COASTAL ZONE MANAGEMENT ACT CONSISTENCY DETERMINATION
For Leasing Wind Energy Areas Offshore Oregon

U.S. Department of the Interior
Bureau of Ocean Energy Management
Pacific Outer Continental Shelf Region

BOEM Flickr Webpage

BOEM
BUREAU OF OCEAN ENERGY MANAGEMENT

April 30, 2024

Table of Contents

Appendices

Appendix A – Enforceable Policy User Report

Appendix B – Draft Environmental Assessment for Commercial Wind Lease Issuance on the Pacific Outer Continental Shelf, Oregon

Appendix C – Selected BOEM-Funded Research Informing Renewable Energy Offshore Oregon

Table of Tables

Table of Figures

1. AUTHORITY

The Bureau of Ocean Energy Management (BOEM) is submitting this Coastal Consistency Determination in compliance with Section 930.34 *et seq. of* the National Oceanic and Atmospheric Administration (NOAA) Federal Consistency Regulations (Title 15 Code of Federal Regulations (CFR) part 930 Subpart C). The Energy Policy Act of 2005 (EPAct) authorized BOEM to issue leases, easements and rights-of-way to allow for renewable energy development on the Outer Continental Shelf (OCS). EPAct provided a general framework for BOEM to follow when authorizing these renewable energy activities. For example, EPAct requires that BOEM coordinate with relevant Federal agencies and affected State and local governments, obtain fair return for leases and grants issued, and ensure that renewable energy development takes place in a safe and environmentally responsible manner. *See* 74 Fed. Reg. 19638 (Apr. 29, 2009); *see also* 30 CFR part 585 and 43 U.S.C § 1337(p)(1)(C).

2. DETERMINATION

In accordance with the Federal Coastal Zone Management Act of 1972, as amended, BOEM has determined that the leasing activities planned for the Wind Energy Areas (WEAs) offshore Oregon are consistent to the maximum extent practicable with the Oregon Coastal Management Program (OCMP), pursuant to the requirements of the Coastal Zone Management Act of 1972, as amended, (CZMA) and the Oregon Ocean Resources Management Act of 1991 (ORS 196.405–515).

3. BACKGROUND

In early 2021, the Biden-Harris Administration catalyzed progress towards the development of a robust offshore wind industry by taking coordinated steps to advance ambitious wind energy projects to create good-paying union jobs, invest in American infrastructure to strengthen the domestic supply chain and deploy offshore wind energy, and support critical research and development and data-sharing. This announcement established a goal of 30 gigawatts of offshore wind by 2030 and plans to advance new lease sales and complete review of at least 16 Construction and Operations Plans (COPs) for wind energy projects by 2025.

In March 2023, the Department of the Interior set a goal to deploy 15 GW of floating offshore wind capacity by 2035 – enough to power over five million American homes. Read the *Fact Sheet: Biden-Harris Administration Continues to Advance American Offshore Wind Opportunities* at: https://www.whitehouse.gov/briefing-room/statements-releases/2023/03/29/fact-sheet-biden-harris-administration-continues-to-advance-american-offshore-wind-opportunities/#:~:text=DOI%20set%20a%20goal%20to,over%20five%20million%20American%20homes.

3.1 Oregon's Renewable Energy Goals

The State of Oregon is home to an estimated 4.2 million people. In recent years, Oregon and

surrounding states have adopted aggressive decarbonization and clean electricity policies. The State of Oregon established a Renewables Portfolio Standard (RPS) in 2007, and updated it in 2016 with Senate Bill 1547, increasing Oregon's RPS requirement for large investor-owned utilities to sell electricity consisting of 50% renewables by 2040. Oregon Executive Order 20-04 (2020) established the Climate Protection Program (CPP) run by the Oregon Department of Environmental Quality. The CPP is a regulatory program designed to reduce greenhouse gas (GHG) emissions through an emissions cap on fossil fuels used in the state, with an interim target of 50% reduction by 2035 and a 90% reduction by 2050. Oregon House Bill (HB) 2021 created a 100 percent clean electricity standard, requiring Oregon's retail electricity providers to eliminate GHG emissions associated with electricity serving Oregon consumers by 2040, with an 80% reduction from baseline levels by 2030 and a 90% reduction by 2035.

