APPENDIX G:

SUMMARY OF PUBLIC COMMENTS AND BUREAU RESPONSES

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TABLES

ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
AIS	aquatic invasive species
BOEM	Bureau of Ocean Energy Management
BSEE	Bureau of Safety and Environmental Enforcement
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CHNMS	Chumash Heritage National Marine Sanctuary
CINMS	Channel Islands National Marine Sanctuary
CSLC	California State Lands Commission
DEEP	Decommissioning Emissions Estimation for Platforms
DMMT	Dredged Material Management Team
DOI	U.S. Department of the Interior
EFH	essential fish habitat
EIS	environmental impact statement
EJ	environmental justice
EPA	Environmental Protection Agency
FOIA	Freedom of Information Act
GAO	Government Accountability Office
GHG	greenhouse gas
HAPC	habitat areas of particular concern
KOP	key observation point
MMPA	Marine Mammals Protection Act
MPA	marine protected area
MRLA	Marine Resources Legacy Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NMSA	National Marine Safety Association
NOAA	National Oceanic and Atmospheric Administration
NORM	naturally occurring radioactive material
NPS	National Park Service

NRHP	*National Register of Historic Places*
NSRA	navigation safety risk assessment
O&G	oil and gas
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act
ONMS	Office of National Marine Sanctuaries
PEIS	programmatic environmental impact statement
PFMC	Pacific Fishery Management Council
ROD	record of decision
TCP	traditional cultural property
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service

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G.1 INTRODUCTION

On October 12, 2022, the Bureau of Safety and Environmental Enforcement (BSEE) published a notice of availability (NOA) in the *Federal Register* that announced a 47-day public comment period on the draft Programmatic Environmental Impact Statement (PEIS) for Oil and Gas Decommissioning Activities on the Pacific Outer Continental Shelf (OCS). The PEIS will inform future decisions on decommissioning applications for offshore oil and gas platforms in federal waters off southern California. Twenty-three California OCS oil and gas platforms, all installed between the late 1960s and 1990, are subject to eventual decommissioning. The comment period was extended, and closed January 10, 2023. The Bureau of Ocean Energy Management (BOEM) hosted two virtual public meetings on November 10 and November 15, 2022, to share information about BOEM's environmental review process and to solicit public input on the draft PEIS.

In total 34 submissions containing comments on the draft PEIS were received. Of these, 25 were submitted via www.regulations.gov (docket BOEM-2021-0043) and nine via public comment hearings; 33 were identified as unique and one submission was a duplicate. No form letter campaigns were identified. Each of the submittals contained one or more individual comments on one or more different topics. A hierarchical issue outline was developed to include key issues identified by BOEM staff, issues identified by the commenters, and categories identified in the NOA. Each submittal was then reviewed to identify the substantive comments within each submittal and used the issue outline to associate each substantive comment to the issue(s) to which it applies.

Commenters that expressed specific opinions are identified by footnotes following their summarized statements. These footnotes provide representative examples of the commenters providing particular concerns or opinions and are not meant to be exhaustive of all commenters providing similar comments.

Table 1 identifies the Submission ID number which was assigned to each commenter submission, the commenter name, and commenter type (e.g., federal agency, trade organization) for the 33 unique submissions reflected in this summary. Table 2 provides the count of submission letters associated with each issue topic.

TABLE G.1 Index of Comment Submissions Sorted by Commenter Name

Submission ID	Commenter Name	Commenter Type
BOEM-2021-0043-TRANS-0009	America's Green Corp.	Business/Trade Association
BOEM-2021-0043-0051	Ann Scarborough Bull	Academic
BOEM-2021-0043-0059	Anonymous	Anonymous
BOEM-2021-0043-0044	California Fishermen's Resiliency Association	Business/Trade Association
BOEM-2021-0043-0060	California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission	State Government

TABLE G.1 (Cont.)

Submission ID	Commenter Name	Commenter Type
BOEM-2021-0043-0058	Center for Biological Diversity	Advocacy Group
BOEM-2021-0043-TRANS-0008	Climate Foundation	Advocacy Group
BOEM-2021-0043-0052	Coastal Coordination Program, The Ocean Foundation	Advocacy Group
BOEM-2021-0043-0062	Commercial Fishermen of Santa Barbara	Business/Trade Association
BOEM-2021-0043-0041	Environmental Defense Center et al.	Advocacy Group
BOEM-2021-0043-TRANS-0005	Environmental Defense Center in Santa Barbara	Advocacy Group
BOEM-2021-0043-TRANS-0002	Environmental Defense Center in Santa Barbara	Advocacy Group
BOEM-2021-0043-0057	Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs	Advocacy Group
BOEM-2021-0043-TRANS-0003	Individual - Commercial Fisherman in Santa Barbara	Individual
BOEM-2021-0043-0046	Jeremy Claisse	Individual
BOEM-2021-0043-0047	Matthew Kim	Individual
BOEM-2021-0043-0045	Congressional Committee on Natural Resources and Subcommittee on Energy and Mineral Resources	11 Federal Elected Officials
BOEM-2021-0043-0049	Merit McCrea	Individual
BOEM-2021-0043-0056	National Oceanographic and Atmospheric Administration (NOAA)	Federal Agency
BOEM-2021-0043-TRANS-0004	Ocean Foundation	Advocacy Group
BOEM-2021-0043-0054	Pacific Coast Federation of Fishermen's Associations (PCFFA) and Institute for Fisheries Resources (IFR)	Business/Trade Association
BOEM-2021-0043-0048	Pacific Fishery Management Council	Federal Agency
BOEM-2021-0043-0042	Pacific Fishery Management Council	Federal Agency
BOEM-2021-0043-0040	Pacific Fishery Management Council	Federal Agency
BOEM-2021-0043-TRANS-0007	Santa Barbara Channel Keeper	Advocacy Group
BOEM-2021-0043-0061	Santa Barbara Channel Keeper	Advocacy Group
BOEM-2021-0043-0055	Santa Barbara County Air Pollution Control District	Local Government
BOEM-2021-0043-DRAFT-0042	Santa Ynez Band of Chumash Indians	Tribal Government
BOEM-2021-0043-0064	Senators Dianne Feinstein and Alex Padilla	Federal Elected Official
BOEM-2021-0043-TRANS-0006	Surf Rider Foundation	Advocacy Group
BOEM-2021-0043-TRANS-0001	Surf Rider Foundation	Advocacy Group
BOEM-2021-0043-0063	U.S. EPA	Federal Agency
BOEM-2021-0043-0050	U.S. Coast Guard (USCG)	Federal Agency

This table provides the number of submissions that have been identified for each issue area.

TABLE G.2 Submissions, by Issue

Issue Number	Issue Title	Total Submissions
1	Affected Environment	0
1.1	Air Quality	9
1.2	Acoustic Environment	5
1.3	Water Quality	10
1.4	Marine Habitats, Invertebrates, and Lower Trophic-Level Communities	15
1.5	Marine Fish and Essential Fish Habitat	12
1.6	Sea Turtles	4
1.7	Marine and Coastal Birds	4
1.8	Marine Mammals	5
1.9	Commercial and Recreational Fisheries	11
1.10	Areas of Special Concern	6
1.11	Archeological and Cultural Resources	3
1.12	Visual Resources	3
1.13	Environmental Justice	4
1.14	Socioeconomics	4
1.15	Commercial Navigation and Shipping	8
1.16	Consultation and Coordination	6
1.17	Comments on other resource topics	4
2	Alternatives, Including the Proposed Action (Chapter 2)	0
2.1	Comments on Proposed Action and Alternatives	0
2.1.1	Proposed Alternatives (1,2,3,4)	14
2.1.2	Alternatives considered but eliminated from further evaluation	1
2.1.3	Other comments on the PEIS	1
2.2	Comments on Decommissioning Activities	5
2.2.1	Long-term implications of decommissioning activities	7
2.2.2	Chain of liability	5
2.2.3	Mitigation	8
2.2.4	Management and monitoring	5
2.2.5	Financial implications	6
2.2.6	Upper jacket/lower jacket removal or relocation	6
2.2.7	Deck/Topside Removal	1
2.2.8	Pipeline Removal	4
2.2.9	Power Cable Removal	2
2.2.10	Seafloor Clearing/Site clearance verification	0
2.2.11	Disposal	7
3	Environmental Consequences (Chapter 4)	1
3.1	Assessment Approach	4
3.2	Impact-Producing Factors	2
3.3	Mitigation Measures	7
3.4	Impact Levels	0
3.5	Cumulative Impacts	6

TABLE G.2 (Cont.)

Issue Number	Issue Title	Total Submissions
3.6	Environmental Consequences	0
3.6.1	Air Quality	2
3.6.2	Acoustic Environment	1
3.6.3	Water Quality	2
3.6.4	Marine Habitats and Invertebrates	3
3.6.5	Marine Fishes and Essential Fish Habitat	2
3.6.6	Sea Turtles	0
3.6.7	Marine and Coastal Birds	1
3.6.8	Marine Mammals	1
3.6.9	Commercial and Recreational Fisheries	0
3.6.10	Areas of Special Concern	0
3.6.11	Archaeological and Cultural Resources	1
3.6.12	Visual Resources	0
3.6.13	Environmental Justice	1
3.6.14	Socioeconomics	0
3.6.15	Commercial Navigation and Shipping	0
4	Other NEPA Considerations (Chapter 5)	0
4.1	Unavoidable adverse environmental effects (impacts on physical, ecological, social, cultural, and economic resources)	0
4.2	Relationship between short-term uses and long-term productivity	0
4.3	Irreversible and irretrievable commitments of resources	0
5	Consultation and Coordination (Chapter 6)	0
5.1	Process for preparation of the PEIS (including scoping and commenting)	2
5.2	Distribution of the draft and final PEIS	1
5.3	Regulatory Compliance (CZMA, MMPA, ESA, Magnuson-Stevens Fishery Conservation and Management Act, NMSA, NFEA, RHA, Tribal Consultation)	9
6	Other topics	0
6.1	NPHA/Section 106	1
6.2	Department of Defense-related comments	0
6.3	Inter-governmental Coordination (include state, Fed, local gov)	7
6.4	Safety (e.g., oil spill, hazmat, upkeep and maintenance, marine debris)	13
6.5	Request for extension of comment period	10
6.6	Comment on alternative energy sources and technology	5
6.7	Other comments on the PEIS	3
7	General comments	0
8	Out of Scope	0

G.2 AFFECTED ENVIRONMENT

Comments associated with this issue are included in the subsections below.

G.2.1 AIR QUALITY

Approximately 10 commenters discussed air quality in the context of affected environment in the PEIS.

A commenter wrote that decommissioning oil and gas (O&G) platforms would likely require Air Pollution Control District permits and, therefore, a California Environmental Quality Act (CEQA) review. The commenter stated that the Proposed Action would likely result in potentially significant air quality and greenhouse gas (GHG) impacts that would also require mitigation under CEQA. The commenter also described the process for CEQA analyses.[1] In a joint submission, a few commenters similarly stated that a GHG emissions analysis should be performed under the California Global Warming Solutions Act and CEQA guidelines. The commenters stated that this analysis should:

- *"identify a threshold for significance for GHG emissions;*
- *calculate the level of GHGs that will be emitted as a result of the various phases of the decommissioning (individual and cumulative), including: where vessels and equipment would be sourced from, mobilization of vessels and equipment, decommissioning of platforms, where the platforms would be transported for disposal and recycling, transportation to onshore disposal and recycling sites, and shoreside disposal;*
- *determine the significance of the impacts of those emissions; and*
- *if impacts are significant, identify mitigation measures that would reduce them to the extent feasible (such as limiting vessel speeds or requiring vessels to use low-sulfur fuels."[2]*

A commenter said that the PEIS failed to adequately consider the constructive impacts of plugging abandoned wells on methane emissions and climate change, citing a study as indicating that doing so would be environmentally beneficial.[3]

A joint submission from several commenters requested that the PEIS analyze, under Alternatives 2-4, possible air pollution impacts related to cleanup efforts in the event of natural

1 Santa Barbara County Air Pollution Control District.

2 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

3 Coastal Coordination Program, The Ocean Foundation.

disasters or human-caused events damaging pipelines and especially debris mounds.[4] *Another commenter stated that total lifecycle carbon footprint of each drilling rig must be considered for each decommissioning, "including exploration preceding the original lease bid submission, seismic surveys, exploratory drilling, development drilling, production of oil or gas, refining of produced petroleum, transport to point-of-sale for consumers, and tailpipe emissions from individual vehicles." The commenter asserted that considering only impact differences between total and partial decommissioning would underestimate the air quality impacts of decommissioning overall.*[5]

A few commenters made additional recommendations and requests of BOEM, including:

- *A commenter generally recommended that the PEIS' air quality analysis consider research from Byrd (2021) and Cantle and Brockstein (2015).*[6]
- *A commenter recommended that the air quality impact analysis include consideration for increased vessel traffic during decommissioning.*[7]
- *A commenter requested that BOEM suspend activity under all O&G leases on the Pacific OCS and cancel those leases for, among other reasons, air pollution associated with those leases.*[8]
- *A commenter recommended that BOEM specify the years during which decommissioning will take place and implement mitigation measures described in the 2019 BOEM report "Air Emissions Associated with Decommissioning Operations for Pacific Outer Continental Shelf Oil and Gas Platforms," including use of cleaner diesel engines. The commenter expressed concern that a characterization of air quality impacts as "temporary" may be misleading, reasoning that decommissioning activities could continue for several years. The commenter also opposed a characterization of the proposed action's air quality impacts as "minor," citing a 2019 BOEM report and stating that air quality impacts would carry over east to an area already overburdened with air quality impacts – the Los Angeles Basin.*[9]

Response:

The Bureaus recognize the delegations and jurisdictions of the Santa Barbara County Air Pollution Control District (SBCAPCD), the Ventura County Air Pollution Control District (VCAPCD), and the South Coast Air Quality Management District (SCAQMD) over OCS

4 Environmental Defense Center, Surfrider Foundation, and fifteen additional environmental nongovernmental organizations (ENGOs).

5 Coastal Coordination Program, The Ocean Foundation.

6 A. Scarborough Bull.

7 Pacific Fishery Management Council.

8 Center for Biological Diversity.

9 U.S. EPA.

sources, and this is discussed in Section 3.2.6 (Regulatory Controls on OCS Activities Affecting Air Quality) of the PEIS. Natural disasters and accidents can be addressed in site-specific assessments; however, they are not within the air quality scope of analysis in this assessment.

Because each decommissioning site has its own individual emissions profile, in-depth information on greenhouse gas (GHG) emissions will be addressed in subsequent assessments for individual decommissioning projects. This approach is also justified by the fact that decommissioning actions will likely be undertaken as campaigns in which several platforms would be decommissioned together, or in a planned sequential manner.

Regarding GHG emissions, the January 2023 California Environmental Quality (CEQ) Guidelines on GHG emissions does not call for identifying a threshold for significance, but rather provides guidance on putting emission estimates in context. In doing so, the GHG analysis was estimated over all areas (including 3 Districts and areas outside of the Districts and California) and over the entire duration of decommissioning activities at each platform for removal of all 23 platforms for the proposed action and alternatives (see Section 3.2.5 Air Emissions). This approach contextualizes these estimates in comparison to estimates of the number of homes with equivalent energy use annually, the number of gasoline-powered passenger cars on the road added annually, or gallons of gasoline consumed, and via application of social costs of GHG emissions to put the effect of the emissions in terms of dollars. The PEIS identifies potential mitigations such as using ultra-low sulfur diesel and complying with California Air Resources Board (CARB) standards for new and modified engines, and these are listed in Table 4.1-3. Additional mitigations of GHG emissions would be identified in tiered analyses for specific projects. Calculations for GHG emissions and mitigations for various phases of decommissioning will be reserved for site-specific assessments.

Regarding the use of the term "temporary," it is now explicitly defined as impacts that would cease following completion of an activity. For Alternatives 1 through 3 each, estimated durations have been added, projecting the total work-years that would be required for decommissioning all platforms using the Decommissioning Emissions Estimation for Platforms (DEEP) model, and those for each individual platform are presented in Appendix F.

Other comments in the above summary identify issues that either are already addressed in the PEIS (such as decommissioning-related changes in vessel traffic), will be addressed in site-specific National Environmental Policy Act (NEPA) analysis of decommissioning permit applications received by BSEE, or are out of scope.

G.2.2 ACOUSTIC ENVIRONMENT

Five commenters discussed acoustic environment in the context of affected environment in the PEIS.

A commenter generally stated that test devices and activities associated with decommissioning will produce disturbances that will negatively affect marine life.[10]

10 Santa Ynez Band of Chumash Indians.

Commenters also recommended that BOEM avoid explosive severance because of its acoustic impacts.[11] Another commenter wrote that the PEIS should consider all removal methods, including use of explosives, along with vibration impacts on wildlife. The commenter recommended that mitigation include species-specific work windows developed in coordination with the California Department of Fish and Wildlife (CDFW), the U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS).[12]

A joint submission from several commenters asked if, in addition to visual monitoring, use of acoustic arrays could help identify the presence of whales and stated that the cumulative impacts analysis should describe commercial shipping noise impacts on wildlife.[13]

Response:

Comments noted. The PEIS analyzes the potential impacts of noise on wildlife, including for both mechanical and explosive severance. Airborne and underwater noise are discussed in detail in Section 3.3, including NMFS in-air and underwater acoustic thresholds for marine mammals, and noise impacts are discussed in Section 4.2.8. Potential mitigation measures are presented in Table 4.1-3, including seasonal avoidance. Shipping traffic is identified as a contributor to cumulative impacts in Section 4.2.2.5. No text changes occurred.

G.2.3 WATER QUALITY

Approximately 10 commenters discussed water quality in the context of affected environment in the PEIS.

A commenter generally stated that impacts on water nutrients, temperature, light levels, turbidity, surface waves, and current patterns should be considered by the PEIS.[14]

A commenter stated that Section 3.4.2.2 incorrectly refers to "Northern Channel Islands National Marine Sanctuary" when it should say "Channel Islands National Marine Sanctuary" (CINMS). The commenter also recommended that Section 3.4.2.2 utilize more recent data and, in particular, refer to a CINMS 2016 Condition Report in addition to the research from 2001-2011 currently analyzed in that Section.[15] A joint submission from a few commenters stated that BOEM should acknowledge that its information on soft sediments and shell mounds surrounding the platforms is dated and limited, recommending that a condition assessment be performed for platforms and an assessment of the exchange of toxic chemicals from shell mounds to the water column. The commenter requested more specificity be provided in the PEIS as to the methods that will be used to analyze contaminants. In particular, the commenter expressed concern for

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11 Senators Dianne Feinstein Alex Padilla.

12 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

13 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

14 Santa Ynez Band of Chumash Indians.

15 NOAA.

contaminants including polychlorinated biphenyls, various heavy metals, and polycyclic aromatic hydrocarbons. The commenter stated that the analyses conducted for the installation of the Southern California platforms predate the Clean Water Act (CWA), and thus those analyses need to be reevaluated.[16]

A commenter requested that dredging be used minimally and on an evaluated, case-by-case basis in order to reduce water quality impacts. The commenter recommended that divers or remote operated underwater vehicles be used as an alternative. The commenter also stated that the PEIS needs to scrutinize the contamination risks posed by mounds under platform structures.[17]

The joint submission also cited PEIS statements regarding the expected releases from platforms Grace, Gail, Harvest and Hidalgo, requesting that similar evaluations of expected releases be provided for all platforms to be decommissioned.[18]

A commenter questioned how leaving pipelines on the sea floor would affect water quality, describing a Long Beach pipeline incident as indicative of the importance of long-term pipeline monitoring and maintenance.[19] *A commenter asked how pipeline flushing occurs without contaminating the environment with pipelines' contents.*[20]

A commenter requested that BOEM suspend activity under all O&G leases on the Pacific OCS and cancel those leases for, among other reasons, water quality impacts associated with those leases.[21]

Response:

The effects of nutrients from regulated ship discharges are noted in Section 4.2.3.1 of the PEIS as having minor effects on water quality. The effects of turbidity generated during bottom disturbance are noted throughout Section 4.2.3. During preparation of the PEIS, no evidence or research was found to suggest that decommissioning activities would affect sea temperature, surface waves, or current patterns. Nutrients and light levels may be changed due to activities, and this is noted in Section 4.2.3.

The Channel Islands National Marine Sanctuary (CINMS) name was corrected. Water quality existing conditions were updated with information from the CINMS 2016 Condition Report. Available studies of shell mound and surrounding sediments are summarized in Section 3.4.2.4. We agree that shell mounds and sediment disturbance should be analyzed at a

16 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

17 Commercial Fishermen of Santa Barbara.

18 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

19 Ocean Foundation.

20 Environmental Defense Center in Santa Barbara.

21 Center for Biological Diversity.

site-specific level. A statement has been added in Section 3.4.2.4 of the PEIS noting that sediment characterizations to date are limited and that further characterization will be conducted at each platform at the time of decommissioning. Section 4.3.2.1 identifies the regulatory manuals which include U.S. Army Corps of Engineers (USACE) and Environmental Protection Act (EPA) requirements for testing materials prior to dredging. These tests include the contaminants mentioned in the comments. The risks of contaminants in shell mounds are characterized in Section 4.2.3.1, based on the available characterization results. Pipelines would be cleaned and flushed internally while still connected. If the owner of the pipeline requests permission to abandon in place, the abandoned pipelines would be filled with seawater and the ends capped. Long-term risks from any releases of residual hydrocarbons in the pipelines would be minimal and not comparable to those from an active pipeline or natural seep release in the area.

G.2.4 MARINE HABITATS, INVERTEBRATES, AND LOWER TROPHIC-LEVEL COMMUNITIES

Approximately 15 commenters discussed marine habitats, invertebrates, and lower trophic-level communities in the context of affected environment discussed in the PEIS.

A commenter generally stated that there is too little information on the habitat value of oil platforms for invertebrates.[22] *Another commenter recommended that BOEM consider "decommissioning a jacket leaving the conductors in place" as a variation to Alternative 2.*[23,24]

A commenter requested that its prior comments, submitted in response to the October 14, 2021, Notice of Intent, be incorporated in the PEIS. In particular, the commenter stated that, while it supports the tiered EIS approach, the level of analysis in the PEIS is insufficient and provides too little specificity as to requirements for future site-specific National Environmental Policy Act (NEPA) analyses. The commenter stated that impacts on marine habitats and species are described too broadly and without sufficient supporting evidence.

That commenter also wrote that the threshold for significance is not adequately described. In particular, the commenter requested that BOEM (1) describe the activities that are analyzed under the PEIS, (2) name what activities will trigger project-level analyses, and (3) identify what those project-level analyses would entail. The commenter requested that conductor removal, the cleaning and discharge of marine growth from platform structures, oil and hazardous material spills, and increased vessel traffic be considered as activities that could impact marine habitats, that the impacts of conductor removal be specifically evaluated, and that the impacts of these activities be analyzed cumulatively.[25]

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22 M. Kim.

23 M. McCrea.

24 Santa Ynez Band of Chumash Indians.

25 Pacific Fishery Management Council.

The commenter also expressed concern that the analysis of scraping marine life from Hidalgo, Harvest, and Hermosa platform conductors would result in hypoxic conditions. The commenter stated that BOEM's analysis relies on a study from 1995 but provided studies from 2001, 2003, and 2021 that, the commenter wrote, would provide a more modern understanding of this impact. Furthermore, the commenter provided citations in stating that drilling materials affect sediment up to 2km from platforms and thus that a 2,000ft buffer would be insufficient. Similarly, the commenter stated that abrasive fluid discharge can impact areas up to 3.7 km from their source and potentially impact three reefs in the area. The commenter urged that project-specific assessments consider buffer requirements based on local conditions.[26] *A joint submission from a few commenters agreed that BOEM should conduct project-level analyses of impacts on resources habituating on and near platforms.*[27]

The commenter further stated that the PEIS fails to evaluate impacts on deep-sea corals, sponges, and hard substrates and expressed concern for impacts related to trawling during site clean-up. They wrote that "dredging" would be a more apt term and that the PEIS should provide more detail as to dredging impacts on benthic habitats and species. Furthermore, the commenter stated that Alternative 3 impacts on benthic habitats during transportation and disposal of platform structures to an artificial reef are not considered.[28] *A joint submission from a few commenters agreed that impacts on deep-sea corals, sponges, and other benthic habitat-forming species from dredging and other decommissioning activities should be analyzed in the PEIS along with mitigation measures such as seafloor mapping.*[29]

A commenter also recommended a number of analyses and mitigation measures related to sensitive benthic habitats and Essential Fish Habitats (EFHs), including:

- *"Avoid anchoring and/or mooring in [habitat areas of particular concern] (HAPCs) and other sensitive benthic habitats.*
- *Avoid using bottom dredging (defined as "trawling" in the PEIS) for site clearing in HAPCs and other sensitive benthic habitats. Prioritize alternative methods for removal of debris and site clearance verification that are less destructive than dredging, such as divers or "ROVs."*
- *Conduct high-resolution seafloor mapping and visual surveys of the potential area of impact (including the 'drift zone' of various debris materials) to identify important habitats such as biogenic habitats, or areas where fish species congregate, to inform decommissioning activities (e.g., debris removal activities).*

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26 Pacific Fishery Management Council.

