to be physically transferred to the new WTG. The substations will have 79252 gallons of transformer oil 52834 gallons diesel fuel 4950 lbs sulfur hexafluoride and 317 gallons of hydraulic oil. It is highly unlikely that all those chemicals and fuels will be transferred to the WTG or substations without incident. Could a Category 4 or 5 hurricane knock out a WTG or substation and cause a major pollution disaster? And Atlantic City is the likely victim of that disaster.	See discussion under the accidental release IPF in EIS Section 3.21, <i>Water Quality</i> , for analysis of potential impacts associated with accidental release of fuel, oil, lubricants, and coolants contained in WTGs and OSS.

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O.6.26 Other Comments

Table O.6.26-1 Responses to Other Public Comments

Comment No.	Comment	Response
0019-0001	<p>Will Lacey Township receive similar compensation as East Hampton in New York did. Please see link East Hampton Town reaches payment agreement with South Fork Wind Farm developers Wind Energy News (wind-watch.org) the South Fork Wind Farm formerly called the Deepwater Wind project will pay the town to be allowed access for the installation and maintenance of power export cable from up to 15 offshore wind turbines that will run four miles under town roads and trustee-owned land to a Long Island Power Authority substation the town said in a statement on Thursday. The 138-kilovolt electricity transmission line will come onshore at Beach Lane in Wainscott 30 feet below the beach and parking lot and run to the substation on Cove Hollow Road in East Hampton. The cable landing in Wainscott has been strongly opposed by a group now looking to incorporate Wainscott as a village. A separate easement agreement which looks to impose construction conditions to protect the environment and restore the road after the cable is installed is still being negotiated." Offshore wind energy represents an important component that will help the Town of East Hampton achieve its 100-percent renewable energy goal" said East Hampton Town Supervisor Peter Van Scoyoc. "The importance of this is only underscored when daily we see more and more devastating impacts of carbon pollution and climate change." Under the Host Community Agreement Deepwater Wind South Fork LLC whose parent companies are Ørsted and Eversource Energy will pay the town \$870,000 each year for 25 years including a 2% increase after the first year. The total comes to \$28.9 million including a \$100,000 in geotechnical access and license fees already paid to the town. The payment is nearly quadruple the amount the developer first offered the town - \$8 million - when discussions began when East Hampton Town Supervisor Peter Van Scoyoc took office in early 2018. The potential maximum output also increased from 90 to 132 megawatts. The developer also will have to pay town property taxes on its onshore infrastructure which is estimated to bring in an additional \$4 million over the life of the project.</p>	<p>Ocean Wind will be coordinating with Lacey Township with regard to required building and zoning permits and approvals. Ocean Wind has not included an APM to provide monetary compensation to Lacey Township in the Ocean Wind 1 COP.</p>
0020-0001	<p>When the Oyster Creek nuclear plant was created in Lacey Township the town received ERT from the state of NJ yearly on amount of \$11 million. With the wind farms will Lacey receive similar ERTs? Appreciate any insight you can provide.</p>	<p>Ocean Wind will be coordinating with Lacey Township with regard to required building and zoning permits and approvals. Ocean Wind has not included an APM to provide monetary</p>

Comment No.	Comment	Response
		compensation to Lacey Township in the Ocean Wind 1 COP.
1259-0010	The Draft EIS also fails to discuss the true magnitude and extent of the proposed OSW facility's environmental impacts throughout the project's life-cycle from pre-construction through decommissioning.	The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The conceptual decommissioning plan, as proposed by Ocean Wind, is analyzed in the Final EIS. Prior to implementation of any activities associated with decommissioning, BOEM would require Ocean Wind to submit a decommissioning application for technical and environmental review.
1259-0098	On a related note the Draft EIS states "Ocean Wind proposes to use an onshore O&M facility in Atlantic City New Jersey. Construction of the O&M facility would be separately reviewed and authorized by USACE and local authorities as needed." However the nexus between Ocean Wind 1 and this proposed O&M facility would appear to suggest that construction of the latter is a connected action and therefore must be considered as part of this Draft EIS. On what basis is the O&M facility construction not being submitted with this Draft EIS? The Draft EIS presumptively concludes that the overall impacts on water quality from the Proposed Action would be short term and minor during construction and to a lesser degree during decommissioning. During operations the number of vessels in use would decrease even more resulting in fewer impacts. How are these conclusions drawn?	Section 2.1.2.3 of the Final EIS explains that the rehabilitation of a retired marine terminal facility into an O&M facility is being separately reviewed and authorized by USACE and is not dependent on the Proposed Action. Section 3.21 of the Final EIS describes potential impacts on water quality from the Proposed Action and provides the reasoning behind the determination per IPF. Section 3.16 of the Final EIS describes navigation and vessel traffic and explains that vessel activity would decrease from construction and operation activities as, during operation, vessel activity would consist of scheduled inspection and maintenance activities, with corrective maintenance as needed.
1259-0185	Neodymium and Other Rare Earth Elements. Perhaps the most glaring omission in the Draft EIS is the document's total failure to acknowledge the neodymium and other rare Earth elements ("REEs")-such as praseodymium and	Activities such as mining of critical minerals are not within the scope of analysis or BOEM's authority. Analysis of

Comment No.	Comment	Response
	<p>dysprosium-that Ocean Wind 1 will require or the impact that procuring this neodymium will have on the environment. Neodymium praseodymium and dysprosium are REEs required for offshore wind energy development among other industrial activities. [Footnote 182: See Jishuo Li et al. Critical Rare-Earth Elements Mismatch Global Wind Power Ambitions 3 OneEarth 116 116-25 (2020) https://www.cell.com/one-earth/pdf/S2590-3322(20)30298-0.pdf; Timer Fishman & T.E. Graedel Impact of the establishment of US offshore wind power on neodymium flows 2 Nature Sustainability 332-38 (2019) https://www.nature.com/articles/s41893-019-0252-z.] In fact the expansion of offshore wind energy development in the United States by 2050 is predicted to require 17000 tons of neodymium alone-roughly equal to the amount required for 20 million hybrid and electric cars. [Footnote 183: Id.; see Maddie Stone Offshore Wind Has a Looming Rare Earth Metals Problem Gizmodo (Apr. 5 2019) https://gizmodo.com/offshore-wind-has-a-looming-rare-earth-metals-problem-1833788750.] This eye-popping number is particularly concerning because like most rare earth minerals neodymium is mined in China. Consequently the procurement of neodymium not only frequently involves large fluctuations in price but also serious environmental and labor hazards as well. [Footnote 184: Stone infra n.181.] Nevertheless the Draft EIS does not acknowledge that neodymium praseodymium and dysprosium will be required to construct and operate the offshore wind turbines associated with Ocean Wind 1 nor how much of it will be required for the project or what the environmental impacts of procuring these REEs will be. The underlying analysis must capture not only the impacts that the REE mining process will have on the environment in and of itself but also the environmental repercussions of transporting the REEs from their site of extraction to the Northeast U.S. for use in Ocean Wind 1. In sum BOEM cannot rely upon an EIS that does not address REE-related impacts to justify its authorization of this OSW project.</p>	<p>impacts from mining activities in the United States would be conducted by the agency with applicable permitting authority for those activities. NEPA applies to major federal actions (in other words, activities undertaken or permitted by the United States government). Mining activities in other countries would not be subject to NEPA and any analysis of impacts from those activities would be covered by any laws or requirements those countries have.</p>
1259-0186	<p>Decommissioning. While Ocean Wind 1 will eventually need to submit a decommissioning plan for BOEM's approval at the end of the lease for Lease Area OCS-A 0498 "conceptual decommissioning" of Ocean Wind 1 falls within the purview of both the Draft EIS and the Final EIS. In this regard however the Draft EIS is severely lacking. To start the Draft EIS provides no meaningful analysis regarding what will happen to the reef ecosystems that are expected to form around turbine foundations upon the project's decommissioning. In fact the analysis reads in full: "Ocean Wind proposes to leave scour protection placed around the base of the monopile if used in place; however BOEM would most likely require that the scour protection be removed in accordance with 30 CFR</p>	<p>The Final EIS assesses impacts that could result from construction, O&M, and conceptual decommissioning of the proposed Project using reliable existing data and resources in accordance with 40 CFR 1502.23.</p> <p>Section 2.1.2.4 of the Final EIS describes decommissioning activities and that, per BOEM regulations, Ocean Wind would be required to remove all cables and clear</p>

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	<p>585.902(a)." [Footnote 185: DEIS at Exec. Summ. 2-16.] Even at the conceptual level clearer commitments regarding the fate of scouring around Ocean Wind 1 turbine foundations must be made in order for the public to understand the reasonably foreseeable long-term consequences of this project on local marine ecosystems. Uncertainty likewise abounds with respect to the long-term environmental repercussions of cables associated with Ocean Wind 1 both offshore and onshore. While the Draft EIS indicates that onshore overhead cables will be removed or used for other projects at the end of Ocean Wind 1's life-cycle [Footnote 186: Id. at Exec. Summ. 2-16.] the document seems to suggest that all underground cables-both onshore and offshore-will be left in place after the project's eventual decommissioning. Despite this however the Draft EIS never discusses the expected effects of abandoning these significant heat- and EMF-producing pieces of infrastructure in situ. Again even at the mere conceptual stage this is information that is vital to the public's understanding of the overall environmental impacts from Ocean Wind 1 including its decommissioning.</p>	<p>the seafloor of all obstructions created by the proposed Project. Ocean Wind would need to obtain separate and subsequent approval from BOEM to retire in place any portion of the proposed Project. Approval of such activities would require compliance under NEPA and other federal statutes and implementing regulations.</p> <p>The conceptual decommissioning plan, as proposed by Ocean Wind, is analyzed in the Final EIS. Prior to implementation of any activities associated with decommissioning, BOEM would require Ocean Wind to submit a decommissioning application for technical and environmental review.</p>
1241-0002	<p>5. [Italics: Further clarification for project decommissioning is needed.]</p> <p>We are encouraged that a bond is to be held by the U.S. government to cover the costs of decommissioning. BOEM should disclose the bond amount to the public along with the estimated costs of decommissioning to allow the public to consider the sufficiency of the bond and ease or raise any concerns over responsibility for uncovered expenses. Additional information on how the turbines will be disposed of after decommissioning should be provided and analyzed in future documents including the EIS.</p> <p>It also should be made clear to the public that decommissioning does not mean the wind energy area will be restored to its prior condition. It is possible that large amounts of materials required for OSW projects could remain in the ocean e.g. scour protection materials and cables. This would represent the permanent conversion of soft sediment areas to those with hard structure especially for the Ocean Wind area which is dominated by soft bottom (page 3.6-15). The DEIS qualitatively concludes this conversion is a benefit as this is believed to generally create habitat however insufficient discussion of the impacts on species naturally occurring in the Ocean Wind area is provided. It is unclear whether this newly created harder habitat will give other species a competitive advantage over species that prefer or require soft bottom for their life cycle. The primary concern regarding cables remaining in the water is the dynamic nature of the seabed - scour protection is required because sediment moves and therefore cables can</p>	<p>See response to comment 1259-0186 above.</p>

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	become uncovered. It is unclear who is responsible for uncovered cables left in the ocean after decommissioning. These cables are a major safety concern for fishing vessels operating mobile bottom tending gear as they can hang-up on cables.	
1259-0187	<p>Separately the Draft EIS does not provide any information whatsoever about the disposal of turbine blades. At a time when the generation of single-use waste is becoming a global crisis the Draft EIS provides no assurances that blades and other materials from Ocean Wind 1 will be reused recycled or otherwise disposed of responsibly let alone a specific plan for doing so. This is particularly problematic because even though wind turbine blades are not especially toxic the resulting landfill may contribute to dangerous environmental impacts including the pollution of land and waterways. [Footnote 187: Arthur Nelsen Surging wind industry faces its own green dilemma: landfills Reuters (Sept. 10 2021) https://www.reuters.com/legal/litigation/surging-wind-industry-faces-its-own-green-dilemma-landfills-2021-09-10/] Turbine blade waste in turn undermines the overall sustainability of wind energy projects. [Footnote 188: See id.] Even when (or if) Ocean Wind 1 does reveal its plan for the turbine blades it will almost certainly rely on the assertion that the project will be able to avoid sending the many giant blades it demands to landfills by recycling them. Yet this claim is fatally flawed upon closer scrutiny. To start some turbine blade manufacturers have recently started claiming that they can now produce recyclable blades but the blades can be recycled only through a process known as "chemical recycling." [Footnote 189: See Press Release ZEBRA project achieves key milestone with production of the first prototype of its recyclable wind turbine blade GE (Mar. 17 2022) https://www.ge.com/news/press-releases/zebra-project-achieves-key-milestone-with-production-of-first-prototype-of-recyclable-wind-turbine-blade ("Elum® based composite components can be recycled using an advanced method called chemical recycling [...].)] To call this process recycling however would not be accurate. So-called "chemical recycling" is a process that theoretically breaks down plastic waste into its molecular components to then be turned back into new plastics thereby supporting a "circular economy." [Footnote 190: Judith Enck NJ Don't believe the hype about advanced recycling NJ Spotlight News (July 1 2021) https://www.beyondplastics.org/news-stories/dont-believe-the-hype-about-advanced-recycling. In practice such results would be an exception from the norm. Instead two of the three "chemical recycling" facilities that are operational in the U.S. today convert plastic waste into low-grade fuel and none of the three facilities have been proven to recover plastics for the purpose of making new</p>	<p>BSEE's regulations at 30 CFR 285 and commercial Renewable Energy Lease OCS-A 0498 require that Ocean Wind remove or decommission all facilities, projects, cables, pipelines, and obstructions and clear the seafloor of all obstructions created by the proposed Project.</p> <p>The conceptual decommissioning plan, as proposed by Ocean Wind, is analyzed in the Final EIS. Prior to implementation of any activities associated with decommissioning, BOEM would require Ocean Wind to submit a decommissioning application for technical and environmental review.</p>

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	materials on a commercial scale. [Footnote 191: Id.] All the meanwhile chemical recycling is a major source of air pollution and greenhouse gas emissions as well. In fact "chemical recycling" facilities emit three (3) tons of carbon dioxide for every one (1) ton of plastic that they process and also spew out severely hazardous substances like dioxins furans heavy metals and particulate matter. [Footnote 192: Id.]	
1259-0188	In brief it is imperative for the EIS to more thoroughly account for the inevitable disposal of blades used at Ocean Wind 1 including for blades that need to be replaced during operation and maintenance as well as during decommissioning. Even at the merely conceptual state this information has considerable consequences for the overall environmental and public health impacts of the proposed OSW project.	The details of how blades would be disposed of should they be decommissioned are not known at this time and cannot be analyzed. Prior to implementation of any activities associated with decommissioning, BOEM would require Ocean Wind to submit a decommissioning application for technical and environmental review.
1267-0001	<p>The Ocean Wind 1 Draft Environmental Impact Statement speaks at length of the Electromagnetic Field (EMF) produced by the Inter-Array and export cables and discusses the impact or expected lack of impact on sea life. The EIS is silent with regards to the heat given off by the Inter-Array and export cables. The "COP Volume I" is annexed to the EIS on Page 2-6 and on page 147/159 of the Construction and Operation Plan Ocean Wind Offshore Wind Farm Volume I November 2021 reference to the thermal output of the cables is referenced in the statement "The alignment of the onshore interconnect cable system duct bank will be spaced at a minimum of 15 feet from the onshore transmission cable system duct bank in order to maintain thermal isolation between the two circuits.</p> <p>The Draft SIA and COP Volumes I & II do not mention the operating temperature of the cables but imply that the cables if closer than 15 feet could adversely impact other cables. The insulation of these cable are typically rated for 90 degrees centigrade (194 degrees Fahrenheit). On Page 121 & 120 of 159 of the COP Volume I on table 6.1.2-10 forecasts three (3) cable fault events for the BL England Export Cables and also faults in the Offshore Export Cables and Substation Interconnection Cables and Array Cables. The Offshore wind Submarine Cabling Final Report number 21-14 dated April 2021 by NYSERDA on page 13 states "Cables that are buried deeper than planned are at risk of damage due to overheating. As little as 1.6 ft over burial.. can necessitate larger cable cross sections. "The Draft EIS states that the 275-KiloVolt alternating current offshore export cable and Inter-array cables would be buried 4 to 6 feet</p>	Sections 2.1.2.2.2 and 2.1.2.2.3 of the Final EIS describe the construction and installation of the proposed inter-array and export cables. The target burial depth is determined based on a number of factors including decreased thermal conductivity associated with increased burial depth. A CBRA would be developed prior to construction and would involve coordination with applicable state and federal agencies to inform final target burial depth. Remedial protection measures, as described in Section 2.1.2.2.3, would be installed wherever the target burial depth cannot be met. The CBRA is subject to review and approval by the Certified Verification Agency and BOEM.

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	<p>but do not indicate cable temperature or the seabed temperature over the cable. Are we to assume that the cables will be operating at in the range of 176 to 194 degrees Fahrenheit as cited in the Public Service Commission of Wisconsin in their article titled "Underground Electric Transmission Lines"? These temperatures are consistent with ORSTED's expectation that there will be cable faults. Based on a 176 degree cable temperature at 5 feet of cover and a 194 degree cable temperature at 6.6 feet of cover the seabed over the cable would be 118 degrees Fahrenheit significantly warmer than the 50 degree Ocean Temperature. The aversion to enter and cross a hot zone by fish like flounder or crabs not being mentioned in the draft EIS appears to be a serious defect in the report. Additionally the increase in soil temperatures crossing the barrier islands will impact the viability of reptile (turtles) and crabs as well as vegetation in the protected wetlands located over the cables. A secondary impact of heating at the ocean floor and the adjacent water is the change in the Oxygen and Calcium Carbonate solubility in sea water. The heat of the cables will also have an impact on the roots of trees and the life of the asphalt roadways along the export routes.</p> <p>If heating by the cables is an issue for sea life the power through each cable could be reduced or sections can be elevated above the water with poles or buried at greater depth with forced cooling. On land forced cooling is an alternative.</p> <p>Revisions to the Draft Environmental Impact Statement are warranted.</p>	
1267-0002	<p>The Onshore Export Cable will heat the environment when in use. The Onshore Export Cable will cross water supply mains and services. The project should be required to provide thermal insulation to prevent heating of the public drinking water supply mains and services.</p>	<p>Ocean Wind will construct onshore export cables in accordance with design specifications and engineering best practices. BOEM has not proposed specific mitigation related to thermal insulation of export cables.</p>
0984-0028a	<p>Buffer Between Lease Areas Sand Ridges and Trough Avoidance and Submerged Aquatic Vegetation Avoidance (SAVA) are all Major Impacts that should be discussed separately. A [Bold: Major Impact] of sediment deposition is known within the multiple scientific reports that can be used to do computer generated calculations. The applicant is aware of the [Bold: Major Impacts] and that the maintenance the cables require. The constant reburial process will have [Bold: Major Impacts]. The failure of the applicant to disclose such calculations within the EIS is an act in violation of public trust.</p>	<p>The IPF of cable emplacement and maintenance is analyzed across applicable EIS Chapter 3 resource sections, including in Section 3.6, <i>Benthic Resources</i>, and Section 3.22, <i>Water Quality</i>. Specifically, Section 3.22 reports results of sediment dispersion modeling conducted for three other offshore wind projects with general sediment conditions and hydrodynamics that are similar to</p>

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		those of the Project area.
0984-0028b	The applicants desire to sell the cables to avoid the continued cost of maintenance and pending Environmental Justice prosecution should also be part of the EIS. When dredging is used there will be long lasting impacts that will take decades to mitigate after operations cease to exist. The applicant is failing to address the requirements found in the German standards that require mitigation of sediment temperature changes of greater than two degrees. Heat rises. It doesn't matter how deep you bury the cables there is always a environmental affect. Also the EIS is failing to discuss the [Bold: Major Impacts] of cable failures from webbing within cables if they are buried deep. This has become a consistent cause of cable failure around the world because of the intent to mitigate marine life damages by burring the cables deeper than the manufacturer intended.	The sale and cost of maintaining cables would not affect environmental justice populations and is not analyzed in the EIS. Sections 2.1.2.2.2 and 2.1.2.2.3 of the Final EIS describe the construction and installation of the proposed inter-array and export cables. The target burial depth is determined based on a number of factors including decreased thermal conductivity associated with increased burial depth. A CBRA would be developed prior to construction and would involve coordination with applicable state and federal agencies to inform final target burial depth. The CBRA is subject to review and approval by the Certified Verification Agency and BOEM.
0984-0028c	The applicants claim that seabed alterations will "be short term and would have little impact" on coastal habitat is as far from accurate representation. Misrepresentation of the facts of the project in the EIS and the is a reason to deny the EIS. The burial of cables along the shore will have considerably costs to the environment and the tourism industry. It has been scientifically proven that an object burred along the coast creates scarring along the beach and puts ocean front homes and communities nearby at greater risk from storm damage. The applicant knows the science and has refused to try to mitigate the damages that will be created by the cables and their landfall.	The impacts of cable emplacement, cable landfalls, and onshore cables are analyzed across applicable EIS Chapter 3 resource sections, including in Section 3.8, <i>Coastal Habitat and Fauna</i> , and the basis of impact conclusions is explained. BOEM does not concur that installation of cables and landfalls would increase risk of storm damage for ocean-front homes and communities.
0007-0009	Affordability and Reliability: In Appendix L of the DEIS Other Impacts Section L.3 it is stated that long term benefits of the Proposed Action be considered. It lists as goals promotion of clean and safe domestic energy sources and promotion of renewable energy to help ensure security combat climate change and provide electricity that is affordable reliable safe secure and clean. No where in the DEIS do I see a discussion of the affordability and reliability of offshore wind particularly as compared to onshore technology alternatives. How can you evaluate the affordability reliability and cleanliness of offshore wind without comparing it to onshore clean energy technology options? Is there a Federal Agency (such as the Department of Energy) that will request or perform that	The EIS for the Project analyzes the impacts of constructing, operating and maintaining, and decommissioning the Project as described in the Ocean Wind 1 COP. Comparative analysis of the affordability and reliability of the Proposed Action with other onshore technology is outside the scope of the EIS. See Chapter 2, Table 2-3 for discussion of alternative energy sources that were considered but

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	analysis before the EIS for the Proposed Action is finalized? As mentioned earlier the reliability of wind power was recently called into question with the power outages in Texas during the winter of 2021. A reassessment of comparative costs and impacts on electricity users is also needed. Increased costs of electricity from offshore wind will negatively impact residential and business users and in the case of commercial and industrial enterprises may lead to siting these facilities elsewhere. This will effect job opportunities and tax revenues. This should be considered.	dismissed from detailed analysis in the EIS.
1012-0004b	b. [Bold: Micro-climate Changes at the Shore]. It does not include an analysis of potential changes to shore wind waves air temperature and humidity as a result of wind energy extraction from the turbines which was asked for in our comments on the NOI.	Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures downwind depending on local meteorological conditions. Increased mixing near the ocean surface can take up moisture from the ocean, increasing the humidity and salinity of the air. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 15 miles), substantial effects on temperature and humidity are unlikely to occur over land.
1012-0014a	4.[Bold: The Cold Pool] An important factor impacting marine habitats and migratory patterns on the mid-Atlantic shelf is the "Cold Pool". This seasonal thermocline is one of the largest of its kind in the global ocean and extends from Nantucket to Cape Hatteras. Wind turbines have been shown to impact the mixing of ocean water both at the surface through their change in wind energy and at other levels through their physical structure. The impact on the Cold Pool both off the New Jersey coast and more broadly off the mid-Atlantic shelf from this project and in conjunction with the other foreseeable offshore wind projects must be carefully assessed. As mentioned in the July 22 2020 report of the Science Center for Marine Fisheries Management (a project funded by the National Science Foundation) in its critique of the BOEM Supplementary Environmental Impact Statement for the Vineyard Wind Project: "Too much attention cannot be given to the Cold Pool" and "The weakening of the Cold Pool supports the potential of generating the most catastrophic ecological event on the continental shelf the world has ever seen". The potential impact of this and other such wind projects on the Cold Pool should be clearly understood before this or any new projects are permitted.	Discussion of the potential impacts on the cold pool has been added to Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> , in the Final EIS.

