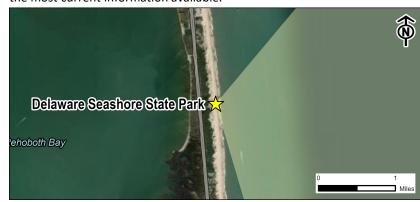


# SCENARIO 5 INTERVISIBILITY ASSESSMENT FROM KEY OBSERVATION POINT

Development	Minimum Distance from KOP to Turbines (mi)	Maximum Blade Height of Nearest Turbine (Feet)	Visibility Status This Scenario	
Maryland Offshore Wind Project, OCS-A 0490	18.6	938	Visible	
Skipjack, OCS-A 0519	15.9	853	N/A	
Garden State Offshore Wind, OCS-A 0482	13	853	N/A	
Ocean Wind 2, OCS-A 0532	38	906	N/A	
Ocean Wind 1, OCS-A 0498	48.4	906	N/A	
Atlantic Shores South, OCS-A 0499	60.6	1049	N/A	
Atlantic Shores North, OCS-A 0549	72	1049	N/A	
Coastal Virginia Offshore Wind (C-Lease), OCS-A 0483	115.5	869	N/A	
Coastal Virginia Offshore Wind (Research Lease), OCS-A 0497	124.1	607	Developed But Beyond Visible Distance	
Atlantic Shores Offshore Wind Bight (NY Bight), OCS-A 0541	85.2	853	N/A	
Invenergy Wind Offshore (NY Bight), OCS-A 0542	86.2	853	N/A	

Information on the neighboring offshore development projects is based on the most current information available.



<sup>1</sup> "The Best Paper Format and Viewing Distance to Represent the Scope and Scale of Visual Impacts", Journal of Landscape Architecture, 4-2019, pp. 142-151, J. Palmer <sup>2</sup> Sheppard, S. 1989. Visual Simulation: A User's Guide for Architects, Engineers, and Planners. New York: Van Nostrand Rheinhold.

The Maryland Offshore Wind Project will either use two large OSSs only at interior locations within the array or four small OSSs throughout the array. For the purpose of the simulations, the largest OSS that may be used at a particular location has been simulated.

#### SITE INFORMATION

Site Name: Delaware Seashore State Park

Location: Rehoboth Beach, DE

Date: 3/23/2023 Time: 1:30 PM (\*4:20 PM) Coordinates (Lat/Lon WGS84): 38.664, -75.067

Landscape Zone: Barren Land (Rock/Sand/Clay) - Beach

### **CUMULATIVE VISUAL EFFECTS SCENARIOS (CURRENT IS BOLD)**

Scenario 1, Pre-Buildout of Maryland Offshore Wind Project

Scenario 2, Maryland Offshore Wind Project and Projects Already or Considered

Constructed

Scenario 3, Project Construction by 2030

Scenario 4, Project Construction by 2030 Without Maryland Offshore Wind Project

Scenario 5, Maryland Wind Without Other Foreseeable Future Changes

#### SCENARIO DESCRIPTION AND ASSUMPTION

Scenario 5 depicts conditions that are anticipated for the Maryland Offshore Wind Project OCS-A 0490 once completed, including preexisting project construction for Coastal Virginia Offshore Wind (Research Lease) OCS-A 0497, but with no further changes or construction beyond that. The simulations produced for Scenario 5 visualize all such projects that are determined by the intervisibility assessment to be visible from KOP 21, Delaware Seashore State Park.

All simulated WTGs use monopile foundation structures, and all are oriented in the same direction with the centermost WTG facing directly towards the camera. The simulated WTGs use RAL 9010 Pure White paint color and the same lighting scheme that was outlined in US Wind's Visual Impact Assessment. As a point of reference, a 1049' tall structure drops completely below the horizon at a distance of 48.0 statute miles from a 5.1' tall viewer at this KOP.

#### SHEET INDEX AND VIEWING INSTRUCTIONS

Sheet 1 – Simulation Context and Intervisibility Assessment

Sheet 2 – Project Development and Visibility Summary

Sheet 3 – Existing Conditions Panorama View (124°)

Sheet 4 – Panorama View (124°) with Simulations without Project Extents

Sheet 5 – Panorama View (124°) with Simulations and Project Extents

Sheet 6 – Single Frame (50-mm Lens) Simulation and Project Extents

Sheet 7 – Supplemental High Contrast Single Frame (40°) View (4:20 PM)\*

To approximate the field of view represented by a  $16.5^{\prime\prime}$  panorama it should be printed on an  $11^{\prime\prime}$  x  $17^{\prime\prime}$  sheet of paper and viewed from 8 inches away<sup>1</sup>. For the most realistic experience when viewing in a digital format, position your computer screen  $20^{\prime\prime}$  away and adjust the PDF viewing software's zoom so that the calibration bar matches what's instructed on the simulation sheet.