27 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

28 Pacific Fishery Management Council.

29 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

- *Provide detailed maps of individual platforms that delineate expected disturbance to EFH and other sensitive benthic habitats from decommissioning activities. Project-level assessments of disturbance from decommissioning activities to EFH for each of the alternatives should consider appropriate buffers based on local currents and other environmental considerations.*

- *Implementation of setbacks from HAPCs and other sensitive benthic habitats for all decommissioning activities (e.g., anchoring/mooring of vessels, dredging during site cleanup, etc.).*

- *Pre- and post-decommissioning monitoring of benthic habitat to assess whether the proposed setbacks from HAPCs and other sensitive benthic habitats are sufficient to avoid impacts.*

- *An updated analysis that describes and quantifies the impacts on EFH and other sensitive benthic habitats that includes discharge from conductor cutting, discharge from cleaning marine growth off platform structures, the potential for oil and hazardous material spills (as discussed below), and increased vessel traffic. The analysis should evaluate and quantify the potential impacts on EFH sequentially as decommissioning activities would proceed and compare impacts on EFH across alternatives more explicitly. The EFH analysis should include impacts on Pacific Salmon EFH.*

- *A more thorough analysis of water quality issues and the potential for smothering benthic organisms from the discharges of abrasive fluids, including an analysis of alternative methods for discharging abrasive fluids to ameliorate such impacts.*

- *An initial in-situ analyses at a test site to assess the effects of rapid accumulation of abrasive grains from cutting in combination with removal of marine growth on benthic habitat and species, and whether an alternate strategy that disperses material over a longer duration is less impactful (i.e., reduces risk of smothering and hypoxic conditions).*

- *Expand Table 2-2 to include the estimated number of in-water workdays and amount of abrasive material discharged from cutting conductors and jackets for each platform and compare impacts across alternatives. Analysis of the effects of the decommissioning activities noted throughout this letter on marine fish and invertebrate species inhabiting the platform structures and in the vicinity of the structures. The analysis should quantify species displacement for both partial and full removal. The analysis should consider how fish productivity on platforms is influenced by platform attributes (depth, distance from shore, proximity to other platforms or natural reefs, etc.).*

- *Pre- and post-decommissioning monitoring using detailed visual surveys of platforms and associated shell mounds should be required to characterize and quantify the invertebrate and fish communities, and to accurately assess the impacts of full and partial removal on biogenic habitat.*

- *Species-specific work windows to minimize impacts on species from construction activities (e.g., discharge, noise, sedimentation).*

- *Measures to minimize in-water construction and maximize onshore dismantling to reduce construction impacts (e.g., noise, sedimentation) to marine species.*

- *Site-specific analyses should be required to understand the depth, volume, and concentrations of contamination of shell mounds at each platform. The analyses should consider the potential spread of contamination based on local currents and other environmental conditions. The PEIS should describe the sampling protocol that will be utilized for sampling contamination within the shell mounds and surrounding sediments, including the depths of samples, number of samples, reference areas, and thresholds of significance for contaminants.*

- *Site-specific biological surveys of shell mounds and surrounding sediments should be required to quantify the potential impact on benthic species from shell mound excavation, dredging, and release of contaminants. The biological community utilizing the shell mounds and surrounding sediments should be considered in determining the least impactful removal and site-clearing methods. Additionally, the PEIS should include details on how impacts on water quality will be analyzed and monitored during shell mound excavation and site clearing (e.g., dredging, excavating).*

- *Describe measures to avoid, minimize, mitigate, or otherwise offset the release of contamination during shell mound excavation and site clearing."*[30]

The commenter also stated that, with respect to shell mounds, BOEM should also use the term "dredging" rather than "trawling." The commenter expressed concern for the contaminants polychlorinated biphenyls, various heavy metals, and polycyclic aromatic hydrocarbons and questioned what methods are likely to be used to analyze contamination levels prior to shell mound excavation. The commenter also faulted the PEIS for not identifying which platform shell mounds may contain higher contamination levels, and requested more detail as to the methods that would be implemented to cap in place if dredging led to unacceptable impacts and for more definition as to what could constitute unacceptable impacts.[31] *Another commenter asserted its support for the comments above and also criticized the PEIS' mitigation measures for being insufficiently detailed or enforceable.*[32]

A commenter asserted the necessity of a full population level analysis of impacts on biological productivity for each alternative, citing especially the function of Gulf of Mexico platforms providing a migratory pathway for invasive species in that region. Additionally, the commenter provided citations in describing offshore drilling damages to deep-sea corals in the

30 Pacific Fishery Management Council.

31 Pacific Fishery Management Council.

32 Commercial Fishermen of Santa Barbara.

Gulf of Mexico.[33] Another commenter expressed concern that decommissioning would result in depositing the biofouling community onto the seafloor and possibly cause the proliferation of invasive species. The commenter noted concern for of bryozoan in particular.[34] Conversely, a commenter wrote that decommissioning in place would result in abandoned equipment providing habitat for invasive species.[35]A joint submission from several commenters stated that the PEIS should answer whether the biological communities on the lower jacket would change after decommissioning and how biological communities would be impacted, citing research on such occurrences.[36]

A commenter argued that the impact on biodiversity of Alternative 1 would be more severe than "moderate," stating that explosive use during decommissioning would slough off most marine invertebrates on the platform. The commenter argued that there is no possible remediation for this impact and that revising fish catch laws would be insufficient.[37] A commenter stated that risks to invertebrates from entrapment and collision should be considered.[38]

A commenter requested that BOEM suspend activity under all O&G leases on the Pacific OCS and cancel those leases for, among other reasons, marine habitat impacts associated with those leases.[39]

Response:

The habitat value of oil platforms for invertebrates is discussed in detail in Section 3.5 of the PEIS. The additional analyses and mitigation measures related to sensitive benthic habitats and Essential Fish Habitats listed in the comments are noted and would be considered in site-specific NEPA reviews of decommissioning permit applications received by BSEE. Until a platform-specific decommissioning plan is received by BSEE, information regarding the methods to be used and the timing/scheduling of activities is unknown, thus precluding any ability for a more detailed level of analysis at this time. A new Section 4.1.6 (Tiering from the PEIS) has been added to the PEIS to identify the types of site-specific conditions that would be best analyzed under NEPA at specific platforms due to differences among the platforms with regard to depth, location and the biological resources present as a function of these site-specific conditions.

Section 4.2.4.2 of the PEIS discusses non-native invertebrate species and their potential continued use of remaining platform infrastructure. In addition, the risk that could be posed by invasive species would be conducted as part of the NEPA evaluations of project-specific

33 Coastal Coordination Program, The Ocean Foundation.

34 Pacific Fishery Management Council.

35 California Fishermen's Resiliency Association.

36 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

37 A. Scarborough Bull.

38 Santa Ynez Band of Chumash Indians.

39 Center for Biological Diversity.

decommissioning permit applications received by BSEE. BOEM is currently continuing work reported in 2019 regarding non-native species that will inform project-specific aquatic invasive species (AIS) concerns and mitigations during project-specific decommissioning.

Regarding the impacts of conductor removal, cleaning and discharge of marine growth, oil and hazardous material spills, anchoring, and vessel traffic are identified in the PEIS as decommissioning activities with impact-producing factors that could affect marine habitats. Conductor removal cleaning and discharge of marine growth from platform structures is discussed in Section 4.2.4.1, and in the two conductor removal Environmental Appraisals (EAs) included in the PEIS (see Appendices B and C), which discuss the effects of the discharge of marine growth scrapings and abrasive cutting fluids on benthic resources. Increased vessel traffic is not expected to affect invertebrates or benthic habitat. The text has been modified to address hypoxia and the spread of abrasive fluid. Regarding hypoxia from scraping, the biofall that would result from marine growth removal in support of platform removal, including that produced by explosive severance, would likely be no more than what is deposited during regular cleaning events that have routinely occurred at all the platforms (discussed in Section 4.2.4.1 of the PEIS) and would not result in greater than moderate impacts on benthic communities according to the impact levels described in Table 4.1-4; the viability of the benthic resource would not be threatened and would be expected to fully recover, given the small footprint of the impact. Comments regarding essential fish habitat (EFH) buffers and the studies looking at the spread of drilling cuttings are in reference to well drilling, not platform removal; however, we agree with commenters that buffers (or setback) distances are dependent on local conditions. Impacts on habitat features, such as reefs, will be addressed with project-specific analysis.

Regarding a 2,000-ft buffer, the PEIS cites Gillett et al. (2020) and not an earlier 1995 study as stated by a commentor. This 2020 study reported minimal impacts from operational discharges over the operating life of the three studied platforms to benthic resources within soft (unconsolidated) sediments at distances of 1 to 2 km from the individual platforms. The transport of resuspended sediments from bottom disturbance during decommissioning would be temporary (weeks-months) and minor compared to the decades of operational discharges of drilling fluids, produced water, and other permitted materials that were reported in the Gillett et al. 2020 study. Regarding site clearing, the text has been revised to include dredging and excavation in addition to trawling. Text has also been added to Section 4.2.5.1 of the PEIS to address impacts on deep-water coral and sponge habitat.

Regarding methods used to characterize shell mounds, Section 4.2.3.1 of the PEIS cites the regulatory manuals for the sampling and analysis requirements for dredging and disposal. These manuals specify analysis of contaminants using EPA published methods.

Regarding the potential capping of shell mounds in place, this potential mitigation is noted in consideration of actions taken at the “4-H” platforms previously decommissioned in state waters. The PEIS (Section 3.4.2.4) notes that available characterization of shell mounds at platforms in federal waters have 100 times lower levels of volatile aromatic hydrocarbons than did the 4-H platforms that likely drove the need for capping there. Thus, capping is not expected to be needed at the federal platforms where oil-based drilling fluids used at the 4-H platforms were prohibited but is noted as a possible contingency if further characterization during decommissioning finds high levels of hazardous contaminants. Determinations to cap would be

made on a case-by-case basis at the time of decommissioning based on the results of the characterization sampling and relevant risk-based criteria. With respect to long-term risks, text has been added in Section 4.2.4.2 to address long-term shell mound release of contaminants under Alternatives 2–4.

G.2.5 MARINE FISH AND ESSENTIAL FISH HABITAT

Approximately 10 commenters discussed marine fish and essential fish habitat in the context of affected environment in the PEIS.

A commenter stated that risks to fish from entanglement, entrapment, and collision should be considered.[40] *Another commenter also recommended that the PEIS should evaluate risk of entanglement, citing research as showing that gear caught on abandoned rig structures can threaten fish.*[41]

A commenter generally stated that there is too little information on the habitat value of oil platforms for fish and that pipelines can create habitat corridors by tangling nets and gear and thus disrupting fishing.[42]

Another commenter also cited a study referenced in the PEIS as stating that the removal of a single platform would have little effect on fish habitat but that the removal of multiple platforms could have a significant cumulative impact. The commenter requested that this impact be considered on a cumulative basis.[43]

A commenter provided citations that O&G platform production is harmful to marine mammals, and included a recommendation made by the Pew Environmental Group that pursuing a policy of complete decommissioning in the Gulf of Mexico could provide mitigation for dolphin mortality associated with the BP oil spill. The commenter further stated that Southern California is not "habitat limited" and that risks of oil spills exceed the value of retaining O&G platform structures as habitat. The commenter recommended that BOEM reconsider the "Rigs-to-Reefs program." Additionally, the commenter recommended that the Department of the Interior "Iron Idle" policy should be reconsidered for whether abandoned structures achieve overarching fisheries management goals or contribute to over-fishing. The commenter cited several studies as indicating that O&G structures attract fishers and contribute to biomass losses for already overfished populations while providing minimal habitat benefits. Additionally, the commenter stated that partially decommissioned O&G platform structures can facilitate invasive species propagation and provide them a habitat corridor for expansion.[44]

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40 Santa Ynez Band of Chumash Indians.

41 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

42 M. Kim.

43 Santa Barbara Channelkeeper.

44 Coastal Coordination Program, The Ocean Foundation.

A commenter cited a 2001 State Lands Commission Environmental Review as showing that shell mounds near Carpinteria saw reduced species abundance following the decommissioning of O&G platforms.[45]

A commenter argued that Alternative 1's impact on biodiversity would be more severe than "moderate," stating that explosives use during decommissioning would kill all fish with swim bladders near the platform. The commenter argued that there is no possible remediation for this impact and that revising fish catch laws would be insufficient.[46]

The same commenter also stated that Table 4.3-1 must be revised and clarified. The commenter questioned the conclusion that the expected impacts on EFH from Alternatives 1, 1a, 2, 2a, 3, and 3a are the same. The commenter also argued that data cited in the PEIS regarding O&G platforms' contribution to somatic fish production indicates that the impacts of Alternatives 1 and 1a on marine fish are more than moderate. Furthermore, the commenter cited research as indicating that platforms host many young-of-the-year rockfishes that would be especially vulnerable under Alternative 1 and that the alternative's impacts on rockfish would be major.[47]

A commenter wrote that some species, and especially elasmobranch fish, are particularly sensitive to electric and electromagnetic fields generated from electric cables.[48]

Response:

Text and associated references have been added to Section 3.6.1 of the PEIS to describe how platform structures can create sheltering habitat.. However, modifying the platforms to provide additional habitat is not included in the alternatives and neither are the other suggested management actions, and thus are not evaluated in the PEIS. The PEIS provides the latest data on the value of oil and gas (O&G) platforms in the POCS for fish populations, as well as cumulative biomass and production estimates associated with all platforms.

Additional text has been added to Section 4.2.5 of the PEIS on the attraction versus production debate regarding artificial reefs and their impacts on fish populations, and the Alternative 3 discussion in this section states that the habitat value of a toppled platform is influenced by how the reef is managed. An analysis of individual platform structure and its habitat value would occur at the project level when information becomes available regarding the size and location of a proposed artificial reef. Reconsideration of the BSEE nation-wide Rigs-to-Reef program is outside the scope of this PEIS, which evaluates platform decommissioning in the POCS.

Regarding impacts under Alternative 1, the removal of the platforms is not expected to meet the level of a major impact as defined in Table 4.1-4. Estimates of total fish biomass and

45 Environmental Defense Center in Santa Barbara.

46 A. Scarborough Bull.

47 A. Scarborough Bull.

48 Santa Ynez Band of Chumash Indians.

production lost under Alternative 1 are presented in Section 4 from Meyer-Gutbrod et al. (2020). Collision risk to fish from vessel traffic would be minimal. The comment regarding complete decommissioning as mitigation for the dolphin mortality that occurred in the Gulf of Mexico as a result of the British Petroleum (BP) oil spill is out of scope for this PEIS. Regarding Alternative 4, although commercial fishing gear is not used around platforms, abandoned gear may drift and become caught on platform jackets and other submerged infrastructure. No studies on fish entanglement in abandoned fishing gear associated with existing O&G infrastructure could be found. If any fish entanglement in abandoned fishing gear were to occur under Alternative 4, the level of entanglement may be expected to be no different than levels that may have occurred in the past at any of the platforms

The effect of electromagnetic fields generated from electric cables is described in Section 4.2.5.1 of the PEIS. A Salmon EFH figure has been added to Section 3.6.2 and the Pacific Salmon EFH impact area has been added to Table 4.2.5-1. Changes in shell mound habitat following partial or complete platform removal is discussed in Section 4.2.4 of the PEIS. Regarding impacts on fish from explosive removal, impacts are identified as moderate based on the impact level definitions provided in Section 4.1.3 of the PEIS. Any effects of explosive removal would be spatially limited, short-term and episodic in duration and occurrence, with the greatest effects likely occurring within several hundreds of meters of the platform (see Section 4.2.5.1). Thus, fish mortality from explosive removal is not expected to result in population level impacts on fish communities in the POCS and thus no permanent population level impacts would occur. The latest modeling data for the POCS platforms describes impacts from platform removal. Impacts on fish populations from platform removal are not defined as "major" because fish may move to natural reef habitat, therefore, the viability of the resource would not be threatened.

G.2.6 SEA TURTLES

Four commenters discussed sea turtles in the context of affected environment in the PEIS.

A commenter generally commented that the PEIS failed to adequately consider impacts on sea turtles.[49]

A commenter recommended that the PEIS should have evaluated the risk of entanglement, citing research as showing that gear caught on abandoned rig structures can threaten sea turtles[50] *A joint submission from a few commenters stated that the PEIS should have considered impacts on animals listed under the California Endangered Species Act, particularly leatherback sea turtles. The commenters stated that sea turtles are particularly*

49 Coastal Coordination Program, The Ocean Foundation.

50 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

threatened by entanglement. The commenter recommended species-specific work windows and minimizing in-water construction as means to reduce risks to sea turtles.[51]

A joint submission from several commenters requested that BOEM substantiate a statement on 4-57 that resident turtles are found on O&G platforms. The commenter also wrote that vessel noise should be included as a reasonably foreseeable impact on sea turtles.[52] *Another commenter stated that the PEIS should analyze the speed and transit routes to and from ports and include measures to reduce collision risk with endangered marine mammals.*[53]

Response:

The Bureaus believe that the PEIS adequately considers impacts on sea turtles. The PEIS identifies impacting factors and associated decommissioning activities that may affect sea turtles, the nature, duration, and magnitude of any such impacts, and potential mitigation measures. Additionally, more detailed analyses would be conducted during site-specific NEPA when specific decommissioning details are made available in the decommissioning permit application.

The PEIS addresses potential impacts on all four sea turtle species (including the leatherback sea turtle [identified in Section 3.7.2 of the PEIS]), which occur along the Southern California coast, all of which are listed under the Endangered Species Act.

The statement referring to sea turtles being resident at platforms has been deleted.

Potential entanglement is discussed in the PEIS in the cumulative impact section for sea turtles (Section 4.2.6.5). Mention of potential for secondary entanglement of sea turtles on fishing gear and other debris on shell mounds or platform jackets was added. The amount of commercial fishing gear that could be caught on the remaining jacket structures and pose an entanglement risk under Alternatives 2 and 3 may be expected to be less than has previously, and may be currently, occurring at the platforms, and under Alternative 4 would be comparable to current levels. However, this topic will be addressed in more detail in site-specific NEPA documents.

Vessel noise and vessel strikes are identified in the PEIS as sources of possible impacts on sea turtles. Potential impacts from vessel noise and from noise generated by explosive removal are discussed in Section 4.2.6.1 of the PEIS. Table 4.1-3 includes mitigation measures that would be undertaken to reduce the potential of vessel strikes. All decommissioning-related vessel traffic, regardless of decommissioning phase, would be required to follow established shipping safety fairways, traffic lanes, and Traffic Separation Schemes (see Sections 3.13 and 4.2.15.1 of the PEIS) to the extent feasible when traveling between ports and platforms. Potential mitigation measures for reducing potential vessel strikes are presented in Table 4.1-3. Specific transit routes, vessel speeds and mitigation measures would be identified in project-specific

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51 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

52 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

53 Pacific Fishery Management Council.

decommissioning permit applications, developed in coordination and consultation with BSEE and National Marine Fisheries Service (NMFS), and evaluated in project-specific NEPA analyses of decommissioning permit applications received by BSEE.

G.2.7 MARINE AND COASTAL BIRDS

Four commenters discussed marine and coastal birds in the context of affected environment in the PEIS.

A commenter generally commented that the PEIS failed to adequately consider impacts on marine birds.[54] *A joint submission from a few commenters recommended that the final PEIS analyze each platform for bird and bat species roosting, feeding, or as a stopover during migration.*[55]

A commenter recommended that the PEIS should evaluate risk of entanglement, citing research as showing that gear caught on abandoned rig structures can threaten marine birds.[56]

Response:

The Bureaus believe that the PEIS adequately considers impacts on marine and coastal birds. Section 4.2.7 of the PEIS identifies impacting factors and associated decommissioning activities that may affect birds, the nature, duration, and magnitude of any such impacts, and potential mitigation measures. Additionally, more detailed analyses would be conducted during site-specific NEPA when specific decommissioning details are made available in the decommissioning permit application.

Use of platforms by birds is generally addressed in Table 3.8-1 and in Section 4.2.7 of the PEIS. A more detailed analysis by individual platform, including impacts from decommissioning, would be conducted in site-specific NEPA analysis. Bat use of platforms is not addressed in the PEIS, as it is not commonly reported; Hamer et al. (2014) did report an individual bat feeding on moths on three nights in 2013 on Platform Hermosa. This topic may be addressed in site-specific NEPA analysis, although potential loss of platforms as foraging habitat for bats could be considered a negligible impact.

Potential entanglement is discussed in the PEIS in the cumulative impact section for marine and coastal birds (Section 4.2.7.6), and mention of the potential for secondary entanglement by fishing gear and other debris on platform jackets was added. However, this topic will also be addressed in more detail in site-specific NEPA documents.

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54 Coastal Coordination Program, The Ocean Foundation.

55 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

56 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

G.2.8 MARINE MAMMALS

Five commenters discussed marine mammals in the context of affected environment.

A commenter generally commented that the PEIS failed to adequately consider impacts on sea marine mammals.[57] *A joint submission from several commenters agreed, adding that the PEIS minimizes consideration for population-level impacts despite the presence of endangered whale species in the region with low levels of Potential Biological Removal. The commenters also requested that BOEM provide substantiation for a statement that foraging habitat for marine mammals "may develop at the [Rigs-to-Reef] RTR sites regardless of which RTR method is used, thus resulting in a very localized positive benefit." The commenters questioned if there is evidence of marine mammals using jackets, shell mounds, and pipelines for foraging habitat at the Chevron 4H Shell Mounds site. The commenters recommended that explosives use should be minimized to protect whales. Furthermore, the commenters wrote that vessel noise should be included as a reasonably foreseeable impact on whales.*[58] *Another commenter stated that the PEIS should analyze the speed and transit routes to and from ports and include measures to reduce collision risk with endangered marine mammals.*[59]

A joint submission from a few commenters recommended that the final PEIS analyze each platform for use by marine mammal haul-out and feeding opportunities.[60]

A commenter recommended that the PEIS should evaluate risk of entanglement, citing research as showing that gear caught on abandoned rig structures can threaten marine mammals.[61]

Response:

The Bureaus believe that the PEIS adequately considers impacts on marine mammals or minimized considerations of population-level effects to species with low levels of Potential Biological Removal (PBR). The PBR level is defined by the MMPA as the maximum number of animals, 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. The PEIS presents current population estimates for the marine mammals and how frequently these species have been observed in the vicinity of the platforms(see Section 3.9.3). The PEIS also identifies impacting factors and associated decommissioning activities that may affect marine mammals, the nature, duration, and magnitude of any such impacts, and potential mitigation measures (Section 4.2.8.5). Section 4.2.8 of the PEIS has been reorganized and includes a new Section 4.2.8.5 (with additional supporting references), which separately addresses impacts on each of the listed marine mammals (which includes those with low levels of PBR). In addition,

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57 Coastal Coordination Program, The Ocean Foundation.

58 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

59 Pacific Fishery Management Council.

60 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

61 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

Appendix D provides auditory take estimates under explosive severance for the listed marine mammals. More detailed analyses, including impacts from potential use of explosives, will be included in site-specific NEPA analyses when specific decommissioning details are made available in the decommissioning permit applications received by BSEE.

The Bureaus also believe that the PEIS adequately considers the potential for population level impacts on whale species. Section 4.2.8 of the PEIS presents a thorough discussion of the decommissioning-related impacting factors that may affect marine mammals, including those that are listed under the ESA, while Section 4.2.8.1 discusses the potential impact levels that marine mammals may incur. Additional evaluations, in consultation with the National Oceanic and Atmospheric Administration (NOAA), would be conducted to support future NEPA evaluations and review of decommissioning permit applications received by BSEE.

Regarding possible foraging habitat at the Rigs-to-Reef (RTR) sites, referenced information has been added to Section 4.2.8.2 on marine mammals that have been reported to use oil and gas rigs for foraging (although the referenced information does not thoroughly address platforms off the California coast). These marine mammals include various species of toothed whales, dolphins, porpoises, and pinnipeds. As the remaining platform jackets and shell mounds would remain as productive habitats for fishes in this Alternative, and new fish habitat would develop at the RTR sites (Section 4.2.5.2), it can be assumed that this would also benefit marine mammal species that prey on fishes. More detailed analyses on use of the remaining jacket and shell mounds by select marine mammal species will be included in site-specific NEPA analyses.

The use of explosives would occur under Alternatives 1a, 2a and 3a. In each case, details on explosives use (and associated mitigation measures) would be included in a project-specific decommissioning permit application, and any approval would require NOAA coordination, consultation, and approval. See Appendix D.

Vessel noise and vessel strikes are identified in the PEIS as sources of possible impacts on marine mammals. Potential impacts from vessel noise and from noise generated by explosive removal are discussed in Section 4.2.8. Table 4.1-3 includes mitigation measures that would be undertaken to reduce the potential of vessel strikes on marine mammals. All decommissioning-related vessel traffic, regardless of decommissioning phase, would be required to follow established shipping safety fairways, traffic lanes, and traffic separation schemes (see Sections 3.13 and 4.2.15.1) to the extent feasible when traveling between ports and platforms. Potential mitigation measures for reducing potential vessel strikes are presented in Table 4.1-3. Specific transit routes, vessel speeds and mitigation measures would be identified in project-specific decommissioning permit applications, developed in coordination and consultation with BSEE and NOAA, and evaluated project-specific NEPA analyses.

Potential entanglement is discussed in the PEIS in the cumulative impact section for marine mammals in Section 4.2.8.6, and discussion of potential for secondary entanglement by fishing gear and other debris on shell mounds and platform jackets has been added in Section 4.2.9. This topic will be addressed in more detail in site-specific NEPA documents.

G.2.9 COMMERCIAL AND RECREATIONAL FISHERIES

Approximately 10 commenters discussed commercial and recreational fisheries in the context of affected environment in the PEIS.