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1012-0014c	In addition the high noise source level from these turbines discussed above and the lesser noise dissipation in water than air raises the prospect that persons going underwater at the shore will hear the turbines. Underwater noise is received differently than an air and the impacts of this on a person are not clear. This needs to be fully investigated for the EIS lest diving into a wave at the shore becomes a thing of the past.	Potential O&M noise impacts on human activities is discussed in Section 3.11, <i>Demographics, Employment, and Economics</i> , and Section 3.18, <i>Recreation and Tourism</i> . The WTGs would be sited 15 miles offshore and BOEM does not expect that noise from WTG operation would be audible onshore or near shore.
1234-0003a	As written the no action alternative assumes projects beyond Ocean Wind 1 will continue above and beyond this project. As a result the COP assumes cumulative benefits without consideration of cumulative impacts of this project and is erroneous in its assumptions. The DEIS must consider cumulative impact and benefits it should not consider only one without the other. Assurance for the protection of the Cold Pool phenomenon must be include in the analysis and scientific research ensuring its protection must be completed prior to the COP.	The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives. Discussion of the potential impacts on the cold pool has been added to Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> , in the Final EIS.
1194-0002f	Ocean Wind should adopt Alternative D - Sand Ridge and Trough Avoidance to protect important benthic habitat in the Lease Area. Ocean Wind should adopt Alternative E-Submerged Aquatic Vegetation Avoidance which alters the route of offshore export cables through ecologically important eelgrass in Barnegat Bay which is considered essential fish habitat habitat area of particular concern and a Special Aquatic Site under the Clean Water Act. BOEM and Ocean Wind must use relevant timely and primary sources to estimate marine mammal and sea turtle occurrence and abundance metrics to evaluate exposure of species in and around the project area. BOEM and Ocean Wind should not employ 24-hour pile driving due to the	Comment noted. Final EIS Section 3.15, <i>Marine Mammals</i> , incorporates updates to marine mammal densities and exposure based on the most recent marine mammal density models for the U.S. East Coast (released June 20, 2022). Appendix H, <i>Mitigation and Monitoring</i> , describes mitigation measures regarding pile driving, including specific measures concerning acoustic monitoring and the

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	<p>increased prolonged exposure of vulnerable species to noise impacts from pile-driving activities and the limitations of detecting species in the clearance zones at night.</p> <p>BOEM and Ocean Wind should evaluate other turbine foundation options in particular quiet foundations to reduce noise impacts to vulnerable species and should provide that analysis to the public for their review.</p>	<p>development and submittal of a nighttime pile-driving monitoring plan for NMFS and BOEM review and approval.</p> <p>As explained in Section 2.1.7 of the Final EIS, alternative foundation types such as suction caisson foundations, gravity-based foundations, and floating platforms were deemed not suitable for the Proposed Action due to local site conditions and technical and supply chain considerations.</p>
0011-0002	<p>Clearly the proposed project has serious major impacts on historic uses of the outer continental shelf. Some compensating actions are offered such as reimbursement for lost fishing gear and adoption of Aircraft Detection Lighting System. However a December 14 2020 letter (attached) page 12 from the Department of the Interior Solicitor to Interior Secretary David Bernhardt states: "It is important to observe that any compensation system established by a lease to make users of the lease area whole financially does not negate interference - indeed the creation of such a system presumes interference. As such any proposed compensation process should not be viewed as 'curing' any 8(p)(4)(I) interference since the statute does not provide for such a cure." The letter also discusses the Secretary's duty to prevent interference with reasonable historic uses in federal waters such as fishing navigation and the viewshed by denying offshore wind projects in accordance with the Outer Continental Shelf Lands Act Subsection 8(p). We note this is in contrast with a new Solicitor General's opinion quoted in the DEIS: As stated in M-Opinion 37067 ". . . subsection 8(p)(4) of OCSLA imposes a general duty on the Secretary to act in a manner providing for the subsection's enumerated goals. The subsection does not require the Secretary to ensure that the goals are achieved to a particular degree and she retains wide discretion to determine the appropriate balance between two or more goals that conflict or are otherwise in tension. "Major impacts to historic ocean uses cannot be overlooked at the discretion of the Secretary. These contrasting opinions are the kind of legal debates to be settled in lawsuits filed against BOEM approval such as has been done against the Vineyard Wind project. It is recommended no further offshore wind project Final EIS and Record of Decision be published until these cases are heard likely by years end.</p>	<p>The Solicitor's opinion of December 14, 2020, M-37059, was withdrawn on April 9, 2021, by M-37067 for the reasons explained in the latter opinion. The Solicitor's M-opinions on matters within the jurisdiction of the Department of the Interior are binding on BOEM (see 209 Department Manual 3.2(A)(11)), and, accordingly, BOEM does not agree with the characterization of the two opinions as a "legal debate." BOEM acknowledges that there are pending challenges to federal approvals for the Vineyard Wind project, but none of those cases limit BOEM's ability to analyze impacts or alternatives of the Ocean Wind Project or to come to a decision on Ocean Wind's COP.</p>

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O.7. General Comment Summaries and Responses

O.7.1 Purpose and Need

Table O.7-1 General Comments on the Purpose and Need

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters generally affirmed the purpose and need for the Project noting that the Project is an opportunity for New Jersey to diversify its energy generation and meet baseline energy goals while facilitating New Jersey's goal of achieving 7,500 MW of offshore wind energy by 2035. Commenters noted the need to increase energy supply and production capacity to offset supply imbalances and supply chain disruptions that have created volatility in energy commodity prices, and to create long-term certainty for private sector businesses investing in energy infrastructure. Other commenters questioned whether the Project would actually address climate change, given the modest reduction in GHG emissions that could be achieved through offshore wind energy generation.</p>
<p>Response: Thank you for your comment. EIS Section 1.2 outlines the policy goals of the Biden Administration to combat the climate crisis and the state of New Jersey's offshore wind energy generation goals to which the proposed Ocean Wind 1 Project would contribute.</p>
<p>Submission IDs contributing to comment summary: 0951-0001; 1040-0002; 1040-0003; 1040-0004; 1048-0006; 1275-0002; 0022-0001.</p>

O.7.2 Proposed Action and Alternatives

Table O.7-2 General Comments on the Proposed Action and Alternatives

General Comment Summaries and Responses
<p>Comment Summary 1: Several comments recommended that BOEM consider a smaller pilot project to test the technology and assess impacts as an alternative in the EIS. Others recommended additional studies to mitigate environmental impacts.</p> <p>Other comments made recommendations for new alternatives or to modify existing alternatives. These recommendations included the use of native materials around turbine bases, the inclusion of seafloor cable removal as part of the Project, a minimum 6-foot burial depth for cables, alternatives to reduce the length of cable required, a shared cable corridor, and a larger transit zone (between 2 and 4 miles) between Ocean Wind 1 and Atlantic Shore.</p>
<p>Response: BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Lease Area. In the Draft EIS, BOEM considered but dismissed from further consideration an alternative to build a much smaller pilot facility to confirm the benefits and impacts before building out the complete Project as proposed. BOEM also considered but dismissed from further consideration an alternative to increase spacing between Ocean Wind 1 and Atlantic Shores South, alternative wind turbine foundations, alternatives to bury cables deeper, and a shared cable corridor. Additional detail is provided in Table 2-3, <i>Alternatives Considered but not Analyzed in Detail</i>, in the Final EIS.</p>
<p>Submission IDs contributing to comment summary: 0007-0003; 0007-0013; 0007-0017; 0388-0001; 0390-0025; 0487-0005; 0984-0003; 0984-0068; 1243-0005; TRANS-0102-0002; 1272-0006; TRANS-0068-0003; TRANS-0080-0011; TRANS-0081-0003; 0948-0004; 1278-0014</p>
<p>Comment Summary 2: Several comments raised concerns regarding the limited experience of the developer and these specific WTGs, the high capital costs and maintenance costs due to waves and storm damage, the short lifecycle of WTGs, the proximity of the WTGs to one another and the resulting impacts on the fishing industry, and the proximity of the Oyster Creek export cable to the Atlantic City Artificial Reef.</p>

General Comment Summaries and Responses
Response: Comment noted.
Submission IDs contributing to comment summary: 0175-0003; 0222-0007; 0283-0002; 0388-0001; 0390-0009; 0390-0013; 0390-0014; 0390-0015; 0487-0003; 1272-0003; 1272-0007; 1275-0014; 1278-0012; TRANS-0041-0002
Comment Summary 3: Several comments expressed preferences for one particular alternative or several alternatives. Several comments also expressed support for dismissal of certain alternatives or construction methods.
Response: Comment noted.
Submission IDs contributing to comment summary: 0158-0001; 0444-0001; 0753-0001; 0967-0003; 0967-0002; 1188-0002; 1190-0028; TRANS-0079-0004; TRANS-0087-0003; 1247-0005
Comment Summary 4: Several comments raised concern regarding the proximity of the wind farm to the shoreline and popular tourist beaches. Many of these commenters recommended the consideration of alternatives farther offshore. Specifically, one commenter recommended consideration of alternatives in the Hudson South Call Area.
Response: In the Draft EIS (Chapter 2, Table 2-3), BOEM considered but dismissed from further consideration alternatives for alternate locations for the wind energy facility outside of the Lease Area. BOEM's regulations require BOEM to analyze Ocean Wind's proposal to build a commercial-scale wind energy facility on the Lease Area.
Submission IDs contributing to comment summary: 0627-0001; 0656-0003; 0658-0001; 0659-0001; 0670-0001; 0675-0001; 0676-0001; 0677-0001; 1008-0001; 1100-0001; 1071-0018; 1087-0002; TRANS-0038-0003; 0717-0004

O.7.3 Air Quality

Table O.7-3 General Comments on Air Quality

General Comment Summaries and Responses
Comment Summary 1: Commenters generally affirmed the purpose and need for the Project noting that the Project is an opportunity for New Jersey to transition away from the use of fossil fuels and toward the generation and use of renewable, clean offshore wind energy to meet energy demand while reducing GHG emissions. Commenters noted the essential role of this transition in preventing worsening impacts of climate change, including sea level rise, extreme heat, extreme weather events, wildfires, destruction of coastal ecosystems, threats to wildlife, and ocean acidification. Commenters also noted that global climate change impacts disproportionately affect environmental justice communities. Some commenters highlighted the effects of climate change on birds, coastal habitat and fauna resources, commercial fisheries, marine mammal resources, tourism resources, scenic and visual resources, and water quality. Other commenters highlighted the potential for offshore wind to provide additional jobs and employment opportunities while reducing GHG emissions.
Response: Thank you for your comment. EIS Section 3.4 outlines the Project's anticipated GHG emissions and potential impact with respect to global climate change. As discussed in EIS Section 3.4.5, the Project is expected to have an overall net beneficial impact on GHG emissions compared to a similarly sized fossil-fueled power plant or to the generation of the same amount of energy by the existing grid. EIS Sections 3.7, 3.8, 3.9, 3.11, 3.12, 3.15, 3.18, 3.20, and 3.21 outline the Project's potential impacts on birds; coastal habitat and fauna; commercial fisheries and for-hire recreational fishing; demographics, employment, and economics; environmental justice; marine mammals; recreation and tourism; scenic and visual resources; and water quality, respectively.

General Comment Summaries and Responses
<p>Submission IDs contributing to comment summary: 0048-0001; 0055-0001; 0058-0001; 0062-0002; 0062-0004; 0063-0002; 0063-0005; 0097-0003; 0138-0003; 0139-0001; 0139-0004; 0139-0006; 0147-0001; 0175-0001; 0212-0006; 0222-0002; 0284-0004; 0289-0001; 0432-0002; 0436-0001; 0608-0001; 0621-0001; 0939-0002; 0989-0001; 0990-0001; 1015-0003; 1015-0004; 1015-0006; 1015-0008; 1087-0001; 1119-0001; 1119-0002; 1125-0012; 1194-0001; 1247-0003; 1252-0001; 1259-0007; 1268-0001; TRANS-0004-0001; TRANS-0011-0003; TRANS-0014-0001; TRANS-0028-0004; TRANS-0045-0004; TRANS-0045-0005; TRANS-0046-0001; TRANS-0047-0001; TRANS-0050-0001; TRANS-0053-0001; TRANS-0055-0001; TRANS-0057-0002; TRANS-0058-0001; TRANS-0059-0001; TRANS-0061-0001; TRANS-0062-0001; TRANS-0072-0001; TRANS-0074-0001; TRANS-0076-0001; TRANS-0078-0001; TRANS-0082-0001; TRANS-0084-0003; TRANS-0087-0001; TRANS-0091-0001; TRANS-0094-0001; TRANS-0095-0001</p>
<p>Comment Summary 2: Commenters questioned whether the Project would reduce GHG emissions and address climate change in an effective and economically efficient manner.</p>
<p>Response: Thank you for your comment. EIS Section 3.4 outlines the Project's anticipated GHG emissions and potential contribution to global climate change. As discussed in EIS Section 3.4.5, the Proposed Action would produce GHG emissions that contribute to climate change; however, its contribution would be less than the emissions reductions from fossil-fueled sources during operation of the Project. Project activities that would produce GHG emissions would have negligible impacts on climate change and an overall net beneficial impact on GHGs compared to a similarly sized fossil-fueled power plant or to the generation of the same amount of energy by the existing grid. Moreover, EIS Section 3.11 outlines the Project's potential impacts on demographics, employment, and economics.</p>
<p>Submission IDs contributing to comment summary: 0175-0002; TRANS-0004-0001; TRANS-0075-0007</p>
<p>Comment Summary 3: Commenters generally affirmed the purpose and need for the Project noting that the Project is an opportunity for New Jersey to transition away from the use of fossil fuels to reduce air pollutant emissions and public health impacts from fossil fuel combustion. In addition, commenters noted that poor air quality and public health impacts from fossil fuel combustion disproportionately affect environmental justice communities.</p>
<p>Response: Thank you for your comment. EIS Section 3.4 outlines the potential criteria pollutant emissions and air quality impacts resulting from the Project. As discussed in EIS Section 3.4.5, the Project would result in air quality-related health effects avoided in the region due to the reduction in emissions associated with fossil-fueled energy generation. EIS Section 3.12 outlines the Project's potential impacts on environmental justice.</p>
<p>Submission IDs contributing to comment summary: 0055-0001; 0062-0002; 0062-0004; 0138-0003; 0139-0004; 0432-0002; 0436-0001; 0608-0001; 1015-0004; 1015-0006; 1087-0001; 1119-0001; 1247-0003; TRANS-0045-0005; TRANS-0046-0001; TRANS-0047-0001; TRANS-0052-0001; TRANS-0057-0002; TRANS-0059-0001; TRANS-0071-0003; TRANS-0076-0001; TRANS-0078-0001; TRANS-0084-0003; TRANS-0087-0001; TRANS-0094-0001</p>
<p>Comment Summary 4: Commenters questioned whether the Project would effectively reduce air pollutant emissions from fossil fuel combustion, given that marine vessel, helicopter, and generator activity during the Project's O&M phase would require the use of fossil fuels, resulting in criteria pollutant emissions.</p>
<p>Response: Thank you for your comment. EIS Section 3.4 outlines the Project's anticipated criteria pollutant emissions and potential impact on air quality. As discussed in EIS Section 3.4.5, minor air quality impacts would be anticipated for a limited time during construction, maintenance, and decommissioning, but there would be a minor beneficial impact on air quality near the Wind Farm Area and the surrounding region overall to the extent that energy produced by the Project would displace energy produced by fossil-fueled power plants. Moreover, Ocean Wind has committed to APMs that would reduce potential impacts by complying with applicable emissions and fuel standards (AQ-01, AQ-02, and AQ-04), limiting engine idling time (AQ-03), and requiring dust control plans for onshore construction areas (AQ-05).</p>

General Comment Summaries and Responses
Submission IDs contributing to comment summary: 0175-0002; TRANS-0065-0003; TRANS-0075-0007
Comment Summary 5: Commenters questioned whether the Project would be resilient to extreme climate-related weather events, which are likely to become more frequent and severe.
Response: Thank you for your comment. As discussed in EIS Section 3.11, coasts are sensitive to sea level rise and changes in the frequency and intensity of storms. These events are likely to worsen over time due to climate change and can result in property or infrastructure damage. As discussed in EIS Section 3.11, efforts to protect against potential increased storm damage and sea level rise are included in the planned activities for coastal and marine activity other than offshore wind. See EIS Appendix F, Section F.2, which describes ongoing and planned activities.
Submission IDs contributing to comment summary: 0948-0004

O.7.4 Bats

There were no general comments coded to bats.

O.7.5 Benthic Resources

Table O.7-4 General Comments on Benthic Resources

General Comment Summaries and Responses
Comment Summary 1: Commenters had concerns about the location of the WTGs and the threat they pose to the benthic environment.
Response: The impacts on benthic resources from the location of turbines include effects of physical displacement, scour, loss of soft-bottom habitat, opportunities for the establishment and dispersal of invasive species, altered wind-wake characteristics and corresponding water column mixing, and changes in primary productivity. Benefits of the WTGs include additional hard-surface habitat for hard-bottom fauna. The loss of soft-bottom habitats likely poses less impact on benthic resources because it occurs extensively throughout the region, compared with less extensive hard-bottom habitat. Restoration of SAV for impacts that cannot be avoided would be implemented, per SAV Monitoring and Mitigation Plans. Impacts are not expected at a population level. Adverse impacts are anticipated to range from negligible to moderate and adverse.
Submission IDs contributing to comment summary: 0728-0001; 0980-0001; 1013-0001

O.7.6 Birds

Table O.7-5 General Comments on Birds

General Comment Summaries and Responses
Comment Summary 1: Several comments expressed broad concern with birds, including potential impacts on migrating birds, impacts from WTGs, impacts on shore birds and raptors, and effects on federally listed threatened and endangered birds and other sensitive birds. Some of these comments also included a general concern with other marine life and fisheries. These comments do not raise any specific concern regarding the conclusions or adequacy of the Draft EIS.

General Comment Summaries and Responses
<p>Response: Draft EIS Section 3.7, <i>Birds</i>, discusses the potential impacts on birds from the proposed Project, alternatives, and ongoing and planned activities in the geographic analysis area for birds. All birds occurring in the geographic analysis area are addressed, including marine birds, migratory birds, raptors (including bald and golden eagles), and federally listed threatened and endangered birds. BOEM addressed impacts on birds and their habitats through the following IPFs: accidental releases, lighting, cable emplacement and maintenance, noise, presence of structures, traffic (aircraft), and land disturbance (onshore construction). These IPFs address the direct and indirect impacts on birds and their habitats including, but not limited to, potential collisions with offshore structures (e.g., WTGs), effects on migration, and impacts on onshore habitats. Included in the analysis for the proposed Project are APMs intended to avoid and minimize impacts on birds and their habitats. In addition, Ocean Wind has proposed an <i>Avian and Bat Post-Construction Monitoring Framework</i> (as mentioned in the Draft EIS) to monitor the effects of the offshore wind components on birds. As stated in Draft EIS Section 3.7.8, <i>Proposed Mitigation Measures</i>, if the reported post-construction bat monitoring results indicate bird impacts deviate substantially from the impact analysis included in this EIS, then Ocean Wind must make recommendations for new mitigation measures or monitoring methods.</p> <p>Potential effects on federally listed threatened and endangered birds are discussed at a high level in Draft EIS Section 3.7, <i>Birds</i>, but BOEM's BA, a document required for federal actions that may affect federally listed threatened and endangered species, provides in-depth analysis of the Project's effects on each individual species. BOEM continues to consult with USFWS on potential impacts on federally listed threatened and endangered birds.</p> <p>Draft EIS Section 3.6, <i>Benthic Resources</i>; Section 3.13, <i>Finish, Invertebrates, and Essential Fish Habitat</i>; Section 3.15, <i>Marine Mammals</i>; and Section 3.19, <i>Sea Turtles</i>, address the potential effects of the Project on other marine life. Draft EIS Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, addresses potential effects the Project could have on fisheries.</p>
<p>Submission IDs contributing to comment summary: 0047-0002; 0210-0002; 0210-0007; 0390-0007; 0633-0004; 0634-0003; 0656-0002; 0729-0001; 0945-0003; 1251-0003; 1256-0001; 1256-0002; 1259-0106; TRANS-0006-0005; TRANS-0065-0002</p>
<p>Comment Summary 2: One comment requested a more robust discussion on birds that migrate through New Jersey, including the federally listed red knot and other birds. No specific suggestion or information was provided to provide a more robust discussion.</p>
<p>Response: Because the commenter did not provide additional information, BOEM is unable to respond to the comment. However, Draft EIS Section 3.7, <i>Birds</i>, discusses the potential impacts on birds from the proposed Project, alternatives, and ongoing and planned activities in the geographic analysis area for birds. All birds occurring in the geographic analysis area are addressed, including marine birds, migratory birds, raptors (including bald and golden eagles), and federally listed threatened and endangered birds. BOEM understands the migratory patterns of birds along the Atlantic Coast and has provided that information in Draft EIS Section 3.7.1, <i>Description of the Affected Environment for Birds</i>. This section also addresses birds and bird habitats in the onshore area of the Project (see text after Draft EIS Table 3.7-1).</p>
<p>Submission IDs contributing to comment summary: TRANS-0079-0002</p>