Other Western States, including California and Washington, have similar mid-century RPS goals. Offshore wind modeling by the National Renewable Energy Laboratory (NREL) shows the potential to develop dozens of gigawatts of offshore wind on the West Coast of the United States, which could play a critical role in helping Oregon and the region achieve its mid-century clean energy and decarbonization goals. Under HB 3375, Oregon required the Oregon Department of Energy (ODOE) to study the benefits and challenges of 3 GW of offshore wind. Results of this study,[1] published in September 2022, conclude the State's GHG reduction goals and clean electricity policies are the most significant drivers for when offshore wind energy could serve Oregon customers. The report further states that while solar resources are cost effective, there are practical challenges to delivering energy in overnight hours and during winter months. As a result, a diverse portfolio of clean energy resources that complement solar, such as offshore wind, could be cost effective to achieve state and regional clean energy and climate policy objectives.[2]

3.2 Planning and Analysis

At the request of former Oregon Governor Kulongoski, BOEM established an Intergovernmental Renewable Energy Task Force (Task Force) with Oregon in 2011 to facilitate coordination of offshore renewable energy planning efforts in Oregon among relevant Federal agencies and affected federally recognized Tribal, state, and local governments (Figure 1). Beginning in 2019, the Task Force meetings focused on the identification of potential areas for wind leasing offshore Oregon. These meetings were held on September 27, 2019; June 4, 2020; October 21, 2021; February 25, 2022; and September 18, 2023.

In partnership with the Oregon Department of Land Conservation and Development (DLCD), BOEM and the State of Oregon developed an outreach and engagement plan for the OCS within the 1,300-meter water depth along the entire coast to support offshore wind planning and analysis in Oregon in 2019. BOEM and DLCD shared a Draft Outreach and Engagement Plan (Plan) with the Task Force for review and input. Following adoption of the final Plan[3] with input

[1] https://www.oregon.gov/energy/Data-and-Reports/Douments/2022-Floating-Offshore-Wind-Report.pdf
[2] Pg. 8, https://www.oregon.gov/energy/Data-and-Reports/Documents/2022-Floating-Offshore-Wind-Report.pdf
[3] https://www.boem.gov/sites/default/files/documents/regions/pacific-ocs-region/BOEM-OR-OSW-Engagement-Plan.pdf#:~:text=The%20Data%20Gathering%20and%20Engagement,wind%20energy%20leasing%20decisions%20offshore

from the Task Force, BOEM and DLCD engaged in a collaborative, data-based offshore wind energy planning outreach process to foster coordinated and informed decisions about Oregon's shared ocean resources and the many users who depend on them (Figure 2).

This outreach, from June 2020 through December 2021, consisted of 75 meetings, webinars, and briefings with coastal communities, fishing communities, federally recognized Tribes, state and Federal agencies, academia and scientists, environmental non-governmental organizations (NGOs), and the offshore renewable energy industry. A summary of the key findings from this outreach is contained in the *Data Gathering and Engagement Summary Report – Oregon Offshore Wind Energy Planning*,[4] published in January 2022. BOEM reviewed data and incorporated feedback from this outreach, as well as discussions with the State of Oregon, Federal partners, and Tribal Nations to delineate three proposed Call Areas offshore Oregon. Based on feedback from Task Force members and the public at the February 16, 2022, Task Force meeting, one of the three proposed Call Areas was removed from future planning after BOEM considered input on potential commercial fishing conflicts and sensitive habitats within the Call Area. The results of BOEM's outreach and discussions were used by BOEM to inform the Call for Information and Nominations published on April 29, 2022.

Figure 1: BOEM Renewable Energy Approval Process

[4] https://www.boem.gov/sites/default/files/documents//Data%20Gathering%20and%20Engagement%20Report%20OR%20OSW%20Energy%20Planning%20January%202022.pdf