In a joint submission, commenters generally stated that BOEM minimized impacts on fisheries in Section 3.10.1 of the PEIS.[62] *A joint submission from several commenters stated that the PEIS should examine how increased fishing access could affect biological resources under Alternatives 2, 3, and 4 and how preserving jacket structures could impact fishing under these alternatives. The commenter asked that BOEM provide analysis for how an artificial reef created by decommissioning would impact fishing values.*[63] *Another joint submission from a few commenters stated that the PEIS should more thoroughly discuss potential adverse impacts on specific commercial and recreational fishing activities, both on a platform-specific basis and cumulatively. Additionally, the commenter requested that the Final PEIS also provide information regarding the size of navigational safety and exclusionary zones, the length of time such zones would be in place, the types of fisheries that would be affected by them and how such effects would be addressed or mitigated. The commenter asked that BOEM provide a more detailed explanation of how the risk of snagging hazards would only be "slightly" greater under Alternatives 2, 3, and 4 than Alternative 1.*[64] *A commenter expressed concern that the PEIS provides an incomplete list of gear types in Section 3.10.1 and that the landing weight and revenue information in Table 3.10-2 should be updated to reflect the impact of the Pacific Sardine factory when it is open. The commenter stated that platforms left intact can elevate the risk of interaction with certain gear types.*[65] *A commenter also asked that the PEIS analyze fishing impacts under Alternatives 2 and 3.*[66]

A commenter requested a site-by-site evaluation as to the removal strategies and treatments to the sea floor and that BOEM engage with fishing communities to improve mitigation and compensation for fishery impacts. The commenter wrote that O&G companies that have operated platforms to be decommissioned should pay compensation to fishers whose business has been impacted by O&G development. In particular, the commenter requested a compensation program for fisher's gear loss resulting from rig decommissioning.[67] *Another commenter included figures from fee schedule for abandonment in place of cables, stating that fishers deserve to be compensated for gear lost by snagging. The commenter stated that cable operators in Southern California are required to compensate local fishers for losses incurred as a result of decommissioning activities.*[68]

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62 Pacific Coast Federation of Fishermen's Associations (PCFFA) and Institute for Fisheries Resources (IFR).

63 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

64 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

65 Pacific Fishery Management Council.

66 Environmental Defense Center in Santa Barbara.

67 Commercial Fishermen of Santa Barbara.

68 California Fishermen's Resiliency Association.

A commenter wrote that O&G platforms and structures, even when partially decommissioned, can threaten fishers with uncharted hazards. The commenter stated that, in the Gulf of Mexico, this has necessitated the National Oceanic and Atmospheric Administration's (NOAA) establishment of a Fishermen's Contingency Fund and a similar program run by Louisiana. The commenter also stated that O&G operations can threaten fishers via an oil spill.[69]

A commenter wrote that HAPCs are a subset of EFH that are particularly important for protection and that HAPCs for Pacific salmon under the Proposed Action are canopy kelp, submerged aquatic vegetation, and estuaries.[70]

A commenter wrote in support of Alternative 1, stating that Alternative 1 represents the best course of action because of impacts on fisheries. The commenter expressed strong opposition to Alternative 3 and relocating or repositioning jackets. The commenter recommended maximizing onshore dismantling of rigs in order to reduce traffic-related impacts on fishing vessel operators.[71]

A commenter requested that dredging be used minimally and on an evaluated, case-by-case basis in order to reduce impacts on fisheries. The commenter recommended that divers or remote operated underwater vehicles be used as an alternative.[72]

A commenter stated that more research is needed on the importance of pipelines to fish habitats, citing studies as indicating that that larval, juvenile, and adult fishes have been observed in high abundance on subsea O&G transmission pipelines and reasoning that, therefore, these structures support fish species. The commenter also provided a citation in stating that, in California, fish are more abundant near pipelines and that pipelines can provide shelter for fish. Furthermore, the commenter cited research from Australia as indicating that unsupported pipelines are associated with higher quantities of fish than buried pipelines.[73] *A commenter identified themselves as a sea urchin diver and requested that the jackets from O&G platforms be preserved as a habitat for growing scallops and muscles.*[74]

A commenter cited research and asserted that impacts on fish populations must be analyzed for each platform because of differing conditions at each location. The commenter added that Southern California O&G platforms may support the greatest secondary fish production per unit area of seafloor, citing a study. The commenter questioned the PEIS as suggesting that Alternatives 1 and 2 would have negligible or localized moderate impacts on marine fish and as expecting positive impacts from Alternative 3, reasoning that these impacts

69 Coastal Coordination Program, The Ocean Foundation.

70 Pacific Fishery Management Council.

71 Commercial Fishermen of Santa Barbara.

72 Commercial Fishermen of Santa Barbara.

73 J. Claisse.

74 J. Maassen.

must be investigated based on location-specific factors and, for Alternatives 2 and 3, leaching of toxic chemicals, heavy metals, and hydrocarbon compounds from debris.[75]

A commenter recommended the following analyses and mitigation measures below to avoid and/or minimize impacts on fishing and fisheries:

- *"Define exclusionary zones around platforms and pipelines (including time windows) and analysis of impacts on fishing vessels;*
- *Analysis of impacts on harvestable species (e.g., reduced biomass) from sedimentation of nearby reefs caused by decommissioning activities;*
- *Analysis of impacts on coastal pelagic fisheries from temporary water quality impacts;*
- *Reduction in fish productivity following full or partial removal, including young-of-the-year rockfish recruitment;*
- *The following gear types should be included in the Commercial Fisheries Section 3.10.1: "purse seine" to catch tuna, "pole-and-line" to catch tuna and rockfish, and state managed "gill net fisheries (set and drift)" for California halibut, yellowtail, and white seabass, as well as federally managed gill net fisheries for sharks and swordfish;*
- *Expand the timeframe in the reported landing weights and landing values for commercial fisheries in Santa Barbara and Los Angeles reporting areas (Tables 3.10-1 and 3.10-2) to include additional years (e.g., 2010-present) when the Pacific Sardine fishery was open;*
- *Analysis of all potentially impacted commercial fisheries under section 3.10.1 (rather than just focusing on California halibut); and*
- *Mitigation measures to reduce potential hazards to active fishing vessels from increased vessel traffic in routes from staging areas to platforms."*[76]

Response:

Section 3.10 of the PEIS presents a description of the current conditions related to commercial and recreational fisheries of the Southern California POCS and does not discuss impacts. Those impacts are discussed in Section 4.9.2. Text regarding the importance of Pacific sardine landings and revenue prior to 2017 as well as the market squid fishery has been added to Section 3.10.1. Text was also added to Section 3.10.1 regarding the additional gear types used to catch various species. Expanding the time frame to earlier years (i.e., the suggested 2010 date) is

75 Pacific Fishery Management Council.

76 Pacific Fishery Management Council.

unwarranted for latter analysis, as the reader is directed to Argonne National Laboratory (Argonne 2019) for information for earlier years.

Text has been added to Section 4.2.9.2 to describe the potential for differential impacts on different commercial fisheries depending on gear type used and where the fishing effort takes place in the water column.

Regarding impacts on biological resources, text has been added to Section 4.2.5 discussing how increased fishing activity and fisheries management would interact to determine how decommissioning might affect fish stocks or fish production.

Due to the establishment of new hardbottom habitat at a RTR site, potential fishing values would be improved at the RTR sites. Section 4.2.5 includes evaluations of the impacts of artificial reef conversions on fish habitat and productivity. Improvements to marine invertebrates and habitats, marine fish and EFH, and recreational fisheries are discussed in Sections 4.2.4.3, 4.2.5.3, and 4.2.9.3, respectively.

Text has been added to Sections 4.2.9.2 and 4.2.9.3 to identify a potential for remaining structures to create hazards to commercial fishing if they move due to storms or geologic activity. The text in Section 4.2.9.2 was revised to clarify snagging hazard differences among alternatives. Text was added to identify that shell mounds left on the seafloor would continue to pose snagging risks to commercial fisheries under Alternatives 2, 3, and 4 and would continue to provide habitat benefits for some commercial and recreational fish species.

Text has been added to Section 4.2.5.3 discussing how increased fishing activity and fisheries management would interact to determine how decommissioning may impact fish stocks or fish production.. The conduct of fishery-specific impact and cumulative analysis on a platform-specific basis requires project-specific information on a decommissioning proposal, which will be available in future decommissioning permit applications. These analyses will be conducted as part of project-specific NEPA evaluations of decommissioning permit applications received by BSEE.

As discussed in Section 4.2.9.1 decommissioning activities would be limited to only a small proportion of the project area at any given time. Commercial fishing activities are already precluded from waters immediately adjacent to O&G platforms and removal activities for pipelines and cables within specific commercial fishing blocks would likely be completed within relatively short periods of time (days to weeks). Text has been added to Section 4.2.9.2 to describe the potential for differential impacts on different commercial fisheries depending on gear type used and where the fishing effort takes place in the water column. The PEIS already identifies (in Sections 4.2.9.1 and 4.2.10) that additional transport vessel traffic within the POCS and could be mitigated by utilizing established vessel traffic corridors, coordinating with commercial fishing organizations through the Joint Oil/Fisheries Liaison Office regarding planned timing and location of decommissioning activities, and by conducting transport activities during seasons with lower levels of commercial fishing activity.

Potential impacts on fisheries under Alternatives 2 and 3 are discussed in Sections 4.2.9.2 and 4.2.9.3 of the PEIS. While text has added to Section 4.2.9.2 to describe the potential for

differential impacts on different commercial fisheries depending on gear type used and where the fishing effort takes place in the water column, compensation for gear loss is already addressed under other programs (e.g., the federal Fisherman's Contingency Fund [50 CFR Part 293], the Santa Barbara County Local Fisherman's contingency Fund), and mitigation measures for such losses are outside the scope of the PEIS. While there is a potential for an oil or gas release from a producing platform, there would be no production activities, all wells would be plugged, and pipelines emptied and cleaned, so an oil spill is highly unlikely.

EFH (including that of Pacific salmon) and Habitat Areas of Particular Concern (HAPCs) are identified in Section 3.6.2 of the PEIS, and impacts on these areas under each of the alternatives are discussed in Section 4.2.5. The preferred alternative (Alternative 1 with complete removal) includes removal of obstructions that could inhibit other uses of the OCS, including fishing. If a site-specific decommissioning plan proposes an alternative to complete removal, then justification would be provided and mitigation measures, if necessary, would be identified in site-specific NEPA evaluations.

The potential for the removal of shell mounds and bottom-founded infrastructure and debris to impact the marine ecosystem and fisheries is included in Sections 4.2.4 (Marine Habitats and Invertebrates), 4.2.5 (Marine Fishes and Essential Fish Habitat), and 4.2.9 (Commercial and Recreational Fisheries) of the PEIS. Some text has been revised for clarification. Additional details regarding localized impacts associated with the disposition of shell mounds would be provided in site-specific decommissioning plans and would be evaluated in site-specific NEPA evaluations. Per BSEE regulations at 30 CFR § 250.1740, dredging is only one of several methods available for seafloor clearing. Identification of which method would be used will be included in each project-specific decommissioning permit application and evaluated as part of the project-specific NEPA.

The PEIS acknowledges the importance of pipelines to fish habitat. The role of pipelines to subtidal benthic habitats for benthic invertebrates and marine fish is presented in PEIS Sections 3.5.2 and 3.6.1, respectively. Impacts from the removal of these pipeline habitats is addressed in Sections 4.2.4.1 (Marine Habitats and Invertebrates) and 4.2.5.1 (Marine Fish and EFH).

Evaluating the impacts of decommissioning on fish populations at each platform is dependent on having platform-specific decommissioning plans. Such evaluations will be conducted in project-specific NEPA evaluations following receipt of project-specific decommissioning permit applications by BSEE.

The PEIS identifies in Section 4.2.9.1 that additional transport vessel traffic within the POCS could be mitigated by utilizing established vessel traffic corridors, coordinating with commercial fishing organizations through the Joint Oil/Fisheries Liaison Office regarding planned timing and location of decommissioning activities, and by conducting transport activities during seasons with lower levels of commercial fishing activity. Section 4.2.15 (Commercial Navigation and Shipping) discusses potential conflicts with commercial and recreational fishing, identifies U.S. Coast Guard (USCG) navigation safety requirements, and presents a number of mitigation measures for navigational space-use conflicts during decommissioning. Additional

safety and mitigation measures will be developed as needed during project-specific NEPA evaluations following receipt of project-specific decommissioning permit applications by BSEE.

Because of the variations in biological resources across the spatial extent of the POCS platforms, the analysis of impacts on harvestable species (e.g., reduced biomass) from sedimentation of nearby reefs, of impacts on coastal pelagic fisheries from temporary water quality impacts, and changes in fish productivity following full or partial removal, including young-of-the-year rockfish recruitment would be considered on a project-by-project basis, during review and associated NEPA evaluations of project-specific decommissioning permit applications received by BSEE.

PEIS Section 4.2.9 identifies the potential impacts on the overall commercial fisheries in the Southern California POCS. To evaluate potential impacts for each of the commercial fisheries identified in Section 3.10.1 would require detailed information regarding the project-specific design for decommissioning the platform, and not all the commercial fisheries necessarily occur or are targeted at each of the platforms. Thus, such evaluations will be done as appropriate for each platform location, as part of NEPA evaluations of project-specific decommissioning permit applications received by BSEE.

G.2.10 AREAS OF SPECIAL CONCERN

Six commenters discussed areas of special concern in the context of affected environment in the PEIS.

A few commenters asked for further discussion about, and closer attention to, the proposed Chumash Heritage National Marine Sanctuary (CHNMS) in the PEIS.[77] *One commenter expressed concern about the close proximity of decommissioning platforms to the CHNMS and identified four platforms within the CHNMS boundary, asserted that the PEIS should include a discussion of impacts on national marine sanctuaries and any mitigation requirements, and added that the Bureaus should refer to the EIS being prepared by NOAA for the designation of the CHNMS in the decommissioning PEIS.*[78] *Another commenter cited four marine protected areas (MPAs) created by the Santa Ynez Chumash and asserted that those areas, as well as possible future expansion, should be analyzed in the final PEIS.*[79]

One of the above commenters also discussed the CINMS, to which several decommissioning platforms are adjacent, asserted that the PEIS should consider sanctuary regulations and consultation requirements, and offered the CINMS 2016 Condition Report as a reference for BOEM and BSEE to use.[80] *One commenter asserted that Figure 3.11-2 "misses the*

77 NOAA; Senators Dianne Feinstein Alex Padilla; Santa Ynez Band of Chumash Indians.

78 NOAA.

79 Santa Ynez Band of Chumash Indians.

80 NOAA.

federal waters portions of the Channel Islands National Sanctuary MPAs" and that those areas "should be part of [that] figure."[81]

A commenter asserted that the PEIS does not consider the impact of partial vs. full decommissioning on MPAs and possible future National Marine Sanctuaries,[82] *while another commenter asserted that discharge from support vessels and platforms should be discussed as an impact on areas of concern, especially for national marine sanctuaries.*[83]

One commenter stated that decommissioning activities could impact "two existing EPA-designated ocean dredged material sites" (designated LA-2 and LA-3) through material deposition, component transportation, and jacket placement. They recommended that the Final PEIS disclose the location of the LA-2 and LA-3 ocean disposal sites, discuss impacts on these sites, and coordinate with the Environmental Protection Agency (EPA) to minimize those impacts.[84]

A commenter recommended that the PEIS establish deep water preserves for the protection of organisms important to habitat structure and biological diversity and asked that these areas be developed "with support from the oil and gas industry."[85]

Response:

Text has been added to PEIS Section 3.11.1 describing the size and location of the proposed Chumash Heritage National Marine Sanctuary (CHNMS) in relation the POCS platforms, and the proposed CHNMS has been added to Figure 3.11-1. The area for the proposed CHNMS includes the four Santa Maria Basin platforms, while three platforms in the western portion of the Santa Barbara Channel are located near (but not within) the southwestern boundary of the proposed marine sanctuary. While no draft EIS has been released to date by NOAA regarding designation of the CHNMS, text discussing potential impacts on the proposed CHNMS has been added to PEIS Section 4.2.10. The EIS was reviewed by both Bureaus in their roles as cooperating agencies prior to the public comment period is scheduled for late spring or summer of 2023. Potential impacts on areas of special concern or designation will be examined in project-specific NEPA analysis (such as the proposed CHNMS) following receipt of decommissioning permit applications by BSEE.

Applicable sanctuary regulations and consultation requirements for all the national marine sanctuaries (NMSs) will be considered in future NEPA analyses that will be conducted following receipt by BSEE of project-specific decommissioning permit applications. PEIS Figure 3.11-2 only shows state marine protected areas (MPAs). The Channel Islands MPA is shown in Figure 3.11-1.

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81 M. McCrea.

82 Coastal Coordination Program, The Ocean Foundation.

83 NOAA.

84 U.S. EPA.

85 Coastal Coordination Program, The Ocean Foundation.

Impacts of partial and complete decommissioning on areas of concern, including NMSs, national parks (NPs), national wildlife refuges (NWRs), national estuarine research reserves (NERRs), National Estuary Program (NEP) estuaries, and California State MPAs are discussed in PEIS Sections 4.2.10.1, 4.2.10.2, and 4.2.10.3. Because of the small volumes of discharges that may occur from support vessels and the platforms, such discharges are expected to have negligible impacts. However, such discharges would be considered during reviews of decommissioning permit applications received by BSEE.

Decommissioning activities are not expected to impact either of the two EPA-designated ocean dredged material sites (ODMDSs). As discussed in Section 4.2.6.1 of the PEIS, the USACE and EPA permit authorities under Section 404 of the CWA and Section 103 of the Marine Protection, Research and Sanctuaries Act (MPRSA) include requirements to characterize sediment that would be dredged and subsequently disposed of in inland waters or nearshore state waters, or at EPA designated ODMDS in federal waters. For potential ocean disposal at an ODMDS, permit applicants are required to test the sediment prior to dredging in accordance with the Ocean Dumping Manual. It is possible that some decommissioning projects may seek a permit for using either LA-2 or LA-3 sites.

The establishment of deep water preserves for protection of biota is outside the scope of this PEIS and outside the authority of BSEE.

G.2.11 ARCHEOLOGICAL AND CULTURAL RESOURCES

Three commenters discussed archaeological and cultural resources in the context of affected environment in the Draft PEIS.

One commenter provided numerous comments related to archaeological and cultural resources, including notes about certain areas, recommendations for the PEIS, and requests for BOEM and BSEE. The commenter:

- *Asked that confidential cultural and archaeological resource information not be disclosed under the Freedom of Information Act (FOIA);*
- *Generally discussed the importance of addressing impacts on cultural resources in the PEIS and added that resources not considered historic properties are often not considered;*
- *Asserted that the record of decision (ROD) for proceeding with the PEIS action must "mitigate any impacts on cultural resources;"*
- *Criticized the common practice of deferring mitigation of historic properties;*
- *Asserted that the 3.12 – Tribes and Tribal Resources section of the PEIS lacks a vital overview of archaeological information and that it should cite relevant statutes and programs like the National Marine Safety Association (NMSA) and CHNMS;*

- *Cited Executive Order 13007, which "requires Federal land managing agencies to accommodate access to and ceremonial use of Indian sacred sites" and defines sacred sites;*
- *Asserted that Point Conception is a sacred site for the Chumash;*
- *Criticized the failure of the PEIS to address Chumash sacred sites as traditional cultural properties (TCPs) and discussed the process for identifying TCPs, including the importance of conducting interviews with knowledgeable users of the area;*
- *Asserted that BSEE needs to engage with cultural specialists for its TCP study;*
- *Stated that events at Point Conception, the Northern Channel Islands, other Chumash sacred sites, and Native American ceremonies in general qualify as TCP and that they should be included in Section 106 consultations and the PEIS;*
- *Said that "lack of use does not make a property TCP ineligible";*
- *Asserted that the Advisory Council on Historic Preservation (ACHP) Traditional Cultural Landscapes Action Plan advises ACHP and the National Park Service (NPS) to work together to promote and protect Native American TCPs;*
- *Asserted that underwater testing should be carried out for cultural sites on the ocean floor and shoreline but emphasized the importance of using non-excavation remediation techniques before excavation;*
- *Added that cultural sites that have been disturbed can still be valuable and spiritually significant; and*
- *Asserted that BSEE must analyze cumulative impacts on cultural resources, protect Chumash sacred sites from trespassers and vandals, and defer mitigation until ROD.*[86]

In a joint submission, commenters asserted that early consultation with impacted tribes is needed in order to protect tribal cultural resources. They added that the final PEIS should mention that the title to historic and cultural resources "on or in the tide and submerged lands of California" is under the jurisdiction of the California State Lands Commission (CSLC) and requested that a similar statement be added to the PEIS requiring that resources recovered on state lands and under the jurisdiction of CSLC must be approved by the State Lands Commission. The commenters also asserted that the final PEIS should evaluate the potential impacts of decommissioning on submerged cultural resources.[87]

86 Santa Ynez Band of Chumash Indians.

87 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

Another commenter asserted that O&G activity off the coast of California has contributed to the destruction of cultural resources.[88]

Response:

Text has been added to PEIS Section 3.12.1 stating that "Cultural resource and archaeological information is confidential and exempted from the Freedom of Information Act per the National Historic Preservation Act (NHPA) and the Archaeological Resources Protection Act." Regarding the inclusion of cultural properties in the PEIS, Section 3.12.1 defines historic properties as "those resources that are listed in or eligible for listing in the National Register of Historic Places (NRHP; 36 CFR Part 60). These can include precontact and historic archaeological sites, districts, buildings, structures, objects, and traditional cultural properties (TCPs)." Section 3.12.1 further states that cultural resources are considered to be "places or evidence of human activity such as archaeological sites, buildings and structures, cultural landscapes, and ethnographic resources, which can include natural features and objects important to various cultural groups."

Text noting that site-specific reviews would be performed when decommissioning applications are received, and noting the programmatic nature of the PEIS, has been added to PEIS Section 3.12.1. The Bureaus would complete the Section 106 review process at that time and additional consultations with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officer (SHPO), federally recognized Tribes, California State Lands Commission (CSLC), and other consulting parties will take place as appropriate, prior to any removals. Text noting that unexpected discoveries of submerged cultural resources are addressed in 30 CFR 250.194(c) has also been added to Section 3.12.1.

Regarding Chumash sacred sites as TCPs, text has been added in PEIS Section 3.12.2 discussing Chumash sacred sites in the context of TCPs, specifically noting such TCPs located at Point Conception, the Northern Channel Islands, and within the proposed CHNMS. The added text notes that four O&G platforms are located within the proposed CHNMS and that impacts from their removal would be analyzed in site-specific reviews. Regarding underwater surveys for cultural sites, Mitigations Table 4.1-3 notes that lease blocks would be surveyed for archaeological resources prior to any seafloor disturbing activities.

BSEE is in the process of continuing government to government consultation with Santa Ynez Band of Chumash Indians in hopes of creating an Indigenous Knowledge study focusing specifically on these points of concerns in the region. Text has been added to PEIS Section 3.12.1 stating that the Bureaus would be interested in the possibility of entering into an agreement for the ongoing section 106 process. PEIS Section 6.6.8 notes the need for further consultation, Section 3.11 identifies the proposed CHNMS sanctuary and its location, and the National Maritime Safety Association (NMSA) is discussed in Section 6.6.5.

88 Center for Biological Diversity.

Text stating that "The final disposition of archaeological, historical, and paleontological resources recovered on state lands under the jurisdiction of the CSLC will be determined in consultation with the CSLC" has been added to PEIS Section 6.6.8.

G.2.12 VISUAL RESOURCES

Three commenters discussed visual resources in the context of affected environment in the Draft PEIS.

In a joint submission, commenters asserted that the PEIS should include "before and after visual simulations" for each proposed alternative, especially for determining how decommissioning impacts views from various Key Observation Points (KOPs), include a description of the visual landscape of the Santa Barbara Channel, and discuss adverse impacts on visual resources and how to avoid or minimize those impacts.[89]

One commenter asserted that activities with the potential to cause change to or disturb the coastline should be considered in the PEIS,[90] *while another commenter discussed KOPs in San Luis Obispo and Ventura County that are missing from the PEIS.*[91]

Response:

Regarding visual simulations, adverse impacts on viewshed during decommissioning will be temporary and will likely result in returning the viewshed to its original state prior to oil production. Photos showing a representative platform and open ocean in PEIS Section 3.13.1 suffice to show the general change in visual character before and after decommissioning, while the section already includes photos and descriptions of the visual landscape in the Santa Barbara Channel. Analysis of visual impacts during decommissioning would be better analyzed in project-specific reviews when details of the types of barges, cranes, and other equipment to be used are well known. Likewise, potential visual impacts for shoreline disturbance from decommissioning activities may be analyzed in site-specific analysis when the details of such activities are known. Table 4.1-3 of the PEIS describes mitigations of visual impact from lighting effects at work sites during decommissioning. The PEIS did not evaluate key observation points (KOPs) in several counties that would be affected by the removal of platforms but evaluated KOPs in areas with the greatest concentration of platforms in the Santa Barbara Channel. KOPs in San Luis Obispo and Ventura counties, as well as Los Angeles and Orange Counties, may be identified and evaluated in site-specific reviews. PEIS Figure 3.13.-1 shows zones of theoretical visibility throughout the entire five-county project area, which includes coastal communities and recreational areas more inland, within portions of the Transverse Range, and coastal and offshore parks and recreation areas (e.g., Channel Islands NP).

89 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

90 Santa Ynez Band of Chumash Indians.

91 A. Scarborough Bull.

G.2.13 ENVIRONMENTAL JUSTICE

Four commenters discussed environmental justice (EJ) in the context of affected environment in the PEIS.