O.7.7 Coastal Habitat and Fauna

Table O.7-6 General Comments on Coastal Habitat and Fauna

General Comment Summaries and Responses
<p>Comment Summary 1: Several comments expressed general concern with potential impacts on coastal resources, including wetlands, habitats at Island Beach State Park, and sensitive species (monarch and sturgeons). These comments do not raise any specific concern regarding the conclusions or adequacy of the Draft EIS.</p>

General Comment Summaries and Responses
<p>Response: Draft EIS Section 3.8, <i>Coastal Habitat and Fauna</i>; Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>; and Section 3.22, <i>Wetlands</i>, address resources in the coastal environment. Island Beach State Park and monarch butterfly are addressed in Draft EIS Section 3.8, <i>Coastal Habitat and Fauna</i>; wetlands are addressed in Draft EIS Section, 3.22, <i>Wetlands</i>; and Atlantic and shortnose sturgeon are addressed in Draft EIS Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>. The monarch butterfly and sturgeon are addressed in further detail in BOEM's BA as part of the ESA Section 7 consultation requirements.</p>
<p>Submission IDs contributing to comment summary: 0984-0015; 1192-0029; TRANS-0041-0008; TRANS-0042-0005; TRANS-0075-0004</p>

O.7.8 Commercial Fisheries and For-Hire Recreational Fishing

Table O.7-7 General Comments on Commercial Fisheries and For-Hire Recreational Fishing

General Comment Summaries and Responses
<p>Comment Summary 1: Several comments raised general concerns regarding adverse effects on the fishing industry due to the Proposed Action. Some of the concerns related to effects of electrical currents; the safety of boats and divers; potential impacts on commercial and recreational fishing, marine mammals, birds, and the entire ecosystem; and the potential for the artificial reef effect to result in increased predation of lobsters. Several of these comments requested additional analysis of potential impacts and testing of offshore wind technology. Another comment raised concerns regarding the characterization of the Lease Area by a spokesman for Ørsted as a "fish desert."</p>
<p>Response: Draft EIS Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, discusses potential impacts on commercial fisheries and recreational fishing from the Proposed Action, alternatives, and ongoing and planned activities in the geographic analysis area. Included in the analysis for the proposed Project are APMs intended to avoid and minimize impacts on commercial fisheries and for-hire recreational fishing. In addition, the EIS considers mitigation measures for gear loss and damage, compensation for lost fishing income, and cable protection measures, which can be found at the end of Section 3.9.</p>
<p>Submission IDs contributing to comment summary: 0018-0002; 0047-0004; 0652-0002; 0175-0008; 0717-0003; TRANS-0079-0003; TRANS-0080-0002; 0962-0006; 0962-0008; 0984-0091; 1117-0002; 1124-0001; 1272-0001; 1278-0023</p>
<p>Comment Summary 2: Comments request the developer provide impact payments and other forms of compensation to fishers and the tourism industry for the duration of the Project.</p>
<p>Response: The EIS includes as a mitigation measure a compensation program for lost income for commercial and recreational fishers and other eligible fishing interests for construction and operations, which can be found at the end of Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>. These proposed mitigation measures are consistent with BOEM's Draft Guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585.</p>
<p>Submission IDs contributing to comment summary: TRANS-0080-0004; 1125-0008</p>
<p>Comment Summary 3: Several comments expressed support for the Proposed Action due to the additional fishing opportunities the WTGs would create through artificial reef effects and the benefits of offshore wind energy with respect to preventing worsening impacts of climate change on the commercial fishing industry. One comment asserted that the location of the Proposed Action minimizes effects on surrounding prime commercial fishing areas, marine mammals, and sea turtles.</p>
<p>Response: Thank you for your comment. BOEM acknowledges your support for the Project. Draft EIS Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, acknowledges the potential beneficial effects of the Proposed Action and action alternatives on commercial fishing and for-hire recreational fishing.</p>

General Comment Summaries and Responses
Submission IDs contributing to comment summary: 0058-0003; 0222-0003; TRANS-0030-0003; TRANS-0086-0001; TRANS-0086-0002; 0967-0004; 1278-0004

O.7.9 Cultural, Historical, and Archaeological Resources

There were no general comments coded to cultural, historical, and archaeological resources.

O.7.10 Demographics, Employment, and Economics

Table O.7-8 General Comments on Demographics, Employment, and Economics

General Comment Summaries and Responses
Comment Summary 1: Numerous comments expressed support for the Project because it would increase investments in the local economy, create new employment opportunities, and increase revenue for the recreation and tourism industries. Commenters asserted that the Project would provide positive economic benefits to coastal communities in New Jersey and to other regions that support the offshore wind installation and operation supply chain. Other commenters expressed support for the workforce development opportunities that have already been created and will continue to be developed to support offshore wind projects.
Response: These comments are noted. EIS Section 3.11, <i>Demographics, Employment, and Economics</i> , provides estimates of the anticipated job creation during construction and operation of the Proposed Action and concludes that the Proposed Action would result in beneficial employment and economic impacts related to job creation, expenditures on local businesses, tax revenues, grant funds, and support for additional regional offshore wind development.
Submission IDs contributing to comment summary: 0003-0003; 0003-0004; 0059-0003; 0100-0001; 0139-0002; 0139-0003; 0306-0001; 0313-0001; 0315-0002; 0429-0001; 0487-0007; 0532-0002; 0533-0003; 0565-0002; 0641-0003; 0764-0001; 0951-0004; 1015-0002; 1040-0006; 1085-0001; 1125-0004; 1190-0002; 1119-0003; 1190-0007; 1156-0001; 1178-0001; 1186-0002; 1195-0001; 1228-0003; 1228-0004; 1247-0002; 1254-0006; 1258-0089; 1266-0001; 1266-0003; TRANS-0007-0003; TRANS-0007-0004; TRANS-0008-0001; TRANS-0010-0001; TRANS-0011-0002; TRANS-0012-0002; TRANS-0012-0003; TRANS-0015-0003; TRANS-0015-0004; TRANS-0018-0001; TRANS-0019-0002; TRANS-0023-0002; TRANS-0028-0002; TRANS-0028-0003; TRANS-0029-0001; TRANS-0029-0002; TRANS-0031-0001; TRANS-0033-0001; TRANS-0035-0002; TRANS-0035-0003; TRANS-0036-0001; TRANS-0037-0002; TRANS-0045-0003; TRANS-0048-0001; TRANS-0053-0002; TRANS-0071-0001; TRANS-0089-0002; TRANS-0089-0005; TRANS-0092-0002; TRANS-0093-0001; TRANS-0106-0002; TRANS-0078-0002
Comment Summary 2: Comments expressed concern that the cost to ratepayers would be high and was not disclosed. One commenter requested an analysis of when installation costs would be recovered through earnings for revenue generation.
Response: The timeframe for the lessee to recover installation costs and the cost to ratepayers has not been disclosed in the Ocean Wind 1 COP and was not analyzed in the EIS. However, as stated in Section 3.11, <i>Demographics, Employment, and Economics</i> , according to the BPU OREC Award, ratepayers could see an increase in their monthly energy bill of \$1.46 for residential customers, \$13.05 for commercial customers, and \$110.10 for industrial customers (New Jersey Office of the Governor 2019). The lessee is eligible to receive the approved OREC rates and payments for 20 years subject to the terms and conditions of the Board Order (https://www.njcleanenergy.com/files/file/6-21-19-8D.PDF).
Submission IDs contributing to comment summary: 0175-0014; 0175-0015; 0175-0016; 0175-0017; 0175-0018; 0175-0019; 0387-0001; 0390-0020; 0390-0021; 0965-0001; TRANS-0026-0002; TRANS-0066-0003; 0022-0001

General Comment Summaries and Responses
<p>Comment Summary 3: Some commenters expressed opposition to the Project due to the cost of offshore wind. Others expressed opposition to the Project due the perception that it would result in adverse effects on property values, tourism revenue, and recreational and commercial fishing/diving industries. Others raised concerns that the jobs created by the Project will not be high paying or would mostly benefit workers outside of New Jersey and the U.S.</p>
<p>Response: BOEM acknowledges the opposition to the Project based on these concerns. Information on Project costs is proprietary and therefore is not disclosed in the Ocean Wind 1 COP or reported in the EIS. Refer to Section 3.11, <i>Demographics, Employment, and Economics</i>, for analysis of the Project's effects on employment and economics. Refer to Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, for analysis of potential impacts on commercial fishing revenue and jobs.</p>
<p>Submission IDs contributing to comment summary: 0011-0006; 0390-0023; 0471-0001; 0487-0001; 0633-0005; 0661-0001; 0664-0001; 0691-0004; 0717-0002; 0962-0005; 0981-0001; 1086-0018; 1112-0006; 1193-0002; 1259-0127; TRANS-0060-0001; TRANS-0077-0001; 0984-0018d</p>
<p>Comment Summary 4: Several commenters felt that the economic impacts of the Project were not clearly communicated to the public, including the cost of the Project, the economic impacts on residents, and how the money from leases will be utilized.</p>
<p>Response: Thank you for your comment. Refer to Section 3.11, <i>Demographics, Employment, and Economics</i>, for analysis of the Project's effects on employment and economics. Refer to Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, for analysis of potential impacts on commercial fishing revenue and jobs. Information on Project costs is proprietary and therefore is not disclosed in the Ocean Wind 1 COP or reported in the EIS.</p> <p>With respect to lease revenue from development of resources on the OCS, these funds are distributed to the U.S. Treasury to fund operations of the federal government and to several different programs that protect historic places and recreation opportunities. Additional information is available on BOEM's website: https://www.boem.gov/oil-gas-energy/energy-economics/revenue-sharing.</p>
<p>Submission IDs contributing to comment summary: TRANS-0083-0001; TRANS-0041-0009; 0175-0013; 0658-0005; 0984-0018a; 1071-0016, 1275-0015; TRANS-0069-0006</p>

O.7.11 Environmental Justice

Table O.7-9 General Comments on Environmental Justice

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters noted the varied and wide-ranging adverse health effects caused by air pollution, the disproportionate burden that people of color experience related to air pollution, and the substantial public health benefits associated with transitioning to clean energy, particularly in communities that have been historically overburdened by pollution. A commenter noted that offshore wind can help bring much-needed equity by replacing fossil fuel plants often in or near communities of color and by alleviating health risks and other inequities in environmental justice communities near generation facilities and exceptionally dirty peaker plants. One commenter asked whether utility costs would increase if the Project were completed and whether cost increases would disproportionately affect minorities, the elderly, and people on fixed incomes.</p> <p>One commenter noted that New Jersey's offshore wind goals create opportunities for growing a domestic clean energy workforce and bringing economic development jobs and opportunities to vulnerable communities through workforce training opportunities for small women-owned and minority-owned businesses, and programs for historically disinvested communities. The goals also prioritize workforce development benefits for environmental justice communities that include highlighting economic development plans that emphasize diversity and include initiatives to support environmental justice communities through job grants training programs.</p>

General Comment Summaries and Responses
<p>Response: Thank you for your comment. EIS Section 3.4, <i>Air Quality</i>, estimates annual avoided emissions and the potential health benefits of avoided emissions associated with the Proposed Action alone and with installing a cumulative 36 GW of offshore wind power under the planned activities scenario. EIS Section 3.12, <i>Environmental Justice</i>, estimates that annual avoided health effects would range from \$213 to \$539 million dollars in health benefits and 21 to 48 avoided mortality cases (Section 3.4, Table 3.4-5). Environmental justice populations are disproportionately affected by emissions from fossil-fueled power plants nationwide and by higher levels of air pollutants. Therefore, the Proposed Action could benefit environmental justice populations by displacing fossil fuel power-generating capacity. EIS Section 3.11, <i>Demographics, Employment, and Economics</i>, describes the anticipated economic benefits of the Project, including increased direct and indirect spending and employment.</p>
<p>Submission IDs contributing to comment summary: 0023-0001; 0062-0003; 0138-0004; 0984-0019; 0984-0035; 1015-0005; 1258-0088; 1275-0013; TRANS-0054-0001; TRANS-0078-0002</p>

O.7.12 Finfish, Invertebrates, and Essential Fish Habitat

Table O.7-10 General Comments on Finfish, Invertebrates, and Essential Fish Habitat

General Comment Summaries and Responses
<p>Comment Summary 1: Several comments noted the potential benefits of introducing structures such as WTGs into the ocean, as they provide an artificial reef system for marine life.</p>
<p>Response: Thank you for your comment. EIS Section 3.13 acknowledges that new structures could have beneficial effects on finfish and invertebrate species through the creation of artificial reefs, which would provide potential feeding grounds and areas of protection from predators.</p>
<p>Submission IDs contributing to comment summary: 0095-0001; TRANS-0030-0002</p>
<p>Comment Summary 2: A commenter noted that EMF generated by transmission cables could have effects on the behavior or physiology of species such as sharks and rays that use electro reception for detecting prey or conspecifics.</p>
<p>Response: EIS Section 3.13 includes an evaluation of the effects of transmission cable operation on finfish and invertebrates and concludes that, due to the small footprint of existing undersea transmission lines within the benthic geographic analysis area and the fact that EMF decreases rapidly with distance from the cable, impacts from EMF would be minor.</p>
<p>Submission ID contributing to comment summary: 0390-0018</p>
<p>Comment Summary 3: A commenter requested additional analysis of the potential impacts of sea floor cables on horseshoe crab migration and activity.</p>
<p>Response: An analysis of potential impacts on horseshoe crab is presented in the EFH Assessment, which concludes that impacts associated with dredging would be either short term, limited in spatial extent, or insignificant to the success of the species.</p>
<p>Submission IDs contributing to comment summary: TRANS-0079-0001</p>

O.7.13 Land Use and Coastal Infrastructure

Table O.7-11 General Comments on Land Use and Coastal Infrastructure

General Comment Summaries and Responses	
Comment Summary 1: One commenter urged BOEM to require offshore wind power developers to carefully consider the locations they choose for bringing power cables on land to connect to the grid. Specifically, the commenter recommended the routing of cables and connection infrastructure through locations zoned for industrial use to minimize disruption to residential and commercial properties on the Jersey shore.	
Response: Comment noted. Multiple landfall locations are being considered as part of the Project to minimize disruption to residents and minimize impacts on the onshore environment.	
Submission IDs contributing to comment summary: 0138-0001	
Comment Summary 2: A commenter expressed support for the Project because it would replace nuclear and coal power plants that are destroying Barnegat Bay and Egg Harbor Bay.	
Response: Comment noted. Thank you for your comment.	
Submission IDs contributing to comment summary: TRANS-0084-0002	
Comment Summary 3: A commenter asserted that the use of taxpayer and ratepayers' financial contributions for port utilization and expansion to accommodate the development of offshore wind violates the Executive Order.	
Response: Comment noted. Thank you for your comment.	
Submission IDs contributing to comment summary: 0984-0081	
Comment Summary 4: Several comments advocated for a coordinated efficient grid constructed between turbines and the shore with turbines being with a minimum of cables that is as safe as possible. Commenters also expressed that local communities where cables come on shore should have a say in that process as well as direct benefits.	
Response: Comment noted. Thank you for your comment.	
Submission IDs contributing to comment summary: 1258-0004; 1258-0009; 1258-0014; 1258-0021; 1258-0028; 1258-0035; 1258-0042; 1258-0049; 1258-0057; 1258-0064; 1258-0071; 1258-0078; 1258-0083	

O.7.14 Marine Mammals

Table O.7-12 General Comments on Marine Mammals

General Comment Summaries and Responses
<p>Comment Summary 1: Numerous comments raised general concerns regarding adverse effects on marine mammals due to the Proposed Action. Specifically, concerns were raised that the Project would affect migration pathways and breeding grounds for whales (including the NARW) and would increase the potential for vessel strike of marine mammals due to corralling in shipping lanes. Concerns were also raised regarding construction noise impacts (e.g., associated with pile driving) and operational noise impacts on marine mammals and their ability to communicate.</p> <p>Several comments provided background information regarding marine mammal species in the vicinity of the Lease Area. Other comments reported the large number of incidental harassment authorizations that have already been issued for offshore wind projects and for Ocean Wind 1 specifically.</p> <p>Several comments asserted that effects on marine mammals are not fully understood and that additional analysis is necessary to minimize impacts. Other comments recommended consideration of all potential mitigation measures, including bubble curtains, installation of turbine foundations during the off-season, and consultation between BOEM and organizations such as the National Wildlife Foundation to minimize impacts on marine mammals. One commenter urged BOEM to select an option that minimizes noise impacts on marine mammals during construction and O&M.</p>
<p>Response: Draft EIS Section 3.15, <i>Marine Mammals</i>, discusses potential impacts on marine mammals from the Proposed Action, alternatives, and ongoing and planned activities in the geographic analysis area. BOEM addressed impacts on marine mammals through the following IPFs: traffic (vessel strikes), gear utilization, noise, accidental releases and discharges, EMF, presence of structures, cable emplacement and maintenance, port utilization, lighting, and climate change. These IPFs address the direct and indirect impacts on marine mammals. Included in the analysis for the proposed Project are APMs intended to avoid and minimize impacts on marine mammals. In addition, the EIS considers mitigation measures for training regarding marine debris, implementing a passive acoustic monitoring plan, implementing a pile-driving monitoring plan and an alternative monitoring plan for pile driving, and vehicle speed restrictions, which are described in detail at the end of Section 3.15.</p> <p>Potential effects on federally listed threatened and endangered birds are discussed at a high level in Draft EIS Section 3.15, but BOEM's BA, a document required for federal actions that may affect federally listed threatened and endangered species, provides in-depth analysis of the Project's effects on each individual species of marine mammal. BOEM continues to consult with NMFS on potential impacts on federally listed threatened and endangered marine mammals.</p>
<p>Submission IDs contributing to comment summary: 0058-0002; 0175-0009; 0210-0006; 0305-0001; 0390-0016; 0445-0001; 0634-0002; 0913-0001; 0962-0007; 0984-0102; 0984-0105; 1048-0001; 1109-0002; 1112-0001; 1193-0001; 1251-0001; 1251-0002; 1259-0006; 1259-0064; 1259-0065; 1259-0066; 1259-0074; 1259-0076; 1259-0077; 1259-0086; 1259-0087; 1278-0019; TRANS-0002-0002; TRANS-0003-0002; TRANS-0041-0004; TRANS-0041-0006; TRANS-0065-0001; TRANS-0080-0005; TRANS-0080-0006; TRANS-0089-0003</p>
<p>Comment Summary 2: Several comments noted that Ocean Wind is supporting development of a program at Stockton University that will train local individuals to be protected species observers. This program will prepare students to participate in the offshore wind industry and is important to monitoring marine mammals and ecosystem dynamics throughout the wind farm development and installation process.</p>
<p>Response: Comment noted. Refer to Final EIS Appendix H, <i>Mitigation and Monitoring</i>, for additional information regarding protected species observer training and requirements.</p>
<p>Submission IDs contributing to comment summary: 1190-0007; TRANS-0009-0001</p>

O.7.15 Navigation and Vessel Traffic

Table O.7-13 General Comments on Navigation and Vessel Traffic

General Comment Summaries and Responses	
Comment Summary 1: Commenters expressed concern regarding the impact that turbine interference will have on radar and marine navigation.	
Response: This topic is covered in depth in Appendix M of the COP (NSRA) and in EIS Section 3.17, <i>Other Uses (Marine Minerals, Military Use, Aviation)</i> . Current studies indicate that the effects on marine radar, communications, and positioning systems are minor.	
Submission IDs contributing to comment summary: TRANS-0003-0008; TRANS-0068-0005; 0175-0010	
Comment Summary 2: A commenter expressed concerns of future restrictions on anglers with regard to the WTGs.	
Response: This topic is covered in depth in Section 2.34 of the COP, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> . Ocean Wind conducted visits to various fishing interests involved in the area of the Project. Forty-seven interviews were held with commercial and recreational fishers between July 2019 and January 2020. From those interviews it was determined that there is very little commercial fishing taking place in the Lease Area. A majority of commercial fishing that does occur in the Project vicinity includes squid and groundfish trawls, conch and lobster pots, and clam and scallop dredging; therefore, there is no foreseeable need for additional regulations.	
Submission IDs contributing to comment summary: 0488-0001	
Comment Summary 3: A commenter expressed concern over the authorities of BOEM and USCG with shipping lanes versus transit lanes as presented as a buffer zone between the Atlantic Shores and Ocean Wind 1 projects.	
Response: Subsequent to publication of the Draft EIS, Ocean Wind submitted an updated COP incorporating an array layout compression scenario analyzed under Alternative C-2, Wind Turbine Layout Modification to Establish a Buffer Between Ocean Wind 1 and Atlantic Shores South. This array layout compression scenario, depicted on Figure 2-9 of the Draft EIS, would modify the WTG array layout by compressing the WTG array layout to create a 0.81-nm buffer. The Final EIS notes that a Memorandum of Understanding has been executed between Ocean Wind and Atlantic Shores, LLC for this compressed array layout scenario. There is no mention of either a transit zone or a shipping lane.	
Submission IDs contributing to comment summary: 0984-0023	
Comment Summary 4: A commenter expressed concern over the probability of increased vessel collisions.	
Response: Appendix M of the COP is the NSRA that was conducted for this Project. As part of the risk analysis, extensive modeling was done based on the anticipated increase in marine traffic and it was determined that the modeled risk increase is 0.40 accident per year, 72 percent of which are groundings, primarily of pleasure vessels. The NSRA did not identify any major areas of concern regarding the impact on marine navigation. Additional information about the NSRA is in Section 3.16.5. Details about the NSRA development and conformance with USCG guidelines for key areas of inquiry such as vessel traffic and assessment of navigation within or close to Project structures are in Appendix F of the NSRA.	
Submission IDs contributing to comment summary: 1278-0018	

O.7.16 Other Uses (Marine Minerals, Military Use, Aviation)

There were no general comments coded to other uses.