In all cases care must be taken to not over or underrepresent the visual contrasts<sup>2</sup>. Typical binocular human field of view is assumed to be 124-degrees horizontal and 55-degrees vertical.

# KOP 21 DELAWARE SEASHORE STATE PARK, DELAWARE

Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations Scenario 5, Maryland Wind Without Other Foreseeable Future Changes

SHEET 1 - SIMULATION CONTEXT AND INTERVISIBILITY ASSESSMENT

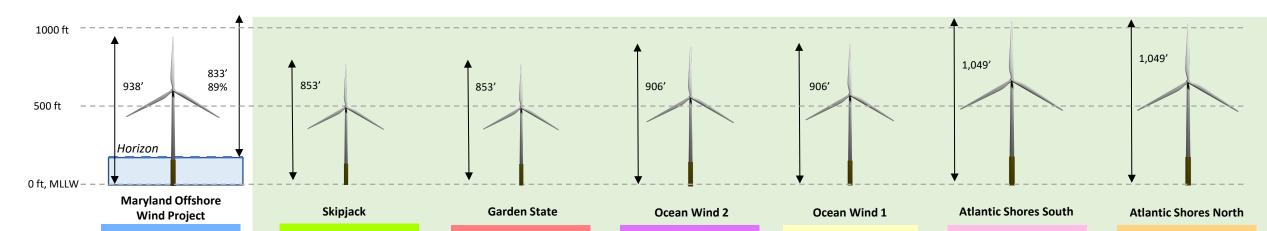
## Scenario 5 Visibility of Nearest Turbine to Key Observation Point

Closer to Maryland Offshore Wind Project

Farther from Maryland Offshore Wind Project

Based on findings from the Intervisibility Assessment the following developments are excluded from this visibility matrix due to their distance from the key observation point:

- Coastal Virginia Offshore Wind (C-Lease) OCS-A 0483
- Coastal Virginia Offshore Wind (Research Lease) OCS-A 0497
- Atlantic Shores Offshore Wind Bight (NY Bight) OCS-A 0541
- Invenergy Wind Offshore (NY Bight) OCS-A 0542



	Visible	Excluded From Scenario 5 Assessment	Excluded From Scenario 5 Assessment	Excluded From Scenario 5 Assessment	Excluded From Scenario 5 Assessment	Excluded From Scenario 5 Assessment	Excluded From Scenario 5 Assessment
# Turbines	121	N/A	N/A	N/A	N/A	N/A	N/A
# Turbines Visible	121	N/A	N/A	N/A	N/A	N/A	N/A
# Nacelle FAA Lights Visible	111	N/A	N/A	N/A	N/A	N/A	N/A
# Mid-Tower FAA Lights Visible	44	N/A	N/A	N/A	N/A	N/A	N/A
# Substations*	4	N/A	N/A	N/A	N/A	N/A	N/A
# Substations Visible	0	N/A	N/A	N/A	N/A	N/A	N/A
Minimum Distance from KOP to Turbines (mi)	18.6	N/A	N/A	N/A	N/A	N/A	N/A
Maximum Distance from KOP to Turbines (mi)	37.9	N/A	N/A	N/A	N/A	N/A	N/A
Nearest Turbine – Vertical Extent of Turbine Visible (ft)	833	N/A	N/A	N/A	N/A	N/A	N/A
Farthest Turbine – Vertical Extent of Turbine Visible (ft)	323	N/A	N/A	N/A	N/A	N/A	N/A
Nearest Turbine – Vertical Extent of Turbine Visible (%)	89%	N/A	N/A	N/A	N/A	N/A	N/A
Farthest Turbine – Vertical Extent of Turbine Visible (%)	34%	N/A	N/A	N/A	N/A	N/A	N/A
Mid-Tower FAA Light Height (ft)	271	N/A	N/A	N/A	N/A	N/A	N/A
Hub Height (ft)	528	N/A	N/A	N/A	N/A	N/A	N/A
Nacelle Top FAA Light Height (ft)	542	N/A	N/A	N/A	N/A	N/A	N/A
Blade Tip Height (ft)	938	N/A	N/A	N/A	N/A	N/A	N/A
Rotor Diameter (ft)	820	N/A	N/A	N/A	N/A	N/A	N/A

<sup>\*</sup>The Maryland Offshore Wind Project will either use two large OSSs only at interior locations within the array or four small OSSs throughout the array. For the purpose of the simulations, the largest OSS that may be used at a particular location has been simulated.