A couple of commenters discussed shortcomings in the PEIS in addressing EJ concerns and implications of decommissioning.[92] *A joint submission from commenters asserted that the final PEIS should include an environmental analysis of the consistency of decommissioning activities with relevant EJ policies, consider EJ communities in the vicinity of "all potential onshore staging and disposal and recycling sites," and include information on how engagement with EJ communities would be conducted in the future.*[93]

One commenter also asked that the PEIS include a more detailed EJ analysis that:

- *Discusses efforts by BOEM and BSEE to include low-income communities and communities of color in the NEPA process;*
- *Discusses efforts to address language needs for populations affected by decommissioning activities;*
- *Describes EJ issues raised in scoping meetings and "other engagement activities";*
- *Defines the "reference community" and the "affected community" used in EJ analysis; and*
- *Discloses the extent to which decommissioning activities affect low-income and minority populations and identifies and designs mitigation measures for responding to the needs of these communities.*

This commenter also discussed EJ concerns in the context of air quality, asserting that traffic activity could generate significant emissions in areas where EJ communities reside. The commenter recommended that the PEIS identify communities with EJ concerns near haul routes and potential disposal sites and asked that the PEIS disclose potential mitigation measures for addressing adverse impacts on EJ communities. The commenter also cited the Council on Environmental Quality (CEQ) guidance about the identification of low-income or minority populations, expressing concern that BOEM and BSEE have misapplied the CEQ guidance and are inaccurately reflecting concentrations of low-income communities and communities of color in affected areas.[94]

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92 Coastal Coordination Program, The Ocean Foundation; Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

93 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

94 U.S. EPA.

Response:

Regarding identifying environmental justice (EJ) communities in the vicinity of all potential onshore staging and disposal and recycling sites, the PEIS identifies minority and low-income populations in census tracks within 3.8 km (2 mi) of Port of Los Angeles (POLA)/Port of Long Beach (POLB) and Port Hueneme, as these areas are most likely to host scrap and recycling facilities for decommissioned oil and gas platforms. Figures showing the census tracks within this distance have been added to PEIS Section 3.14. More detailed analyses of these and other locations is better conducted in later site-specific NEPA reviews once individual platform decommissioning schedules, truck hauling routes, and disposal and recycling sites have been chosen, with public outreach and targeted engagement programs designed once these site-specific analyses were underway and potentially affected communities are identified. In addition, project-specific variables including distance to shore of the lease and associated activities; size of the platform; the number of platforms per campaign; water depth; and whether the platform depends on shore power could be analyzed in such reviews. These reviews would include Bureau efforts to include low-income and minority communities in the NEPA process and efforts to address language needs.

Regarding issues raised in scoping comments, PEIS Section 6.2.2 notes that BSEE considered such comments in the development of the PEIS. With respect to defining reference and affected communities, PEIS Section 3.14 analyzed the impacts on low-income and minority populations at the county-level, where the reference population is the state, and the local level, where the reference population is the county. Los Angeles County was used for the census block groups around the ports of Los Angeles and Long Beach, and Ventura County for the block groups around Port Hueneme. Text has been added to the PEIS to emphasize the methodology used in the analysis. Regarding the extent of potential impacts on affected populations, such an assessment requires detailed information for specific projects, and cannot be made at the programmatic level. Mitigations would similarly be developed for specific projects.

The Bureaus agree with the comment that the criterion for identifying low-income communities applied in the PEIS was incorrect. The analysis in PEIS Section 3.14 has been revised to use the correct criterion identified in CEQ and EPA guidance. The analysis of the impacts of decommissioning activities on low-income communities uses the methodology suggested by EPA (2016), where low-income populations are identified where the percentage of low-income individuals in the affected area is equal to or greater than that in a reference location. The conclusion in Sec 3.14 regarding identifying low-income populations near the ports has been revised to correctly note that such populations do exist in these areas in both Los Angeles and Santa Barbara Counties.

G.2.14 SOCIOECONOMICS

Four commenters discussed socioeconomics in the context of affected environment in the PEIS.

One commenter expressed concern about harm to coastal economies caused by O&G activities on the Pacific OCS,[95] *while a joint submission from commenters asserted that the PEIS should specifically consider how impacts on marine mammals affects whale watching and how placement of artificial reefs impacts beach recreation.*[96]

In a joint submission, commenters discussed public access and recreation in the Santa Barbara Channel, specifically at Channel Islands National Park and CINMS. They stated that decommissioning activities have the potential to disrupt public access and recreation and asserted that the Final PEIS should analyze potential impacts through each stage of decommissioning as well as describe mitigation measures for avoiding or minimizing such impacts.[97]

A commenter discussed the economic implications of decommissioning, specifically the "perceived economic viability of as-yet-undrilled waters" beyond California or the Gulf of Mexico following decommissioning in those areas.[98]

Response:

Regarding possible impacts on whale watching and beach recreation from potential impacts on marine mammals and from artificial reefs, any such effects would be site-specific, non-consumptive ocean uses and would be best analyzed in site-specific reviews. In addition, such effects would depend heavily on the type of severance and disposal methods selected for a given project. Similarly, potential impacts on public access and recreation in the Santa Barbara Channel and at Channel Islands NP and CINMS should be analyzed at the site-specific level for projects that could affect these resources. For the purposes of the PEIS, the potential impacts of decommissioning activities on recreational boating around platform sites and onshore, and on beach access and recreation, are considered in PEIS Section 4.2.14. As there are expected to be only a small number of vessel trips per platform during decommissioning, with no restrictions on access to coastal and marine resources, the impact of this traffic on marine and beach recreation is expected to be minor.

Regarding the potential effect of decommissioning alternatives with lower costs due to less-than-complete removal of infrastructure on oil company decisions to drill in riskier locations, such an effect would be analyzed at the site-specific level when removal alternatives are selected.

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95 Center for Biological Diversity.

96 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

97 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

98 Coastal Coordination Program, The Ocean Foundation.

G.2.15 COMMERCIAL NAVIGATION AND SHIPPING

Eight commenters discussed commercial navigation and shipping in the context of affected environment in the PEIS.

A few commenters, including a couple of joint submissions, generally addressed commercial navigation concerns related to the decommissioning process and asked that the PEIS develop and implement mitigation measures to avoid or reduce impacts on navigation.[99] *A joint submission submitted by commenters specified that the PEIS should address large vessel traffic and navigation concerns at all stages of the decommissioning process and offered vessel speed reduction as a possible mitigation measure.*[100]

One commenter discussed United States Coast Guard (USCG) platform structure requirements for reducing navigational concerns. The commenter recommended selection of Alternative 1 for its ability to counter navigational risks, and addressed their intent to work with BOEM and BSEE to ensure the proposed rule appropriately addresses navigational safety.[101] *Another commenter discussed USCG responsibilities related to navigational safety, especially for responding to hazards created by "storm-damaged oil structures."*[102]

In a joint submission, commenters asked that the PEIS evaluate navigational hazards related to leaving lower portions of jackets in place,[103] *while a couple of commenters, including another joint submission, expressed concern about vessel traffic and navigational safety as they relate to active fishing vessels and fishery areas.*[104] *A couple of commenters, including a joint submission, discussed navigational concerns specific to ship strikes and collisions with marine mammals.*[105]

One commenter generally discussed concerns about traffic activity related to truck shipping,[106] *while another commenter discussed impacts on harbors, ports, and bays from*

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99 Commercial Fishermen of Santa Barbara; California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission; Center for Biological Diversity; Coastal Coordination Program, The Ocean Foundation.

100 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

101 USCG.

102 Coastal Coordination Program, The Ocean Foundation.

103 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

104 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission; Pacific Fishery Management Council.

105 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission; Pacific Fishery Management Council.

106 U.S. EPA.

decommissioning activities and recommended that the PEIS analyze these impacts and describe mitigation measures to avoid and minimize them.[107]

Response:

Conflicts and collision hazards and interactions with vessel traffic, including mitigation measures, are discussed in PEIS Section 4.2.15.1 for Alternative 1, and impacts on commercial and recreational fisheries are discussed in Section 4.2.9. Large vessel traffic and safety requirements (including shipping safety fairways, traffic safety lanes, separation schemes, and precautionary areas, as well as Private Aids to Navigation [PATON] permits) are discussed in PEIS Sections 3.16 and 4.2.15.1. Details regarding exclusion zones and impacts would be included in future NEPA evaluations during the review of project-specific decommissioning permit applications received by BSEE. USCG-designated shipping fairways, safety designations, and major ports in southern California are shown in Figure 3.16-1 and discussed in Section 3.16.

Impacts on shipping and navigation from decommissioning ship traffic are analyzed in PEIS Section 4.2.15, and mitigation measures are presented in Section 4.2.15.1 for Alternative 1. Vessel traffic data collected by the USCG (through its Navigation Center, Vessel Traffic Services) was used to examine traffic patterns and vessel traffic intensity in the project area, and these data are presented in Appendix E. As discussed in Section 4.2.15.1, compared to the existing volume of vessel traffic in the area (more than 4,000 commercial and cruise vessel), decommissioning vessels would be a largely negligible addition of vessel traffic at the POLA, POLB, and Port of Hueneme (POH), and have negligible effects on congestion of traffic lanes in the Santa Barbara Channel or on those leading to the ports. Specific information on vessel types, speeds, trips required would be identified in decommissioning permit applications received by BSEE and evaluated in future NEPA analyses.

BSEE and USCG requirements and regulations regarding navigational safety and hazards are discussed in multiple locations, including PEIS Sections 2.2.1-2.2.4 and 2.3.6. Text has been added to Section 4.2.15.2 pointing out requirement to meet USCG navigational requirements and BSEE regulations. BOEM will coordinate with the USCG for ensuring navigational safety is maintained during the decommissioning process. Navigational Safety Risk Assessments (NSRAs) are part of the USCG process and if one would be needed for decommissioning the USCG would inform BOEM during coordination at the appropriate time. As indicated in a comment from the USCG on the PEIS, “any plans other than Alternative 1 of the PEIS will require early collaboration and a navigation safety risk assessment (NSRA) be completed by the permitted party for review by the lead agency and USCG District Eleven Waterways Office. The NSRA is critical to evaluate the impact on navigation and providing mitigation strategies to reduce the risk associated with other alternative structure plans. The USCG is committed to working collaboratively with BSEE and BOEM and other relevant agencies to ensure this process appropriately addresses navigation safety.”

Vessel traffic and navigational safety as related to active fishing vessels and fishery areas are addressed in PEIS Sections 4.2.9 (Commercial and Recreational Fisheries) and 4.2.15 (Commercial Navigation and Shipping). These sections discuss interactions between

107 Pacific Fishery Management Council.

decommissioning activities and commercial and recreational fishing activities, including space-use conflicts, impacts on fishing gear, and the use of USCG designated and required navigation routes and safety zones for the platforms throughout the decommissioning process.

Ship strikes with marine mammals are discussed in PEIS Section 4.2.8 (Marine Mammals). Table 4.1-3 includes mitigation measures that would be undertaken to reduce the potential of vessel strikes on marine mammals. Specific mitigation measures would be identified in project-specific decommissioning permit applications and would be developed in coordination and consultation with the Bureaus and NOAA.

An estimated level of truck traffic at the ports is provided in PEIS Section 4.2.13.1 (Environmental Justice) for Alternative 1. Specific truck routes and disposal locations cannot be identified at this time but would be included in project-specific decommissioning permit applications received by BSEE, and potential impacts will be evaluated in the project-specific NEPA. Mitigation measures will also be addressed site-specifically when more information is available.

G.2.16 CONSULTATION AND COORDINATION

Six commenters discussed consultation and coordination in the context of affected environment in the PEIS.

A commenter recommended that the public be involved to a larger extent in the federal decision-making process, especially for monitoring the waiver process for state Rigs-to-Reefs programs and providing oversight for decisions related to decommissioning activities. They added that more involvement from a wide range of stakeholders will lead to a more transparent process and an "accurate valuation of the alternatives to action."[108] One commenter requested that in each case for specific site decommissioning, direct dialogue with fishing communities be set up in order to collect input on how to minimize harm to fishing grounds and compensate fishers for those harms,[109] while commenters in a joint submission urged the PEIS to expand on a strategy of Government-to-Government consultation with "non-federally recognized tribes" in order to better understand negative impacts and develop mitigation efforts.[110]

One commenter recommended that the EJ analysis in the Final PEIS describe efforts that BOEM and BSEE have undergone to "involve low-income communities and communities of color in the NEPA process" and commit to a stronger public engagement process in developing their EJ recommendations.[111] Another commenter stated that BOEM and BSEE are both cooperating agencies for the CHNMS designation EIS.[112]

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108 Coastal Coordination Program, The Ocean Foundation.

109 Commercial Fishermen of Santa Barbara.

110 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

111 U.S. EPA.

112 NOAA.

One commenter encouraged BOEM and BSEE to work with them in the future as projects move forward and asserted that NMFS, state fishery management agencies, and other fishery stakeholders should all be well engaged in the process.[113]

Response:

The NEPA process included multiple opportunities for public involvement, from an 85-day public scoping period to solicit input to help guide alternative development, to a 90-day public comment period on the draft PEIS (which included two virtual public meetings) to solicit further comments on the draft PEIS and the conclusions therein regarding potential environmental impacts. On October 12, 2022, BSEE published a Notice of Availability (NOA) in the *Federal Register* that announced availability of the Draft PEIS for review and comment with a 47-day public comment period ending November 28, 2022. In response to numerous requests for additional time for review and commenting, BSEE published an additional NOA extending the public comment period an additional 43 days to January 10, 2023. Public involvement in the California Rigs-to-Reef program is outside the scope of this PEIS and outside the authority of the Bureaus.

Public involvement and stakeholder outreach will be conducted as part of NEPA activities for decommissioning permit applications received by BSEE. In anticipation of communications needs in languages other than English, BOEM is developing a Language Access Plan and a study of Limited English Proficiency (LEP) for Pacific Coast communities impacted by offshore oil and gas platform decommissioning. BOEM has begun the process of communicating decommissioning facts to LEP communities by providing a Spanish-language fact sheet on its public website.

Government-to-Government consultation is ongoing, and Federally Recognized Indian Tribal Governments were contacted early in the process.

The Bureaus will be working with federal and state agencies and other fishery stakeholder groups in the future as projects move forward. The NMFS, the Pacific Fishery Management Council, California fishery management agencies, and fishery stakeholders will be included for future decommissioning projects on the POCS.

G.2.17 COMMENTS ON OTHER RESOURCE TOPICS

Four commenters discussed other resource topics in the context of affected environment in the PEIS.

A commenter generally expressed concerns about activities affected by the proposed rule, asking whether there was any consideration given to relocating the upper jacket somewhere within the Santa Barbara Channel, in order to continue to support recreational diving, sustainable fishing, snorkeling, and other similar activities. The commenter asked that these

113 Pacific Fishery Management Council.

artificial reefs be protected against overfishing and other depletion in order to "provide a significant benefit to the public."[114]

In a joint submission, commenters expressed concern about the possible proliferation of aquatic invasive species (AIS) as a result of the proposed rule and stated that the PEIS does not provide information about species of concern or discuss the potential spread of AIS to ports, harbors, and other areas. The commenter asserted that the PEIS should consider the proposed rule's potential to contribute towards the establishment or proliferation of AIS, discussed mitigation techniques for preventing AIS, and added that measures should be implemented to ensure that all invasive species are removed from structures and disposed.[115]

A commenter expressed concern about the possibility of land loss as a result of O&G operations and the proposed rule, citing a U.S. Geological Survey (USGS) that concluded 36% of Louisiana's land loss was caused by energy industry activities.[116] *One commenter urged the PEIS to address ecological changes caused by energy extraction activities, which they asserted could have effects on habitats and biological communities more broadly.*[117]

Response:

Alternative 3 includes artificial reef creation using the severed portion of the platform jacket. Location of any such artificial reefs will be determined at the project-specific level and in coordination and consultation with and at the direction of the State of California and permitted by the U.S. Army Corps of Engineers. The reuse of jacket structures as artificial reef material requires BSEE approval and would be managed by a variety of federal and state agencies and in consideration of the 2010 California Marine Resources Legacy Act (MRLA) (see PEIS Section 2.3.7.2).

Regarding consideration of aquatic invasive species (AIS) and their control during decommissioning, this would be best addressed during site-specific analyses following receipt of a decommissioning permit application by BSEE. BOEM is currently conducting a non-native species study that will inform project-specific AIS concerns and mitigations during decommissioning.

The proposed action is for the decommissioning of existing platforms and infrastructure, and not for expansion of O&G production on the POCS, and no land loss is expected with decommissioning. Similarly, there would be no energy extraction under any of the decommissioning alternatives, and thus no ecological effects.

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114 Climate Foundation.

115 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

116 Coastal Coordination Program, The Ocean Foundation.

117 Santa Ynez Band of Chumash Indians.

G.3 ALTERNATIVES, INCLUDING THE PROPOSED ACTION (CHAPTER 2)

Comments associated with this issue are included in the subsections below.

G.3.1 COMMENTS ON PROPOSED ACTION AND ALTERNATIVES

No comments are associated with this issue.

G.3.1.1 Proposed Alternatives (1, 2, 3, 4)

Approximately 15 commenters discussed the four proposed alternatives in the Draft PEIS.

G.3.1.1.1 General Comments

In a joint submission, commenters referenced a 2022 Pacific Fishery Management Council (PFMC) letter that expressed concerns about the PEIS and the proposed Alternatives.[118] *Another joint submission commended the PEIS for addressing a wide range of alternatives, distinguishing between the consequences of various alternatives, and explaining why some alternatives are not feasible.*[119]

One commenter generally discussed the PEIS and BOEM's obligation under the Outer Continental Shelf Lands Act (OCSLA) to ensure offshore drilling does not cause "undue harm to the…environment" and asserted that BOEM should consider a suspension of all O&G activities and cancellation of all leases as an alternative to those proposed in the PEIS.[120]

A commenter asserted that each decommissioning decision should consider "the total lifecycle carbon footprint of each drilling rig."[121]

Response:

Suspension of O&G leases and total lifecycle analysis of carbon footprints for oil rigs are topics beyond the scope of the PEIS.

G.3.1.1.2 Comments on Alternative 1

Several commenters, including a couple of joint submissions, offered general support for Alternative 1 – full decommissioning/complete removal of platforms, reasoning that this

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118 Pacific Coast Federation of Fishermen's Associations (PCFFA) and Institute for Fisheries Resources (IFR).

119 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

120 Center for Biological Diversity.

121 Coastal Coordination Program, The Ocean Foundation.

alternative would best return the ocean to its natural pre-drilling stage, restore ecosystem function, and prevent further damage from continuing drilling.[122]

One commenter recommended Alternative 1 be adopted on the grounds that it would be the best alternative for mitigating navigation risks with underwater obstructions, but they added that any other alternative would require collaboration and an NSRA be completed for review.[123] *Another commenter expressed support for Alternative 1 due to the fact that it is the only alternative that would include shell and debris mound removal.*[124]

In a joint submission, commenters asserted that the PEIS should discuss mitigation and prevention methods for preventing toxic chemicals from escaping during Alternative 1 removal but added that this alternative is the only one to avoid the negative effects of pollutant contamination due to it requiring shell mound removal and full site clean-up.[125]

One commenter asserted that the PEIS underestimates effects on fish populations from proposed Alternatives 1 and 1a and cited a few studies regarding the effects of removal on fish populations, especially for rockfish. They also criticized the terminology of "moderate impact" on fish populations from Alternatives 1 and 1a and asserted that "major" impact would be a better term to apply.[126]

Response:

PEIS Section 4.1.2 presents general mitigation measures applicable to removing O&G related infrastructure from the POCs under Alternative 1. Specific mitigations and measures to prevent releases of hazardous materials will be developed in project-specific reviews.

Regarding impacts on rockfish and other fish populations, as noted in an earlier response to Comment Issue 1.5, the PEIS analysis did not find that removing infrastructure which currently provides habitat to rockfish and other species would rise to the level of a major impact as defined in PEIS Section 4.1.3. That is, removal of platforms would not threaten the viability of the resource, or the resource would not fully recover even after mitigation. In the determination of an impact level of moderate, PEIS Section 4.2.5.1 notes that platforms represent a small amount of hard habitat in southern California, and fish could disperse to other hard habitats including natural reef, and, while valuable habitat, platforms are not considered EFH so their removal would not affect currently designated EFH or HAPC.

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122 USCG; Center for Biological Diversity; Santa Barbara Channelkeeper; Commercial Fishermen of Santa Barbara; Coastal Coordination Program, The Ocean Foundation; Senators Dianne Feinstein Alex Padilla; California Fishermen's Resiliency Association; Pacific Coast Federation of Fishermen's Associations (PCFFA) and Institute for Fisheries Resources (IFR).

123 USCG.

124 Santa Barbara Channelkeeper.

125 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

126 A.S. Bull.

G.3.1.1.3 Comments on Alternative 2

One commenter asserted that Alternative 2 would "result in the least environmental impacts on the marine community at the platforms," even if not stated in the PEIS.[127]

A commenter asserted that the PEIS does not identify a legal basis for leaving any part of platforms in place during decommissioning and added that Alternative 2 does not "appear to comply with federal partial removal requirements" and thus may be legally infeasible.[128] *Similarly, another joint submission asserted that the PEIS should be revised to assess the legal feasibility of Alternative 2. They also generally discussed Alternative 2 in comparison to Alternative 1, including the fact that Alternative 2 would leave lower jackets, pipelines, and shell mounds in place.*[129]

One commenter recommended that a variation of Alternative 2 (Alt 2B) should be given in which jackets are decommissioned but conductors, an important structure for fish, are left in place.[130]

Response:

The legal basis for Alternative 2 may be found under BSEE regulation 250.1728(b), which informs operators that the Regional Supervisor may approve an alternate removal depth if, for a given platform:

(1) The remaining structure would not become an obstruction to other users of the seafloor or area, and geotechnical and other information you provide demonstrate that erosional processes capable of exposing the obstructions are not expected; or

(2) You determine, and BSEE concurs, that you must use divers and the seafloor sediment stability poses safety concerns; or

(3) The water depth is greater than 800 meters (2,624 feet).

Conditions 1 or 2 could apply to the POCS. Condition 3 would not apply as no POCS platforms are at depths greater than 800 m (2,600 ft).

Regarding a proposed Alternative 2B, which would remove jackets but leave conductors, this alternative would interfere with removal of jackets, while the remaining, unprotected conductors would pose a risk to the plugged wells to which they are attached. Thus, such an alternative would not be viable.

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127 A.S. Bull.

128 Coastal Coordination Program, The Ocean Foundation.

129 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

130 M. McCrea.

G.3.1.1.4 Comments on Alternative 3

One commenter, writing in support of Alternative 1, also expressed strong opposition to Alternative 3 – jacket relocation or repositioning – on the grounds that it would create new habitat disturbance and fisheries hazards that might otherwise be avoided.[131]

In a joint submission, commenters discussed the specifics of Alternative 3, asserted that the PEIS should clarify that shell and debris mounds would remain in place for this alternative, and added that the PEIS should "state whether participation in the State program is the only option for partial decommissioning under Alternative 3." They also asked whether there are any existing reef sites or planning areas off the coast of Southern California, where they are located, and what their "current status" is.[132]

One commenter discussed conflicts between the California Marine Resources Legacy Act (MRLA) and proposed actions under Alternative 3, including the Rigs-to-Reefs program, partial removal, and pipeline abandonment.[133]

Response:

PEIS Table 2-1 has been revised to note that shell mounds would remain under both Alternatives 2 and 3. PEIS Section 2.3.7.2 clearly states that a condition of participation in an RTR program is that the removed structure becomes part of a formal state artificial reef program. California Senate Bill 2503 enacts the California Marine Resources Legacy Act (MRLA), which establishes a program to allow partial removal of offshore oil structures. As SB 2503 notes, existing law establishes a California Artificial Reef Program. With respect to any perceived conflicts between Alternative 3 and MRLA, partial removal is defined in MRLA as "an alternative to full removal of an offshore oil structure, in compliance with all requirements of this chapter." Such a definition would encompass the three options described in PEIS Section 2.2.4 for the reefing of remaining jacket portions. The eligibility of a given platform to participate in these state programs would be determined on a project-specific basis. Any future implementation of Alternative 3 would fully comply with the requirements of MRLA.

G.3.1.1.5 Comments on Alternative 4

In a joint submission, commenters discussed the presence of Alternative 4 – No Action in the PEIS and reasoned that the PEIS implies that this alternative is not feasible. The commenters asserted that the PEIS should more clearly explain that "there is no option to simply take no action and leave platforms at sea."[134]

131 Commercial Fishermen of Santa Barbara.

132 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

133 A.S Bull.

134 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

One commenter called Alternative 4 "confusing" on the grounds that action is required to maintain structures, even though Alternative 4 is labeled "No Action," and asked that this discussion of Alternative 4 be clarified.[135] *In a joint submission, commenters asserted that the PEIS should be revised to assess the legal feasibility of Alternative 4.*[136]

Response:

Regarding the legal feasibility of Alternative 4, PEIS Section 2.2.5 states that "existing law would not permit the platforms to persist in the environment indefinitely." No Action refers to no action on accepting and approving or disapproving decommissioning applications, thus, it does not conflict with maintaining standing structures. Ongoing regulatory and statutory requirements for managing platforms following lease termination would continue to apply, notably those for maintaining safety and protecting the environment on the OCS.