O.7.17 Recreation and Tourism

Table O.7-14 General Comments on Recreation and Tourism

General Comment Summaries and Responses	
Comment Summary 1: Commenters expressed concern that the presence of the WTGs would cause a decrease in vacation rentals in the region, as vacationers would choose beaches without an “industrial landscape” when choosing a vacation rental location.	
Response: Thank you for your comment. Additional information on the potential impacts of the Proposed Action on the vacation rental market was added to the Final EIS.	
Submission IDs contributing to comment summary: 1048-0005; 1112-0005	
Comment Summary 2: Commenters expressed both general concern with how the presence of WTGs would negatively affect fishing and support for the additional fishing opportunities the WTGs would create through the reef effects.	
Response: Thank you for your comment. As described in Section 3.18.5, <i>Impacts of the Proposed Action on Recreation and Tourism</i> , the presence of WTGs is expected to have both negative impacts, where offshore recreational anglers may not feel comfortable navigating within the wind farm, and positive impacts through the creation of artificial reefs, which would attract fish. Onshore anglers are not anticipated to be affected by Project infrastructure.	
Submission IDs contributing to comment summary: 0660-0001; TRANS-0031-0002	
Comment Summary 3: Commenters expressed concerns that the presence of the WTGs and potential visual impacts would cause a decrease in tourism, as they state visitors would choose beaches without WTGs. They indicate that a decrease in tourism would have lasting effects on local economies.	
Response: Thank you for your comment. Additional information was added to the Final EIS about the economic impacts of a potential decrease in tourism. Further information on potential visual impacts can be found in Section 3.20, <i>Scenic and Visual Resources</i> .	
Submission IDs contributing to comment summary: 0390-0004; 0633-0003; 0635-0002; 0636-0002; TRANS-0080-0003	
Comment Summary 4: A commenter expressed support for the increased tourism opportunities they feel the Project would create, such as tours of the WTGs.	
Response: Thank you for your comment.	
Submission IDs contributing to comment summary: 1230-0004	
Comment Summary 5: Several comments believe the potential visual impacts associated with the Project would not have an effect on tourism. Some commenters pointed to the fact there are already industrial structures that can be seen from the shore.	
Response: Thank you for your comment.	
Submission IDs contributing to comment summary: 0157-0002; 0212-0001; 0212-0004	
Comment Summary 6: Several commenters provided thoughts on how the visual impacts of the Project would negatively and positively affect real estate prices and property values.	
Response: Thank you for your comment. Additional information on the potential impacts of the Proposed Action on the vacation rental market was added to the Final EIS. Further information on economic impacts associated with the Project can be found in Section 3.11, <i>Demographics, Employment, and Economics</i> .	
Submission IDs contributing to comment summary: 0212-0005; 0652-0003; 0660-0002	
Comment Summary 7: Several commenters expressed general disapproval of the Project because of potential impacts on recreation and tourism.	
Response: Thank you for your comment. Detailed information on the potential impacts of the Project on recreation and tourism can be found in Section 3.18, <i>Recreation and Tourism</i> .	

General Comment Summaries and Responses
Submission IDs contributing to comment summary: 0656-0001; 0658-0006; TRANS-0080-0010
Comment Summary 8: A commenter expressed concern that the sound waves from the WTGs would lead to an increase in shark attacks, which would affect recreation and tourism on the Jersey Shore.
Response: Thank you for your comment. An increase in shark attacks is not expected as a result of the Project and was not analyzed in detail in Section 3.18, <i>Recreation and Tourism</i> . Further information on the impacts on marine species can be found in Section 3.15, <i>Marine Mammals</i> , and Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> .
Submission IDs contributing to comment summary: TRANS-0016-0001

O.7.18 Sea Turtles

There were no general comments coded to sea turtles.

O.7.19 Scenic and Visual Resources

Table O.7-15 General Comments on Scenic and Visual Resources

General Comment Summaries and Responses
Comment Summary 1: Several commenters expressed opposition to the Project due to impacts on visual quality and urged BOEM to move the Project farther offshore so that nothing is visible from shore. Commenters offered a range from 17 miles offshore to 50 miles offshore as the appropriate distance to reduce visual impacts. Their primary concern is that having WTGs within view will destroy the pristine vista, ruin sunrises and sunsets, and have a detrimental impact on housing values and tourism. Some also expressed concern about the lighting at night affecting the view of the stars and posing a risk of seizure.
Response: Thank you for your comment. Alternatives raised during scoping that would relocate the Project outside Lease Area OCS-A 0498 would not meet BOEM's purpose and need as explained in EIS Section 2.1.7, <i>Alternatives Considered but not Analyzed in Detail</i> (Table 2-3). The visibility of the WTGs from coastal areas would be variable depending on meteorological, moonlight, and sunlight conditions. In views seaward from the shoreline there will be periods of high, moderate, low, and no visibility. Section 3.20 of the Final EIS has been updated to include the results of a Capital Airspace Group analysis that estimated ADLS-controlled obstruction lights would be activated for 1 hour 19 minutes and 17 seconds over a 1-year period based on historical air traffic data.
Submission IDs contributing to comment summary: 0018-0001; 0047-0003; 0135-0002; 0135-0003; 0390-0002; 0390-0006; 0489-0001; 0623-0001; 0633-0002; 0637-0001; 0641-0002; 0667-0001; 0668-0001; 0669-0001; 0671-0001; 0672-0001; 0673-0001; 0674-0001; 0678-0001; 0679-0001; 0681-0001; 0682-0001; 0688-0001; 0690-0001; 0691-0001; 0693-0001; 0701-0001; 0703-0001; 0704-0001; 0705-0001; 0706-0001; 0707-0001; 0709-0001; 0713-0001; 0715-0001; 0717-0001; 0719-0001; 0720-0001; 0732-0001; 0735-0001; 0750-0001; 0761-0001; 0849-0001; 0935-0001; 0945-0001; 0973-0001; 0978-0001; 0985-0001; 0992-0001; 1048-0004; 1071-0017; 1071-0019; 1111-0001; 1112-0004; 1117-0001; 1182-0001; 1236-0001; 1255-0001; TRANS-0067-0001; TRANS-0075-0002
Comment Summary 2: Some commenters are of the opinion that the visual impact will be minimal and any impact on visual quality is acceptable in order to make progress toward renewable energy. Some stated that the lights used on the WTGs at night would only be visible to boats and airplanes but not to people onshore. Other commenters claimed that being able to see the WTGs would not be any worse than seeing the shipping barges that frequent the horizon.

General Comment Summaries and Responses
<p>Response: Thank you for your comment. EIS Section 3.20 concludes that the visibility of the WTGs from coastal areas would be variable depending on meteorological, moonlight, and sunlight conditions. In views seaward from the shoreline there will be periods of high, moderate, low, and no visibility. Section 3.20 of the Final EIS has been updated to include the results of a Capital Airspace Group analysis that estimated ADLS-controlled obstruction lights would be activated for 1 hour 19 minutes and 17 seconds over a 1-year period based on historical air traffic data. BOEM expects that viewer experience from offshore and onshore KOPs would range from negligible to major (Section 3.20, Table 3.20-12).</p>
<p>Submission IDs contributing to comment summary: 0058-0004; 0063-0003; 0139-0005; 0432-0003; 0694-0001; 1230-0004; 1280-0003</p>

O.7.20 Water Quality

Table O.7-16 General Comments on Water Quality

General Comment Summaries and Responses
<p>Comment Summary 1: Three comments generally expressed concern with impacts on Barnegat Bay, Tuckahoe River, Tuckahoe Wildlife Management Area, and the Oyster Creek Nuclear Power Plant Station. These comments do not raise any specific concern regarding the conclusions or adequacy of the Draft EIS.</p>
<p>Response: Existing conditions of Barnegat Bay and potential impacts on water quality throughout the life of the Project (including Barnegat Bay) are addressed in Draft EIS Section 3.21, <i>Water Quality</i>. No part of the proposed Project is sited within the Tuckahoe Wildlife Management Area or the Tuckahoe River. No part of the Project is sited on the former location of the Oyster Creek Nuclear Power Plant. The interconnection and substation would be sited across the river from the plant in previously disturbed areas. If BOEM approves the Project, Ocean Wind would need to obtain the applicable New Jersey Pollutant Discharge Elimination System permits to ensure water quality standards are not exceeded during construction and operations.</p>
<p>Submission IDs contributing to comment summary: 1192-0018; 1192-0026; 1259-0100</p>

O.7.21 Wetlands

Table O.7-17 General Comments on Wetlands

General Comment Summaries and Responses
<p>Comment Summary 1: Three comments expressed general concern with potential impacts on wetlands. These comments do not raise any specific concern regarding the conclusions or adequacy of the Draft EIS.</p>
<p>Response: Draft EIS Section 3.22, <i>Wetlands</i>, addresses potential wetland impacts from construction, O&M, and decommissioning of the proposed Project.</p>
<p>Submission IDs contributing to comment summary: 0533-0004; 1278-0001; TRANS-0003-0006</p>

O.7.22 Mitigation and Monitoring

Table O.7-18 General Comments on Mitigation and Monitoring

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters requested that onshore impacts associated with HDD specifically, and that impacts of Project construction and operation generally, be monitored and mitigated to reduce impacts and that responsibility for mitigation should be transferable and financially supported. Commenters also requested clarification of specific mitigation proposed and who is responsible for net loss of resources, and how claims would be managed in the event of damage to natural resources or private property.</p>
<p>Response: Thank you for your comment. Appendix H identifies all specific mitigation proposed for the Project, the anticipated enforcing agency for each proposed measure, and reporting requirements where applicable.</p>
<p>Submission IDs contributing to comment summary: 0984-0039; TRANS-0078-0003; 1275-0017; 1275-0016; 1087-0004</p>

O.7.23 Planned Activities Scenario/Cumulative Impacts

Table O.7-19 General Comments on the Planned Activities Scenario/Cumulative Impacts

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters suggested that BOEM should consider the foreseeable impacts of onshore clean energy development and the benefits that onshore clean energy development would have for combating climate change, or that the benefits of offshore wind for combating climate change would not be great enough to offset the risks. Commenters stated that the cumulative impacts of multiple offshore wind projects would be significant and irreversible and that the impacts of mining rare-earth minerals outside the United States would also be significant. Commenters stated that specialized vessels that meet the requirements of the Jones Act could not be contracted and built within proposed timeframes, which will put pressure on the supply chain, and that other economic or environmental constraints would make offshore wind development infeasible. Commenters raised concerns that offshore wind would be less reliable and more expensive compared to other sources of electricity generation. Commenters stated that projects should not be analyzed as stand-alone projects but as a whole over a larger area, including the cumulative impacts of 25 different offshore wind projects.</p>
<p>Response: Thank you for the comment. The Ocean Wind 1 EIS analyzes the impact of the Proposed Action and action alternatives in combination with other ongoing and planned activities (including other non-offshore wind and offshore-wind activities) as described Appendix F, <i>Planned Activities Scenario</i>. All ongoing and planned offshore wind projects described in Appendix F are understood to be technically feasible and the details of each ongoing or planned project used to develop the cumulative scenario are outlined in Appendix F, Attachment 2, <i>Maximum-case Scenario Estimates for Offshore Wind Projects</i>. These estimates were used to quantify aspects of project design that would contribute to cumulative impacts such as WTG and OSS count; volume of fuel, oil, lubricants, and coolants associated with WTGs and OSS; acreage of cable or scour protection; and acreage of seafloor disturbance associated with cable emplacement and anchoring. The Final EIS presents a complete description and analysis of impacts from ongoing activities and trends (i.e., No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives. A comparative analysis of costs and reliability of offshore wind compared to other sources of energy generation is outside the scope of this EIS.</p>

General Comment Summaries and Responses
Submission IDs contributing to comment summary: 0007-0002; 0018-0003; 0047-0006; 0965-0002; 0984 (multiple); 1012-0002; 1086-0022; 1110-0001; 1012-0002; 1193-0003; 1271-0001; 1272-0004; TRANS-0081-0004; TRANS-0103-0002

O.7.24 National Environmental Policy Act/Public Involvement Process

Table O.7-20 General Comments on the National Environmental Policy Act/Public Involvement Process

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters requested that BOEM extend the comment period for the Draft EIS. These requests varied in duration, with the majority of commenters requesting an additional 60 days, some requesting at least 3 months, and a few commenters requesting 6 months. Commenters attested that 45 days was not long enough to review an EIS this large and complex and provide meaningful feedback. Several commenters indicated that the summer was not an appropriate time to have this review period, as many people are not available to comment and organizations do not meet over the summer. Some commenters claimed that the EIS was incomplete and had too many references to other studies not provided that would require additional time to collect and review. A small number of commenters indicated a comment period extension was necessary because COVID-19 limited public engagement.</p> <p>Commenters also indicated that the comment period for the Ocean Wind 1 Draft EIS overlapping with the review period for other projects such as a fishery mitigation plan and the newly announced New York Bight Programmatic EIS was extremely overwhelming and made it difficult to provide meaningful comments. Overall, commenters were concerned that this Project is being fast tracked and the public has not received sufficient time to review and provide comment.</p>
<p>Response: BOEM, in its role as NEPA lead agency, circulated the Draft EIS consistent with the CEQ's NEPA Implementing Regulations, which state that "agencies shall allow at least 45 days for comments on draft statements" (40 CFR 1506.11). The Draft EIS was originally made available for review and comment for 45 days beginning June 24, 2022, and ending August 8, 2022. In response to interested party requests, BOEM announced on August 5, 2022, the extension of the comment period by 15 days to end on August 23, 2022. The time provided, including the 15-day comment period extension, was a total of 60 days and was sufficient for the public to review and provide comments on the Draft EIS.</p> <p>The efficiency of the NEPA process is dependent on completing the analysis and making the document available to the public in a timely manner. As described in the NEPA regulations, an agency should commence preparation of an EIS as close as practicable to the time the agency received a proposal so that the Final EIS can contribute to the decision-making process (40 CFR 1502.5). It would not be feasible for BOEM to delay the analysis or the EIS to avoid having a comment period over the summer months or coinciding with nearby projects.</p>
<p>Submission IDs contributing to comment summary: 0007-0004; 0007-0007; 0007-0014; 0009-0001; 0010-0001; 0013-0001; 0016-0001; 0283-0001; 0487-0004; 0487-0006; 0948-0001; 1241-0001; 1259-0004; 1259-0017; 1275-0001; 1281-0001; TRANS-0001-0001; TRANS-0002-0007; TRANS-0002-0008; TRANS-0003-0001; TRANS-0003-0009; TRANS-0004-0006; TRANS-0025-0001; ; TRANS-0026-0007; TRANS-0038-0002; TRANS-0040-0001; TRANS-0041-0007; TRANS-0041-0011; TRANS-0042-0001; TRANS-0042-0004; TRANS-0042-0006; TRANS-0069-0007; TRANS-0075-0006; TRANS-0081-0001; TRANS-0095-0003; TRANS-0097-0001; TRANS-0102-0001; TRANS-0103-0001</p>

O.7.25 Accidental Releases

Table O.7-21 General Comments on Accidental Releases

General Comment Summaries and Responses
Comment Summary 1: Several commenters were generally concerned that the WTGs run on hydraulic fluid and oil and this poses a risk of spills or leaks, especially during hurricanes and storms.
Response: EIS Section 2.2, <i>Non-Routine Activities and Events</i> , identifies severe weather and storm events as potential non-routine activities and events that could occur during construction and installation, O&M, or decommissioning of the Ocean Wind 1 Project. See EIS Section 3.21, <i>Water Quality</i> , for analysis of potential impacts associated with accidental release of fuel, oil, lubricants, and coolants contained in WTGs and OSS.
Submission IDs contributing to comment summary: 0210-0008; 1048-0003; 1112-0003; 1258-0054; TRANS-0075-0001

O.7.26 General Support or Opposition

Table O.7-22 Comments Reflecting General Support or Opposition

General Comment Summaries and Responses
Comment Summary 1: Many commenters expressed support for the Project, indicating that it is a step in the right direction to meeting the current and future energy demands of both the state and the country. Commenters stated that offshore wind, and this Project specifically, will help combat global climate change, which is wreaking havoc on the East Coast. Several commenters felt that the benefits of this Project far outweigh any negative impacts and, for this reason, BOEM should not select the No Action Alternative. Several commenters indicated that the aesthetic impacts are not a reason to reject the Project and some commenters claim the offshore wind farms are beautiful. Others indicated that while they understand the concern for wildlife, climate change poses a larger threat to wildlife that projects like this will help reduce.
Response: Thank you for your comment. BOEM acknowledges your support for the Project.
Submission IDs contributing to comment summary: 0005-0001; 0006-0001; 0003-0005; 0003-0006; 0008-0001; 0014-0001; 0015-0001; 0017-0001; 0024-0002; 0024-0003; 0033-0001; 0034-0001; 0035-0001; 0049-0001; 0050-0001; 0053-0001; 0055-0002; 0056-0001; 0057-0001; 0059-0004; 0061-0001; 0063-0001; 0063-0004; 0064-0001; 0065-0001; 0066-0001; 0067-0001; 0068-0001; 0069-0001; 0070-0001; 0071-0001; 0072-0001; 0073-0001; 0074-0001; 0075-0001; 0076-0001; 0077-0001; 0078-0001; 0079-0001; 0081-0001; 0082-0001; 0083-0001; 0084-0001; 0086-0001; 0087-0001; 0089-0001; 0090-0002; 0091-0001; 0093-0001; 0096-0001; 0097-0001; 0097-0002; 0098-0002; 0101-0002; 0110-0001; 0110-0002; 0113-0001; 0115-0001; 0116-0001; -0117-0001; 0118-0001; 0119-0001; 0121-0001; 0124-0001; 0125-0001; 0126-0001; 0128-0001; 0129-0001; 0130-0001; 0131-0001; 0132-0001; 0134-0001; 0136-0001; 0138-0002; 0138-0005; 0146-0001; 0157-0001; 0174-0001; 0176-0001; 0177-0001; 0180-0001; 0182-0001; 0183-0001; 1186-0001; 0194-0001; 0201-0001; 0207-0001; 0208-0001; 0209-0001; 0211-0001; 0212-0007; 0213-0001; 0223-0001; 0242-0001; 0254-0001; 0259-0001; 0282-0001; 0284-0001; 0284-0002; 0284-0003; 0284-0005; 0294-0001; 0298-0001; 0300-0001; 0307-0001; 0307-0002; 0307-0003; 0307-0004; 0314-0001; 0315-0001; 0326-0001; 0335-0001; 0372-0001; 0374-0001; 0427-0001; 0428-0001; 0430-0001; 0432-0001; 0435-0001; 0437-0001; 0438-0001; 0439-0001; 0443-0001; 0446-0001; 0458-0001; 0480-0001; 0488-0003; 0512-0001; 0518-0001; 0532-0001; 0533-0001; 0533-0002; 0533-0005; 0565-0001; 0571-0001; 0577-0001; 0590-0001; 0592-0001; 0593-0001; 0598-0003; 0606-0001; 0617-0001; 0619-0001; 0641-0001; 0642-0001; 0654-0001; 0698-0001; 0740-0001; 0751-0001; 0907-0001; 0924-0001; 0939-0001; 0939-0003; 0950-0004; 0951-0002; 0951-0003; 0980-0002; 0991-0001; 1015-0001; 1040-0001; 1040-0007; 1087-0005; 1125-0001; 1125-0014; 1154-0001; 1157-0001; 1157-0002; 1158-0001; 1173-0001; 1184-0001; 1186-0001; 1186-0002; 1190-0001; 1228-0002; 1230-0002; 1230-0005; 1246-0001; 1247-0001; 1247-0006; 1258-0025; 1264-0001; 1264-0002;

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<p>1266-0002; 1266-0004; 1268-0001; 1277-0001; 1280-0001; 1280-0002; TRANS-0007-0001; TRANS-0007-0005; TRANS-0008-0002; TRANS-0008-0003; TRANS-0011-0001; TRANS-0011-0004; TRANS-0012-0001; TRANS-0012-0004; TRANS-0013-0001; TRANS-0013-0002; TRANS-0013-0003; TRANS-0014-0002; TRANS-0014-0003; TRANS-0015-0001; TRANS-0015-0002; TRANS-0015-0005; TRANS-0015-0006; TRANS-0017-0001; TRANS-0019-0001; TRANS-0019-0003; TRANS-0020-0001; TRANS-0021-0001; TRANS-0022-0001; TRANS-0023-0001; TRANS-0023-0003; TRANS-0024-0001; TRANS-0028-0001; TRANS-0028-0005; TRANS-0028-0006; TRANS-0030-0001; TRANS-0030-0004; TRANS-0031-0003; TRANS-0032-0001; TRANS-0034-0001; TRANS-0035-0001; TRANS-0037-0001; TRANS-0037-0003; TRANS-0037-0004; TRANS-0039-0001; TRANS-0043-0001; TRANS-0045-0001; TRANS-0045-0002; TRANS-0063-0001; TRANS-0064-0001; TRANS-0071-0002; TRANS-0076-0003; TRANS-0082-0002; TRANS-0084-0004; TRANS-0087-0004; TRANS-0088-0001; TRANS-0089-0004; TRANS-0092-0003; TRANS-0096-0001; TRANS-0098-0001; TRANS-0099-0001; TRANS-0100-0001; TRANS-0101-0001; TRANS-0104-0001; TRANS-0105-0001; TRANS-0106-0001</p>
<p>Comment Summary 2: Several commenters provided general statements about the proposed Project such as the capacity or the location of the Lease Area, provided information about the commenting agency or organization, or expressed appreciation to BOEM for the opportunity to provide comments on the Project.</p>
<p>Response: Thank you for your comments.</p>
<p>Submission IDs contributing to comment summary: 1119-0004; 1203-0001; 1207-0008; 1222-0001; 1243-0002; 1248-0001; 1259-0050; 1259-0079; TRANS-0005-0001</p>
<p>Comment Summary 3: Many commenters expressed opposition to the Project with general concerns for the environment, the economy, and the view. Many suggest that the visual impact from the Project would be severe and would ruin the pristine and natural beauty of the coastline. Some commenters recognize the need for renewable energy but recommend moving the Project at least 30 miles offshore where it could not be seen and would have fewer impacts on sea life; some suggest the Hudson South Call Area as an alternative location. Many are concerned that the aesthetic impacts would result in significantly reduced tourism and a decline in property values. Others worry that the impacts on commercial fishing will also drive that reduction in tourism.</p> <p>Many commenters are most concerned with the impacts on marine life including whales, birds, sea turtles, fish, dolphins, and the ocean floor. Specifically that the Project would affect migration pathways and breeding grounds for these important species.</p> <p>Some commenters claim that this Project (and offshore wind in general) would do nothing to combat climate change and is inferior to existing energy options. Some suggest the funding should instead go toward nuclear energy, natural gas, or onshore wind in other areas. A few commenters expressed concern that the electricity rates would rise to the point of making living in the area unaffordable. Some commenters are concerned about the risk of oil spills, ice on the blades during the winter, and the amount of waste generated. Others mention concerns about cables and the threat of radiation.</p> <p>Some commenters claim that many people are not aware of this Project, that it is being rushed for political gains and corporate greed, and that it is not in the public's best interest. Some commenters suggested the use of a pilot-scale project before rushing through approval of such a large-scale project. Others suggest waiting to implement technological improvements such as bladeless or floating turbines.</p> <p>Overall, many commenters opposed to the Project either do not believe that there will be any benefits for the people of New Jersey or believe that the negatives far outweigh any benefits.</p>
<p>Response: Thank you for your comments. More detailed and specific comments were provided on many of these topics and are included and addressed within those topics. BOEM acknowledges your opposition to the Project based on these general concerns.</p>
<p>Submission IDs contributing to comment summary: 0006-0001; 0011-0007; 0012-0001; 0021-0001; 0022-0001; 0047-0001; 0080-0001; 0085-0001; 0114-0001; 0123-0001; 0137-0001; 0153-0001; 0210-0004; 0210-0009; 0222-0001; 0316-0001; 0317-0001; 0325-0001; 0327-0001; 0350-0001; 0373-0001; 0375-0001; 0389-0001; 0390-0024; 0390-0026; 0391-0001; 0392-0001; 0393-0001; 0404-0001; 0426-0001; 0431-0001; 0434-0001; 0440-0001; 0441-0001; 0442-0001; 0447-0001; 0448-0001; 0449-</p>