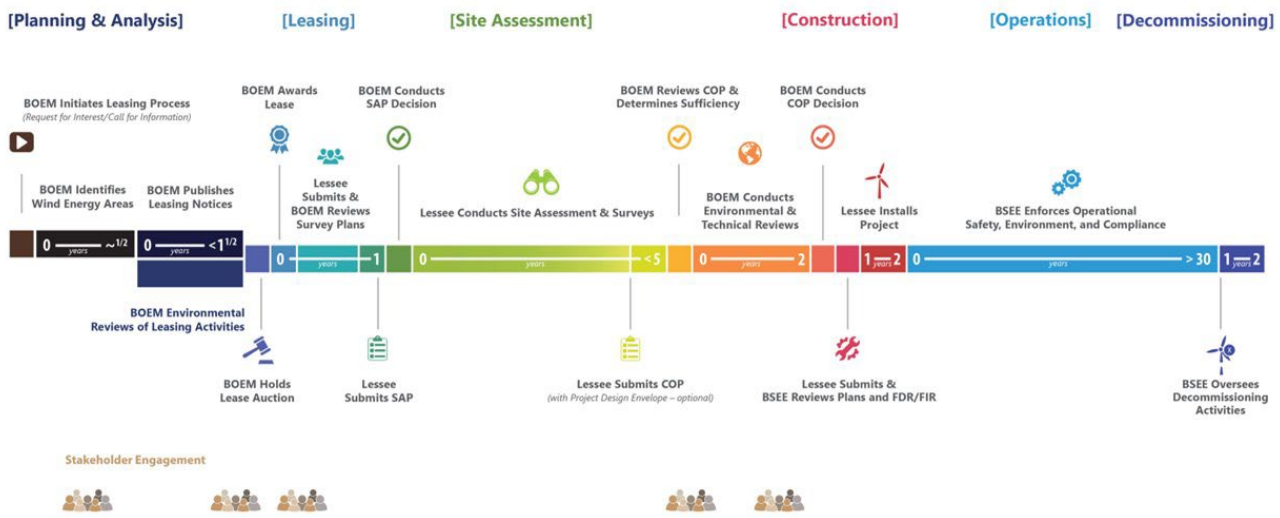

Figure 2: BOEM Renewable Energy Approval Process Timeline

3.3 Call for Information and Nominations

BOEM's renewable energy competitive lease issuance process starts with the publication of a Call for Information and Nominations (Call) in the Federal Register, which requests comments from the public about areas of the OCS that BOEM believes should receive special consideration and analysis for the potential development of renewable energy (30 CFR § 585.211(a)). BOEM identified the Call Areas after discussion with numerous parties and consideration of relevant information sources, including the State of Oregon, Tribal governments, the Task Force, coastal communities, and the fishing community.

On April 27, 2022, BOEM provided notice that the public comment period would begin on April 29 and invited government-to-government consultation with all federally recognized Tribes in Oregon, as well as Tribes along the northern California coast and Tribes along the Washington coast. On April 29, 2022, BOEM published the Call for Commercial Leasing for Wind Energy Development on the OCS Offshore Oregon (Call) in the Federal Register for a 60-day public comment period. BOEM received 278 unique comments and 4 nominations in response. Comments received on the Call are available for viewing online at regulations.gov.[5]

During the public comment period for the Call, several commenters provided feedback requesting BOEM to increase transparency in the Area Identification process and consider leveraging an existing ocean planning model previously used in NOAA's Aquaculture Opportunity Area Atlases and by BOEM in the development of WEAs in the Gulf of Mexico and Central Atlantic. BOEM consulted separately with the Coquille Indian Tribe and the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians (CTCLUSI) in May 2022 during the Call comment period. Among the issues discussed, both Tribes expressed concerns over the renewable energy leasing process described in 30 CFR part 585, as well as potential impacts to commercial fisheries, submerged pre-contact sites offshore, and viewsheds from locations along the coast of spiritual, ceremonial, and cultural importance.

[5] https://www.regulations.gov/document/BOEM-2022-0009-0001

In response to public comments on the Call, BOEM modified its Renewable Energy Authorization Process in Oregon to include the identification of Draft WEAs with analysis from an ocean planning model as described in a Notice to Stakeholders[6] issued September 16, 2022. This new step in the Area Identification (Area ID) process, shown in orange in Figure 3 below, increases transparency in BOEM's process and provides for additional public input.

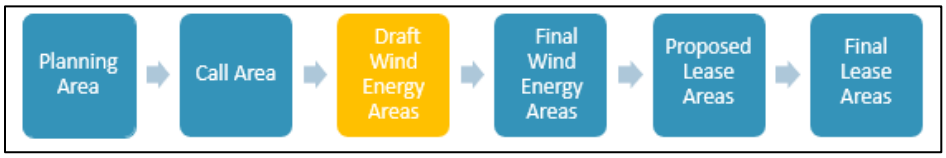

Figure 3: Introduction of Draft Wind Energy Areas into the BOEM Renewable Energy Authorization Process, highlighted in orange.