G.3.1.1.6 Comments Addressing Multiple Alternatives

Comments on Alternatives 1–3:

One commenter referenced the PEIS' discussion of impacts on marine fish across Alternatives 1, 2, and 3, with impacts being "negligible" for Alternatives 1 and 2 and positive through the creation of hard bottom habitat for Alternative 3. However, the commenter asserted that the draft PEIS does not discuss relevant factors for the creation of this hard bottom habitat and that it does not analyze impacts on marine species/habitats from debris left over in Alternatives 2 and 3.[137]

Another commenter cited the PEIS' assertion that there would be less environmental disturbance under Alternatives 2 or 3 during the severance phase than under Alternative 1 and that Alternatives 2 and 3 would result in reductions of air emissions due to reduced vessel trips needed to transport decommissioned infrastructure.[138]

One commenter referenced Table 4.3-1 in the PEIS, which they said indicates the expected impacts on Marine Fish and EFH from Alternatives 1, 1a, 2, 2a, 3, and 3a are all the same. They asserted that these are "questionable conclusions" and stated that the table should be revised and clarified for a better understanding of impacts.[139] *One commenter stated that there is confusion in the PEIS over what constitutes "partial removal," especially in the discussion of Alternatives 2 and 3 and asserted that correction is needed.*[140]

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135 A.S. Bull.

136 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

137 Pacific Fishery Management Council.

138 U.S. EPA.

139 A.S. Bull.

140 A.S. Bull.

In a joint submission, commenters asserted that for Alternatives 1-3, the PEIS should address the approximate volume of metal cuttings from non-explosive severance of the total jacket sections and conductors on the 23 platforms, as well as what is considered a "localized and temporary" effect on water quality from page 4-34 of the PEIS.[141]

Response:

PEIS Section 4.2.5 and Table 4.3-1 describe why impacts on marine habitats would be reduced under Alternatives 2 and 3 compared to Alternative 1, due to the presence of habitat remaining on remnant infrastructure and to reduced habitat disturbance.

Table 4.3-1 does not indicate that the impacts across Alternatives 1-3 are the same, but points out their differences. The description in PEIS Sections 2.2.3 and 2.2.4 of partial removal under Alternatives 2 and 3, respectively, has been revised for clarification.

Regarding volumes of cutting materials, a projection of the total volume of abrasive cutting materials needed to sever all platform conductors has been added in PEIS Section 4.2.3.1. The volume of metal cuttings for jacket sections would depend on the method of cutting. Definition of localized and temporary have been added to PEIS Section 4.1.3.

Comments on Alternatives 1 and 3:

One commenter discussed the statements about "positive impacts" on new habitat creation from Alternatives 3 and 3a to the "moderate impacts" from complete removal and destruction under Alternative 1. They referenced a few studies on the effects of the removal of platforms on habitat destruction, concluding that the potential removal and destruction under Alternative 1 would "never, ever be considered a 'moderate' impact" on natural reefs in California.[142]

Response:

BSEE finds that analysis of impacts on fish from complete removal of platform structures under Alternative 1 is consistent with an impact level of up to moderate, according to the description of impact levels in PEIS Table 4.1-4. In the determination of an impact level of moderate, PEIS Section 4.2.5.1 notes that platforms represent a small amount of hard habitat in southern California, and fish could disperse to other hard habitats including natural reef, and, while providing valuable habitat, platforms are not natural reefs and are not considered EFH. Thus, removal of the platforms would not affect currently designated EFH or HAPC.

Comments on Alternatives 2 and 3:

One commenter compared Alternatives 2 and 3, asserting that Alternative 2 considers onshore jacket disposal while Alternative 3 describes jacket disposal at artificial reefs, and asked for clarification regarding whether Alternative 2 would be required to be accepted into a

141 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

142 A.S. Bull.

rigs-to-reef program as with Alternative 3.[143] *Another commenter asked that the PEIS include monitoring measures for structures disposed of in the ocean in order to manage the spread of AIS.*[144]

Response:

Alternative 2 would not involve reefing and thus would not require acceptance into an RTR program. Monitoring measures for AIS would be developed under site-specific reviews when the origin of the decommissioning vessels as well as the ports that will be used is known. In addition, BOEM is currently conducting a non-native species study that will inform project-specific AIS concerns and mitigations during decommissioning.

Comments on Alternatives 2, 3, and 4:

A commenter asserted that the draft PEIS does not consider the impacts of leaving shell mounds, pipelines, and debris on the seafloor for Alternatives 2, 3, and 4. They added that the PEIS fails to analyze the effect of increased fishing access on biological resources under those same alternatives.[145]

In a joint submission, commenters stated that the PEIS should analyze the effect of increased fishing access on biological resources under Alternatives 2, 3, and 4. They asked that, for Alternatives 2-4, the PEIS specify additional air pollution impacts from cleanup efforts required after debris mounds or pipelines are disturbed or broken up, specifically for a release of chemicals from debris mounds, as well as address the likelihood that debris mounds might be broken up by a seismic event or a human-generated accident. They asked whether there are any mitigation measures that might be used to ensure debris mounds do not release chemicals and are stable over the long-term. The commenters also asked that the PEIS address the leakage of naturally occurring radioactive material (NORM) when cutting pipelines, the risk of petroleum leakage from pipelines after the decommissioning process and abandonment, and the risk of heavy metals leaching from pipelines into the environment and the effect of that leaching on water quality.[146]

Response:

A new Section 4.1.4.2 has been added to the PEIS analyzing the long-term risks of remnant infrastructure, including risks from contaminated shell mounds and pipelines. PEIS Section 4.2.3.1 already mentions capping as a possible mitigation of contaminant releases from shell mounds. Text has been added to PEIS Section 4.2.9.2 noting that some types of commercial fishing employing shallow methods could increase in areas above severed jackets. Potential impacts on biological resources from increased fishing would be analyzed in site-specific reviews.

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143 Santa Barbara Channelkeeper.

144 Pacific Fishery Management Council.

145 Coastal Coordination Program, The Ocean Foundation.

146 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

Comments on All Alternatives:

In a joint submission, commenters offered analysis of each of the 4 proposed alternatives, which included briefly describing each proposed alternative, asking for further clarification about how each alternative is consistent with Pacific OCS regulations, requesting additional analysis about the Rigs-to-Reefs program, and having each alternative mention and consider MRLA for partial decommissioning options. They also suggested text in bullet point form to be added to each of the 3 action alternatives, including 1a and 1b, for additional clarification.[147]

Another joint submission referenced the statement that Alternative 1 has the greatest potential for contaminant release and criticized the PEIS for not considering the potential for contaminant release under Alternatives 2, 3, and 4, especially in the event of seismic events disturbing shell mounds.[148]

Yet another joint submission expressed adamant opposition to all alternatives except for Alternative 1 – full removal, reasoning that the act of leaving any debris platforms behind is "a scam perpetuated by the companies who profited from these platforms."[149]

Response:

Commenter suggestions have been incorporated in clarifying bullets in PEIS Table 2-1 describing alternatives, including citations of relevant BSEE regulations. A mention of MRLA has been added to the description of Alternative 3 in PEIS Section 2.2.4 and Section 4.1.4.2 has been added discussing the long-term risks of remnant infrastructure, including risks from contaminated shell mounds and pipelines.

G.3.1.2 Alternatives Considered but Eliminated from Further Evaluation

In a joint submission, commenters professed agreement with the PEIS' determination that conversion of platforms to renewable energy production is not likely or economical. They also asserted that an "Alternative Use right- of-use and easement (RUE) still imposes decommissioning obligations" and would thus exponentially increase the costs of attempting to convert platforms to renewable energy production. The commenters noted similar concerns with attempting to convert platforms to offshore research centers.[150]

147 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

148 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

149 Pacific Coast Federation of Fishermen's Associations (PCFFA) and Institute for Fisheries Resources (IFR).

150 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

Response: Comment noted.

G.3.1.3 Other Comments on the Draft PEIS

In a joint submission, commenters criticized the PEIS for not analyzing the "massive toxic waste problems" under and around each O&G platform and asserted that transforming these sites into artificial reefs would lead to the contamination of sea life and ultimately the human food chain.[151]

Response:

The PEIS analyzes the potential impacts of contaminant releases from disturbing shell mounds and sediments on water quality in PEIS Section 4.2.3, on marine habitats and invertebrates in Section 4.2.4, and on fish and EFH in Section 4.2.5.

G.3.2 COMMENTS ON DECOMMISSIONING ACTIVITIES

Five commenters provided comments on decommissioning activities.

One commenter expressed concern that the PEIS mentions shell mounds. The same commenter said that the PEIS should thoroughly discuss NORM and how that material would be managed or undergo disposal.[152]

In a joint submission, commenters stated that a thorough and complete project description for decommissioning of each individual platform should be included in the PEIS in order to facilitate meaningful environmental review of potential impacts, mitigation measures, and alternatives. The commenters said that the Project Description should be as precise as possible in describing the details of all allowable activities, the details of the timing and length of activities, and the details on any vessels, barges, or support boats used during decommissioning, including anchoring and location of vessel origin prior to arrival at the project site.[153] *Similarly, another commenter said that the PEIS should include at least a general discussion of decommissioning status and timeline for each of these platforms, and any potential impacts on national marine sanctuaries associated with these beginning decommissioning stages.*[154]

One commenter stated that the PEIS summary of environmental effects (Table 4.3-1) mentions the impacts on air quality would be temporary, but decommissioning for a single platform could take two years or more; the draft PEIS does not include specific information on the timeframe of related impacts. For example, the PEIS should include how many years the air

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151 Pacific Coast Federation of Fishermen's Associations (PCFFA) and Institute for Fisheries Resources (IFR).

152 A. Bull.

153 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

154 NOAA.

quality effects from decommissioning activities are expected to occur. The commenter expressed concern that the use of "temporary" may be misleading in that decommissioning activities would occur over several years.[155]

A commenter said that under the DOI's "Idle Iron" policy, lease agreements for O&G exploration in the federal waters of the OCS stipulate that once a rig has ended its production phase, it must be decommissioned. The commenter remarked that idle O&G infrastructure poses a potential threat to the OCS environment and is a financial liability to BOEM and possibly the federal government if subsequently destroyed or damaged in a future event such as a hurricane. Further, the cost and time to permanently plug wells and remove storm-damaged infrastructure (including pipelines) is significantly higher than decommissioning assets that are not damaged when decommissioned.[156]

Response:

PEIS Section 3.4.2.4 of the PEIS summarizes the available characterization studies of shell mounds beneath O&G platforms and of soft sediments in the surrounding area. PEIS Section 3.5.3 describes benthic life living on shell mounds, and text has been added to Section 4.2.5.2 that further discusses risks to marine life from contaminant leaching. Table 3.5.3-1 presents a summary of the size and volume of shell mounds at individual platforms as determined by sonar survey. Section 4.2.8.2 presents a discussion of the risks to marine mammals from NORM in pipelines abandoned in place. Disposal of pipelines with NORM would be analyzed at the project level.

The PEIS presents platform-specific information in several places and at a level appropriate and sufficient for a PEIS. PEIS Figure 1-1 and Table 1-2 presents location, installation date, water depth and distance from shore information for each platform, and Table 2-2 presents a summary of material volumes for each platform. PEIS Figures 2-2 (a-d) show the locations of platforms and associated pipeline and power cable rights-of-way (ROWs), and associated lease blocks while Table 2-3 describes pipeline origins, number, termini, length and associated onshore facilities. PEIS Figures F-3 and F-4 in Appendix F (which is newly added to the PEIS) present estimates of GHG emissions and project duration for the removal of each platform. As noted in the previous paragraph, Table 3.5.3-1 presents a summary of shell mound information at individual platforms. Additional details on specific platforms will be provided in project-specific reviews, including information on vessels used in decommissioning.

Regarding the decommissioning status of platforms, PEIS Section 1-1 identifies platforms that are non-producing, on terminated leases and are pending final decommissioning decisions, and Section 1.2 provides a discussion of decommissioning status of the POCS. Specific timelines for individual projects are not currently known and further projections would be speculative.

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155 U.S. EPA.

156 Coastal Coordination Program, The Ocean Foundation.

Regarding the risks of remnant infrastructure, PEIS Section 4.1.4.2 has been added to the Final PEIS presenting an analysis of risks to the POCS of remaining jacket portions, shell mounds, and pipelines abandoned-in-place under Alternatives 2-4.

G.3.2.1 Long-term Implications of Decommissioning Activities

Seven commenters discussed long-term implications of decommissioning activities.

One commenter said that the PEIS should include a commitment that individual projects would be required to conduct sediment and shell mound testing, and that this testing would be coordinated through the Southern California Dredged Material Management Team (DMMT).[157] *Another commenter remarked that as the Federal government begins a new era of decommissioning O&G platforms in the Pacific, there is an opportunity to invest in future generations by prioritizing ocean health and resilience. Further, O&G companies, which have long profited from the extraction of fossil fuels from public waters, must be held accountable for full cleanup of their operations once the useful life of their assets has concluded.*[158] *A commenter expressed opposition to abandonment, and said that abandonment is a calculated breach of contract by developers who initially agreed, as a condition of permitting, to remove all of their infrastructure at their project's termination.*[159]

One commenter stated that it is of the utmost importance that BSEE incorporate a comprehensive assessment of the long-term implications of remnant infrastructure, including pipelines and platforms in the PEIS.[160] *In a joint submission commenters remarked that the PEIS limits long-term impacts on a relatively short time frame; the PEIS should reflect the length of time it is estimated that any remaining platform jacket, pipelines, shell mounds, and other materials would persist in the marine environment. In addition, the commenters stated the PEIS failed to analyze several impacts on biological resources, including the impacts of fishing to biological communities under the various alternatives, secondary entanglement, and impacts on threatened and endangered marine mammals, sea turtles, and birds.*[161]

A commenter said that the future of underwater artificial habitats using retired O&G structures should be considered within the context of future use considerations and current efforts to restore the Gulf of Mexico in a post-BP-spill era.[162]

Response:

PEIS Section 4.2.3.1 already notes that "The USACE and EPA permit authorities under Section 404 of the CWA and Section 103 of the MPRSA include requirements to characterize

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157 U.S. EPA.

158 Senators Dianne Feinstein Alex Padilla.

159 California Fishermen's Resiliency Association.

160 Commercial Fishermen of Santa Barbara.

161 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

162 Coastal Coordination Program, The Ocean Foundation.

sediment that would be dredged and subsequently disposed of in inland waters or nearshore state waters, or at EPA designated ocean dredged material disposal sites (ODMDS) in federal waters," and that "For all potential dredging and in-water disposal actions, permit applicants are required to prepare a sediment Sampling and Analysis Plan (SAP) in accordance with the EPA and USACE guidelines (EPA and USACE 2021) and obtain approval of the SAP by the Southern California Dredged Material Management Term (DMMT) prior to sampling and testing."

Regarding an assessment of long-term implications of remnant infrastructure, a new Section 4.1.4.2 has been added to the PEIS, which discusses the long-term risks of remnant jacket portions, shell mounds, and pipelines under Alternatives 2-4.

Impacts on biological resources (including threatened and endangered biota, from implementation of each of the alternatives are discussed throughout Chapter 4. Impacts on biological communities from fishing are outside the scope of this PEIS. Potential impacts that could occur under Alternative 1 due to the absence of the platforms and pipelines would be largely the same as those that currently occur on the POCS. Similarly, secondary entanglement at the platform and pipeline locations is expected to be absent following complete infrastructure removal under Alternative 1, reduced under Alternatives 2 and 3, and be no different that currently occurs under Alternative 4.

G.3.2.2 Chain of Liability

Five commenters discussed the chain of liability.

A commenter said that if the option for abandonment-in-place is chosen, companies who owned the pipelines would no longer bear responsibility for actively monitoring or additional cleanup, which would shift onto the Federal government and taxpayers. The commenter encouraged BOEM to coordinate closely with the State of California, as these pipelines cross into state waters before reaching the coast.[163] *One commenter stated that the implications of the transfer of associated liability from the oil industry to the State of California must be addressed in the PEIS.*[164] *Similarly, another commenter requested that BOEM provide an objective analysis of the chain of liability that would accrue to the State of California and its taxpayers with each scenario.*[165]

A commenter said that funded and required decommissioning and removal of obsolete or damaged infrastructure, while the correct remedy for restoration of community fishing grounds, presents additional interruption of local fishing operations. Further, submarine cable operators in Central California are mandated to remove old cables while compensating local fishermen interrupted by removal activities, according to the commenter.[166]

163 Senators Dianne Feinstein Alex Padilla.

164 Coastal Coordination Program, The Ocean Foundation.

165 Ocean Foundation.

166 California Fishermen's Resiliency Association.

Response:

BSEE and BOEM would coordinate with the state of California on any instance where pipelines would be abandoned in place for any specific future projects. Analysis of liability issues related to remnant pipelines and other infrastructure will be conducted as part of the project-specific reviews of decommissioning permit applications, where the details of the remnant infrastructure will be available. Interruption of local fishing operations will also be analyzed in project-specific permit application reviews when the geographic scope and duration of projects are known.

G.3.2.3 Mitigation

Eight commenters discussed mitigation.

One commenter recommended putting measures in place to minimize construction in or on the water and instead maximize onshore dismantling to reduce navigational/construction impacts such as noise, sedimentation, etc. not only to marine species but to surrounding vessel operators. Further, according to the commenter, mitigation measures should be implemented to reduce potential hazards specifically to active fishing vessels from increased vessel traffic in routes from staging areas to platforms during the decommissioning process.[167] *Similarly, another commenter recommended that the PEIS include or require the analyses and mitigation measures to avoid or minimize impacts on fishing and fisheries during decommissioning activities. Such analyses and mitigation measures include defining exclusionary zones around platforms and pipelines (including time windows), analyzing impacts on harvestable species (e.g., reduced biomass) from sedimentation of nearby reefs caused by decommissioning activities, and analyzing impacts on coastal pelagic fisheries from temporary water quality impacts, among others.*[168]

In a joint submission, commenters suggested that the PEIS describe mitigation measures presented as specific, feasible, enforceable obligations, or presented as formulas containing performance standards which would mitigate the significant effect. Further, the commenter requested early consultation with CSLC, CDFW, the California Ocean Protection Council, and the California Coastal Commission to ensure proposed mitigation is consistent with the forthcoming California Marine Restoration and Mitigation Policy and ensure impacts on sensitive species and habitats are avoided or minimized.[169] *Another commenter remarked that the mitigation measures (summarized in Table 4.1-3 of the PEIS) lack detail and enforceability to offset impacts.*[170] *One commenter said that Table 4.1-3, BOEM mentions "jack hopping," but the method is not mentioned or addressed in Appendix A.*[171] *A commenter stated that the draft*

167 Commercial Fishermen of Santa Barbara.

168 Pacific Fishery Management Council.

169 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

170 Pacific Fishery Management Council.

171 A. Bull.

PEIS fails to analyze the feasibility or effectiveness of possible mitigation measures, so there is no way to know what the residual impacts would be.[172]

One commenter stated that the PEIS should include a more thorough analysis of ship strike risks resulting from individual platform decommissioning for decommissioning of all of the platforms cumulatively and identify measures that could be taken to minimize this risk. The commenter recommended the analysis be based on the number, type, speed, frequency, and routes of vessels that would be used during specific decommissioning activities. The same commenter requested that BOEM add a mitigation measure requiring that in the event cultural resources are discovered during any construction activities, project personnel shall halt all activities in the immediate area and notify a qualified archaeologist to determine the appropriate course of action.[173] *Another commenter remarked that new mitigation measures should be proposed requiring monitoring of Native American sites during any ground disturbing activities and protection of Chumash sacred sites from trespassers and vandals.*[174]

A commenter said that the PEIS should describe and commit to mitigation or remedies that would be implemented to address problems identified through monitoring, such as pipeline leaks or collapsed platform jackets.[175] *In a joint submission, commenters remarked that in reviewing the list of typical mitigation measures that would be employed to contain wastewater, trash, and debris, no specific measure addresses how pipelines are to be flushed and cleaned so as to avoid releases. Instead, this list of mitigation measures is confined to general mitigation such as complying with Coast Guard sanitary waste discharge requirements and pollution prevention measures on vessels and platforms. Therefore, the commenter requested that BSEE revise the PEIS to address the following questions, among others:*

- *Under what conditions would the agency allow operators to leave pipelines in place?*
- *Do the agencies currently have oversight authority to ensure operators are complying with standards for protection of water quality during decommissioning? If not, what additional regulations or resources are needed to ensure such protection?*
- *Has BSEE addressed the issue of allowing operators to forgo certain cleaning measures during decommissioning since the release of the Government Accountability Office (GAO) Report? If not, how would BSEE ensure that the cleaning procedures outlined in the PEIS actually take place during decommissioning procedures offshore California?*[176]

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172 Coastal Coordination Program, The Ocean Foundation.

173 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

174 Santa Ynez Band of Chumash Indians.

175 U.S. EPA.

176 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

A commenter recommended that the PEIS include or require the following analyses and mitigation measures to avoid or minimize the spread of AIS during decommissioning activities:

- *Require site-specific surveys of the biofouling community, including surveys of invasive species and the depths at which they occur;*
- *Include measures that would ensure all invasive species are removed from structures prior to transportation and that invasive species are disposed of appropriately to prevent spreading to new areas; and*
- *Include mitigation measures to minimize the establishment of invasive species on platforms disposed of in the marine environment.*[177]

Response:

Minimizing offshore versus onshore dismantlement will be dictated by practical considerations in specific projects and is beyond the scope of the PEIS.

Potential space-use conflict mitigations are presented in PEIS Table 4.1-3, including possible mitigations for conflicts with active fishing vessels. Defining exclusionary zones around platforms and pipelines and analyzing the effects of sedimentation of fish stocks on nearby reefs is beyond the scope of the PEIS. Such mitigations and effects would be better analyzed in project-specific reviews. Impacts on water quality from decommissioning activities are expected to have minimal impacts on coastal pelagic fisheries.

Many of the mitigations presented in PEIS Table 4.1-3 are enforceable requirements under current BSEE regulations. More specific requirements will be developed in project-specific reviews and moreover will be spelled out in approval letters to decommissioning applicants. California state agencies will be consulted at the earliest opportunity on matters including mitigation once project plans are available. With respect to the term "jacket hopping" mentioned in Table 4.1-3, the activity, also referred to as "progressive transport," is described in the last paragraph of PEIS Section A.1.2.2 – Jacket Removal.

The feasibility and effectiveness of available mitigations are considered in the PEIS in the analyses of impacts and in the estimation of impact levels. Mitigations listed in Table 4.1-3 were taken from those applied in the GOM and their effectiveness is well established. Many mitigations are required by regulation.

PEIS Table 4.1-4 lists well established mitigations for reducing vessel strikes. A more thorough analysis of vessel-strike risks will be conducted in project-specific reviews when details on vessel trips will be known.

Regarding mitigations for cleaning and flushing pipelines, PEIS Section 2.3.4 describing pipeline removal notes that pipelines will be pigged if feasible, flushed, and filled with seawater

177 Pacific Fishery Management Council.

prior to being disconnected from platforms, thus there would be no releases to the ocean. Mitigations would include monitoring of this process.

Mitigations responding to problems discovered during monitoring of remnant infrastructure would be developed in collaboration with EPA in project-specific reviews when the types and extent of remnant infrastructure will be known. Regarding ensuring that pipeline cleaning takes place as required, BSEE inspectors will observe and certify that cleaning has taken place in accordance with decommissioning permit requirements.

Aquatic invasive species (AIS) associated with platforms are discussed in PEIS Section 4.2.4. Further analysis of AIS and development of mitigations would be conducted in project-specific NEPA evaluations of decommissioning permit applications which provide the details of the decommissioning activities. The mitigations proposed in the comments would be considered at that time.

G.3.2.4 Management and Monitoring

Five commenters discussed management and monitoring.

A commenter stated that decommissioning activities will likely be subject to the Santa Barbara County Air Pollution Control District prohibitory rules and permit requirements, including new source reviews, as well as federal permits depending on the project's potential-to-emit.[178] *A commenter requested better monitoring of previous partial decommissioning programs conducted elsewhere, vigorous enforcement of environmental laws, effective management and restoration of reef fish populations, and public involvement in monitoring Rig-to-Reef programs.*[179] *A commenter "echo[ed] the letter submitted by Grijalva et al. about the need for more in depth comprehensive monitoring and regulation." They also stated that monitoring is critical and should be used to hold oil companies accountable for restoring areas and mitigating impacts on the environment and fisheries through monetary compensation.*[180]

A couple of commenters recommended the PEIS include a long-term monitoring and mapping protocol for infrastructure abandoned in place,[181] *and require:*

- *Sediment and shell mound testing coordinated through DMMT;*[182]
- *Pre- and post-decommissioning monitoring of benthic habitats to assess whether the proposed setbacks are sufficient to avoid impacts;*[183]

178 Santa Barbara County Air Pollution Control District.

179 Coastal Coordination Program, The Ocean Foundation.

180 Commercial Fishermen of Santa Barbara.

181 U.S. EPA; Pacific Fishery Management Council.

182 U.S. EPA.

183 Pacific Fishery Management Council.

- *Pre- and post-decommissioning monitoring of platforms and shell mounds using visual surveys to assess the impacts on biogenic habitats;*[184] *and*

- *"Transport routes and artificial reef placement locations avoid… study areas associated with regular site monitoring operations."*[185]

Response:

Monitoring programs, including pre- and post-decommissioning monitoring of platforms and shell mounds and long-term monitoring of remnant infrastructure would be developed in project-specific NEPA reviews in collaboration with EPA. PEIS Section 4.2.3.1 notes that sampling plans for sediments and shell mounds require approval by DMMT.

G.3.2.5 Financial Implications

Six commenters discussed financial implications.