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0001; 0462-0001; 0490-0001; 0509-0001; 0510-0001; 0511-0001; 0513-0001; 0514-0001; 0550-0001; 0562-0001; 0605-0001; 0607-0001; 0618-0001; 0620-0001; 0622-0001; 0624-0001; 0625-0001; 0626-0001; 0628-0001; 0629-0001; 0630-0001; 0631-0001; 0631-0002; 0632-0001; 0633-0001; 0634-0001; 0635-0001; 0636-0001; 0638-0001; 0639-0001; 0640-0001; 0643-0001; 0644-0001; 0645-0001; 0646-0001; 0646-0002; 0646-0003; 0652-0001; 0652-0004; 0653-0001; 0654-0001; 0655-0001; 0657-0001; 0661-0002; 0662-0001; 0663-0001; 0665-0001; 0666-0001; 0680-0001; 0689-0001; 0691-0002; 0691-0003; 0692-0001; 0693-0002; 0695-0001; 0696-0001; 0697-0001; 0699-0001; 0700-0001; 0702-0001; 0708-0001; 0710-0001; 0711-0001; 0712-0001; 0718-0001; 0722-0001; 0723-0001; 0724-0001; 0725-0001; 0726-0001; 0727-0001; 0730-0001; 0731-0001; 0733-0001; 0734-0001; 0736-0001; 0738-0001; 0739-0001; 0741-0001; 0742-0001; 0743-0001; 0744-0001; 0745-0001; 0746-0001; 0749-0001; 0752-0001; 0754-0001; 0755-0001; 0756-0001; 0757-0001; 0758-0001; 0759-0001; 0760-0001; 0762-0001; 0763-0001; 0767-0001; 0768-0001; 0833-0001; 0834-0001; 0843-0001; 0845-0001; 0896-0001; 0900-0001; 0906-0001; 0911-0001; 0912-0001; 0923-0001; 0931-0001; 0933-0001; 0936-0001; 0940-0001; 0945-0002; 0946-0001; 0947-0001; 0948-0005; 0953-0001; 0960-0001; 0961-0001; 0962-0001; 0962-0003; 0962-0009; 0962-0010; 0963-0001; 0964-0001; 0966-0001; 0968-0001; 0969-0001; 0970-0001; 0971-0001; 0972-0001; 0974-0001; 0976-0001; 0984-0050; 0984-0051; 0988-0001; 1000-0001; 1004-0001; 1008-0002; 1012-0001; 1049-0009; 1048-0011; 1071-0020; 1105-0001; 1107-0001; 1109-0001; 1109-0006; 1112-0007; 1112-0008; 1113-0001; 1114-0001; 1116-0002; 1117-0003; 1120-0001; 1121-0001; 1182-0002; 1183-0001; 1185-0001; 1189-0001; 1191-0001; 1193-0004; 1202-0002; 1205-0001; 1216-0001; 1230-0003; 1231-0001; 1232-0001; 1235-0001; 1238-0001; 1239-0001; 1240-0001; 1242-0001; 1243-0001; 1243-0006; 1244-0001; 1249-0001; 1250-0001; 1251-0004; 1253-0001; 1255-0001; 1257-0001; 1259-0001; 1262-0001; 1263-0001; 1270-0001; 1275-0006; 1278-0002; TRANS-0001-0002; TRANS-0001-0003; TRANS-0004-0002; TRANS-0026-0001; TRANS-0026-0006; TRANS-0027-0001; TRANS-0027-0002; TRANS-0038-0004; TRANS-0049-0001; TRANS-0051-0001; TRANS-0056-0001; TRANS-0070-0001; TRANS-0080-0007; TRANS-0080-0008; TRANS-0083-0001; TRANS-0084-0001

O.7.27 Other Comments

Table O.7-23 Other General Comments

General Comment Summaries and Responses
Comment Summary 1: One commenter notes that the Department of Energy has funded a program called AWAKEN that can provide critical information regarding wake to project developers.
Response: Thank you for your comment.
Submission IDs contributing to comment summary: 1267-0006
Comment Summary 2: One commenter stated that BOEM identifies wind energy area sites without consideration of their adverse environmental impacts in the original lease selection, or that the scope of the review is too limited. The commenter observed that criteria are weighted differently across offshore wind lease areas and recommends that a consistent approach be used across offshore wind lease areas.
Response: Thank you for your comment. BOEM policies related to siting offshore wind lease areas are outside the scope of the Ocean Wind 1 EIS.
Submission IDs contributing to comment summary: 1234-0001
Comment Summary 3: One commenter recommended that BOEM develop measures or metrics to quantify the four-level classification of impacts. The commenter asserts that unquantifiable impact conclusions are not acceptable.

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Response: Refer to EIS Section 3.4, <i>Definition of Impact Levels</i> , which provides an explanation of the four-level classification scheme used to characterize potential beneficial and adverse impacts of alternatives. The classification of impacts considers the quantitative and qualitative impact analysis presented in each resource section.
Submission IDs contributing to comment summary: TRANS-0079-0006

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O.8. Form Letters

O.8.1 Form Letter 1

Table O.8-1 Form Letter 1

Form Letter 1
<p>Dear Director Amanda Lefton,</p> <p>Offshore wind has the potential to drive economic recovery and stimulate coastal economies up and down the East Coast. As we begin recovering from the unprecedented social and economic impact of the COVID-19 pandemic, the approval of Ørsted's Ocean Wind 1 offshore project, developed jointly with PSEG, will help create a cleaner, greener, more sustainable New Jersey.</p> <p>I support responsibly sited offshore wind – it will not only help reduce our massive carbon footprint, but it also represents economic opportunity as well as community benefits. The Ocean Wind 1 project is a real opportunity to drive both New Jersey and the nation's clean energy future – and will contribute significantly to the state's renewable energy goals by providing enough energy to power an average of 500,000 homes annually.</p> <p>I am aware that BOEM considered 26 alternatives when preparing the Draft Environmental Impact Statement (DEIS) for the Ocean Wind 1 project and carried forward six alternatives for further review. Within those six alternatives, there is one that BOEM should not consider – No Action. The No Action alternative would result in Ocean Wind 1 not being built, thereby increasing the state's dependency on fossil fuels while decreasing the environmental benefits set forth by the project.</p> <p>Not all offshore wind farms are created equal. The Ocean Wind 1 project is the culmination of exhaustive study and analysis by scientific experts and relevant federal and state agencies, as well as extensive public consultation and collaboration with local communities. The majority of the impacts of Ocean Wind 1, as highlighted in the DEIS, are determined to have negligible, minor adverse or beneficial impacts on several resources, including air quality, birds, bats, coastal habitat/fauna, economics land use/coastal infrastructure, sea turtles and water quality.</p> <p>Ocean Wind 1 will also help New Jersey reduce its reliance on fossil fuels while providing clean and reliable energy and infrastructure enhancements to the Garden State. Responsible offshore wind development projects, like Ocean Wind 1, should be moved forward with the urgency that the climate crisis demands.</p> <p>I understand the environmental concerns that offshore wind, a new and evolving industry presents to everyone concerned with the well-being of our natural resources, both in and out of the ocean. Ongoing engagement, education and outreach combined with plans to avoid and mitigate any disturbances are part of the process and I have full confidence in the plans set forth by Ocean Wind 1 in that regard.</p> <p>Offshore wind is critical to the future of our national security, environment, and economic recovery. As New Jersey's first offshore wind farm, Ocean Wind 1 will play a critical role in helping to further establish a domestic offshore wind industry and realizing the tremendous potential environmental and economic benefits of this rapidly emerging industry, both locally and nationally. We urge BOEM to stick to its published schedule for Ocean Wind 1 and make this project a reality.</p>
<p>Response: Thank you for your comment. BOEM acknowledges your support for the Project.</p>
<p>Submission IDs Associated with Form Letter 1: 1175; 1206; 1206; 1002; 0507; 0899; 1050; 0846; 0993; 0482; 0465; 0160; 0217; 0851; 1057; 0925; 0852; 0559; 0589; 1091; 0166; 1021; 1039; 0811; 0977; 1142; 0780; 1055; 1167; 0567; 0887; 0178; 0919; 0478; 1161; 0502; 0891; 0835; 0231; 0903; 0829; 0525; 0039; 1171; 0804; 0556; 0515; 0046; 0615; 0293; 0169; 1213; 0793; 0897; 0569; 0548; 0280; 0419; 0539; 1134; 0473; 0469; 0333; 0287; 1104; 1145; 1092; 0403; 0409; 0496; 1072; 1062; 0225; 0286; 1165; 0043; 0876; 1215; 0854; 0531; 0148; 1180; 0820; 0856; 0149; 0161; 0800; 0774; 0319; 0574; 0584; 1060; 0235; 1044; 0227; 0902; 0037; 1103; 1223; 0530; 1027; 0204; 0568; 0299; 1140; 0461; 0595; 0262; 1023; 0381; 0842; 0886; 0151; 0203; 0396; 0942; 0249; 0806; 1077; 0239; 0918; 0278; 0881; 0890; 0255; 0551; 0537; 0813; 1132; 0041; 0872; 1025; 0228; 0786; 0956; 1009;</p>

Form Letter 1
0196; 0466; 0499; 0602; 1035; 1143; 0369; 0807; 1047; 0309; 0799; 0179; 0791; 0243; 1201; 0819; 0850; 1036; 0354; 0894; 0216; 0839; 0824; 1225; 0650; 0877; 0343; 0916; 0895; 1014; 0958; 0844; 0245; 0328; 1019; 0346; 0281; 0888; 0771; 0587; 0504; 0898; 0564; 1079; 0823; 1147; 1003; 0193; 0848; 0363; 0994; 0416; 0045; 0397; 0838; 0420; 0401; 0425; 1210; 0323; 0032; 0105; 0357; 0027; 0261; 0904; 1137; 0576; 1172; 1199; 0218; 0616; 0205; 1220; 0359; 0486; 1214; 0832; 0479; 0544; 0410; 0516; 0929; 0215; 0360; 1010; 0312; 1174; 1026; 0841; 1151; 0395; 1081; 0581; 0453; 0769; 0467; 1096; 0892; 0508; 0921; 0030; 0840; 1200; 1033; 0938; 0221; 0275; 0836; 0181; 0818; 1131; 0555; 1122; 0463; 0459; 0258; 0585; 1084; 1089; 1056; 0273; 1016; 1163; 0292; 0109; 0538; 0296; 1017; 0591; 0361; 0266; 0268; 0269; 0790; 1136; 0493; 0557; 1090; 0311; 0322; 0505; 0558; 0519; 1204; 1146; 1141; 0251; 0930; 0614; 0573; 0156; 0382; 0859; 0026; 0384; 0566; 0540; 0795; 0451; 0366; 1170; 0611; 0575; 0171; 0867; 0417; 0265; 0408; 0601; 1224; 0423; 0541; 0165; 0875; 0545; 0185; 0040; 1135; 1095; 0042; 0301; 0772; 0422; 1061; 0186; 1162; 0547; 0825; 0339; 0779; 0477; 1042; 0594; 0162; 1227; 1153; 1058; 1052; 0297; 0909; 1088; 0028; 0414; 0385; 1067; 0523; 0861; 0290; 0815; 0485; 0521; 0847; 0784; 0163; 0802; 0647; 0803; 0684; 0483; 1006; 1155; 0364; 0452; 0199; 1022; 1049; 0472; 0344; 0295; 0579; 0353; 0808; 1097; 0206; 0610; 0189; 0857; 0787; 0308; 0274; 0418; 0492; 1045; 0549; 0905; 1001; 0302; 0686; 0248; 1102; 1126; 0276; 0340; 0883; 0934; 0817; 0170; 1099; 0915; 0455; 0863; 0869; 0464; 0237; 0411; 0190; 0405; 0356; 0370; 0868; 0164; 0831; 0155; 0926; 0159; 1148; 1032; 1160; 0415; 0777; 0957; 0526; 1229; 0412; 1034; 0613; 1093; 0770; 0893; 0600; 0154; 0214; 0996; 0195; 1051; 0983; 1130; 1133; 0685; 0497; 0828; 0378; 0495; 0865; 0233; 0234; 1024; 0873; 0648; 0224; 1070; 1018; 0272; 0855; 0860; 1219; 0805; 0460; 1031; 0184; 0553; 1098; 0603; 1043; 0954; 0498; 1211; 0330; 0345; 0812; 0400; 0797; 1149; 0491; 0144; 1029; 0778; 0879; 0380; 1169; 0932; 0407; 0252; 1128; 0202; 1226; 0801; 0244; 0546; 0599; 0649; 0152; 0285; 0583; 1217; 0238; 0552; 0612; 0036; 1179; 0596; 0796; 0256; 0355; 0580; 0474; 0586; 0352; 1221; 0187; 0271; 0870; 0588; 0318; 0788; 1082; 0789; 0826; 1011; 1198; 0454; 0263; 1074; 0917; 0226; 1159; 1127; 0219; 0358; 0145; 0809; 0943; 0798; 1176; 0889; 0878; 0191; 0342; 0500; 0524; 0031; 0188; 0563; 1054; 0288; 0827; 1144; 0104; 0572; 1129; 0944; 0029; 0371; 0582; 0141; 0781; 0336; 0775; 0362; 0279; 1063; 0197; 0529; 0597; 0200; 1030; 0192; 1152; 0908; 0782; 0822; 0246; 0810; 0874; 0785; 0250; 1078; 0814; 0535; 0470; 0862; 1076; 0560; 0776; 0475; 0277; 0198; 0830; 0604; 0578; 0424; 0456; 0714; 0402; 0421; 1069; 0107; 0959; 0247; 0910; 0220; 0236; 0142; 0821; 0517; 0766; 1075; 0871; 0528; 0386; 1218; 0882; 0853; 0349; 0044; 0260; 1066; 0920; 0561; 1068; 0229; 1065; 0450; 1166; 0232; 1138; 0927; 0816; 0376; 1168; 1038; 0683; 0773; 0413; 1073; 0527; 0506; 0501; 0168; 0324; 1197; 0481; 1208; 0253; 0172; 1101; 0399; 0348; 0329; 0406; 0687; 1007; 0476; 1059; 0457; 0365; 0320; 0334; 0484; 0270; 0536; 1209; 0534; 0368; 0367; 0331; 0173; 0108; 0794; 0347; 0554; 0383; 0880; 0338; 0503; 0167; 0038; 0885; 0570; 0398; 0864; 0379; 0494; 1139; 0522; 1123; 0310; 1041; 0858; 0341; 1164; 0143; 0792; 0377; 0264; 0651; 0267; 1083; 0468; 0332; 1053; 0901; 0106; 0884; 0955; 0230; 0866; 0150; 1028; 0928; 0257; 0291; 0783

O.8.2 Form Letter 2

Table O.8-2 Form Letter 2

Form Letter 2
<p>Offshore wind has the capacity to produce 2 times the amount of electricity the US consumed in 2019, and 90% of 2050 projections if we electrified our buildings, transportation system and industry. It is estimated that the offshore wind industry in the US will create 83,000 jobs and deliver \$25 billion in annual economic input by 2030.</p> <p>Climate change is the greatest existing threat to wildlife: 1 million animal and plant species are threatened with extinction due to a rapidly changing environment. Switching from fossil fuels to wind and solar can reduce risks of asthma, heart disease, and other conditions that threaten lives and cause billions of dollars in healthcare costs. Nearly 1 in 4 children in Newark suffer from asthma, a preventable result of burning fossil fuels. Offshore wind will reduce greenhouse gasses and carbon emissions that worsen the impact of climate change. Tropical Storm Ida showed how devastating extreme weather events are for public health in New Jersey, with the number of victims who died during flooding now at 30. Fossil fuel production and combustion creates climate change that can directly affect human health, releasing pollutants that lead to early death, heart attacks, respiratory disorders, stroke, and exacerbation of asthma.</p> <p>Overwhelmingly, to serve our power needs, power plants are located in communities of color – unfair ‘sacrifice zones’ that are the direct result of environmental racism and must be redressed. States like New Jersey and Delaware have some of the worst air quality issues in the country. According to the American Lung Association, both states received poor air quality grades in 2019 and 2020, largely due to the factories, refineries and other industrial facilities in both states which release millions of pounds of chemicals into the air. With offshore wind farms, Delaware, New Jersey, and other Mid-Atlantic states will no longer need to rely on fossil fuels for their power. Instead, they will transition to clean and renewable wind energy, drastically reducing state carbon emissions and cleaning the air in communities most affected by pollution.</p> <p>Offshore wind farms are located far enough from the coastline - at least 9 miles out and usually 15-20 - that, if they are visible at all, the impact to the view will be minimal. The lights they’ll use at night will be visible to airplanes and boats but not to people on shore. The issue isn’t that the turbines might be seen from the shore. The real issue is: Unless New Jersey acts to combat climate change now, flooding from rising sea levels and continually increasing severe weather will end the Shore’s beauty and value as we know it.</p>
Response: Thank you for your comment. BOEM acknowledges your support for the Project.
Submission IDs Associated with Form Letter 2: 0112; 0051; 0051; 0102; 0122; 0094; 0060

O.8.3 Form Letter 3

Table O.8-3 Form Letter 3

Form Letter 3
<p>To the Bureau of Ocean Energy Management,</p> <p>I support responsibly developed offshore wind that all New Jerseyans benefit from, from the cities to the suburbs and everywhere in between.</p> <p>Flooding and extreme weather impact our lives, health, property, and infrastructure. We need to act now to update our infrastructure and transition to renewable energy like offshore wind. We all want a state that's cleaner, healthier, and more fair.</p> <p>Responsibly developed offshore wind means putting communities first by ensuring economic and environmental investments, community benefits and small business opportunities, and respectful coexistence with other ocean users and industries. Our communities should see good family-supporting jobs with project labor agreements, prevailing wage, and union neutrality agreements, and jobs for folks who have historically struggled to find good ones.</p> <p>We need to advocate for a coordinated efficient grid constructed between turbines and the shore with a minimum of cables that is as safe as possible. Local communities where cables come on shore should have a say in that process, as well as direct benefits</p> <p>We know that artificial reef sites work, giving fish a place to live, which in turn can give local fishery industries more fish to catch. The offshore wind sites therefore need to guarantee that recreational and commercial fishermen can still fish near the turbines. Also essential are wildlife protections with commitments to ongoing research and monitoring since we share the ocean not only with other humans, but with the wide variety of animal species who call it home.</p> <p>Most importantly, we need meaningful access to a seat at the table. Offshore wind is our chance to lead on sustainable, non-polluting energy right here in our own state. If done right, we're eager to welcome Ocean 1 to the Jersey Shore.</p> <p>Sincerely,</p> <p>Members of the New Jersey Resource Project</p>
<p>Response: Thank you for your comment. BOEM acknowledges your support for responsibly developed offshore wind.</p> <p>Multiple landfall locations are being considered as part of the Project to minimize disruption to residents and minimize impacts on the onshore environment.</p> <p>EIS Section 3.11, <i>Demographics, Employment, and Economics</i>, provides estimates of the anticipated job creation during construction and operation of the Proposed Action and concludes that the Proposed Action would result in beneficial employment and economic impacts related to job creation, expenditures on local businesses, tax revenues, grant funds, and support for additional regional offshore wind development. EIS Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, discusses potential impacts on commercial fisheries and recreational fishing from the Proposed Action. Included in the analysis for the proposed Project are APMs intended to avoid and minimize impacts on commercial fisheries and for-hire recreational fishing. Appendix H identifies all specific mitigation measures proposed for the Project.</p>
<p>Submission IDs Associated with Form Letter 3: 1258*</p> <p>*Petition submitted by New Jersey Resource Project, 68 signatures including attached unique comments.</p>

O.8.4 Form Letter 4

Table O.8-4 Form Letter 4

Form Letter 4
<p>Program Manager, Office of Renewable Energy, Bureau of Ocean Energy Management 45600 Woodland Road, VAM-OREP Sterling, Virginia 20166</p> <p>Re: Ocean Wind 1 DEIS ("Ocean Wind 1")</p> <p>We are homeowners who reside at the end of Beach Boulevard in the Bayside Beach section of Lacey Township, New Jersey. Literally, Barnegat Bay is our backyard! We write because the completion of Ocean Wind 1 could provide a valuable opportunity to not only complete our current shoreline restoration project, but to provide enhanced protection from the dire threat facing our shoreline and our community.</p> <p>The shoreline in front of our homes is approximately 3,000 linear feet long. For decades, many families enjoyed idyllic summers in this location, with children who grew up swimming, crabbing, and boating. In recent years, however, the surge in storms and sea level rise has caused significant erosion to this area. Google Earth historical records document well over 100 feet of erosion since 1995! This has brought the bay to our back doors, and if this project is not completed, both our shoreline and our homes will be lost.</p> <p>Our community has been working closely with the Stockton University Coastal Research Center (CRC) and the American Littoral Society (ALS) to implement a nature-based solution to restore our shoreline and mitigate the threats posed to our homes. Dr. Stewart Farrell, Director of the CRC, has outlined the three necessary steps required for successful restoration. First, is attenuating the wave energy hitting the shoreline and reducing the erosion rate using oyster reefs. These reefs act to reduce erosion while also enhancing the water quality and improving the bay floor habitat. This step has been implemented by ALS and the local community. The remaining steps include creating a vegetated berm along the shoreline using natural sediments from Barnegat Bay that have been sifted from this site and repairing the southerly terminal rock jetty to its original footprint. Repairing the rock jetty will keep the sediment in place and prevent it from being pulled by the bay into the local lagoons.</p> <p>To date, this is the largest living shoreline project to be built in New Jersey; however, we need to complete the rock jetty and vegetated berm. We understand that you may have an obligation to conduct mitigation projects to off-set potential damage(s) during your project. We feel that there is a potential for a win-win as you may be required to directional drill in front of the old Finninger's Farm (just south of our FR Beach project) and it could be a perfect fit for a sediment match or beneficial re-use of dredged materials to complete a living shoreline project that the NJ DEP wasn't able to fully fund in 2018.</p> <p>This project is already approved by the NJ DEP and has much of the preliminary engineering studies and permitting in-hand. Project partners have been trying to secure additional funding sources to complete the design and learned of your potential near-by project and the possibility of beneficial sediments. The project would directly impact nearby residents with the protection of their properties as well be beneficial to the ecosystem and an example of people working together for best outcomes.</p> <p>We would welcome a meeting between your representatives and our partners at any time. Thank you for your consideration.</p>
<p>Submission IDs Associated with Form Letter 4: 0737; 1005; 1005; 0997; 0979; 1106; 0982; 1282; 1283; 1276; 0998; 0999; 1261; 0986; 0304; 1094; 0747; 1260; 1279</p>
<p>Related Comments</p> <p>0721-0001: Forked River Beach received a \$1000000 grant and our community is working closely with Stockton University Coastal Research Center (Dr. Stewart Farrell) and the American Littoral Society (Capt. Al Modjeski - project coordinator) on this project. There are three steps for successful restoration and we are in the midst of the first step with the Hesco basket oyster reefs (24 reefs in all) for improved water quality reduced turbidity and sediment replenishment. The next step which is needed quickly is repairing/restoring the southerly terminal rock jetty to its original footprint to keep the</p>