Information on the neighboring offshore development projects is based on the most current information available.

Shaded green defines projects excluded from current scenario.

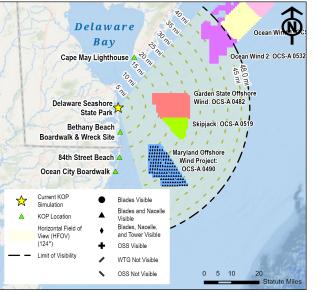
# **KOP 21 DELAWARE SEASHORE STATE PARK, DELAWARE**

Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations Scenario 5, Maryland Wind Without Other Foreseeable Future Changes

**SHEET 2 - PROJECT DEVELOPMENT AND VISIBILITY SUMMARY** 









#### **ENVIRONMENT**

Weather Conditions:Mostly cloudyTemperature:62° FHumidity:82%Lighting Conditions:OvercastVisibility:10 Miles

**Lighting Conditions:** Visibility: **VIEW AND CAMERA DETAILS** Ground Elevation (ft msl): 12.3 17.3 Camera/Viewing Elevation (ft msl): Camera Used for Simulation Photography: Nikon D850 Camera Lens Brand, Type, Focal Length: Nikon Fixed 50 mm Photo Resolution: 1200 DPI Horizontal Field of View (Panoramas): 124° Horizontal Field of View (Single Frame 50 mm 39.6° Atmospheric Refraction Coefficient (k): 0.143

VIEWING INSTRUCTIONS: To approximate the field of view represented by a 16.5" panorama simulation, it should be printed on an 11" x 17" sheet of paper and viewed from 8 inches away<sup>1</sup>. For the most realistic experience when viewing in a digital format, position your computer screen 20" away and adjust the PDF viewing software's zoom so that the calibration bar is 1 inch long:

1" Measured On Screen – View from 20" Away

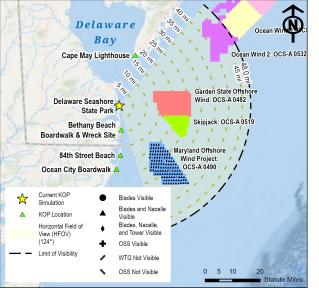
In all cases care must be taken to not over or underrepresent the visual contrasts<sup>2</sup>. Typical binocular human field of view is assumed to be 124-degrees horizontal and 55-degrees vertical. See Sheet 1 for citations.

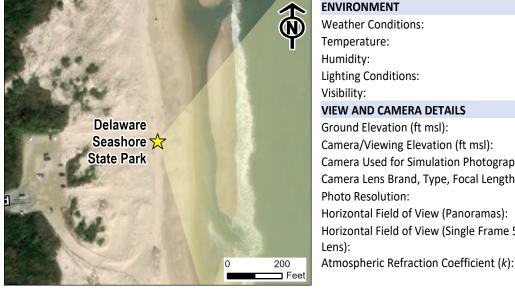
# **KOP 21 DELAWARE SEASHORE STATE PARK, DELAWARE**

Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations Scenario 5, Maryland Wind Without Other Foreseeable Future Changes

SHEET 3 - EXISTING CONDITIONS PANORAMA VIEW (124°)







## **ENVIRONMENT**

Weather Conditions: Mostly cloudy 62° F Temperature: 82% Humidity: **Lighting Conditions:** Overcast 10 Miles

Visibility: **VIEW AND CAMERA DETAILS** Ground Elevation (ft msl): 12.3 17.3 Camera/Viewing Elevation (ft msl): Camera Used for Simulation Photography: Nikon D850 Camera Lens Brand, Type, Focal Length: Nikon Fixed 50 mm Photo Resolution: 1200 DPI Horizontal Field of View (Panoramas): 124° Horizontal Field of View (Single Frame 50 mm 39.6°

0.143

VIEWING INSTRUCTIONS: To approximate the field of view represented by a 16.5" panorama simulation, it should be printed on an 11" x 17" sheet of paper and viewed from 8 inches away1. For the most realistic experience when viewing in a digital format, position your computer screen 20" away and adjust the PDF viewing software's zoom so that the calibration bar is 1 inch long:

1" Measured On Screen – View from 20" Away

In all cases care must be taken to not over or underrepresent the visual contrasts<sup>2</sup>. Typical binocular human field of view is assumed to be 124-degrees horizontal and 55-degrees vertical. See Sheet 1 for citations.