A few commenters expressed opposition to American taxpayers paying the cost of decommissioning activities from the O&G industry.[186] *One commenter stated that a more thorough treatment of why an 85-ft topping depth was selected in Alternative 2 over other depth alternatives, and that analyses should be conducted of cost differences in selecting a shallower depth or leaving the jacket in place (without topsides).*[187] *Another commenter remarked that upon relinquishing these areas, oil companies should be required to make amends equal to the cumulative value of the lost fishing opportunities and extra cost of avoiding the rigs during navigation and fishing activities. The commenter also said that any substantial time spent addressing gear loss issues is time lost earning a living fishing, and this lost opportunity warrants monetary compensation.*[188]

A commenter remarked that idle O&G infrastructure poses a potential threat to the OCS environment and is a financial liability to BOEM and the federal government if the remaining infrastructure is subsequently destroyed or damaged in a future event such as a hurricane. The cost and time to permanently plug wells and remove storm-damaged infrastructure (including pipelines) is significantly higher than decommissioning assets that are not damaged when decommissioned.[189] *One commenter stated that the economic valuation of a Gulf of Mexico that boasts sustainable seafood harvests, safe navigation, ecological stability, and healthy quality of life for its residents is worth protecting, in contrast to the fiscal and ecological liabilities that would fall to the public as a result of an expansion of the practice of simply discarding retired*

184 Pacific Fishery Management Council.

185 U.S. EPA.

186 Congressional Committee on Natural Resources and Subcommittee on Energy and Mineral Resources; Commercial Fishermen of Santa Barbara; Anonymous.

187 M. McCrea.

188 Commercial Fishermen of Santa Barbara.

189 Coastal Coordination Program, The Ocean Foundation.

rigs on the seabed. California could learn from the "overkill" represented by the Gulf of Mexico example.[190]

Response:

The USCG stated in their public comment on the PEIS that an NSRA would be required for any alternative other than Alternative 1 because of the potential for remaining infrastructure to present a hazard to navigation. The USCG further stated that the 85ft level is not a USCG District 11 standard, so this has been corrected in the PEIS.

Analyzing cost differences for different removal depths or the costs of removing storm-damaged infrastructure is beyond the scope of the PEIS.

As stated in an earlier response (see Section 1.9 Commercial and Recreational Fisheries in this comment summary and response report) to monetary compensation for lot fishing gear, compensation for gear loss is already addressed under other programs (e.g., the federal Fisherman's Contingency Fund [50 CFR Part 293], the Santa Barbara County Local Fisherman's Contingency Fund).

G.3.2.6 Upper Jacket/Lower Jacket Removal or Relocation

Six commenters discussed jacket removal or relocation.

A commenter stated that because Pacific jacketed platforms are unique due to size, weight, water depth, and design, they will require different decommissioning processes than those referenced by BOEM. Additionally, the commenter said BOEM may wish to clarify their position for the choice of explosive severing as an option for jackets.[191] *A commenter requested a more thorough explanation of "why the 85-foot topping alt 2 depth was selected over other depth alternatives and analyses of cost differences in selecting a shallower depth or leaving the jacket in place (without topsides) should be made."*[192] *A commenter asked whether different methods of jacket removal and disposal would have different environmental impacts. If the impacts would vary, they reasoned that Table ES-2 may be underrepresenting resource impacts.*[193]

A commenter asked for an estimated "volume of metal cuttings produced during non-explosive severance of 254 total jacket sections and 818 conductors for the 23 platforms."[194] *In a joint submission, commenters asked about the legality of leaving portions of jackets in place or using tow-and-place. Additionally, they asked if tow-and-place is a viable option given that the*

190 Coastal Coordination Program, The Ocean Foundation.

191 A. Scarborough Bull.

192 M. McCrea.

193 Santa Barbara Channelkeeper.

194 Pacific Fishery Management Council.

structure would be managed by the State.[195] *See section 5.3 for additional comments on regulatory compliance. A commenter asked whether the option to relocate upper jackets to shallower waters of the Santa Barbara Channel was being considered. They said this could provide benefits such as ecosystem services and recreational diving opportunities.*[196]

Response:

BSEE believes, for the purposes of the PEIS (as stated in PEIS Section 1.2) the decommissioning processes analyzed therein sufficiently encompass the potential impacts of decommissioning O&G infrastructure in the Region. Further analysis of decommissioning activities unique to the POCS Region will be analyzed in project-specific NEPA documents.

The selection of a minimum 26 m (85 ft) depth is addressed in the previous response (see Section 2.2.5 of this report). The different impacts of explosive versus non-explosive severance methods for jackets are analyzed in the respective sub-alternatives for explosive severance. Estimates of the volume of cuttings produced from severance cannot be made until the method of severance is specified in project-specific plans and approved. Regarding conductor severance by abrasive cutting, an estimate of the total volume of cutting materials for all 818 conductors has been added to PEIS Section 4.2.3.1.

Regarding the legality of partial removal and tow-and-place reefing, California Senate Bill 2503 enacts the California Marine Resources Legacy Act (MRLA), which establishes a program to allow partial removal of offshore oil structures, as discussed in PEIS Section 2.3.7.2. As the Bill notes, existing law establishes a California Artificial Reef Program. The eligibility of a given platform to access California reef sites would be determined on a project-specific basis.

G.3.2.7 Deck/Topside Removal

One commenter said that the PEIS includes a description of the decommissioning activities for the conductor removal. Included in this section are details on how long a typical conductor cut takes (7 hours) and the number of days required to remove conductors from various platforms (120-240 days). The sections that describe the deck/topside removal and the jacket removal do not include this level of detail. The commenter stated that there are several methods listed that may be pursued for decommissioning these components such as single lift, flotation, reverse installation, and piece-large through to piece-small removal. The commenter asked if there would be different effects on various resources including air quality, acoustic environment, and water quality, based on method chosen.[197]

Response:

Time estimates for conductor removal were taken from the two EAs for conductor removal attached to the PEIS as Appendices B and C. The duration for this activity is expected to

195 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

196 Climate Foundation.

197 Santa Barbara Channelkeeper.

be similar among all platforms, whereas deck and topside removal would vary a great deal more, depending on the type of construction and removal method chosen. These differences would be analyzed in project-specific reviews when details of removal methods are known. The major differences in impacts from different removal methods are expected to arise from the method of jacket severance used - explosive versus non-explosive. These differences are analyzed in the PEIS.

G.3.2.8 Pipeline Removal

Four commenters discussed pipeline removal.

In a joint submission, commenters discussed the likelihood that metals and chemicals would be released from pipelines during decommissioning activities as well as the possibility that pipelines in place could leach heavy metals and other residuals over time. They asked that the PEIS address the risk of these residuals leaking into the environment as well as address a number of mitigation measures for cleaning pipelines to prevent release of toxins. The commenters asked under what conditions would operators be allowed to leave pipelines in place; asserted that the PEIS should analyze the risk of chemical release after pipelines are left long-term; and also asked about the legal basis for leaving pipelines and associated facilities in place. They also discussed the process for pipeline abandonment-in-place under Alternative 2 and asked where the funding for remediation and removal of pipelines in-place would come from.[198]

A commenter asserted the PEIS fails to provide analysis about the "potential effect of flushing remnant pipelines on the marine environment,"[199] *while a commenter asked that the Final PEIS include an assessment of the "long-term implications of remnant infrastructure," including pipelines.*[200] *The commenter also cited an October 2010 commitment in which BOEM and BSEE established guidelines for a systematic approach to determining utility of lease infrastructure, including pipelines on terminated leases as well as following timeframes for decommissioning pipelines. They also asserted that the cost and time for removing pipelines is significantly greater for damaged pipelines than for non-damaged pipelines.*[201]

One commenter requested that all pipelines installed between the shore and rigs be removed; asked that this process be accompanied by full environmental impact assessments on a case-by-case basis; and asserted that monitoring of pipeline removal and its impacts on surrounding environment is critical for holding oil companies accountable for restoring pipeline areas.[202]

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198 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

199 Coastal Coordination Program, The Ocean Foundation.

200 Commercial Fishermen of Santa Barbara.

201 Coastal Coordination Program, The Ocean Foundation.

202 Commercial Fishermen of Santa Barbara.

One commenter asked if pipelines are still being used to transport water and other products to onshore processing facilities from platforms and if those platforms are still producing.[203]

Response:

The new PEIS Section 4.1.4.2 addresses long-term risks of remnant infrastructure, including risks from release of residual hydrocarbons in pipelines abandoned in place. Pipeline handling, including cleaning and plugging, prior to abandonment or removal is described in PEIS Section 2.3.4. Pipelines may be abandoned in place at the discretion of the BSEE Regional Supervisor under BSEE regulations in 30 CFR 250.1750–250.1751, as described in PEIS Section 2.2.3. Regarding the impact of flushing pipelines prior to removal or abandonment, pipelines would be pigged, flushed, and filled with seawater and then plugged on each end as they are disconnected from platforms (Section 2.3.4), thus impacts on the ocean environment would be minimal. The potential environmental impacts of removing or abandoning specific pipelines will be analyzed in project-specific NEPA reviews once plans have been submitted.

G.3.2.9 Power Cable Removal

Two commenters discussed power cable removal.

One commenter quoted language from an agreement amongst five individual trawl fishermen regarding the Eureka "ECHO" subsea cable in which, according to the commenter, RTI Infrastructure asserted that the conditions of the agreement would terminate once a cable company representative removes the cable or abandons it in place and pays the necessary fee.[204]

One commenter cited Appendix C of the PEIS in which Chevron asserted their intent not to use explosives for conductor removal and the commenter added that BOEM "may wish to clarify and repeat that position for conductor removal."[205]

Response:

Non-explosive severance of conductors remains the most likely means of removal at many platforms. Other methods may be required in situations different from those analyzed in the conductor removal EAs included as PEIS Appendices B and C.

G.3.2.10 Seafloor Clearing/Site Clearance Verification

No comments are associated with this issue.

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203 A.S Bull.

204 California Fishermen's Resiliency Association.

205 A.S. Bull.

G.3.2.11 Disposal

Seven commenters discussed disposal.

G.3.2.11.1 General Comments

A commenter stated that restoring "at least 30% of California's coastal waters via full decommissioning of spent rigs" would be consistent with the state's "30x30" goal. They also asserted that allowing the petroleum industry to dispose of industrial trash in the ocean "sets a dangerous future precedent" allowing other industries to discard facilities in a similar way.[206]

In a joint submission, commenters discussed toxic waste disposal problems and expressed their opposition to all alternatives except for Alternative 1, total removal of debris platforms and on-land disposal of the toxic mud surrounding them, asserting that ocean disposal/dumping contaminates ecosystems and eventually moves into the human food chain.[207]

One commenter asserted that the proposed activities could potentially impact two EPA-designated ocean disposal sites (LA-2 and LA-3) and recommended that the PEIS disclose the location of those sites, discuss impacts on those sites, and require that transport routes and reef placement avoid those locations.[208] *Another commenter asked that the PEIS address the issues and environmental hazards of leaving materials in place and not disposing of them as in Alternative 1.*[209]

One commenter discussed limits on tonnage and weight able to be transported or disposed of through California ports, estimating that for "average" platforms, at least 600 trips would be needed for disposal and requested that the PEIS provide an estimate on vessel trips for disposal of platform removal.[210] *Similarly, another commenter discussed tonnage limits at the Port of LA/LB, requiring larger materials to be transported to the Gulf of Mexico or an international location for disposal. They also asserted that the PEIS should more thoroughly evaluate disposal options in its analysis.*[211]

Response:

The preference expressed in comments for Alternative 1 is noted. Potential impacts on EPA-designated disposal sites and the impacts of other disposal options will be analyzed in project-specific NEPA reviews when specific removal and disposal plans are available. The State of California will determine any future disposal sites for a jacket section that meets the engineering and environmental parameters in the NOAA National Artificial Reef Plan. An

206 Coastal Coordination Program, The Ocean Foundation.

207 Pacific Coast Federation of Fishermen's Associations (PCFFA) and Institute for Fisheries Resources (IFR).

208 U.S. EPA.

209 Surf Rider Foundation.

210 NOAA.

211 Santa Barbara Channelkeeper.

analysis of the long-term risks of remnant infrastructure under Alternatives 2-4 are analyzed in the newly added PEIS Section 4.1.4.2.

The number of vessel trips required for disposal of removed platforms and related infrastructure will depend on details of specific removals but will be far less than the 600 trips for the average platform that the comment suggests. Although California port facilities have a maximum capacity of handling 50-ton pieces, barges hauling scrap can carry far greater volumes. Large pieces would be cut into manageable sizes on the barges at the ports before being unloaded at these ports. Project-specific NEPA reviews will estimate the number of vessel trips required to haul scrap once the volume of waste, size of vessels, location of disposal ports, and methods of handling scrap become known.

G.3.2.11.2 Rigs-to-Reefs

One commenter said it was "interesting" that Rigs-to-Reefs was placed under "Disposal" and criticized the PEIS for not discussing the assumption of liability under MRLA. They asserted that MRLA only allows for partial removal and not tow-and-place or topple-in-place, and that to include those requires revision.[212]

A commenter discussed in detail the Reefs-to-Rigs program in the context of the "disposal" section of decommissioning activities in the PEIS. They:

- *Asserted that the PEIS should analyze the full environmental impacts of the Rigs-to-Reefs policy in the context of O&G development;*
- *Recommended that involved agencies re-examine the Rigs-to-Reefs program and consider ending it in favor of managing existing reef sites;*
- *Stated that the Rigs-to-Reefs waiver process is biased towards the O&G industries and asked that the public be more involved in the decision-making process;*
- *Asserted that there is no scientific consensus that discarded artificial reef structures help maintain fishery stocks or contribute to fisheries management goals, but rather that they aggregate fish and contribute to overfishing, but added that the PEIS can objectively analyze this relationship through review of scientific papers;*
- *Asked that the regulatory review of the PEIS' partial decommissioning program assess whether the criteria of the National Artificial Reef Plan are being met by decommissioned rigs;*
- *Cited a 1989 paper by Dr. James Bohnsack and a 2010 paper by Dr. James H. Cowan Jr. discussing the role of artificial reefs as fish habitat and their effect on fish biomass;*

212 A.S. Bull.

- *Cited a study of an offshore oil rig within the Texas Flower Garden Banks National Marine Sanctuary and a 2003 DOI study that found substantial fouling organisms and accumulated fish biomass on decommissioned rigs;*

- *Asserted that BOEM should stop using the term "artificial reefs" and instead refer to decommissioned rigs as "artificial underwater structure" (AUS);*

- *Discussed the overfishing phenomenon, especially for reef fish species like red snapper, around decommissioned oil rigs; and*

- *Asked whether partial decommissioning programs like Rigs-to-Reefs prove that seabed disposal is the preferred cost-saving methodology for decommissioning, or if they simply are "an expedient way for the oil industry to avoid its legal responsibility" for decommissioning rigs and restoring the seabed to pre-lease conditions.*[213]

Response:

Regarding assumption of liability by the State under MRLA, PEIS Section 2.3.7.2 states that "AB 2503 authorizes the State of California to take title to the remaining decommissioned offshore O&G structures that will serve as the artificial reef." Regarding the tow-and-place and topple-in-place options, partial removal is defined in MRLA as "an alternative to full removal of an offshore oil structure, in compliance with all requirements of this chapter." Removal of the top portion of platform jackets for placement at a remote reefing site would be considered partial removal under MRLA. A topple-in-place option might also meet the MRLA definition of partial removal, as pilings or other foundation structures would remain in place. The determination of the feasibility of these options would be made at the project-specific stage and led by the US Army Corps of Engineers.

Regarding comments on the Rigs-to-Reefs program, an analysis of the impacts of this policy in the context of O&G development is beyond the scope of the PEIS, as is the scientific debate as to whether artificial reefs in general provide a net benefit. As noted in PEIS Section 2.3.7.2, a condition of acceptance into MRLA includes a "finding that conversion of the remaining structure(s) to an artificial reef would provide a net benefit to the marine environment as compared to full removal of the structure(s)." Such a finding would be made on a case-by-case basis and subject to permitting by the US Army Corps of Engineers.

213 Coastal Coordination Program, The Ocean Foundation.

G.4 ENVIRONMENTAL CONSEQUENCES (CHAPTER 4)

One commenter discussed the general content of Chapter 4 – Environmental Consequences, stating that the section evaluates environmental effects across localized, contained, or extended geographic ranges. They also addressed the conflict between using "short-term" and "long-term" duration versus the frequent use of the term "temporary" in the PEIS and asked how "temporary" is defined.[214]

Response:

Comment noted. Definitions of short-term, temporary, and long-term have been added to PEIS Section 4.1.3, Impact Levels, of the PEIS.

G.4.1 ASSESSMENT APPROACH

Four commenters discussed the assessment approach in the context of environmental consequences in the PEIS.

In a joint submission, commenters cited a GAO report criticizing BSEE's process for addressing environmental risks of decommissioning, especially for abandoning pipelines in place and encouraged BSEE to address inadequacies in their approach towards decommissioning pipelines. They also criticized BSEE's high acceptance rate of Rigs-to-Reefs proposals, asserting that this has "provided the oil and gas industry with a convenient subsidy" and asked that BSEE incorporate the best available science for their decommissioning decisions.[215] *One commenter expressed support for the comments by the above joint submission and encouraged BSEE to adopt three components into their PEIS: "(1) a comprehensive assessment of the long-term implications of remnant infrastructure, including pipelines and platforms, (2) a commitment to a science-driven approach, and (3) the protection of American taxpayers' best interests today and for future years to come."*[216]

In a joint submission, commenters asserted that the PEIS' environmental assessment of the effects of leaving shell mounds intact "falls short" and provided a number of recommendations for improving this assessment of negative effects, many of which are based on an environmental review conducted by CSLC in 2001. They asserted that the PEIS should assess factors for when it is appropriate to remove debris mounds as well as compare the effects of a seismic event releasing contaminants from shell mounds as opposed to an organized effort. The commenters also asked more generally that the PEIS be revised with a more comprehensive approach to environmental analysis on a number of impact areas, including but not limited to air quality, biological resources, and safety.[217]

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214 Santa Barbara Channelkeeper.

215 Congressional Committee on Natural Resources and Subcommittee on Energy and Mineral Resources .

216 Commercial Fishermen of Santa Barbara.

217 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

A commenter asserted that "there is no scientific certainty" that using rigs as artificial habitats increases fisheries production and that there is no clear need for additional habitat off the coast of California. They cited a 1989 paper by Dr. James Bohnsack to that point and questioned whether the idea that this approach of using rigs as artificial reefs is beneficial to conservation goals in U.S. waters.[218]

Response:

Comments regarding the findings of the Government Accountability Office (GAO) report are noted. Regarding long-term implications of remnant infrastructure, PEIS Section 4.1.4.2 which discusses long-term risks has been added to the PEIS, and includes a discussion risks from disturbance of shell mounds from an earthquake or heavy storm. The PEIS employs a science-driving approach, with copious citations of applicable research. BSEE is committed to acting in the best interests of American taxpayers. The risks of excavating and disposal of shell mounds will be made on a case-by-case basis with the involvement of regulatory agencies and in consideration of sampling results collected prior to excavation. A judgement will be made as to whether shell mounds can be safely excavated or if in-place mitigations should be applied. The PEIS reviewed and cites the CSLC 2001 report noted in the comment in reference to the "4H" platforms in state waters. With respect to more comprehensive analyses, PEIS Appendix F has been added which estimates GHG emissions and the duration of removal activities for each of 23 platforms.

See earlier responses in Sections 1.5 (Marine Fish and EFH) and 2.2.11 (Disposal) of this comment summary and response document regarding the benefits of artificial reefs.

G.4.2 IMPACT-PRODUCING FACTORS

Two commenters discussed impact-producing factors in the context of environmental consequences in the PEIS.

One commenter stated that shell mounds are an impact-producing factor (IPF) that affects commercial fishing but noted that shell mounds are acknowledged as "an 'obstruction' to OCS use under BSEE Federal Regulations" and that removal is not considered within the PEIS, despite shell mounds being a significant public issue and a problem for decades.[219]

Another commenter expressed strong opposition to the use of explosives to remove pilings and asserted that there is not enough information about the environmental impacts of mechanical methods, something they added should be rectified before the PEIS is finalized.[220]

218 Coastal Coordination Program, The Ocean Foundation.

219 A.S. Bull.

220 Commercial Fishermen of Santa Barbara.

Response:

Shell mounds would be removed as seafloor obstructions under Alternative 1. Section A.3.1 of PEIS Appendix A presents a summary of common severance methods used to sever platforms in the GOM. More specific reviews would be conducted in project-specific reviews when proposed severance methods are known.

G.4.3 MITIGATION MEASURES

Seven commenters discussed mitigation measures in the context of environmental consequences in the PEIS.

In a joint submission, commenters stated that although the PEIS does identify some mitigation measures, it does not sufficiently analyze their feasibility or effectiveness. They added that the PEIS should be revised to fully analyze mitigation measures in each impact section of Environmental Consequences.[221]

One commenter discussed mitigation measures for air quality and emissions-related impacts, asserting that the proposed rule is required under CEQA to mitigate air quality-related impacts and that such mitigation measures must be "made fully enforceable" through legally binding agreements such as a Mitigation Monitoring and Reporting Plan. They also noted that some air emissions-related mitigation measures in Table 4.1-3 of the PEIS are required by regulation and should be implemented for total compliance.[222]

In a joint submission, commenters also discussed mitigation measures related to emissions-related impacts, such as using "ultra-low sulfur fuel vessels" for decommissioning activities. However, they stated that the PEIS does not adequately analyze the amount by which emissions can be reduced through mitigation measures and asserted that the PEIS should specify the amount of emissions reduction that might be achieved by mitigation measures.[223]

A couple of commenters discussed mitigation measures in relation to contamination from shell and debris mounds.[224] *One commenter asserted that the PEIS does not discuss sufficient mitigation measures for minimizing contamination from the release of toxins from shell mounds and recommended that the PEIS include site-specific analyses and biological surveys of shell mounds in order to better understand the amount of contamination and potential impact on benthic species and water quality. The commenter also requested BOEM describe other mitigation measures for limiting this amount of contamination.*[225] *In a joint submission,*

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221 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

222 Santa Barbara County Air Pollution Control District.

223 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

224 Pacific Fishery Management Council; Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs

225 Pacific Fishery Management Council.

commenters asked about potential mitigation measures for ensuring debris mounds do not release chemicals.[226]

A couple of commenters discussed mitigation measures related to archaeological and cultural resources; one commenter criticized Section 3.12 of the PEIS for not detailing any mitigation requirements and cited past mitigation plans for OCS development in the Alaska, Atlantic, Gulf of Mexico, and Pacific regions,[227] *while a joint submission from commenters asserted that the PEIS should add a mitigation measure requiring project personnel to halt all activities in the immediate area in the event that cultural resources are discovered during construction activities.*[228]

A couple of commenters addressed mitigation measures related to vessel traffic and truck activity impacts; one commenter asked that measures to reduce hazards to fishing vessels be implemented and laid out in the PEIS,[229] *while another commenter asked that the PEIS disclose measures for addressing negative impacts related to truck activity.*[230]

In a joint submission commenters discussed mitigation measures related to the decommissioning of pipelines, asserting that the PEIS should develop mitigation measures for avoiding oil spills or leakage from cleaned, decommissioned, and abandoned pipelines.[231]

One commenter asked that the PEIS' EJ analysis identify mitigation measures for limited adverse effects on low-income and minority populations as a result of decommissioning activities.[232] *In a joint submission, commenters asserted that mitigation measures for avoiding or mitigating impacts on public access and recreation from decommissioning should be detailed if available.*[233]

One commenter recommended that the PEIS describe mitigation measures for general adverse cumulative impacts,[234] *while another commenter asked that the PEIS describe mitigation measures for avoiding or minimizing negative impacts on harbors, ports, and bays from decommissioning.*[235]

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226 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

227 Santa Ynez Band of Chumash Indians.

228 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

229 Commercial Fishermen of Santa Barbara.

230 U.S. EPA.

231 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs

232 U.S. EPA.

233 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

234 U.S. EPA.

235 Pacific Fishery Management Council.

In a joint submission, commenters discussed possible mitigation measures for preventing the spread of AIS throughout the decommissioning process, including required vessel cleanings and platform-specific surveys.[236]

Response:

Many of the mitigations presented in PEIS Table 4.1-3 are enforceable requirements under current BSEE regulations. The feasibility and effectiveness of available mitigations are considered in the analysis of impacts in the PEIS and in the estimation of impact levels. Mitigations listed in Table 4.1-3 were taken from those applied in the GOM and their effectiveness is well established.

Regarding the commenter's request that "mitigation measures be made fully enforceable through permit conditions agreements or other legally binding instruments such as a Mitigation Monitoring and Reporting Plan that explicitly states the required mitigation and establishes a mechanism for enforcement," BSEE will consider such requirements when specific project decommissioning applications are submitted and more details are available.

Regarding the degree to which mitigations can reduce emissions, such an estimate cannot be made until specific decommissioning plans are in place and the vessels, types of equipment required, and removal methods are known.

The leading mitigation for mitigating the release of contaminants in shell mounds is capping in place, which is noted in PEIS Section 4.2.3.1. Other mitigation measures may be identified in project-specific plans and reviews and may depend on the results of shell mound sampling conducted at the time of decommissioning. The PEIS includes summaries of the available chemical and biological studies of the effects of shell mounds in PEIS Sections 3.4 and 3.5.

Regarding specific mitigation plans for archaeological resources, such plans would be developed in project-specific plans. PEIS Table 4.1-3 identifies the requirement that surveys be conducted for archaeological resources prior to mobilizing on site and conducting any seafloor disturbing activities. Text about the programmatic nature of the PEIS and further opportunity for site-specific analysis and consultation has been added to PEIS Section 3.12.1.

Hazards to fishing vessels would be mitigated by the measures noted in PEIS Table 4.1-3 under space-use conflicts. With respect to reducing truck emissions, a statement has been added to PEIS Section 4.2.1 noting that future mitigation would require reducing diesel emissions and would include use of zero-emission technologies to the fullest extent practicable.