In addition, BOEM, with support from NOAA's National Centers for Coastal Ocean Science (NCCOS), conducted spatial analyses using the NCCOS Spatial Suitability Modeling tool recommended in the public comments.

3.4 Draft Wind Energy Areas

For Area ID, BOEM partnered with NOAA's NCCOS to compile relevant data and develop spatial models to identify suitable areas for offshore wind energy development in the region (Carlton et al. 2014). BOEM reviewed and evaluated a total of 435 region-wide data sets and ultimately identified 30 geospatial data layers developed by various government agencies, NGOs, and academic institutions. These curated 30 data sets best represented ocean uses and ecosystem-wide analysis for offshore wind development specifically within the Oregon Call Areas. Data were organized into categories (submodels) representing the major ocean sectors, including national security, natural resources, wind, fishing, and industry and operations. All data layers were assigned scores of relative compatibility, allowing the calculation of an overall suitability score for each 10-acre grid cell of the study area. The NCCOS model included information provided by the National Marine Fisheries Service (NMFS) and Oregon Department of Fish and Wildlife (ODFW) for nine fisheries in Oregon: at-sea hake mid-water trawl, groundfish bottom trawl, shoreside hake mid-water trawl, groundfish fixed gear-pot, pink shrimp trawl, groundfish fixed gear-longline, Dungeness crab, albacore commercial, and albacore charter. Ultimately, the NCCOS model used cluster analysis to identify groups of cells with the highest relative suitability to identify two WEAs for potential offshore wind development within the Call Areas.

In support of BOEM's commitment to share information on Oregon planning early with Tribal Nations, BOEM hosted a virtual inter-Tribal meeting on April 25, 2023. At this meeting, BOEM shared the results of the draft Oregon suitability model, Draft WEAs, and results of a viewshed analysis for the Draft WEAs. BOEM invited sixteen Tribes to attend this meeting, including all federally recognized Tribes in Oregon, as well as two Tribes along the northern California coast and five Tribes along the Washington coast. BOEM also invited government-to-government

[6] https://www.boem.gov/newsroom/notes-stakeholders/boem-enhances-its-processes-identify-future-offshore-wind-energy-areas

consultation on the Draft WEAs at that time.

On June 9, 2023, two Oregon U.S. Senators, two Congressional Representatives, and Oregon Governor Tina Kotek requested the BOEM Director pause the offshore wind planning process in Oregon to further consult with Tribal Nations and stakeholders, such as coastal communities, to better identify and address local concerns. On August 08, 2023, two Senators and two Congressional Representatives also requested the BOEM Director hold a 60-day comment period for the draft Oregon WEAs. BOEM honored these requests by hosting 4 additional public meetings, 3 in-person public meetings in the coastal communities of Brookings, Gold Beach, Coos Bay, and an online fishing webinar, and extended the comment period an additional 15 days for a 75-day total comment period for the Draft WEAs.

During the Area ID process, BOEM considered the following non-exhaustive list of information sources:

- Draft NCCOS Report: A Wind Energy Siting Analysis for the Oregon Call Areas (Carlton et al. 2024)
- Comments received in response to the 2022 Call for Information and Nominations
- Comments received in response to the 2023 Request for Comment on the Draft WEAs
- BOEM Oregon Intergovernmental Renewable Energy Task Force meetings, including public comment at end of the meetings
- Oregon Offshore Wind Energy Planning Outreach Summary Report
- Input from Federal and State agencies
- Comments received at consultation meetings and written comments from federally recognized Tribes
- State renewable energy goals
- Domestic and global offshore wind market and technological trends
- OROWindMap data and information

On August 15, 2023, BOEM published a Notice of Draft WEAs which was available for review and comment on www.regulations.gov.[7] BOEM also notified over eighty federally recognized West Coast Tribes[8] of the Draft WEAs and invited government-to-government consultation. BOEM published draft methods and summarized results of the spatial suitability analyses in a Draft Report: *A Wind Energy Siting Analysis for the Oregon Call Areas* online in August 2023.[9]

BOEM received approximately 1,150 comments in response, including submissions from Tribal governments, private citizens, Federal, state, and local government agencies; environmental and other advocacy groups; industry groups; and wind developers. A *Summary of Comments* received in response to the Request for Comment (RFC) is in Appendix A of the Area ID Memo can be found at: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20A_Summary%20of%20Comments.pdf.