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<p>sediment in place and prevent it from continually being pulled into the local lagoons. The third step is creating a vegetated berm along the shoreline using the sediments from Barnegat Bay and especially encouraging growth of protected eel grass which is critical to the survival of flounder and other marine creatures. During a recent update meeting on the restoration project there was a brief discussion about the windmill project that will utilize the former Oyster Creek Nuclear Power Plant facility. There is anticipated drilling that will take place just south of Forked River Beach at the former Finninger's Farm in order to bring connectivity to the former power plant and this drilling will be disruptive to the environment of our area. We feel there is a great opportunity for our community to work with the Bureau of Ocean Energy Management who may have an obligation to conduct mitigation projects to offset potential damage during the connectivity project. Forked River Beach is in dire need of funds/grants to restore the jetty/groin where the Forked River Beach intersects with the beginning of the lagoon system west of the beach. Dredged materials and rocks from your project could be transferred and used for the jetty eliminating the need for BOEM to find a disposal site. The entire shoreline project has already been approved by the DEP but there wasn't enough grant money available for Steps two and three. Our community would be happy to partner with the Bureau of Ocean Energy Management with this win-win proposal and would welcome an opportunity to meet with your representatives and our many project partners at any time in the near future.</p>
<p>0937-0001: During a recent update meeting on the restoration project there was a brief discussion about the windmill project that will utilize the former Oyster Creek Nuclear Power Plant facility. There is anticipated drilling that will take place just south of Forked River Beach at the former Finninger's Farm in order to bring connectivity to the former power plant and this drilling will be disruptive to the environment of our area. We feel there is a great opportunity for our community to work with the Bureau of Ocean Energy Management who may have an obligation to conduct mitigation projects to offset potential damage during the connectivity project. Forked River Beach is in dire need of funds/grants to restore the jetty/groin where the Forked River Beach intersects with the beginning of the lagoon system west of the beach. Dredged materials and rocks from your project could be transferred and used for the jetty eliminating the need for BOEM to find a disposal site. The entire shoreline project has already been approved by the DEP but there wasn't enough grant money available for Steps two and three. Our community would be happy to partner with the Bureau of Ocean Energy Management with this win-win proposal and would welcome an opportunity to meet with your representatives and our many project partners at any time in the near future.</p>
<p>1037-0001: Currently there is a shoreline restoration project on which we have worked closely with Stockton University Coastal Research Center and the American Littoral Society to implement a nature based solution to restore our shoreline and the threat of Barnegat Bay coming closer to our homes. Oyster reefs are being used to reduce erosion. This is the largest living shoreline project to be built in New Jersey. I am writing because completion of Ocean Wind 1 may provide help in creating a vegetated berm using natural sediments from the Bay and repairing the southerly terminal rock jetty to its original footprint. We do hope that we may be able to work together.</p>
<p>1046-0001: YOU could make a difference to this unique piece of shoreline that once again is likely to be modified by man for the upcoming wind project. If your agency would consider our project to save this natural shoreline as a part of your plan it would certainly give you positive local support and save a very special bit of New Jersey. It has recently come to my attention that some conditions would likely be helpful in making that decision. Firstly at least one condition of inclusion to your project is already completed - the living shoreline project proposal is already approved by the DEP but needs to be funded; and secondly your project may cause changes in Barnegat Bay and surrounding waters that need to be mitigated and one possibility may be to yield much needed local sediments (sand) that could be used to rebuild the beach behind the groin or help build the vegetative berm. Whether for the good of the shoreline or to mitigate a project issue we hope you will assist us to achieve our goals.</p>
<p>0748-0001: We are residents of the Forked River Beach section of Lacey Township. We definitely support finding and utilizing alternative energy sources and we are not part of the NIMBY crowd. We are not scientists nor do we earn our livelihood from the sea. We are simply residents of an area that is directly across the bay from Barnegat Inlet and will therefore be affected by the power transmission line that is headed from the offshore windmills to the Oyster Creek power plant. Our concern is the</p>

Form Letter 4

unintended consequences of that transmission line. Long-time residents of the area contend that unintended consequences of the Oyster Creek Nuclear Power Plant drastically affected the environment of our area. While storms and normal tidal flow over the years have affected shoreline erosion and sediment deposits in the areas' lagoons the power plants need for cooling water drew bay water into Oyster Creek reversing the normal flow and changing the pre-existing currents and exacerbating erosion. We are concerned that the transmission line will have a similar negative impact. We have been involved as volunteers in the Forked River Beach Living Shoreline project which among other things is attempting to reverse the erosion process and improve water quality in the area. One phase of the project requires the installation of a rock jetty at the entrance to the main lagoon which would aid in preventing further erosion and reduce the amount of sediment that enters the lagoons. Unfortunately funding for this portion of the project does not seem to be forthcoming. Installing the jetty would help to mitigate the impact that the transmission line might have in directing more sediment into already shallow lagoons. Therefore we are requesting that this jetty be built before the transmission line is installed.

1279-0001: Re: Ocean Wind 1 DEIS ("Ocean Wind 1") We are homeowners who reside at the end of Beach Boulevard in the Forked River Beach section of Lacey Township New Jersey. Literally Barnegat Bay is our backyard! We write because the completion of Ocean Wind 1 could provide a valuable opportunity to not only complete our current shoreline restoration project but to provide enhanced protection from the dire threat facing our shoreline and our community. The shoreline in front of our homes is approximately 3000 linear feet long. For decades many families enjoyed idyllic summers in this location with children who grew up swimming crabbing and boating. In recent years however the surge in storms and sea level rise has caused significant erosion to this area. Google Earth historical records document well over 100 feet of erosion since 1995! This has brought the bay to our back doors and if this project is not completed both our shoreline and our homes will be lost. Our community has been working closely with the Stockton University Coastal Research Center (CRC) and the American Littoral Society (ALS) to implement a nature-based solution to restore our shoreline and mitigate the threats posed to our homes. Dr. Stewart Farrell Director of the CRC has outlined the three necessary steps required for successful restoration. First is attenuating the wave energy hitting the shoreline and reducing the erosion rate using oyster reefs. These reefs act to reduce erosion while also enhancing the water quality and improving the bay floor habitat. This step has been implemented by ALS and the local community. The remaining steps include creating a vegetated berm along the shoreline using natural sediments from Barnegat Bay that have been sifted from this site and repairing the southerly terminal rock jetty to its original footprint. Repairing the rock jetty will keep the sediment in place and prevent it from being pulled by the bay into the local lagoons. To date this is the largest living shoreline project to be built in New Jersey; however we need to complete the rock jetty and vegetated berm. We understand that you may have an obligation to conduct mitigation projects to off-set potential damage(s) during your project. We feel that there is a potential for a win-win as you may be required to directional drill in front of the old Finninger's Farm Gust south of our FR Beach project) and it could be a perfect fit for a sediment match or beneficial re-use of dredged materials to complete a living shoreline project that the NJ DEP wasn't able to fully fund in 2018. This project is already approved by the NJ DEP and has much of the preliminary engineering studies and permitting in-hand. Project partners have been tying to secure additional funding sources to complete the design and learned of your potential near-by project and the possibility of beneficial sediments. The project would directly impact nearby residents with the protection of their properties as well be beneficial to the ecosystem and an example of people working together for best outcomes. We would welcome a meeting between your representatives and our partners at anytime. Thank you for your consideration.

1020-0001: In exchange for my support of the Ocean Wind 1 project I would request if this project is approved which will include dredging in the area of Finninger's Farm that the remaining phase of our living shoreline project that includes the re-establishment of a rock groin and completion of a vegetated berm be funded as a mitigation measure. This would not only directly impact something desperately needed for the protection of local resident properties but be of great benefit to the surrounding ecosystem. Our living shoreline project is already approved by the DEP with the first phase the of implementation of oyster reefs already completed. Help is needed to for the remaining phase. Re-use

Form Letter 4
of dredged material and funds to complete the rock groin would complete our project. Thank you for the opportunity to bring this situation to your attention.
<p>Response: BOEM acknowledges these comments and requests for beneficial reuse of dredged material. Ocean Wind has coordinated with NJDEP regarding the disposal of dredged material and has determined that dredged material would be transferred to an upland disposal facility and disposed of in accordance with USEPA Guidelines, USACE Guidelines, New Jersey Administrative Code 7:7 Appendix G for the Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters, and applicable State Surface Water Quality Standards at New Jersey Administrative Code 7:9B and permit conditions.</p> <p>Ocean Wind currently has an agreement with an upland disposal facility (Clean Earth) and is continuing to evaluate the use of permitted and available confined disposal locations and upload facilities.</p>

O.9. List of Commenters by Commenter Type and Submission Number

Table O.9-1 Federal Agencies

Letter Number	Commenter	Agency
0609	N/A	USEPA
0922	N/A	USFWS
1177	N/A	USFWS
1265	N/A	USFWS
1273	Koeppel, Christopher	ACHP
1287	Pentony, Michael	NOAA National Marine Fisheries Services - Greater Atlantic Region

N/A = not applicable

Table O.9-2 State Government

Letter Number	Commenter	Government Organization
1178	N/A	New Jersey Economic Development Authority
1203	N/A	NJDEP
1207	N/A	NYSDOS
TRANS-0087	Rothmel, Randi	New Jersey Environmental Commissions

N/A = not applicable

Table O.9-3 Local Government

Letter Number	Commenter	Government Organization
0948	N/A	Borough of Seaside Park, New Jersey
1187	N/A	City of Ocean City, a municipal corporation of the State of New Jersey
1277	Shabazz, Kaleem	City of Atlantic City
1281	Peterson Jr., John	Borough of Seaside Park
TRANS-0010	Hayes, Kim	Upper Township Committee
TRANS-0025	Aroke, Christian	Point Pleasant Beach
TRANS-0073	Paul, Emily	Cape May County Chamber of Commerce
TRANS-0103	Peterson, John A.	Mayor of Borough of Seaside Park

N/A = not applicable

Table O.9-4 Elected Officials

Letter Number	Commenter	Organization
0006	Smith, Senator Bob	United States Senate
1156	Coughlin, Craig	New Jersey General Assembly
1266	Norcross, Donald	United States Congress
TRANS-0089	Guardian, Don	New Jersey Second Legislative District

Table O.9-5 Businesses and Organizations

Letter Number	Commenter	Organization
0009	N/A	Clean Ocean Action
0010	N/A	New Jersey Audubon
0011	N/A	Caesar Rodney Institute
0013	N/A	Save Long Beach Island, Inc
0014	N/A	Maritime Association of the Port of New York/New Jersey
0017	N/A	Atlantic Climate Justice Alliance
0019	N/A	Concerned Citizens for Lacey Coalition
0020	N/A	Concerned Citizens of Lacey Coalition
0034	N/A	Newark Regional Business Partnership
0059	N/A	Atlantic Cape Community College
0086	Isaac, Richard	Sierra Club New Jersey Chapter
0097	N/A	New Jersey State American Federation of Labor & Congress of Industrial Organizations (AFL-CIO)
0119	N/A	Eastern Millwright Regional Council
0125	N/A	Surfrider Foundation
0130	N/A	New Jersey 50 x 30 Team
0134	N/A	Eastern Atlantic States Regional Council of Carpenters
0321	N/A	Long Island Traditions
0487	Fagan, Thomas	Communications Workers of America, Local 1075
0488	Nixon, Robert	Recreational Fishing Alliance
0764	N/A	Maritime Exchange for the Delaware River and Bay
0939	Remaud, Greg	New Yor/New Jersey Baykeeper
0941	N/A	Barneгат Bay Partnership
0950	N/A	Ocean Heights Presbyterian Church
0951	N/A	Nouveau Consulting
0967	N/A	American Saltwater Guides Association
0991	N/A	Stockton University
1012	N/A	Save Long Beach Island, Inc.
1064	N/A	Cape May County
1085	N/A	Mid-Atlantic Renewable Energy Coalition (MAREC) Action
1086	N/A	Warwick Group Consultants
1087	N/A	Association of New Jersey Environmental Commissions (ANJEC)
1110	N/A	Fisherman's Headquarters, Inc.
1118	N/A	The American Waterways Operators
1150	N/A	Marine Trades Association of New Jersey

Letter Number	Commenter	Organization
1154	N/A	New Jersey League of Conservation Voters
1184	Middaugh, Peggy	Unitarian Universalist Faith Action of New Jersey Environmental Justice Task Force
1186	N/A	ConservAmerica
1188	N/A	MAFMC and NEFMC
1190	N/A	Ocean Wind LLC
1192	N/A	Save Barnegat Bay
1194	N/A	New Jersey Offshore Wind Coalition
1195	N/A	New Jersey Work Environment Council
1202	N/A	Cape May County, New Jersey
1212	N/A	Vacation Rentals Jersey Shore, LLC
1222	N/A	Surfside Foods, LLC
1230	N/A	Offshore Power LLC
1231	N/A	LBI Taxpayers Association
1233	N/A	The Nature Conservancy
1234	N/A	Garden State Seafood Association
1241	N/A	RODA
1243	N/A	LaMonica Fine Foods
1247	N/A	Business Network for Offshore Wind
1248	N/A	National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, et al.
1252	N/A	Atlantic Shores Offshore Wind, LLC
1254	N/A	Clean Energy and Sustainability Analytics Center, Montclair State University
1258	N/A	New Jersey Resource Project (FL3)
1259	N/A	Clean Ocean Action
1268	N/A	Wetlands Institute
1272	Wallace, David H.	Wallace & Associates
1278	N/A	New Jersey Council of Divers and Clubs
1280	McCall, Beverly	Chair of Pro-New Jersey Grantor Trust
TRANS-0001	Zipf, Cindy	Clean Ocean Action
TRANS-0002	Martin, Kari	Clean Ocean Action
TRANS-0003	Klein, Zachary	Clean Ocean Action
TRANS-0004	Muthakaranan, Swarna	Clean Ocean Action
TRANS-0006	Walling, Jacqueline	Environmental Committee of Women's Club
TRANS-0007	Vargas, Sunny	New Jersey League of Conservation Votes
TRANS-0008	Tompkins, Drew	New Jersey Work Environment Council
TRANS-0009	Toth Sullivan, Jackie	Stockton University
TRANS-0012	Chebra, Hillary	Chamber of Commerce Southern New Jersey

Letter Number	Commenter	Organization
TRANS-0014	Healy, William	New Jersey Alliance for Action
TRANS-0015	Olsen, Olaf	Eastern Atlantic State Regional Council of Carpenters
TRANS-0017	Robbin, Inga	Climate Action
TRANS-0018	Figuerdo, Miguel	Mill Right Regional Council
TRANS-0019	Ace, Chris	Eastern Mill Right Regional Council
TRANS-0020	DeAugustine, Donald	Mill Right Local 715
TRANS-0021	Connor, Michael	Eastern Atlantic States Regional Council of Carpenters
TRANS-0022	Myteris, Megan	New Jersey Resource Project
TRANS-0023	Capaccio, Anthony	Laborers International Union of North America
TRANS-0028	Scalera, Ciro	New Jersey Laborers Employers Education and Cooperation Trust
TRANS-0029	Ford, Eric	New Jersey Energy Coalition
TRANS-0031	Stokes, Steve	Eastern Atlantic States Regional Council of Carpenters
TRANS-0037	Hill, Ed	International Brotherhood of Electrical Workers
TRANS-0040	Davis, Rachel Dawn	Water Spirit
TRANS-0041	Martin, Kari	Clean Ocean Action
TRANS-0045	Santiago, Maria	Atlantic Climate Justice Alliance
TRANS-0046	Thompson, James	New Jersey League of Conservation Voters
TRANS-0047	O'Malley, Doug	Environmental New Jersey
TRANS-0048	Burcat, Bruce	Mid Atlantic Renewable Energy Coalition
TRANS-0051	Hornick, Suzanne	Protect our Coast New Jersey
TRANS-0053	O'Hearn, William	External Affairs for Offshore Power
TRANS-0054	Molina, Isabel	New Jersey League of Conservation Voters
TRANS-0055	Hillbert, Rebecca	New Jersey League of Conservation Voters
TRANS-0061	Peal, Michelle	New Jersey League of Conservation Voters
TRANS-0063	Chait, Michael	Greater Atlantic Center Chamber of Commerce
TRANS-0064	Steingard, Shayna	National Wildlife Federation
TRANS-0068	Klein, Zachary	Clean Ocean Action
TRANS-0069	Martin, Kari	Clean Ocean Action
TRANS-0070	Walling, Jacqueline	Environmental Committee of the Women's Club of Brielle
TRANS-0071	Coyle, Debra	New Jersey Work Environmental Council
TRANS-0072	Foster, Cameron	New Jersey Resource Project
TRANS-0074	Stewart, Jody	New Jersey Resource Project

Letter Number	Commenter	Organization
TRANS-0075	Hornick, Susan	Protect Our Coast New Jersey
TRANS-0076	Poole, Ann	New Jersey Environmental Lobby
TRANS-0081	Mackey, Scott	Garden State Seafood Association
TRANS-0082	Remaud, Greg	New York New Jersey Bait Keeper
TRANS-0084	Pringle, David	Clean Water Action
TRANS-0085	McCausland, Jack	Pinelands Preservation Alliance
TRANS-0091	Kreibich, Arti	Democracy Organizing for New Jersey Working Families
TRANS-0092	Cantor, Raymond	Government Affairs for the New Jersey Business and Industry Association
TRANS-0093	Laughlin, Mike	Atlantic and Cape May County Building Trades Council
TRANS-0094	Giovanniello, Jen	New Jersey League of Conservation Voters
TRANS-0096	Williams, Indigo	New Jersey League of Conservation Voters
TRANS-0100	Capaccio, Anthony	Labors Local 173
TRANS-0101	Ramos, Anjuli	Sierra Club
TRANS-0102	Nichols, Ray	Universalist Faith Action of New Jersey
TRANS-0104	Bergman, Anti	Business Network for Offshore Wind

N/A = not applicable

Table O.9-6 Individuals

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0005	Yerman, John	N/A
0006	Opella, J	N/A
0007	Binder, James	N/A
0008	Calter, Mimi	N/A
0012	Lewis, Robert	N/A
0016	R, Alyssa	N/A
0018	Erdmann, John	N/A
0021	Ransome, Donna	N/A
0022	DeVore, Heather	N/A
0023	Cerceo, Elizabeth	N/A
0024	Eidman, Paul	N/A
0025	Kallio, Karen	FL1 Master
0026	Noreuil, Joshua	FL1
0027	Cohl, Gina	FL1
0028	Johanson, Erica	FL1
0029	Aragon-Bruzzichesi, Aurora	FL1
0030	Long, Andrea	FL1
0031	Hall, William	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0032	Mae, April	FL1
0033	McFarland, Karen	N/A
0035	Bergman, David	N/A
0036	Maher, Kathleen	FL1
0037	Glassman, Matthew	FL1
0038	Wohler, James	FL1
0039	Curtis, Marie	FL1
0040	Hemm, James	FL1
0041	Guarino, Ann	FL1
0042	Bivona, Denise	FL1
0043	Ruhl, John	FL1
0044	Cousins-Coleman, Betsy	FL1
0045	Troyanovich, Steve	FL1
0046	Paley, Leon	FL1
0047	Fife, Michael	N/A
0048	Waldor, Philip	N/A
0050	Briody, Patrick	N/A
0051	Yavorsky, Donna	FL2
0053	Tucker, Gabriel	N/A
0055	Peters, Joan	N/A
0056	Stires, Anne	N/A
0057	Kunze, Dave	N/A
0058	Hagen, Anthony	N/A
0060	Williamson, Patricia	FL2
0061	Coen, Jon	N/A
0062	Wheeler, John	FL2 Master
0063	Katz, Corey	N/A
0064	Data-Samtak, Susan	N/A
0065	Knowlton, Stephen	N/A
0066	Kahofer, Stephen	N/A
0067	Barson, Sharyn	N/A
0068	Reichman, Edward	N/A
0069	Reina Rosenbaum, Rose	N/A
0070	Szuter, Robert	N/A
0071	Rantzer, Eve	N/A
0073	Gordin, Morris	N/A
0074	Caminiti, Francesco Marco	N/A
0075	Dunn, Gary	N/A
0076	Gangasarran, Asha	N/A
0077	Candea, Nancy	N/A

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0078	Shambaugh, Gerald	N/A
0079	de Voogd, Sebastiaan	N/A
0080	S, John	N/A
0081	Cowan, Dorothy	N/A
0082	Canright, Rebecca	N/A
0083	Maceira, Alex	N/A
0084	Del Sordi, Mariangela	N/A
0085	Davidson, Tom	N/A
0087	Assiff, Mary Ann	N/A
0089	Kahn, David	N/A
0090	Greberis, Stan	N/A
0091	Brooks, L	N/A
0093	Clancy, Kathryn	N/A
0094	Schade, Corey	FL2
0095	Alexander, Gunta	N/A
0096	Ianniello, Phyllis	N/A
0098	Lord, Robert	N/A
0099	Rummler, Matthew	N/A
0100	Rowley, Lincoln	N/A
0101	D, William	N/A
0102	Vitale, Ben	FL2
0104	Richter, Pat	FL1
0105	Trought, Barbara	FL1
0106	Cacciapuoti, Anthony	FL1
0107	Konieczka, marcia	FL1
0108	Neal, E.	FL1
0109	Klenetsky Fay, Jamie	FL1
0110	Dolsky, Ken	N/A
0111	Roland, Edwin	N/A
0112	Waltzer, Mark	FL2
0113	Roy, Jean	N/A
0114	Paterson, Shelley	N/A
0115	Rossin, Linda	N/A
0116	Pakizegi, Behnaz	N/A
0118	Weaver, Jim	N/A
0121	Riss, Kathryn	N/A
0122	Miller, Barbara	FL2
0123	Thoren, susan	N/A
0124	Barker, vilma	N/A
0126	Bulleit, Hallie	N/A
0127	Woolery, Geoff	N/A