Mitigation measures for avoiding oil spills or leakage from cleaned, decommissioned, and abandoned pipelines would be the implementation BSEE pipeline decommissioning requirements outlined in PEIS Section 2.3.4. Mitigation measures for impacts on minority and low-income populations, on access to recreation, on impacts on ports and harbors, and from

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236 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

aquatic invasive species would be developed in project-specific NEPA reviews when the details of impacting activities are known.

G.4.4 IMPACT LEVELS

No comments are associated with this issue.

G.4.5 CUMULATIVE IMPACTS

Six commenters discussed cumulative impacts in the context of environmental consequences in the PEIS.

A few commenters, including a joint submission, asked that the PEIS generally consider the cumulative effects of decommissioning activities for all platforms involved.[237] *One commenter specified that conductor removal and discharge of iron silicate should be included in the cumulative impacts section on a site-by-site basis,*[238] *while a joint submission detailed decommissioning activities for which direct and indirect cumulative impacts should be evaluated, including but not limited to shipping traffic and ongoing platform operations.*[239] *Another commenter recommended that the PEIS account for cumulative impacts from past, present, and future projects in its analysis in order to assist BOEM and BSEE with coordination on future projects.*[240]

In a joint submission, commenters encouraged BSEE to consider "all potential costs and benefits to the environment and frontline communities" for each decommissioning alternative.[241] *Another commenter asserted that the PEIS needs to analyze cumulative effects to cultural resources across project lands.*[242]

In a joint submission, commenters asserted that the PEIS should consider cumulative impacts in its analysis of population impacts, specifically in reference to the use of explosives and similar decommissioning activities.[243]

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237 Pacific Fishery Management Council; California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission; U.S. EPA.

238 Pacific Fishery Management Council.

239 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

240 U.S. EPA.

241 Congressional Committee on Natural Resources and Subcommittee on Energy and Mineral Resources .

242 Santa Ynez Band of Chumash Indians.

243 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

One commenter cited a GAO report that discussed deficiencies with BSEE's process for addressing risks from abandonment of decommissioned pipelines "due to the cumulative effects of oversight gaps" throughout the decommissioning process.[244]

Response:

The cumulative impacts analysis sections in each resource discussion in PEIS Section 4.2 generally address cumulative impacts considering the total action, and include the effects of past, present, and future projects. PEIS Table 4.1-6 has been updated with additional foreseeable actions identified in reviewer comments. Cumulative impact analyses are qualitative or semi-quantitative in nature, given the large uncertainties regarding specific future decommissioning activities. Regarding the cumulative effect of decommissioning all platforms, an estimate of the GHG emissions and removal duration for each platform, as well as total GHG emissions and social cost of carbon by alternative has been added to the PEIS as new air quality Section 4.2.1.6 and Appendix F.

Cumulative impacts from shipping traffic are considered under PEIS Section 4.2.15, Navigation and Shipping. Ongoing platform operations are covered in the affected environment discussions in PEIS Chapter 3. Analyses of impacts on biological resources, including cumulative impacts, are generally considered in terms of impacts on populations and as threats to the viability of populations of species rather than to individual organisms, except in case of protected species and in estimates of take from explosive severance in Appendix D.

G.4.6 ENVIRONMENTAL CONSEQUENCES

Comments associated with this issue are included in the subsections below.

For comments generally discussing environmental concerns without specific reference to Chapter 4 of the SEIS, Environmental Consequences, see Section 1, above.

G.4.6.1 Air Quality

Two commenters discussed air quality in the context of environmental consequences in the PEIS.

A joint submission from several commenters stated that Alternative 1 would result in medium term impacts on coastal and inland communities through increased air pollution and truck traffic. The commenter also requested that the PEIS examine the effectiveness and feasibility of emission-reducing mitigation measures in the timeline for decommissioning. The commenter asked that the PEIS identify which types of equipment and vessels would require new permits under either local or State permitting authorities.[245] *Another commenter also requested that the PEIS include more details as to emission calculations for public review. The commenter*

244 U.S. EPA.

245 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

disagreed that the air quality impacts of decommissioning would be minor and temporary, stating that an Air Quality Impact Assessment and a Health Risk Assessment under CEQA may be required.[246]

Response:

Regarding evaluation of the effectiveness of mitigation measures in the timeline of decommissioning, a statement has been added to PEIS Section 4.2.1 noting that "Mitigation in the future will require reducing diesel emissions and would include use of zero-emission technologies to the fullest extent practicable." The identification of the equipment and vessels that would require new permits would be done in site-specific analyses when the types of equipment and vessels, and the contemporaneous rules, regulations, and air quality mitigation programs, would be known.

With respect to the details of emission calculations, an Appendix F has been added to the PEIS which presents a discussion of the estimates of air emissions conducted and a table of inputs to BOEM's DEEP model used in the estimation of peak year emissions for Platform Harmony. Appendix F also presents details of the estimation of GHG emissions program-wide, including the estimated GHG emissions and the estimated duration of decommissioning activities for each of the 23 platforms. Total GHG emission estimates were used to estimate the social cost of GHG emissions for Alternatives 1-3. These estimates are discussed in a new PEIS Section 4.2.1.6.

The conclusion that impacts on air quality would be minor was based on the comparison of estimated emissions of criteria pollutants for the peak year for Platform Harmony to total emissions in Santa Barbara County and to the four-county region for Alternatives 1-3. In all instances, estimated peak-year emissions were less than 5% of Santa Barbara County emissions and less than 1% of the four-county emissions.

G.4.6.2 Acoustic Environment

A commenter wrote that an acoustic environment impact described as "significant" on page 4-27 should be revised to match potential impact descriptions contained in Table 4.1-4.

Response:

The text has been revised here. The term "significant" is no longer used to describe impacts on marine mammals in this acoustic section. Such potential impacts from noise on marine mammals are discussed in PEIS Section 4.2.8.

246 Santa Barbara County Air Pollution Control District.

G.4.6.3 Water Quality

Two commenters discussed water quality in the context of environmental consequences in the PEIS.

A commenter requested that the PEIS provide more detail regarding the feasibility of shell mound removal. The commenter also stated that water quality impacts related to shell mound dredging are described as "moderate, localized, and short-term" by the PEIS but that this is inconsistent with a statement elsewhere regarding possible "unacceptable" impacts related to shell mounds.[247]

A joint submission from several commenters also expressed concern that decommissioning activities could threaten water quality and that oversight is necessary to avoid environmental damage. In particular, the commenter states that the PEIS should provide more analysis of the toxic chemical components present in debris mounds and mitigation measures to address debris mound risks. The commenter also requested that BOEM describe possible petroleum release impacts related to Alternatives 2-4 and leaving infrastructure in place. The commenter asked that the PEIS discuss how Alternative 1 will mitigate toxic release risks during removal.[248]

The joint submission also cited the PEIS as discussing possible petrochemical releases from pipeline cleaning and removal, but that BOEM would not expect these releases to degrade water quality. The commenters cited another study as indicating that, contrary to these statements, operators may be allowed to forego some cleaning procedures during decommissioning and that pipelines could be allowed to corrode on the ocean floor and release hazardous substances. The commenter asked whether there is a way to minimize NORM and other contaminant releases when cutting pipeline, what the approximate quantity of metal cuttings to be produced by non-explosive severance in decommissioning, and for more detail on the "localized and temporary" quality of expected turbidity impacts. The commenter also asked how sanitary wastewater impacts were expected to be minor, whether the cumulative wastewater impacts may be significant, and where and how wastewater will be processed.[249]

Response:

Details regarding the feasibility of shell mound removal would not be known at specific platforms until the time of decommissioning, when a determination is made whether platform jackets will be removed completely allowing access to shell mounds. The conclusion that impacts on water quality from shell mound dredging would be up to moderate is based on the available characterization data and the history of permitted discharges, which prohibited oil-based drilling fluids, the suspected source of high levels of volatile aromatic hydrocarbons at the 4H platforms in state waters (see PEIS Section 3.4.2.4). The statement about possible unacceptable impacts from disturbing some shell mounds simply acknowledges the absence of

247 Santa Barbara Channelkeeper.

248 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

249 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

data at all shell mounds, data that would be collected prior to disturbance. Since no disturbance would take place if sampling indicated a likelihood of unacceptable impacts on water quality, no such impacts would occur and thus the statements are not inconsistent. Available characterization studies of shell mounds are summarized in PEIS Section 3.4.2.4.

Regarding risks from residual petroleum hydrocarbons in pipelines abandoned in place under Alternatives 2–4, a preliminary analysis of such risk has been added in the new PEIS Section 4.1.4.2. This analysis concluded that risks to marine life from leaks over time through corrosion cracks would not exceed a level of minor, as defined in PEIS Table 4.1-4, as such releases would occur slowly in the absence of pressure and be quickly diluted. Under Alternative 1, risks of releases during removal would be mitigated by plugging the ends of severed pipelines where residual hydrocarbons were suspected of occurring after pipelines were flushed. NORM (naturally occurring radioactive materials), if present in pipelines, would be adhering to the inside surfaces of pipes and would not be expected to be released upon severing pipelines. The PEIS assumes that all pipelines will be cleaned and flushed prior to removal or abandonment. Further risk assessment would be conducted at the project-specific level.

Regarding the potential quantity of abrasive cutting materials released from the severance of all conductors, text has been added to PEIS Section 4.2.3.1 with an estimate of 15 times the estimated quantities at the Point Arguello Unit platforms Hermosa, Harvest and Hidalgo. The localized and temporary nature of turbidity means that turbidity would be generated at the site of disturbance and affect local water quality as carried by currents, as compared to a region-wide impact. Temporary impacts, as now defined in PEIS Section 4.1.3, would cease upon completion of the impacting activity.

Sanitary wastewater would be discharged as domestic waste from vessels after on-board treatment under Section 312 of the Clean Water Act as implemented jointly by the EPA and the U.S. Coast Guard (see PEIS Section 4.2.3.1). Releases of nutrients would be spread out over time and distances and would be negligible compared to natural sources and agricultural runoff and would not result in a cumulative impact.

G.4.6.4 Marine Habitats and Invertebrates

Three commenters discussed marine habitats and invertebrates in the context of environmental consequences in the PEIS.

A commenter recommended, as a mitigation measure, providing quarry rock of various smaller sizes as augmentation for shell mound invertebrate species habitat.[250]

A joint submission from several commenters stated that the PEIS' analysis of shell mound impacts in Section 4.2.4 is insufficient, providing citations to studies illustrating contamination risks related to shell mounds.[251]

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250 A. Scarborough Bull.

251 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

Response:

The use of quarry rock as augmentation for shell mound invertebrate habitat as mitigation may be considered, if applicable, during site-specific NEPA evaluations of project-specific decommissioning permit applications as they are received by BSEE.

Removal of the shell mounds and concerns regarding contaminant releases are discussed in PEIS Section 4.2.3.1, which discusses potential contaminants, toxicity, dispersion of shell mound materials and chemicals, potential mitigation, and USACE and EPA permit requirements for any dredged materials prior to their disposal. This discussion compliments that presented in PEIS Section 4.2.4.1.

G.4.6.5 Marine Fishes and Essential Fish Habitat

A joint submission from several commenters asked what the risk is of shell mounds releasing contamination after a seismic event under Alternatives 2, 3, and 4. The commenters also stated that the PEIS should consider these types of contamination risks in reevaluating the assessment that Alternative 1 presents the greatest risk for contaminant release.[252]

Response:

Given that shell mounds are variable in size, thickness, and composition (including potential pollutant composition), this issue is best addressed with a site-specific analysis when part of project-specific plan. NEPA evaluations of project-specific decommissioning plans will be conducted when they are received by BSEE.

G.4.6.6 Sea Turtles

No comments are associated with this issue.

G.4.6.7 Marine and Coastal Birds

A commenter questioned the absence of a threatened and endangered species discussion in the environmental consequences section on marine and coastal birds.[253]

Response:

PEIS Section 4.2.7 Marine and Coastal Birds has been reorganized and revised to now include a separate subsection for threatened and endangered birds.

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252 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

253 Environmental Defense Center in Santa Barbara.

G.4.6.8 Marine Mammals

A commenter questioned the absence of a threatened and endangered species discussion in the environmental consequences section on marine mammals.[254]

Response:

PEIS Section 4.2.8 Marine Mammals has been reorganized and revised to now include a separate subsection for threatened and endangered marine mammals.

G.4.6.9 Commercial and Recreational Fisheries

No comments are associated with this issue.

G.4.6.10 Areas of Special Concern

No comments are associated with this issue.

G.4.6.11 Archaeological and Cultural Resources

In a joint submission, commenters referenced the PEIS' statement that mitigation efforts are often developed during consultation efforts with tribal nations and asserted that the PEIS should form a strategy for expanding consultation with non-federally recognized tribes with knowledge of cultural resources in the area with an interest in making sure decommissioning activities limit negative impacts on those cultural resources.[255]

Response:

BSEE is in the process of continuing government to government consultation with Santa Ynez Band of Chumash Indians in hopes of creating an Indigenous Knowledge study focusing specifically on these points of concerns in the region. Text has been added to PEIS Section 3.12.1 stating that the Bureaus would be interested in the possibility of entering into an agreement for the ongoing National Historic Preservation Act Section 106 process. PEIS Section 6.6.8 already notes the need for further consultation. PEIS Section 3.11 identifies the proposed CHNMS sanctuary and its location.

G.4.6.12 Visual Resources

No comments are associated with this issue.

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254 Environmental Defense Center in Santa Barbara.

255 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

G.4.6.13 Environmental Justice

One commenter referenced the PEIS' EJ section and the noted potential adverse impacts as a result of proposed decommissioning activities but criticized the lack of detailed analysis and mitigation actions and the section's note that EJ communities would be addressed during project-specific environmental review. They expressed concern that deferring analysis to that review process would make it difficult for BOEM and BSEE to fully understand how EJ communities are affected by large-scale decommissioning early in the process, might block opportunities for mitigating or avoiding these impacts and perhaps have a segmenting effect on the 23 projects, "making it difficult to understand how the 23 potential decommissioning projects together would affect these populations.[256]

Response:

PEIS Section 3.14 identifies minority and low-income populations within 3.8 km (2 mi) of port facilities at POLA/POLB and Port Hueneme. PEIS Section 4.2.13 identifies potential impacts on EJ communities from noise, traffic, and emissions from vessels and trucks used for transportation to port and the subsequent processing of platform related materials at scrap facilities, and Section 4.2.13.1 notes the maximum number of truck trips originating from these ports and potential maximum duration of impacts on EJ communities, assuming that all platform-related materials were processed through these ports, thus addressing the issue of segmenting of effects. Further analysis of EJ impacts will be done at the project-specific level when the actual locations of potentially impacted EJ communities and the magnitude and duration of impacts are known. BOEM expects to work closely with local agencies that will address EJ issues through the CEQA process. Other domestic or international ports are possible destinations for scrap materials.

G.4.6.14 Socioeconomics

No comments are associated with this issue.

G.4.6.15 Commercial Navigation and Shipping

No comments are associated with this issue.

256 U.S. EPA.

G.5 OTHER NEPA CONSIDERATIONS (CHAPTER 5)

Comments associated with this issue are included in the subsections below.

G.5.1 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS (IMPACTS ON PHYSICAL, ECOLOGICAL, SOCIAL, CULTURAL, AND ECONOMIC RESOURCES)

No comments are associated with this issue.

G.5.2 RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

No comments are associated with this issue.

G.5.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

No comments are associated with this issue.

G.6 CONSULTATION AND COORDINATION (CHAPTER 6)

Comments associated with this issue are included in the subsections below.

G.6.1 PROCESS FOR PREPARATION OF THE PEIS (INCLUDING SCOPING AND COMMENTING)

Two commenters provided feedback on the preparation of the PEIS, including scoping and commenting.

In a joint submission, commenters referenced a PFMC letter previously submitted to BOEM which raised scoping issues to be discussed and analyzed in the PEIS. The commenter attached and provided links to the previous comment, stating that they "incorporate the PFMC's letters herein as our comments."[257]

A commenter stated that they were not given an opportunity to review and comment on BOEM's air quality analysis while the PEIS was being prepared, despite "requesting information on cooperating agency status" in a previous comment.[258]

Response:

In preparing the PEIS, the Bureaus considered all comments (including those submitted by the PFMC) received during scoping period.

An email was sent to the Santa Barbara County Air Pollution Control District (SBCAPCD) on April 1, 2022, requesting a point of contact for air quality issues, as BSEE understood and acknowledged their import. In communications exchanged on April 6, 2022, SBCAPCD reiterated their request to be a Cooperating Agency .BSEE informed SBCAPCD on April 13, 2022 of BSEE's position under 40 CFR 1501.8. Other communications regarding staying up to date on the status of the PEIS did not receive substantive reply. BSEE deems notifications sent out via public communications (i.e., Federal Register notices) sufficient to keep interested parties up to date. BOEM will coordinate with the SBCAPCD prior to assessing site-specific projects.

G.6.2 DISTRIBUTION OF THE DRAFT AND FINAL PEIS

A commenter quoted a source that explained the EIS process, and what must be included in the ROD.[259]

257 Pacific Coast Federation of Fishermen's Associations (PCFFA) and Institute for Fisheries Resources (IFR).

258 Santa Barbara County Air Pollution Control District.

259 Santa Ynez Band of Chumash Indians.

Response:

The PEIS was prepared by the Bureaus following the Council on Environmental Quality (CEQ) requirements and guidelines for conducting the Federal NEPA process and preparing a PEIS, and any subsequent Record of Decision (ROD) will be prepared in compliance with the CEQ requirements presented in 40 CFR 1505.2.

G.6.3 REGULATORY COMPLIANCE (CZMA, NMSA, NFEA, RHA, TRIBAL CONSULTATION)

Approximately 10 commenters provided feedback on a variety of areas associated with regulatory compliance. Comments related to MMPA, ESA, Magnuson-Stevens Fishery Conservation and Management Act are explained within the related environmental resources of Sections G.2 and G.4.6.

G.6.3.1 FOIA

A commenter asked that their comments not be disclosed under FOIA. Additionally, they said the information is subject to protection under the National Historic Preservation Act (NHPA), Archaeological Resources Protection Act (ARPA), and Federal Cave Resources Protection Act (FCRPA).[260]

Response:

The Bureaus acknowledges the protections provided by the NHPA, the Archaeological Resource Protection Act (ARPA), and the Federal Cave Resources Protection Act (FCRPA), the confidentiality of cultural and archeological information, and the exemption of such information from FOIA requests. Text about confidentiality of archaeological information has been added to PEIS Section 3.12.1.

G.6.3.2 Mitigation

A commenter stated that the ROD must mitigate any impacts on cultural resources, and the Bureaus must carry out any mitigations it outlined in its EIS or ROD.[261] *A commenter wrote that some mitigation measures for air emissions in Table 4.1-3 are required by regulation and should be implemented as a matter of compliance.*[262] *Additional mitigation suggestions are listed in Section G.2 under the related resource.*

260 Santa Ynez Band of Chumash Indians.

261 Santa Ynez Band of Chumash Indians.

262 Santa Barbara County Air Pollution Control District.

Response:

The Bureaus acknowledge that any mitigations identified in the Record of Decision will be adhered to during decommissioning. Additional mitigations will be developed during the review of project-specific decommissioning permit applications, and these will be identified during the NEPA process for these projects.

G.6.3.3 Marine Sanctuaries and Fisheries Regulations

A commenter requested "government to government consultations with NOAA as to co-management of any Chumash Heritage National Marine Sanctuary (CHNMS)." They said "such CHNMS will overlap with the entire study are[a]… and needs to be included in any analysis." [263] *Another commenter said the PEIS should expand the discussion on CHNMS in Section 3.11.1 and cite the CHNMS Draft EIS.* [264]

A commenter appreciated that Section 6.3.5 mentioned consultation may be required with the Office of National Marine Sanctuaries (ONMS) per NMSA section 304(d) (16 U.S.C. 1434), adding that they look forward to continued engagement with BOEM and BSEE. They suggested that the PEIS also refer to and describe regulations for CINMS. They recommended a review of CINMS regulations CFR Title 15, Sections 922.71 through 922.74 for regulatory requirements that could be relevant to decommissioning activities such as navigating large vessels within 1 nautical mile of island shores, or discharging materials that enter and injure sanctuary resources. [265]

A commenter cited studies that concluded that "scientific information does not support the position that artificial underwater habitats have increased red snapper stock size sufficiently to defer compliance with the Magnuson-Stevens Reauthorization Act of 2006 (MSRA)." [266]

A commenter stated that Section 6.3.6, page 6-8, lines 26-28 "should clarify that NMFS, NOS, and ONMS are all within NOAA, which is within the Department of Commerce." [267]

A commenter wrote that under Federal regulations, lower jackets may only be left in place if it is done as part of a State artificial reef program. [268] *According to a joint submission, the California MRLA allows partial removal of infrastructure if the State determines that "partial removal of the structure would provide a net benefit to the marine environment compared to full removal of the structure." If the State makes such a determination, the partial*

263 Santa Ynez Band of Chumash Indians.

264 NOAA.

265 NOAA.

266 Coastal Coordination Program, The Ocean Foundation.

267 NOAA.

268 Surf Rider Foundation.

removal would be managed by the State. With this in mind, the commenter asked if a Tow-and-Place option would comply with applicable federal regulations and state law.[269]

Response:

Regarding the proposed Chumash Heritage National Marine Sanctuary (CHNMS), several of the platforms are near or within the boundaries. Once CHNMS is officially established, proper permitting for decommissioning of these platforms will be followed in the ongoing project-specific consultations for each decommissioning activity. The PEIS has been revised to include discussions of the CHNMS in Chapters 3 and 4 of the PEIS, and its location has been included in several figures in these chapters.

The PEIS adequately mentions regulations pertaining to the National Marine Sanctuary Act. The comment offers more details than are necessary at this level of NEPA analysis and are best saved for a site-specific analysis that will be conducted when project-specific decommissioning permit applications are received by BSEE.

The comment related to red snapper stock size appears to be focused on Gulf of Mexico decommissioning and is thus beyond the scope of the current PEIS.

As suggested, the PEIS has been revised to clarify that the National Marine Fisheries Service (NMFS), National Ocean Service NOS, and Office of National Marine Sanctuaries (ONMS) are all within NOAA.

If Alternative 3 becomes the selected alternative, the viability of "Tow-and-Place" will be evaluated in future, project-specific NEPA evaluations, and its conduct would be required to comply with all federal regulations and state laws.

G.6.3.4 Tribal Consultation

Related to tribal consultations, the commenter described EO 13175 (and the reaffirming 2009 and 2021 memorandums), as well as the Tribal trust responsibility. Additionally, they stated that NHPA requires consultation with Indian tribes at the earliest steps in project planning or land management. The commenter referred to steps Federal agencies must take to identify historic properties as outlined in 36 CFR Section 800.4, which includes consultation with the State Historic Preservation Officers (SHPO) or Tribal Historic Preservation Officers (THPO), and Indian tribes.[270] *See Section 6.1 for additional comments on NHPA compliance.*

A commenter stated that United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) must be followed. Additionally, they said the Memorandum of Understanding (MOU)

269 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

270 Santa Ynez Band of Chumash Indians.

Regarding Interagency Coordination and Collaboration for the Protection of Indian Sacred Sites and the related Action Plan should be applied to BSEE. [271]

Response:

BSEE conducted initial consultations on August 9, 2021, and consultations are ongoing. BSEE has created a Tribal engagement group to facilitate these consultations. BSEE is also in the process of continuing government-to-government consultation with Santa Ynez Band of Chumash Indians in hopes of an Indigenous Knowledge study focusing specifically on these points of concerns in the region. Further, BSEE is exploring the possibility of entering into a memorandum of understanding (MOU) for the ongoing Section 106 process. In addition, future studies/consultations may be expected as project-specific decommissioning permit applications are received by BSEE.

G.6.3.5 E.O. 13007

A commenter explained that it is a federally recognized tribe and designated various areas as Indian sacred sites pursuant to E.O. 13007. According to the commenter, E.O. 13007 requires agencies to accommodate access to and use of these sites, avoid adversely impacting the sites, and "develop procedures for reasonable notification of… actions… or policies that may restrict access to… use of, or adversely affect, sacred sites." Additionally, the commenter quoted the executive orders definition of sacred sites, arguing that by this definition, Tribes and appropriate representatives identify/determine sacred sites, not the Federal Government. The commenter said a sacred site may not meet the criteria for a historic property and vice versa. However, when an agency action may affect an area that meets the criteria for both a historic property and a sacred site, the agency should consider E.O. 13007 accommodations and adverse impact requirements during the NHPA Section 106 review process, as explained by ACHP. [272]

Response:

The Bureaus recognize the requirement within E.O 13007 and Section 106 of the NHPA, and all project-specific decommissioning activities will be conducted in compliance with these requirements.