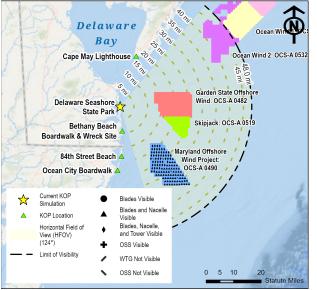
# **KOP 21 DELAWARE SEASHORE STATE PARK, DELAWARE**

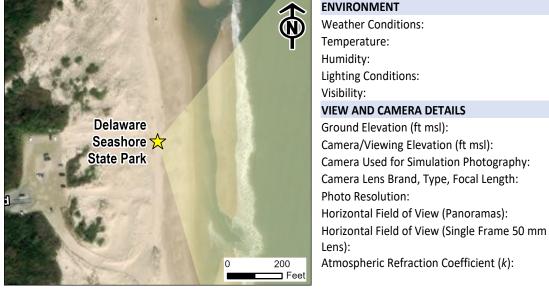
Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations Scenario 5, Maryland Wind Without Other Foreseeable Future Changes

SHEET 4 - PANORAMA VIEW (124°) WITH SIMULATIONS WITHOUT **PROJECT EXTENTS** 









### **ENVIRONMENT**

Weather Conditions:

62° F Temperature: 82% Humidity: **Lighting Conditions:** Overcast Visibility: 10 Miles **VIEW AND CAMERA DETAILS** Ground Elevation (ft msl): 12.3 17.3 Camera/Viewing Elevation (ft msl): Camera Used for Simulation Photography: Nikon D850 Camera Lens Brand, Type, Focal Length: Nikon Fixed 50 mm Photo Resolution: 1200 DPI

Mostly cloudy

124°

39.6° Atmospheric Refraction Coefficient (k): 0.143 VIEWING INSTRUCTIONS: To approximate the field of view represented by a 16.5" panorama simulation, it should be printed on an 11" x 17" sheet of paper and viewed from 8 inches away1. For the most realistic experience when viewing in a digital format, position your computer screen 20" away and adjust the PDF viewing software's zoom so that the calibration bar is 1 inch long:

1" Measured On Screen – View from 20" Away

In all cases care must be taken to not over or underrepresent the visual contrasts<sup>2</sup>. Typical binocular human field of view is assumed to be 124-degrees horizontal and 55-degrees vertical. See Sheet 1 for citations.

# **KOP 21 DELAWARE SEASHORE STATE PARK, DELAWARE**

Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations Scenario 5, Maryland Wind Without Other Foreseeable Future Changes

SHEET 5 - PANORAMA VIEW (124°) WITH SIMULATIONS AND **PROJECT EXTENTS** 



Maryland Offshore Wind Project



Graphic shows which specific portion of the human field of view (124°) is visible in this single frame (40°) photo.

VIEWING INSTRUCTIONS: To approximate the field of view represented by a 15.7" single frame simulation captured with a 50-mm lens it should be printed on an 11" x 17" sheet of paper and viewed from 22 inches away<sup>1</sup>. For the most realistic experience when viewing in a digital format, position your computer screen 20" away and adjust the PDF viewing software's zoom so that the calibration bar is 1 inch long:

1" Measured On Screen – View from 20" Away

In all cases care must be taken to not over or underrepresent the visual contrasts<sup>2</sup>. Typical binocular human field of view is assumed to be 124-degrees horizontal and 55-degrees vertical. See Sheet 1 for citations.

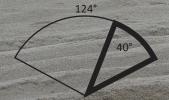
KOP 21 DELAWARE SEASHORE STATE PARK, DELAWARE

Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations
Scenario 5, Maryland Wind Without Other Foreseeable Future Changes

SHEET 6 - SINGLE FRAME (50-mm LENS) SIMULATION AND PROJECT EXTENTS



Maryland Offshore Wind Project



Graphic shows which specific portion of the human field of view (124°) is visible in this single frame (40°) photo.

VIEWING INSTRUCTIONS: To approximate the field of view represented by a 15.7" single frame simulation captured with a 50-mm lens it should be printed on an 11" x 17" sheet of paper and viewed from 22 inches away<sup>1</sup>. For the most realistic experience when viewing in a digital format, position your computer screen 20" away and adjust the PDF viewing software's zoom so that the calibration bar is 1 inch long:

1" Measured On Screen – View from 20" Away

In all cases care must be taken to not over or underrepresent the visual contrasts<sup>2</sup>. Typical binocular human field of view is assumed to be 124-degrees horizontal and 55-degrees vertical. See Sheet 1 for citations.

# KOP 21 DELAWARE SEASHORE STATE PARK, DELAWARE

Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations Scenario 5, Maryland Wind Without Other Foreseeable Future Changes

SHEET 7 – SUPPLEMENTAL HIGH CONTRAST SINGLE FRAME (40°) VIEW (4:20 PM)