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0128	Fluck, Leona and George	N/A
0129	Heaney, Mike	N/A
0131	Johnson, Eric	N/A
0132	Gillen, Joan	N/A
0135	Weinrich, John	N/A
0136	Anderson, Dennis	N/A
0137	Thibault, Natalie	N/A
0138	Brush, Denise	N/A
0139	Ramos, Joann	N/A
0141	Puca Jr., Anthony	FL1
0142	Clancy, Kathryn	FL1
0143	Kurz, Daniel	FL1
0144	Y., H.	FL1
0145	Myers, Kimberely	FL1
0146	Pontecorvo, Maureen	N/A
0147	Isenberg, Tammy	N/A
0148	Peal, Michelle	FL1
0149	Korfmacher, Walter	FL1
0150	Pullen, Seth	FL1
0151	Burval, Peter	FL1
0152	Barrett, Betsy	FL1
0153	Russ, Javk	N/A
0154	Godfrey, Peter	FL1
0155	Lewitz, Charles	FL1
0156	Askins, Richard	FL1
0157	Brown, Nick	N/A
0158	Pearsall, Rand	N/A
0159	Laird, Scott	FL1
0160	Dzubak, Cheri	FL1
0161	W. De Boer, Daryl	FL1
0162	W. De Boer, Daryl	FL1
0163	Goodson, Andrew	FL1
0164	Hartten, Erik	FL1
0165	Dunn, Gary	FL1
0166	Day, Mary	FL1
0167	Schwamb, Tracy	FL1
0168	Picciotto, Elizabeth	FL1
0169	Rua, Maria	FL1
0170	Garcia, Sandra	FL1
0171	Vonderschmidt, Don	FL1
0172	Ponisciak, Joseph	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0173	Sparkman, Kevin	FL1
0174	Frederick, Gary	N/A
0175	Bertsch, Ric	N/A
0176	Kottke, William	N/A
0177	Kimball, Elizabeth	N/A
0178	Weiss, Robert	FL1
0179	Kappler, Kelly	FL1
0180	Kayman, Lindsey	N/A
0181	Brancato, Faith	FL1
0182	Honeycutt, Todd	N/A
0183	H, E	N/A
0184	Redman, Margaret	FL1
0185	Gilson, Ann	FL1
0186	Wheeler, John	FL1
0187	Zuckerman, Michael	FL1
0188	Sandstrom, Mark	FL1
0189	Hand, Helen	FL1
0190	Marshall, Debra	FL1
0191	Measday, Tom	FL1
0192	Goetschius, Lascinda	FL1
0193	Thonet, Kathi	FL1
0194	Tomori, James	N/A
0195	Mahood-Jose, Eileen	FL1
0196	More, Robert	FL1
0197	Johnson, Melissa	FL1
0198	Kilpatrick, Karen	FL1
0199	Van Wie, Torri	FL1
0200	Jacobs, Shannon	FL1
0201	Neblock, Ed	N/A
0202	Maddalena, Barbara	FL1
0203	Kaplan, Carol	FL1
0204	Palenik, John	FL1
0205	Thorsen, Theresa	FL1
0206	Portolano, Frank	FL1
0207	Jacob, Marty	N/A
0208	Das, Sanjay	N/A
0209	Glossbrenner, Kenneth	N/A
0210	Hamilton, Joan	N/A
0211	Victor, Joan	N/A
0212	Furcht, Peter	N/A
0213	Morrow, Robert	N/A

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0214	Ekstrom, Edwina	FL1
0215	Bachmann, Carl	FL1
0216	Coomber, Annette	FL1
0217	Looft, David	FL1
0218	Salim, Abbas	FL1
0219	Colletto, Andrew	FL1
0220	Miller, David	FL1
0221	Carton-Riker, Barbara	FL1
0222	Bernardini, Richard	N/A
0223	Rowe, Kim	N/A
0224	Lombardi, Kathi	FL1
0225	Kahofer, Stephen	FL1
0226	Weinberger, Daniel	FL1
0227	Wilson, Allison	FL1
0228	Pascale, Connie	FL1
0229	Endris, Richard	FL1
0230	Gorin, Eugene	FL1
0231	DiLeo, Carmine	FL1
0232	Ramirez, Jessica	FL1
0233	Pedersen, Ellen	FL1
0234	Wechselblatt, Marylin	FL1
0235	Everett, Denise	FL1
0236	Hart, Kathy	FL1
0237	Harding, Cheryl	FL1
0238	Bernet, Gregory	FL1
0239	Eklof, Amy	FL1
0240	mccall, beverly	N/A
0242	Jeffrey, Paul	N/A
0243	Abbas-parker, Ibn-Umar	FL1
0244	Willard, Patricia	FL1
0245	Anderson, Dennis	FL1
0246	Patoray, Arlene	FL1
0247	Golden, Jeanne	FL1
0248	Golden, Susan	FL1
0249	Rowe, Kim	FL1
0250	Goodell, Edward	FL1
0251	Wilson, Robert	FL1
0252	Hakkinen, Emily	FL1
0253	Kissinger, David	FL1
0254	Sapirman, Nadine	N/A
0255	Goldenberg, Harold	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0256	Hess, Kathy	FL1
0257	Anglin, Eileen	FL1
0258	Varga, Dolores	FL1
0259	McCarthy, Suzanne	N/A
0260	Gilbert, Jake	FL1
0261	Covey, Justin	FL1
0262	Schafer, Helen	FL1
0263	Riggs, Richard	FL1
0264	Simon, Nan	FL1
0265	Giordano, Tony	FL1
0266	Chidambaram, Manjula	FL1
0267	Reimer, Frederick	FL1
0268	Crane, Eric	FL1
0269	Hancock, Caroline	FL1
0270	Charney, Jeff	FL1
0271	Rogerino, Jean	FL1
0272	Silverman, William	FL1
0273	Hartman, Richard	FL1
0274	Beaumont, Leland	FL1
0275	Bengul, Enis	FL1
0276	Van Bel, William	FL1
0277	Zelinski, Dawn	FL1
0278	Cresse, Sharon	FL1
0279	Dowd, William	FL1
0280	Hartwell, Margarent	FL1
0281	Pflugh, Melissa	FL1
0282	Taati, Cathy	N/A
0284	Pannone, Joanne	N/A
0285	Burgess, John	FL1
0286	Pingitore, Dianne	FL1
0287	Montanari, Matthew	FL1
0288	Lieberstein, Gloria	FL1
0289	Bulleit, Hallie	N/A
0290	Estok, Karen	FL1
0291	Tanzi, Nancy	FL1
0292	Kashner, John	FL1
0293	Shaw, Monica	FL1
0294	O'Hara, Eileen	N/A
0295	McCarthy, Pete	FL1
0296	Bourlotos, George	FL1
0297	Kaplan, Mimi	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0295	Royle, Majorie	N/A
0299	Grossi, Joanne	FL1
0300	Young, Phylcia	N/A
0301	O'Neil, Nadezda	FL1
0302	Morris, Bert	FL1
0303	Doyle, Patricia	N/A
0304	Doyle, Patricia	FL4
0305	Bendar, Barry	N/A
0306	Chatten, Kyle	N/A
0307	Karlovich, David	N/A
0308	Lakavitch, Gia	FL1
0309	Abbasparker, Ibn-Umar	FL1
0310	Bushkoff, Paula	FL1
0311	Rosenblatt, Jon	FL1
0312	Dinell, Alexander	FL1
0313	Capaccio, Sandra	N/A
0314	Samuelsen Jr, George	N/A
0315	Caruso, Guy	N/A
0316	Smith, Jonah	N/A
0317	Schenk, Linda	N/A
0318	Nynas, William	FL1
0319	Rossner, A.	FL1
0320	Cooper, Terry	FL1
0322	Wright, Caitlyn	FL1
0323	Bernstein, Joan	FL1
0324	Scholz, Denise	FL1
0325	Van Norman, Bob	N/A
0326	Klein, Lois	N/A
0327	Cox, Susan	N/A
0328	Scanlan, Brian	FL1
0329	Sweeten, Audra	FL1
0330	O'Brien, Jeanne	FL1
0331	Lay, Jyh	FL1
0332	Whitman, Eric	FL1
0333	Atkin, Edward	FL1
0334	Bourlotos, George	FL1
0335	Knopp, Elana	N/A
0336	Solak, Tina	FL1
0337	Ramos, Joann	N/A
0338	Weaver, Jim	FL1
0339	Chernetz, George	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0340	Holder, Lisa	FL1
0341	Stoller, Timothy	FL1
0342	Walden, Don	FL1
0343	McLeod, Allison	FL1
0344	Rattner, Jeffrey	FL1
0345	Friedberg, Ruth	FL1
0346	Greene, Amy	FL1
0347	Oerke Jr, Carl	FL1
0348	Mazar, Sheila	FL1
0349	Koehler, Christine	FL1
0350	Coughlin, Mary	N/A
0351	Binder, James	N/A
0352	Grova, Christopher	FL1
0353	Sytzko, Victor	FL1
0354	Druckman, Susan	FL1
0355	Caron, Jessica	FL1
0356	Pietrzak, Karl	FL1
0357	Picillo, Nancy	FL1
0358	Fleitman, Bernard	FL1
0359	Mack, Victoria	FL1
0360	Holzman, Neil	FL1
0361	Mantas, Nicholas	FL1
0362	Sherry, Fran	FL1
0363	Nina, Donna	FL1
0364	Francy, Nancy	FL1
0365	C, Julia	FL1
0366	Cimprich, Ronnie	FL1
0367	Foster, Tracy	FL1
0368	Neal, E	FL1
0369	Butterfield, Scott	FL1
0370	Hise, Anne Van	FL1
0371	Halpern, Stephen	FL1
0372	Schwab, Kristin	N/A
0373	Ahern, John	N/A
0374	Sheppard, Rebecca	N/A
0375	Chamas, Lori	N/A
0376	Blinn, James	FL1
0377	Ross, Archie	FL1
0378	Lau, Phyllis	FL1
0379	Fluck, Leona	FL1
0380	Rannells, Jennifer	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0381	Dougan, Sarah	FL1
0382	Liddick, Shawn	FL1
0383	McRobbie, Peter	FL1
0384	Gordon, Sherry	FL1
0385	Withstandley, Leslie	FL1
0386	Iawhashi, Howard	FL1
0388	Prime BSEE, G.	N/A
0389	carfagno, robert	N/A
0390	Zuczek, Robert	N/A
0391	CaricichCaricich, Brigid	N/A
0392	York, Jeanette	N/A
0393	Schulte, Valerie	N/A
0395	Evans, Helaine	FL1
0396	Wright, Caitlyn	FL1
0397	Florance, Brett	FL1
0398	Stockwell, Hunt	FL1
0399	Cohen, Leslie	FL1
0400	Carr, Stewart	FL1
0401	Boice, Ruth	FL1
0402	Clemens, Kathleen	FL1
0403	Ogden, Therese	FL1
0404	Clodfelter, Linda	N/A
0405	Jonach, Elizabeth	FL1
0406	Cohen, Ben	FL1
0407	Cloud, Jarrett	FL1
0408	Leithauser, Marie	FL1
0409	Colletto, Andrew	FL1
0410	Kimmel, Kevin	FL1
0411	Krawczyk, Greg	FL1
0412	Brennan, Ann Marie	FL1
0413	Goetschius, Lascinda	FL1
0414	F, Angie	FL1
0415	Reina, Bettie	FL1
0416	Vachula, William	FL1
0417	Blatnik, Linda	FL1
0418	Farreny, Ashley	FL1
0419	Farreny, Ashley	FL1
0420	Ahmad, Rayat	FL1
0421	Ahmad, Rayat	FL1
0422	Maher, Kathleen	FL1
0423	Krieger, Karen	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0424	Maddalena, Barbara	FL1
0425	Gorrin, Eugene	FL1
0426	Lloyd, Alan	N/A
0427	Cohen, Barbara	N/A
0429	Gray, Ambrose	N/A
0430	Bradley, John	N/A
0431	Harrington, Robert	N/A
0432	Tillman, Barbara	N/A
0434	Stanko, Mitchell	N/A
0435	Conn, Robert	N/A
0436	Barroway, Pamela	N/A
0437	Pannone, Joanne	N/A
0438	Lynch, Laura	N/A
0439	Benner, Elizabeth	N/A
0440	Launi, Barbara	N/A
0443	Hainsworth, Shawn	N/A
0444	Elia, Kenneth	N/A
0445	Hagen, Anthony	N/A
0446	Flanagan, Brian	N/A
0447	Weidner, Denise	N/A
0448	Gallivan, Kira	N/A
0449	R, Bella	N/A
0450	Hodnett, Brendan	FL1
0451	Lukowitz, Wendy	FL1
0452	Wilkes, Harold	FL1
0453	Montgomery, Linda	FL1
0454	Erdreich, Linda	FL1
0455	Tillman, Barbara	FL1
0456	Megnin, Michael	FL1
0457	Russell-Rekika, Angela	FL1
0459	Nierenberg, Susan	FL1
0460	Nelson, Michael	FL1
0461	Burgess, John	FL1
0462	Peacock, Bri	N/A
0463	Melo, Marithza	FL1
0464	Meale, Antoinette	FL1
0465	Mccauley, William	FL1
0466	Linden, Joanne	FL1
0467	Young, Frances	FL1
0468	Gradin, Lynn	FL1
0469	Hart, Kathy	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0470	Berliner, Hayley	FL1
0471	Raleigh, Melissa	N/A
0472	Garcia, Sandra	FL1
0473	Williams, Paul	FL1
0474	Zowader, Ruth	FL1
0475	Baggaley, Margaret	FL1
0476	Vanstrien, Ro	FL1
0477	Powell, Justin	FL1
0478	Ferrance, Marge	FL1
0479	Eckstut, Joanne	FL1
0480	Koetas-Dale, Denise	N/A
0481	Nighbert, David	FL1
0482	Schwartz, Howard	FL1
0483	Ford, Carl	FL1
0484	Schwartz, Brandon	FL1
0485	Chapman, Ed	FL1
0486	Kiely, Melanie	FL1
0489	Dorsogna, Mary	N/A
0490	Hamalian, James	N/A
0491	Schepis, Debbie	FL1
0492	Edmunds, Susan	FL1
0493	Navitski, Margaret	FL1
0494	Dastis, Stacey	FL1
0495	Lanphear, Leslie	FL1
0496	Broekman, Marinus	FL1
0497	Coveney, Margaret	FL1
0498	Raspa, Alejandro	FL1
0499	Malinoski, Erika	FL1
0500	Graham, Joe	FL1
0501	DeMeritt, Barbara	FL1
0502	Tomori, James	FL1
0503	Oconnor, Jayne	FL1
0504	Devlin, Maryellen	FL1
0505	Bishop, Cori	FL1
0506	Kozimbo, John	FL1
0507	Vrancart, Charlotte	FL1
0508	reynolds, rebecca	FL1
0510	Fenton, Ron	N/A
0511	Robinson, Jay	N/A
0512	Peters, Bryan	N/A
0513	Mangin, Jennifer	N/A

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0515	Rule, Thom	FL1
0516	Pack, Judith	FL1
0517	Fehrs, Barbara	FL1
0518	Van Wie, Torri	N/A
0519	Vonderschmidt, Don	FL1
0522	Warner, Sally	FL1
0523	Miller-Cotter, Amanda	FL1
0524	Leftly, Stephen	FL1
0525	Sing, Lorraine	FL1
0526	Sween, Eric	FL1
0527	Ryan, Keith	FL1
0528	Nielsen, Jennfier	FL1
0529	Maguire, Barbara	FL1
0530	Schwartz, Ari	FL1
0531	Cohen, Edward	FL1
0519	Andrews, Alice	FL1
0532	Miller, Steven	N/A
0533	Gablinske, Douglas	N/A
0534	Bertone, Debra	FL1
0535	Ramos, Alex	FL1
0536	Wood, Elsa	FL1
0537	Kole, Robert	FL1
0538	Bruinooge, Scott	FL1
0539	Zsa, Zsa	FL1
0540	Zsa, Zsa	FL1
0541	Adarkar, Bharat	FL1
0546	Gay, Christopher	FL1
0547	Malizia, Richard	FL1
0548	Cunningham, Saran	FL1
0549	Lytle, Denise	FL1
0551	Gallager, John	FL1
0552	Van Sant, Sandra	FL1
0553	Yelenik, Margaret	FL1
0554	Randolph, Karen	FL1
0555	Morrow, Robert	FL1
0556	Merle, Lynn	FL1
0557	Blaser, R.	FL1
0558	Vanstrien, Ro	FL1
0559	DeBeer, Liz	FL1
0560	Santiago, MarÃa	FL1
0561	Rinald, Rebecca	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0534	Schade, Corey	FL1
0535	Ramos, Joann	FL1
0562	Robinson, Carly	N/A
0563	Weinstock, Staurt	FL1
0564	Gillen, Joan	FL1
0565	Usgaonker, Rajdeep	N/A
0566	Greenberg, Brian	FL1
0567	Bernard, Andre	FL1
0568	Finocchiaro, Lolly	FL1
0569	Reichman, Edward	FL1
0570	Magron, Jean-Philippe	FL1
0571	Zatz, David	N/A
0572	Koven, Thomas	FL1
0573	Ortiz, Nancy	FL1
0574	Livingston, Amy	FL1
0575	Schwartz, Brian	FL1
0576	Anouna, Laurence	FL1
0577	I, P	N/A
0578	Jenkins, Jayati	FL1
0579	Halm, Michael	FL1
0580	Mohan, Ajeet	FL1
0581	Broche, Leora	FL1
0582	Lamborn, Jeffrey	FL1
0583	Adams, Brian	FL1
0584	Spector, Helga	FL1
0585	Capizzi, Vincent	FL1
0586	Lee, Jinny	FL1
0587	Plucinski, Michael	FL1
0588	Romanski, W.	FL1
0589	Samuels, Barbara	FL1
0590	Peist, Kathy	N/A
0591	Kosinski, Robert	FL1
0592	Pierce, Charles	N/A
0593	Barbella, Peggy	N/A
0594	Rule, Thom	FL1
0595	Frakenberg, John	FL1
0596	Zaveri, Natasha	FL1
0597	Gaffney, Barbara	FL1
0598	McCabe, Amanda	N/A
0599	Rathvon, Skylar	FL1
0600	Meekel, Jacques	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0601	Findlay, Robert	FL1
0602	Tichenor, Sandra	FL1
0603	Krasovic, Mark	FL1
0604	DeLuca, Glenn	FL1
0606	Mccaig, Robert	N/A
0607	Louro, Hailey	N/A
0608	Belock, Marianne	N/A
0610	Garcia, Robert	FL1
0611	Hager, Jenna	FL1
0612	Farschon, Chris	FL1
0613	Pollitto, Nancy	FL1
0614	Stoll, Noel	FL1
0615	Pollitto, Daurie	FL1
0616	Pollitto, Robert	FL1
0617	Douglas, Patrice	N/A
0618	Entler, Barbara	N/A
0619	Marks, James	N/A
0621	Hempel, Bettina	N/A
0622	Nicolini, Nick	N/A
0623	Leinhauser, Ann	N/A
0624	Annechini, Claire	N/A
0625	Annechini, William	N/A
0626	Roth, Robert	N/A
0627	Marino, Keith	N/A
0628	Evans, Lee	N/A
0629	Andre, Peter	N/A
0630	Andre, Peter	N/A
0631	Colen, Mazie	N/A
0632	Bombolevicz, Patty	N/A
0633	Daidone, Liss	N/A
0634	Boland, Elizabeth	N/A
0635	Hatch, Chris	N/A
0636	Hatch, Lisa	N/A
0637	Griffin, Daniel	N/A
0638	Rocco, Joseph	N/A
0639	Rocco, Joseph	N/A
0640	Mackinney, Susan	N/A
0641	Widmeier, Tom	N/A
0643	McCarthy, Joanne	N/A
0644	Holdwright, Erin	N/A
0645	DeBouter, Danielle	N/A

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0646	Singley, Daniel	N/A
0647	Havner, Brendan	FL1
0648	Steininger, Marion	FL1
0649	Sabato, Jennie	FL1
0650	Zamora, Victor	FL1
0651	DiMona, Robert	FL1
0652	Van Norman, Robert	N/A
0653	Forlenza, Nolan	N/A
0654	Coward, David	N/A
0655	Pekarick, Cynthia	N/A
0656	DeCroix, Keith	N/A
0657	Santora, Darcy	N/A
0658	Smith, M	N/A
0659	Wright, John T	N/A
0660	Hill, Ellen	N/A
0661	Banks, Christine	N/A
0662	Mahoney, James	N/A
0663	Reilly, Ellen	N/A
0664	Banks, Bryan	N/A
0665	Serowatka, Roseanne	N/A
0666	Mignanelli, Kathryn	N/A
0667	Hahl, Don	N/A
0668	Ruszala, Maria	N/A
0669	Colen, Joseph	N/A
0670	Banks, Smith	N/A
0671	DeBevoise, Trisha	N/A
0672	Sergy, Eileen	N/A
0673	Hahl, Judith	N/A
0675	Kennedy, Brian	N/A
0676	Rodriguez, Rich	N/A
0677	Santora, Thomas	N/A
0678	Neill, Colin	N/A
0679	Reiner, Patrick	N/A
0680	Henrich, Renee & Thomas	N/A
0682	B, Erica	N/A
0683	Messina, Robert	FL1
0684	George, Barbara	FL1
0685	Hamblet, Elizabeth	FL1
0686	Esworthy-Menendez, Cindy	FL1
0687	Kuhnert, Martha	FL1
0688	Tomko, Bryan	N/A

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0689	Zomer, Carolyn	N/A
0691	Smithson, Peter	N/A
0692	Pietrzak, Jeffrey	N/A
0693	Johnson, Rusty	N/A
0694	Smartt, Lisa	N/A
0695	Word, R	N/A
0696	Lombardo, Sam	N/A
0697	Erwin, Laura	N/A
0698	Williams, Christopher	N/A
0699	Bond, Patricia	N/A
0701	O'Gwen, Chris	N/A
0703	Wagner, Eric	N/A
0704	Crawford, Katharyn	N/A
0705	Lowry, Eileen	N/A
0706	Gilhooly, Jacqueline	N/A
0707	Ten Hoeve, DJ	N/A
0709	Minerva, Daniel	N/A
0710	Holzman, Dianne	N/A
0711	Hagelin, Christyn	N/A
0712	McLester, Laura	N/A
0714	Vickers, Jenny	FL1
0715	Z, Mike	N/A
0716	Klump, Edward	FL4 Master
0717	Murray, Christine	N/A
0718	Sanford, Geff	N/A
0719	Kovacs, Ernest	N/A
0720	Smith, Cynthia	N/A
0721	Keyes, Darice	N/A
0722	Minerva, Corey	N/A
0724	Murray, Margot	N/A
0725	Murray, Lauren	N/A
0726	Mates, Mindy	N/A
0727	Mills, Jon	N/A
0728	Haas, Michele	N/A
0729	Haas, Casey	N/A
0730	Sawyersawyer, Don	N/A
0731	Kaletkowski, Patricia	N/A
0733	ODonoghue, Marilyn	N/A
0735	Katz, Lee	N/A
0736	Adams, Patrick	N/A
0737	Caputo, Vincent	FL4