G.6.3.6 CEQA and CEQ Guidance

A commenter stated that when issuing District permits, the District may be able to rely on project-specific NEPA documents, if those documents comply with CEQA. However, if the NEPA document does not satisfy CEQA requirements, the District will conduct any additional environmental analysis required by CEQA, which may result in additional time to obtain a

271 Santa Ynez Band of Chumash Indians.

272 Santa Ynez Band of Chumash Indians.

permit. The commenter noted that the PEIS does not comply with CEQA guidelines, so they cannot rely on the PEIS when issuing District permits.[273]

In a joint submission, commenters stated that Section 15221 of the CEQA Guidelines outlines rules for using NEPA documents to satisfy CEQA. As such, the commenter suggested the following to streamline efforts:

"a) A clear statement within the NEPA document that indicates the State's intent to use the document as a CEQA equivalent and/or to use it as the basis for preparing future environmental documents as required by CEQA

b) A discussion of state-listed threatened, endangered, sensitive, and fully protected species including those that qualify for analysis pursuant to CCR section 15380

c) A discussion of the threshold of significance and the criteria used to judge whether an impact is above or below that threshold (CCR section 15064(f))

d) A discussion of the significant environmental effects that cannot be avoided if the proposed project is implemented (CEQA Guidelines section 15126.2(b)) and significant irreversible environmental changes which would be caused by the proposed project should it be implemented (CEQA Guidelines section 15126.2(c))

e) A discussion of the effects not found to be significant (CEQA Guidelines section 15128)

f) A discussion of feasible mitigation measures for each significant impact pursuant to CCR section 15126.4(a)

g) A discussion of cumulative impacts (CEQA Guidelines section 15130)

h) An analysis of growth-inducing impacts as a separate section in the NEPA document pursuant to CCR section 15126.2(d)

i) A GHG analysis per State of California Assembly Bill 32 (Nunez 2006)

j) A discussion of those state parcels subject to the project as identified in the NEPA document

k) An increased public notice and circulation program as required by CEQA (CCR section 15225)

l) Tribal consultation

273 Santa Barbara County Air Pollution Control District.

m) An EJ analysis per Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low- Income Populations")."[274]

In response to the discussion of a CEQ 1997 guidance on p. 3-95 of the PEIS, a commenter stated that CEQ guidance does not reference a 50% threshold to identify low-income populations, or a 20-percentage point threshold. The commenter said it is unclear how BOEM/BSEE selected these thresholds and expressed concern that CEQ guidance was misapplied.[275]

According to a commenter, Cal. Code Regs., tit. 14, Article 14, §15220 to 15229 and 40 C.F.R. §1506.2 encourage federal, state, and local agencies to cooperate to reduce NEPA and CEQA environmental analysis duplication. Therefore, the commenter advised BOEM to consult with the District as soon as possible.[276] *See Section 6.3 for additional discussion on inter-governmental coordination.*

Response:

For future permitting, BOEM will coordinate with SBAPCD during NEPA analyses for project-specific decommissioning permit applications received by BSEE.

While there is no requirement for the Bureaus to prepare their NEPA documents to satisfy the CEQA requirements, this PEIS addresses many of the topics identified in the CEQA guidelines (e.g., cumulative impacts, mitigation measures, and GHG analyses) and includes an EJ analysis as specified in Executive Order 12898. This PEIS was prepared following the federal requirements specified in 40 CFR Subpart A – National Environmental Policy Act Implementing Regulations and the associated CEQ NEPA.

Regarding the duplication of analyses, BOEM will work with the State on future project-specific NEPA analyses for efficiency.

274 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

275 U.S. EPA.

276 Santa Barbara County Air Pollution Control District.

G.7 OTHER TOPICS

Comments associated with this issue are included in the subsections below.

G.7.1 NPHA/SECTION 106

A commenter asked BOEM to treat portions of their comment as confidential pursuant to Section 304 of the NHPA. The commenter stated that under the NHPA 1992 amendments, historic properties of importance to Native American Tribes may be included on the National Register of Historic Places (NRHP). The commenter said the Bureaus failed to address Chumash sacred sites as TCPs eligible for protection on the NRHP, listing multiple locations that are TCPs under National Register Bulletin No. 38. The commenter said they cannot agree that adverse impacts on historic resources have been adequately mitigated and addressed, nor can they concur with "any findings of no historic properties affected."

The commenter asked BSEE to recognize Pt. Conception as a traditional cultural landscape. As a traditional cultural landscape, the site must also be included in Section 106 consultations and the PEIS. The commenter discussed the process for identifying traditional cultural landscapes and historic properties in Section 106 process as outlined at 36 CFR Section 800.4, which may include research. They also cited the ACHP Traditional Cultural Landscapes Action Plan, which said ACHP and NPS should promote "recognition and protection of Native American traditional cultural landscapes," and "address the challenges of the consideration of these historic properties in the Section 106 review process as well as in NEPA reviews."

The commenter stated that deferral, particularly with respect to historic properties, does not comply with NEPA, because it considers environmental impacts during Section 106 review after a decision has been made, rather than considering impacts while preparing to make decisions. The commenter said they would oppose combining "the NHPA 106 process with any future EIS."

The commenter said UNDRIP must be followed and ACHP will incorporate it in Section 106 review, which may help agencies make decisions that protect historic properties of significance to Indian tribes.[277]

Response:

This PEIS provides a broad overview for future O&G decommissioning activities on the POCS. Tribal consultations regarding the identification of NRHP eligible properties and places (TCPs) such as the Point Conception location will be conducted at the project stage, following receipt of a decommissioning permit application by BSEE. Once the Bureaus have performed the necessary site-specific NEPA analysis of the proposed decommissioning activities, they will complete the Section 106 review process. Additional consultations with the ACHP, SHPO, federally recognized tribes, California State Lands Commission, and other consulting parties

277 Santa Ynez Band of Chumash Indians.

may take place at that time, as appropriate. PEIS Section 3.12 of the PEIS has been revised to include discussion of TCPs, Pt. Conception, sacred sites, and the proposed Chumash Heritage NMS.

Regarding deferral, mitigations are best developed at the project-specific level, during the NEPA analyses that will be conducted following receipt of a project-specific decommissioning permit application by BSEE. Cultural resource studies will occur throughout this process (including as part of project-specific NEPA) and in consultation with the ACHP, SHPO, federally recognized tribes, California State Lands Commission, and the Bureaus will complete the Section 106 review process once the Bureaus have performed the necessary site-specific analysis of the proposed decommissioning activities.

G.7.2 DEPARTMENT OF DEFENSE–RELATED COMMENTS

No comments are associated with this issue.

G.7.3 INTER-GOVERNMENTAL COORDINATION (INCLUDING STATE, FEDERAL, AND LOCAL GOVERNMENT)

Seven commenters provided feedback on inter-governmental coordination.

A few commenters said they look forward to working with BOEM and BSEE.[278] *In a joint submission, commenters said it is critical that the PEIS provide comprehensive, accurate information because State and Federal agencies will rely on this information in future decommissioning decisions.*[279] *Similarly, a commenter argued that accounting for cumulative impacts from past, current, and future projects could help BOEM and BSEE coordinate with lead agencies of other projects to minimize impacts.*[280] *While another joint submission generally discussed how subsequent projects that tier from the PEIS may impact or require work on lands under the State of California's jurisdiction. The joint submission requested early and ongoing consultation to:*

- *Update the commenter on all important developments, including changes to the Project Description;*
- *Ensure proposed mitigations are consistent with the forthcoming California Marine Restoration and Mitigation Policy;*
- *Ensure impacts on sensitive species/habitats are minimized.; and*

278 USCG; California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

279 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

280 U.S. EPA.

- *Explore options for coordinating state and Federal tribal outreach/consultation efforts.*[281]

A couple of commenters encouraged coordination between federal, state, and local agencies to determine whether CEQA analysis can rely on project-level NEPA documents and proactively identify opportunities for joint environmental documents that satisfy federal and state environmental review requirements.[282] *See Section 5.3 of this comment summary and response report for additional comments on CEQA requirements.*

A commenter said the PEIS requires "significant revision." One such revision suggested by the commenters is to include a discussion of consultation with NMFS, USFWS, and CDFW, including any mitigation recommendations or potentially required permits identified by these agencies. Additionally, they asked that the Final PEIS "identify all… agencies involved in reviewing and authorizing decommissioning activities and their associated regulatory processes." The also requested that BSEE include all tribes in the vicinity in any PEIS related notices, and document consultations in the PEIS.[283]

A commenter stated that any plans other than Alternative 1 would require an NSRA be completed by the permitted party and reviewed by the lead agency and USCG District Eleven Waterways Office.[284]

In a joint submission, commenters stated there needs to be an objective examination of the best available information about decommissioning options, including the concurrent emerging policies in the Gulf of Mexico and off the shore of California. They said DOI and other involved agencies should re-examine the "wisdom" behind the Rigs-to Reefs program.[285] *Also discussing alternatives that would leave infrastructure in place, a joint submission encouraged the BOEM to coordinate with the State of California since pipelines cross into State waters before reaching the coast.*[286]

Response:

The Bureaus look forward to engaging and working with other Federal, Tribes, and State agencies as BSEE receives project-specific decommissioning permit applications and recognizes the importance of such collaborations in evaluating proposed projects and developing appropriate mitigations. The analyses (including those of cumulative impacts) conducted in support of this PEIS employed comprehensive and accurate information, and the Bureaus

281 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

282 Santa Barbara County Air Pollution Control District; California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

283 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

284 USCG.

285 Coastal Coordination Program, The Ocean Foundation.

286 Senators Dianne Feinstein Alex Padilla.

acknowledge the need for such information in future NEPA evaluations of project-specific decommissioning permit applications.

The Bureaus do not agree that the PEIS requires "significant revision." Regarding consultations, PEIS Section 6.3 discusses compliance with applicable laws, such as the Endangered Species Act, Coastal Zone Management Act, and the National Historic Preservation Act, as well as government-to-government consultations. Specific federal and state laws, regulation, and permitting requirements will be identified during future NEPA evaluations of decommissioning permit applications received by BSEE, and coordination and consultations with appropriate agencies will occur at that time.

BOEM will coordinate with its federal partner, the USCG, for ensuring that navigational safety is maintained during the decommissioning process. NSRAs are part of the USCG process. If one were needed for decommissioning, the USCG would inform BOEM at the appropriate time. An NSRA will be required to be completed for review by the lead agency and USCG District Eleven Waterways Office for Alternatives 2, 3 and 4. Additional text identifying the need for an NSRA for these alternatives has been added to Section 4.2.15 of the PEIS.

The PEIS was developed using the best available information, and an examination of the decommissioning in the Gulf of Mexico is outside the scope of this PEIS. An examination of the Rigs-to-Reef program is also outside the scope of this PEIS.

Upon receipt of a decommissioning permit application, the Bureaus will coordinate as needed with the State regarding decommissioning of the pipelines identified in the permit application that also occur in state waters.

G.7.4 SAFETY (E.G., OIL SPILL, HAZMAT, UPKEEP AND MAINTENANCE, MARINE DEBRIS)

Approximately 10 commenters provided feedback on safety.

G.7.4.1 Safety Related to Abandoned Infrastructure and Debris

Some commenters said the PEIS failed to consider impacts, including safety hazards, related to abandoned infrastructure and debris, including pipelines, platforms, and shell mounds.[287] *A few commenters asked BOEM to analyze the impacts/safety hazards associated with leaving various infrastructure on the sea floor.*[288] *A commenter asked how those safety hazards compared to the safety hazards of leaving pipelines buried. They also asked BOEM to*

287 Coastal Coordination Program, The Ocean Foundation; U.S. EPA; Congressional Committee on Natural Resources and Subcommittee on Energy and Mineral Resources .

288 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs; Ocean Foundation; Surf Rider Foundation; Center for Biological Diversity.

evaluate the safety hazards associated with leaving the lower portion of jackets in place, including navigational hazards, and impacts related to corrosion of platform components.[289]

A few commenters stated that leaving infrastructure in place would prolong risks to the marine environment through continued leaking of harmful substances into the environment.[290] *A commenter said all potential planned or accidental sources of water contamination should be considered, including chemical discharge, oil leaks, and dumping of waste.*[291]

A few commenters stated that the PEIS did not acknowledge the presence of toxic chemicals in other debris mounds (4H platforms),[292] *or analyze toxic waste surrounding each O&G platform.* [293] *A commenter argued that if these sites were on land, they would be classified as "Superfund Sites," and turning them into artificial reefs would contaminate local sea life. Therefore, any option that does not fully remove all rig structures, including dredging, and on-land disposal of toxic muds, would not solve toxic waste disposal problems.*[294] *Another commenter discussed drill mud mounds that contain toxic substances. According to the commenter, studies found "significant amounts of mercury" that could bio-accumulate in fish and humans. Additionally, they said "other toxic, carcinogenic, and mutagenic chemicals… often remain concentrated within the seafloor wastes," which can be of biological concern at low concentrations. For example, the commenter discussed research finding evidence that at levels of two parts-per-billion, polycyclic aromatic hydrocarbons, or PAH compounds, associated with oil spills have caused mutagenic damage to pink salmon eggs. The commenter stated that dilution is not the solution for toxic pollutants like these.*[295]

A commenter discussed the differentiation between abandoned-in-place platforms and rig-to-reef platforms in the context of risk mitigation. The commenter stated that BOEM must include evidence that the long-term consequences of these two options are more similar than distinct.[296] *A commenter asked BOEM and BSEE to analyze the consistency with California's artificial reef guidelines, which describe the best materials for productive artificial reefs, and warn that other materials may release harmful chemicals into the marine environment.*[297]

A commenter asked BOEM to cite studies about how infrastructure performs past its intended life.[298] *Another commenter, citing court cases and studies, stated that much of the*

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289 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

290 Senators Dianne Feinstein Alex Padilla; Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs; U.S. EPA; Coastal Coordination Program, The Ocean Foundation.

291 Santa Ynez Band of Chumash Indians.

292 Coastal Coordination Program, The Ocean Foundation; Environmental Defense Center in Santa Barbara.

293 Pacific Coast Federation of Fishermen's Associations (PCFFA) and Institute for Fisheries Resources (IFR).

294 Pacific Coast Federation of Fishermen's Associations (PCFFA) and Institute for Fisheries Resources (IFR).

295 Coastal Coordination Program, The Ocean Foundation.

296 Congressional Committee on Natural Resources and Subcommittee on Energy and Mineral Resources .

297 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

298 Surf Rider Foundation.

O&G infrastructure in the OCS has outlived its expected life span beyond the age scientists say, "significantly increase the risk of oil spills." Due to overall risks associated with O&G activities in the pacific OCS, the commenter requested BOEM and BSEE use their authority under the OCSLA to suspend O&G leasing activities and cancel leases, per a petition previously submitted by multiple organizations. Considering a recent GAO report which, according to the comment, concluded that there are not "sufficient regulations or procedures in place to allow decommissioning in place," the commenter said BOEM must "take a harder look at the harmful impacts of anything less than full removal or existing infrastructure."[299]

A commenter said PEIS failed to consider the impacts of seismic activity and intense storm surged on partially removed debris fields,[300] while another commenter recommended the EIS analyze the potential risks of seismic events and tsunamis.[301] A commenter referenced a recent GAO report which stated that storms and seismic activity can cause decommissioned-in-place pipelines to move or become exposed, creating navigational hazards.[302] Another commenter referred to the DOI BSEE's rationale for requiring full decommissioning as part of the lease terms, which include that idle facilities pose an unnecessary safety risk of being damaged by severe weather. The commenter further described examples of hurricanes damaging infrastructure in the Gulf of Mexico that resulted in continuous oil leaks.[303]

Response:

Potential risks from abandoned infrastructure, debris, and shell mounds (including potential leaching of residual hydrocarbons) are discussed throughout Chapter 4 of the PEIS (e.g., Sections 4.2.3 Water Quality, 4.2.8 Marine Mammals, and 4.2.15 Commercial Navigation and Shipping). Potential risks from accidental chemical discharges or leaks, as well as solid waste debris, from infrastructure during decommissioning and from support vessels are addressed as well throughout Chapter 4, and a new Section 4.1.4.2 Long-Term Risks of Remnant Infrastructure has been added. Safety-related risks will be analyzed in greater detail when plans are submitted for specific decommissioning projects. Such plans will identify any jacket portions, shell mounds, or pipelines that will be abandoned-in-place. This will allow the identification of the locations of resources at risk and better quantification of the long-term risks from remnant infrastructure.

Chapter 3 of the PEIS presents information regarding the current level of knowledge regarding the shell mounds and nearby soft/unconsolidated sediments, their chemical composition, potential for chemical leaching, and the toxicity of mounds and the chemicals that may be released (see Section 3.4.2.4 Shell Mounds and Surrounding Sediments, and Section 3.5.3 Subtidal Benthic Habitats). Potential and observed effects on water quality and marine biota from shell mound removal are discussed in PEIS Chapter 4 (see Sections 4.2.3

299 Center for Biological Diversity.

300 Coastal Coordination Program, The Ocean Foundation.

301 Environmental Defense Center in Santa Barbara.

302 Center for Biological Diversity.

303 Coastal Coordination Program, The Ocean Foundation.

Water Quality, 4.2.4 Marine Habitats and Invertebrates, and 4.2.5 Marine Fish and Essential Fish Habitat).

The PEIS acknowledges that there is little difference between Alternatives 2 and 3 in the context of safety risk. Under each alternative, a portion of the platform jacket would remain at the platform site, and thus risks to commercial and recreational fishing as well as commercial shipping and navigation would be largely similar; these risks are discussed in PEIS Chapter 4. More detailed risk evaluations would be conducted at the project level, following receipt by BSEE of a project-specific decommissioning permit application.

The California artificial reef guidelines cited in the comment discuss artificial reefs created using variety of materials (e.g., quarry rock, sunken ships), and consider quarry rock to be the material for reef formation because of its potential for greater colonization and production of food organisms for fish. The guidelines caution against using old tires because of a potential to release harmful chemicals. Under Alternative 3, the artificial reef material would be the severed portion of the platform jacket, and its use is not inconsistent with the California guidelines.

The PEIS acknowledges the age of the platforms on the POCS and that the platforms will all be subject to decommissioning. As all production activities will have ended before decommissioning can begin, and infrastructure will be either completely or partially removed, consideration of performance past any expected infrastructure life span is unnecessary for the PEIS.

The suspension of O&G leasing activities and cancelation of leases is outside the scope of this PEIS.

The PEIS presents a programmatic evaluation of potential impacts that could be incurred under each of the four decommissioning alternatives. More detailed evaluations will be conducted during future NEPA analyses of project-specific decommissioning permit applications as they are received by BSEE.

Because of the variability in size, thickness, and composition of shell mounds, the evaluation of how shell mounds might be affected by seismic activities and storm surges is best addressed by site-specific analysis that would be conducted during NEPA assessments of project-specific decommissioning permit applications as they are received by BSEE. The potential effects of seismic activities and storm surges on abandoned-in-place pipelines will also be evaluated in project-specific analyses. The oil releases in the Gulf of Mexico referred to by a commenter are associated with storm damage incurred by operational production facilities, which would not be the case in the POCS for any remaining infrastructure following decommissioning.

G.7.4.2 Safety Related to Decommissioning Activities

A commenter asked whether flushing pipelines could result in any pollution leaks.[304]

A couple of commenters, including a joint submission, asked BOEM to analyze the impacts/safety hazards associated with decommissioning activities, such as the risk of spills from construction vessels, and materials released from disassembling infrastructure that contained oil/hazardous materials. They said the PEIS should identify the type and volume of oil and other contaminants on vessels/platforms and determine the worst-case spill scenario for each decommissioning alternative. Then, the commenters recommended the PEIS evaluate and describe spill prevention and response measures that will be taken to mitigate impacts for each worst-case scenario.[305] *One of the commenters said the evaluation should include an analysis of the resources available to respond to a worst-case accidental spill for each decommissioning alternative. This commenter similarly recommended that the final PEIS evaluate sources of marine debris from decommissioning activities, and mitigation and removal measures for such debris (e.g., seafloor surveys).*[306]

Response:

Well decommissioning (plugging and abandonment) would occur prior to initiation of platform decommissioning under any of the four alternatives. As described in Section 2.3.4, pipelines would undergo pigging, flushing, and filling with seawater before they are disconnected from the platform, cut and capped. Thus, no leaks are anticipated.

Potential risks from accidental chemical discharges or leaks, as well as solid waste debris, from infrastructure during decommissioning and from support vessels are addressed throughout Chapter 4 of the PEIS, and a new Section 4.1.4.2 Long-Term Risks of Remnant Infrastructure has been added. Information regarding the potential types and amounts of oils and other chemical present on the platforms and on support vessels will be identified in project-specific decommissioning permit applications, and spill scenarios will be evaluated as part of the permit application review. Spill response resources available during decommissioning will likely be those currently available to address spills associated with producing platforms and active pipelines.

Solid waste debris from platforms and support vessels is discussed in PEIS Chapter 4, as are potential impacts on water quality and marine biota. BSEE regulations at 30 CFR 250.1703 and 250.1740–250.1743 require seafloor clearing (as well as site clearance verification) to remove obstructions and debris on the seafloor surrounding decommissioned platforms, other facilities, wells, and pipelines. Specific clearance methods will be identified in decommissioning permit applications and will be evaluated as part of the permit application review by BSEE.

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304 Environmental Defense Center, Surfrider Foundation, and fifteen additional ENGOs.

305 Pacific Fishery Management Council; California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

306 California State Lands Commission, California Department of Fish and Wildlife, California Ocean Protection Council, California Coastal Commission.

G.7.5 REQUEST FOR EXTENSION OF COMMENT PERIOD

Approximately 10 commenters provided feedback requesting an extension of the comment period.

Several commenters requested an extension of the draft PEIS comment period by varying amounts, including:

- *By 45 days,*[307]
- *By 15 days at minimum,*[308] *and*
- *Until January 12, 2023, to provide a 90-day comment period.*[309]

Many commenters stated that the public needs additional time to adequately review and respond to the draft PEIS.[310] *A couple of commenters provided further reasoning including the volume of information to review in the PEIS, the volume of public interest, and potential impacts the PEIS could have on habitats, resources, and State analyses on the subject.*[311]

Response:

On October 12, 2022, BSEE published a Notice of Availability (NOA) in the *Federal Register* that announced availability of the Draft PEIS for review and comment with a 47-day public comment period ending November 28, 2022. In response to numerous requests for additional time for review and commenting, BSEE published an additional NOA extending the public comment period an additional 43 days to January 10, 2023.

G.7.6 COMMENT ON ALTERNATIVE ENERGY SOURCES AND TECHNOLOGY

Five commenters provided feedback on alternative energy sources.

A couple of commenters appreciated the analysis of the potential for turning decommissioned oil/gas platforms into offshore wind facilities.[312] *A couple of commenters discussed transforming decommissioned platforms into renewable energy sites, including a green lighthouse, and the potential benefits this could provide for ecosystems.*[313] *Additionally, one of these commenters said there is a lot of infrastructure in place (e.g. power lines, pipelines)*

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307 Santa Barbara Channel Keeper; Ocean Foundation; Surf Rider Foundation; Environmental Defense Center in Santa Barbara; Climate Foundation.

308 Pacific Fishery Management Council.

309 Environmental Defense Center et al.

310 Environmental Defense Center et al.; Pacific Fishery Management Council; Environmental Defense Center in Santa Barbara.

311 Environmental Defense Center et al.; Pacific Fishery Management Council.

312 U.S. EPA; Environmental Defense Center in Santa Barbara.

313 America's Green Corp, J. Maassen.

that could be used for alternative energy sources.[314] *A commenter asked for further discussion of the likelihood that cleaner engine boats/barges/equipment will be available to reduce the use of diesel, and they asked the Bureaus to analyze the effect of the proposed mitigation measures of cleaner burning fuels.*[315]

A commenter reasoned that allowing O&G industries to dispose of industrial waste in the ocean sets a "dangerous" precedent for other marine and coastal industries, including offshore wind, hydrokinetic energy plants, and finfish aquaculture.[316]

Response:

The conversion of POCS platforms to other uses, including renewable energy production or research, was considered but was eliminated from further consideration because these other uses are speculative and would be subject to further independent NEPA review if proposed. A more thorough discussion is included in PEIS Sections 2.4.1 and 2.4.2.

The PEIS acknowledges the benefits that could be incurred using cleaner engines (see PEIS Section 4.2.1.1). The availability and use of clean engine technology on support vessels and decommissioning equipment would aid in the mitigation of air quality impacts through a substantial reduction in emissions during decommissioning.

Ocean disposal of industrial waste would not be authorized, per regulations at 30 CFR §250.300 Pollution Prevention, under any of the alternatives.

G.7.7 OTHER COMMENTS ON THE PEIS

Three commenters provided other comments on the PEIS.

A commenter stated that they have not had time to evaluate the Decommissioning Emissions Estimation for Platforms (DEEP) model analysis. They said they may have comments on DEEP model analyses run for project-specific reviews.[317]

A commenter pointed to Lines 43 and 45 on pg. 6-7 of Section 6.3.5 where BOEM wrote "National Marine Sanctuary Act," which should be corrected to "National Marine Sanctuaries Act."[318]

A commenter advocated for "a more balanced approach" to scientific research and natural resource management in coastal waters. Such an approach would require independent research that is not influenced by politics or the O&G industry. Additionally, the commenter

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314 J. Maassen.

315 Environmental Defense Center in Santa Barbara.

316 Coastal Coordination Program, The Ocean Foundation.

317 Santa Barbara County Air Pollution Control District.

318 NOAA.

recommended focusing on the greater goal of restoring coastal waters and habitats while making decisions regarding the O&G industry.[319]

Response:

A new Appendix F has been added to the PEIS. This appendix presents the DEEP model estimates of annual air emissions and the social cost of GHG with decommissioning activities. Additional DEEP model analyses will be conducted at the project level as project-specific decommissioning permit applications are recieved and reviewed by BSEE, at which time air boards will have the opportunity to review and comment on the analyses.

The text referred to on pages 6-7 has been corrected as suggested by the commenter.

The Bureaus note the commenters' advocacy for a more balanced research and management approach for coastal waters, and with the goal of restoring coastal waters and habitats. However, these comments are outside the scope of this PEIS.

319 Coastal Coordination Program, The Ocean Foundation.

G.8 GENERAL COMMENTS

No comments are associated with this issue.

G.9 OUT OF SCOPE

No comments are associated with this issue.

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