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0738	Kegelman, Jane	N/A
0739	Kegelman, Jane	N/A
0740	Borghard, Bill	N/A
0741	Pearson, John	N/A
0742	Long, Leslie	N/A
0743	McKenna, Susan	N/A
0744	Moon, Irene	N/A
0747	Manzione, Frank	FL4
0748	Luczkow, Michael	N/A
0749	Lapihuska, Debra	N/A
0750	Gindin, Meryl	N/A
0751	Metz, Janis	N/A
0752	McCann, James	N/A
0753	Kurek, Kathleen	N/A
0754	Ragone, Jean	N/A
0755	Rotella, Dennis	N/A
0756	Rotella, Dennis	N/A
0758	Labruzzo, Linda	N/A
0759	Brancato-Leva, Diane	N/A
0760	B, S	N/A
0761	BeMent, Owen	N/A
0762	Bement, Sherril	N/A
0763	Mueller, Thomas	N/A
0765	LeoneLeone, PE, Frank	N/A
0766	Benson, Eric	FL1
0767	Mal, Linda	N/A
0768	Campbell, Penny	N/A
0769	Malyon, Ann	FL1
0770	Oerke Jr, Carl	FL1
0771	McGuinness, Karen	FL1
0772	Koehler, Christine	FL1
0773	Aguilar, Tom	FL1
0774	Stuebben, Angela	FL1
0775	Sellon, Louise	FL1
0776	Pascale, Connie	FL1
0777	Kornfeld, Laurel	FL1
0778	Smyth, Donna	FL1
0779	DeLuca, Glenn	FL1
0780	Greer, Jamie	FL1
0781	Henson, Linda	FL1
0782	Hanlon, Susan	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0783	Y, G	FL1
0784	Edgar, Michelle	FL1
0785	Smith, Jaszmenne	FL1
0786	Perlmutter, Mark	FL1
0787	Cipolla, Patricia	FL1
0788	Charles, Dorian	FL1
0789	Pellegrino, Margo	FL1
0790	Sippie-Gora, Jo	FL1
0791	Schreiber, John	FL1
0792	Shields, Daniel J.	FL1
0793	Russell, Marilyn	FL1
0794	Barth, Stephen	FL1
0795	Joyce, Michael	FL1
0796	Bell, Jerome	FL1
0797	Strykowski, Kathleen	FL1
0798	Salvatoriello, Larry	FL1
0799	Solomon, Beverly	FL1
0800	Sandritter, Ann	FL1
0801	Maccari, Joan	FL1
0802	Mitchell, Leeanne	FL1
0803	Harkov, Ronald	FL1
0804	Sherry, Fran	FL1
0805	Toomey, Maura	FL1
0806	Lopez, Ariel	FL1
0807	Burval, Peter	FL1
0808	Foxton, Trevanne	FL1
0809	Kecskes, Robert	FL1
0810	Wheeler, John	FL1
0811	Hickey, Sean	FL1
0812	Ramos, Joann	FL1
0813	Bilenchi, Henry	FL1
0814	Hansen, Charles	FL1
0815	Roman, Charlene	FL1
0816	Ruhl, John	FL1
0817	Reicher, Nicole	FL1
0818	Luff, Brad	FL1
0819	Alvare, Michelle	FL1
0820	Thuebel, Joan	FL1
0821	Golden, Jeanne	FL1
0822	Barrett, Kathleen	FL1
0823	Kobbe, Carol	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0824	Rolston, Pat	FL1
0825	Farreny, Ashley	FL1
0826	Cloud, Jarrett	FL1
0827	Pantaleo, Tari	FL1
0828	Byrnes, Louise	FL1
0829	Carnevale, Robert	FL1
0830	Kirsh, Julie	FL1
0831	S., Sylvia	FL1
0832	Schoggen, Stephen	FL1
0833	Elio, Caroline	N/A
0834	Shields, Steve	N/A
0835	Grosso, Kenneth C.	FL1
0836	Berman, Maureen	FL1
0837	McCall, Barbara	N/A
0838	Ryan, William	FL1
0839	Goetschius, Lascinda	FL1
0840	Polo, Eric F	FL1
0841	Polo RN, Eric F	FL1
0842	Toher, Jean	FL1
0843	Dillon, Brenna	N/A
0844	Ramirez, Jessica	FL1
0845	Tafaro, Colleen	N/A
0846	Notaro, Ralph	FL1
0847	McKillip, Linda	FL1
0848	Abbas Parker, Ibn-Umar	FL1
0849	Wright, Craig	N/A
0850	Mccullagh, Charlie	FL1
0851	Whitener, Dr. Scott	FL1
0852	Krietzberg, Jo Ann	FL1
0853	Kasbarian, A	FL1
0854	Avallon, Barbara	FL1
0855	Wolf, Anne	FL1
0856	Barrett, Elizabeth	FL1
0857	Palmonari, Renee	FL1
0858	Benz, Wolfgang	FL1
0859	Killian, Caitlin	FL1
0860	Mignola, Lynn	FL1
0861	Manthey, P	FL1
0862	Gorin, Eugene	FL1
0863	Swift, Robert	FL1
0864	Czekaj, Robert	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0865	Palomo, Andres	FL1
0866	Maher, Kathleen	FL1
0867	Waltzer, Mark	FL1
0868	Jocz, Edmund	FL1
0869	Sullivan, Mary	FL1
0870	Cranmer, Julia	FL1
0871	De Stefano, Ron	FL1
0872	McClure, Louise	FL1
0873	Boice, Ruth	FL1
0874	Hazynski, Chris	FL1
0875	Bushkoff, Paula	FL1
0876	Pollitto, Daurie	FL1
0877	Pollitto, Robert	FL1
0878	Stoll, Noel	FL1
0879	Pollitto, Nancy	FL1
0880	Seymour, Lynn	FL1
0881	Clewell, Gregory.A..	FL1
0882	Murchison, Virginia	FL1
0883	Magie, Bambi	FL1
0884	Williams, Paul	FL1
0885	Sikand, Vikram	FL1
0886	Coomber, Annette	FL1
0887	Young, Marianne	FL1
0888	Dietz, Janet	FL1
0889	Panila, Chris	FL1
0890	Bannon, Kevin	FL1
0891	Welsh, Stacie	FL1
0892	Canright, Mark	FL1
0893	Hansen, Amy	FL1
0894	Canright, Rebecca	FL1
0895	Strauch, Jim	FL1
0896	Maron, Andrew	N/A
0897	Birck, Mathew	FL1
0898	Dresdale, Diane	FL1
0899	Zeitler, Suzanna	FL1
0900	Chirico, David	N/A
0901	Chenelle, Susan	FL1
0902	Langelotti, Alexis	FL1
0903	Kellett, James	FL1
0904	Books, Jennifer	FL1
0905	Santoro, Patricia	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0906	Hannon, Mary	N/A
0907	Reichert, Paul	N/A
0908	Nierstedt, Bill	FL1
0909	Hennessy, Eleanor	FL1
0910	Duggan, Betty Ann	FL1
0911	Voitek, Elaina	N/A
0912	Serowatka, John	N/A
0913	Leone, PE, Frank	N/A
0914	Leone, PE, Frank	N/A
0915	LaVine, Ben	FL1
0916	Gimblette, Claudine	FL1
0917	Hoffman, John	FL1
0918	Restifo, Liza	FL1
0919	Furnari, Russell	FL1
0920	Feldman, Stuart	FL1
0921	Vargas, Anthony	FL1
0924	Neel, Robert	N/A
0925	Barth, Dale	FL1
0926	Lebron, Jody	FL1
0927	Abbasparker, Ibn-Umar	FL1
0928	Johnson, Kenneth W	FL1
0929	Heyer, Diane	FL1
0930	Soteropoulos, Patricia	FL1
0931	Ondik, Liz	N/A
0932	Ndoye, Elizabeth	FL1
0933	Smith, Joseph	N/A
0934	Cohen, Edward	FL1
0935	HarperHarper, Ken	N/A
0937	Stratton, Kim	N/A
0938	Kirby, Nita	FL1
0940	Fiore, Emily	N/A
0942	Warrenburg, Stephen	FL1
0943	Russo, Brian	FL1
0944	Salan, Evan	FL1
0945	Clark, Jeanine	N/A
0946	Lowry, Scott	N/A
0947	North Shirk, Susan	N/A
0949	Peterson, Jr., John	N/A
0952	McCown, Brigham	N/A
0953	Doyle, Trevor	N/A
0954	Schaffer, Ryan	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0955	Barroway, Pamela	FL1
0956	Henselder-Kimmel, Marie	FL1
0957	Cahill-Makowsky, Ann	FL1
0958	Zion, Menas	FL1
0959	Araujo, Jamie	FL1
0960	Donlevie, Marie	N/A
0961	Davis, Wendy Jo	N/A
0962	Coyne, Frank	N/A
0963	Wieboldt III, Dennis	N/A
0964	Foltz, Jordyn	N/A
0965	Hornick, Mark	N/A
0966	McEneany, Robert	N/A
0968	Peacock, Briana	N/A
0970	Braun, Joseph	N/A
0971	Burmess, Doris	N/A
0973	McMonagle, Bernie	N/A
0974	Feldmus, Mike	N/A
0976	Ross, Bonnie Sue	N/A
0977	knaack, dennis	FL1
0978	K, Katherine	N/A
0979	Sales, Danielle	FL4
0980	Furman, Lawrence	N/A
0981	Karvan, Leslie	N/A
0982	DeMarco, Anthony	FL4
0983	Lytle, Denise	FL1
0984	Wenzel, Brick	N/A
0985	A Melfi, Patti	N/A
0986	Dubel, D.C., James	FL4
0987	Nangle, Mike	N/A
0988	Nangle, Mike	N/A
0989	Mcgee, Joan	N/A
0990	Mcgee, Katie	N/A
0992	Franceschino, John	N/A
0993	Kane, Pamela	FL1
0994	Makofske, David	FL1
0995	Kelly, Brendan	N/A
0996	Diamond, Nichole	FL1
0997	Goodman, Ken	FL4
0998	Barnes, Renee	FL4
0999	Rosenberg, Michael	FL4
1000	Rowohlt, Theresa	N/A

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
1001	Larsen, Ashley	FL1
1002	Larsen, Randi	FL1
1003	Nagiewicz, Joe	FL1
1004	coughlin, m	N/A
1005	Vaccaro, Denise	FL4
1006	Olivo, Jogina	FL1
1007	Smith, Paul	FL1
1008	Scianna, Rosemarie	N/A
1009	Estrella, Leonardo	FL1
1010	Larsen, Greg	FL1
1011	Larsen, Amber	FL1
1013	N/A, N/A	N/A
1014	McConnell, Ellen	FL1
1015	Schade, Corey	N/A
1016	Caporrino, Pietro	FL1
1017	Vargas, Dawn	FL1
1018	Mcguinness, Karen	FL1
1019	Vincent, John	FL1
1020	Norton, Chris	N/A
1021	Ferris, John	FL1
1022	Scarpati, Charles	FL1
1023	Banes, Edward	FL1
1024	Edmonds, Tadri	FL1
1025	Epstein-Teliha, Carla	FL1
1026	Lowery, V	FL1
1027	Lottero, Dennis	FL1
1028	Shambaugh, Gerald	FL1
1029	McSorley, Daniel	FL1
1030	Yacavone, Donald	FL1
1031	Fowler, Ivy	FL1
1032	Lynch, Eileen	FL1
1033	Sherman, Alan	FL1
1034	Yurcich, Regis	FL1
1035	Conklin, Rhonda	FL1
1036	Erba, Annalisa	FL1
1037	DeSantis, Barbara	N/A
1038	Harris, Debra	FL1
1039	Horn, Djar	FL1
1040	Stevens, Craig	N/A
1041	Howard, Ruth	FL1
1042	King, Fawn	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
1043	Pletenik, T	FL1
1044	Oconnell, Morgane	FL1
1045	Lindskoog, Verna	FL1
1046	Greco, Ellie	N/A
1047	Kimmel, Kevin	FL1
1049	Plunkett, Michael	FL1
1050	Atwell, James	FL1
1051	Hazzard, Mark	FL1
1052	Blumenthal, Helen	FL1
1053	Miletta, Jeffrey	FL1
1054	Tozer, Ann	FL1
1055	Gillespy, Nicole	FL1
1056	Wells, Joshua	FL1
1057	Senko, Jen	FL1
1058	Rothrock, Donald	FL1
1059	Galli, Robert	FL1
1060	Fede, Kathleen	FL1
1061	Chasnow, Jo-Anne	FL1
1062	Moody, Richard	FL1
1063	Jacob, Jim	FL1
1065	Szymak, Sue	FL1
1066	Dogas, Robin	FL1
1067	Grant, Richard	FL1
1068	Costas, Susan	FL1
1069	Boyle, Barbara	FL1
1070	W, B	FL1
1071	Coughlin, Tim	N/A
1072	McGrath, Mark	FL1
1073	Coomber, Steve	FL1
1074	Landsman, Eugene	FL1
1075	Goldenbaum, Walter	FL1
1076	Hoffman, Alan	FL1
1077	Infanti, Kristin	FL1
1078	McLean, William	FL1
1079	Martin, Gary	FL1
1080	Lemke, Alison	N/A
1081	Braxton, Cathy	FL1
1082	Lacko, James	FL1
1083	Agugian, Paul	FL1
1084	Schautz, Donna	FL1
1088	Simonelli, John	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
1089	Tustin, Clare	FL1
1090	Coultas, Bruce	FL1
1091	Ariel, Linda	FL1
1092	Egan, Chris	FL1
1093	Hurwich, Sharon	FL1
1094	Doyle, Patricia	FL4
1095	Zeaman, Claire	FL1
1096	Ballard, Reginald	FL1
1097	C, Lin	FL1
1098	Carter-Macchione, Veronica	FL1
1099	Gillespy, Nicole	FL1
1100	Monaco, Dawn	N/A
1101	Morris, Pat	FL1
1102	Bachman, Philip	FL1
1103	Salvatore, Marsha	FL1
1104	Newhouse, Brian	FL1
1105	Kalt, Beth	N/A
1106	King, Katie	FL4
1107	B-----, E----	N/A
1108	Frio, Winnie	N/A
1109	Barbato, Sally	N/A
1111	Petrucci, Derek	N/A
1112	D, Lisa	N/A
1113	Wilbert, Laura	N/A
1114	Valentini, Alison	N/A
1115	Valentini, Alison	N/A
1116	Melone, Thomas	N/A
1117	Kelly, Tom	N/A
1119	Vargas, Sunni	N/A
1120	Freidel, Rav	N/A
1121	Tatem, Ginger	N/A
1122	McConnell, Ellen	FL1
1123	MacFarlane, Robert	FL1
1124	Caputi, Gary	N/A
1125	Barten, Ted	N/A
1126	Calderone, Michael	FL1
1127	Smith, Diane M	FL1
1128	Beeman, Burt	FL1
1129	Mena, Anibal	FL1
1130	Wilt, Jeffrey	FL1
1131	Murray, Thomas	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
1132	Crowley, Therese	FL1
1133	Strykowski, Kathleen	FL1
1134	Dunn, John	FL1
1135	Deats, Mark	FL1
1136	Matlock, Dan	FL1
1137	Kangas, Rachel	FL1
1138	Young, Elizabeth	FL1
1139	Zelop, Bernadette	FL1
1140	Lazarus, Sara Louise	FL1
1141	Edwards, William	FL1
1142	Stork, Lindy	FL1
1143	Ward-Gallagher, Josie	FL1
1144	Hook, Herman	FL1
1145	Hayes, R	FL1
1146	Schmitt, Peter	FL1
1147	Turi-Smith, Deb	FL1
1148	Binelli, Derek	FL1
1149	Power, Thomas	FL1
1151	Gibbons, Joanne	FL1
1152	Friedman, Gary	FL1
1153	McBride, Owner James	FL1
1155	Djimopoulos, Barbara	FL1
1157	Giovanniello, Jen	N/A
1158	Williams, Indigo	N/A
1159	Borden Jr, Peter	FL1
1160	OConnell, Siobhan	FL1
1161	Lazar, Arlene	FL1
1162	Hyun, Philip J.	FL1
1163	Gindhart, Robin	FL1
1164	Rupino, Darlene	FL1
1165	Campbell, Kelly	FL1
1166	Ford, Marybeth	FL1
1167	Porter, James	FL1
1168	Ewing, Jackie	FL1
1169	Post, Robert	FL1
1170	McNamara, James	FL1
1171	Friedman, Arline	FL1
1172	Sadowski, Eddie	FL1
1173	Fisk, Raymond	N/A
1174	Brown, Lawrence	FL1
1175	Stehlik, Richard	FL1

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
1176	Calderone, Michael	FL1
1179	Aspinall, Ken	FL1
1180	Edler, Allen	FL1
1181	McMonagle, Bernard	N/A
1182	McMonagle, Bernard	N/A
1183	Maysek, Ann	N/A
1185	Foulkrod, LeRoy	N/A
1191	Powell, David	N/A
1197	Allen, Dorothy	FL1
1198	Gilbert, Cassandra	FL1
1199	Palazzo, Rosemary	FL1
1200	Vollherbst, Linda	FL1
1201	Sedlack, Bill	FL1
1204	Kerrigan, John	FL1
1206	McWilliams, Rita	FL1
1208	Benson, Joseph	FL1
1209	Baranowski, Marguerite	FL1
1210	Bailey, Kathleen	FL1
1211	brehm, August	FL1
1213	Westergaard, Reid	FL1
1214	Erwood, Regina	FL1
1215	Hamilton, J	FL1
1216	Bombolewicz, Patty	N/A
1217	Conforti, Anthony	FL1
1218	Dorsey, Morean	FL1
1219	Miller, Suzanne	FL1
1220	Hatoff, Harlee	FL1
1221	Scott, Elisa	FL1
1223	Fisher-Avatar, Linda	FL1
1224	Simon, Robin	FL1
1225	Harwood, Douglas	FL1
1226	Blitz, Roberta	FL1
1227	Saunders, Marilyn	FL1
1228	Guardian, Don	N/A
1229	Godumski, Evelyn	FL1
1232	Blankemeyer, Carl	N/A
1236	Geiger, James	N/A
1237	K, C	N/A
1238	K, C	N/A
1239	Hornick, Suzanne	N/A
1240	Mal, Lin	N/A

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
1242	Parsons, Sue	N/A
1244	Etedali, Anthony	N/A
1245	Himchak, Peter	N/A
1249	Feeney, Timothy	N/A
1250	Sherer, Adam	N/A
1251	Ferrara, Amanda	N/A
1253	MasessaMasessa, Gina	N/A
1255	Bond, Sarah	N/A
1260	DellaPietro, William	FL4
1261	Fernandes, Simon and Stefania	FL4
1262	Todd Jr., Emory	N/A
1263	Public, Jean	N/A
1264	Durr, Senator Edward	N/A
1267	Feairheller, John A	N/A
1270	Amberg, Diane	N/A
1271		N/A
1274	Fiani, Anthony	N/A
1275	Hyde, Beth	N/A
1276	O'Neill, Ren and Danielle	FL4
1279	Patricia Doyle, Kelly Smentkowski-Norton	N/A
1282	Anita Burkat, Kathy Kowalski	FL4
1283	Arce, Tara Louis	FL4
TRANS-0005	Ebert, Joan Marie	N/A
TRANS-0011	Oleath, Chris	N/A
TRANS-0013	Feretti, Gregory	N/A
TRANS-0016	Shades, Miles	N/A
TRANS-0024	Snyder, Bill	N/A
TRANS-0026	Hornick, Suzanne	N/A
TRANS-0027	Schaffer, Robin	N/A
TRANS-0030	Eidman, Paul	N/A
TRANS-0032	Battersby, Jeff	N/A
TRANS-0033	Warring, Tim	N/A
TRANS-0034	Gross, Dave	N/A
TRANS-0035	Finelli, Steve	N/A
TRANS-0036	Diaz, Phil	N/A
TRANS-0038	Finelli, Mary	N/A
TRANS-0039	Cerrito, Mario	N/A
TRANS-0042	Klein, Zachary	N/A
TRANS-0043	Florio, James	N/A

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
TRANS-0044	Walling, Jacquelin	N/A
TRANS-0049	Pannone, Michael	N/A
TRANS-0050	Quilter, Sharon	N/A
TRANS-0052	Cerceo, Elizabeth	N/A
TRANS-0056	Bertsch, Ric	N/A
TRANS-0057	Gans, Aviva	N/A
TRANS-0058	Bonano, Lisa	N/A
TRANS-0059	Jones, Randy	N/A
TRANS-0060	P, David	N/A
TRANS-0062	Hammond, Ken	N/A
TRANS-0065	Hyde, Beth	N/A
TRANS-0066	Roland, Ed	N/A
TRANS-0067	Ebert, Joan	N/A
TRANS-0077	Bertsch,	N/A
TRANS-0078	Potosnak, Edward	N/A
TRANS-0079	Gfrorer, John	N/A
TRANS-0080	Gonolfi, Dan	N/A
TRANS-0083	Coughlin, Tim	N/A
TRANS-0086	Eidman, Paul	N/A
TRANS-0088	Krane, Jason	N/A
TRANS-0090	Ebert, Joan Marie	N/A
TRANS-0095	Schambach, Lynn	N/A
TRANS-0097	Wenzel, Brick	N/A
TRANS-0098	Guarraggi, Alfonso	N/A
TRANS-0099	Klemmer, Keith	N/A
TRANS-0105	Clarke, Christine	N/A
TRANS-0106	Filosa, Matt	N/A

N/A = not applicable

Table O.9-7 Anonymous

Letter Number	Commenter
0015	Anonymous
0049	Anonymous
0072	Anonymous
0117	Anonymous
0283	Anonymous
0387	Anonymous
0428	Anonymous
0433	Anonymous
0441	Anonymous

Letter Number	Commenter
0442	Anonymous
0458	Anonymous
0509	Anonymous
0514	Anonymous
0550	Anonymous
0605	Anonymous
0620	Anonymous
0642	Anonymous
0654	Anonymous
0674	Anonymous
0681	Anonymous
0690	Anonymous
0700	Anonymous
0702	Anonymous
0708	Anonymous
0713	Anonymous
0723	Anonymous
0732	Anonymous
0734	Anonymous
0745	Anonymous
0746	Anonymous
0757	Anonymous
0923	Anonymous
0936	Anonymous
0969	Anonymous
0972	Anonymous
1048	Anonymous
1112	Anonymous
1189	Anonymous
1193	Anonymous
1205	Anonymous
1235	Anonymous
1246	Anonymous
1256	Anonymous
1257	Anonymous

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