[7] https://www.regulations.gov/document/BOEM-2023-0033-0001

[8] To ensure awareness and participation of any Tribe along the West Coast that may have an interest in offshore wind energy, BOEM extended its invitation to Tribes along the West Coast and did not confine its invitation to Tribes more closely tied to the areas of the WEAs.

[9] A Wind Energy Area Siting Analysis for the Oregon Call Areas NCCOS Report August 2023 (boem.gov)

3.5 Area Identification

On February 13, 2024, BOEM released the Announcement of Area Identification Memorandum.[10] The Memorandum documents the analysis and rationale in support of the recommended designation of two WEAs offshore Oregon for environmental analysis and consideration for leasing.

Area ID is the second major step in the competitive wind leasing process and results in BOEM designating WEA(s) on which it will conduct an environmental review under the National Environmental Policy Act (NEPA) for potential lease issuance. *See* 30 CFR § 585.211(b). The identification of WEAs for environmental analysis does not constitute a final leasing decision, and BOEM reserves the right under its regulations to issue leases in smaller areas, fewer areas, different areas, some combination of these, or to issue no leases. BOEM analyzes potential impacts of a specific proposed renewable energy facility in the identified areas during review of a proposed COP, when project-specific information is available.

To address issues that resulted from public engagement and analysis of the Draft WEAs, BOEM recommended changes to the size of the Final WEAs, including accommodation of scientific surveys. Scientific surveys are conducted along the West Coast by universities, governmental, and non-governmental agencies. NOAA conducts many scientific surveys and studies offshore Oregon within survey corridors that intersect portions of the Draft WEAs. These surveys inform its fisheries and protected species management decisions and monitor living marine resources, their habitats, and the California Current Ecosystem. Included among the outcomes of these surveys are forecasts enabling timely decisions about harvest and Pacific salmon recovery. NMFS, the Pacific Fishery Management Council (PFMC), several Tribes, and ODFW are concerned that offshore wind development could impact these surveys, which in turn could affect stock assessments and other data, including climate and ocean change.

In response to the Call and Draft WEAs, NMFS provided data layers to support the suitability modeling process and provided information in its written comments, which further explained the importance of scientific surveys, and requested 4 nautical miles (nm) east-west sampling corridors centered at 10 nm intervals. Implementation of the 4 nm wide corridors would make offshore wind development untenable in both WEAs because it results in discontinuous areas too small to support commercial scale projects and reduces the total area available by 40%. However, NMFS also explicitly identified a southern portion of the Brookings Draft WEA as an area warranting consideration for removal from the WEA because it includes both an east-west long-term survey corridor and discreet sampling stations. NMFS uses the information from these surveys to monitor ocean health and the status of the California Current, inform management of protected species, and provide information on Tribal, recreational, and commercial fisheries, including salmon stocks.

Additionally, comments from NMFS, PFMC, and ODFW indicated that there is the potential for important seafloor habitats to be dispersed throughout the WEAs, including in the southern portion of the Brookings Draft WEA. NMFS identified one specific cluster of coral habitat near

[10] https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Oregon%20Area%20ID%20Memo.pdf

the southern boundary of the Brookings Draft WEA as the Brush Patch. Although the extent of this habitat feature, including that portion identified as an Essential Fish Habitat Conservation Area, is predominantly outside of the WEA, removing the most southern aliquots of the Brookings Draft WEA to maintain a scientific survey corridor would provide some separation between a potential lease area and this seafloor habitat.

For the Final WEAs, the Draft WEA Coos Bay was retained while the southern boundary of the Brookings WEA was modified with removal of the bottom three rows of aliquots of the Draft WEA to preserve NMFS fixed, long-term sampling stations and surveys, and be protective of sensitive seafloor habitat.

This Consistency Determination applies to both the Coos Bay WEA and the Brookings WEA (Figure 4). The Oregon WEAs total area is approximately 194,995 acres offshore southern Oregon; their closest points to shore range from approximately 18–32 miles, and water depths are 567–1,531 meters (1,860–5,023 feet; Table 1).

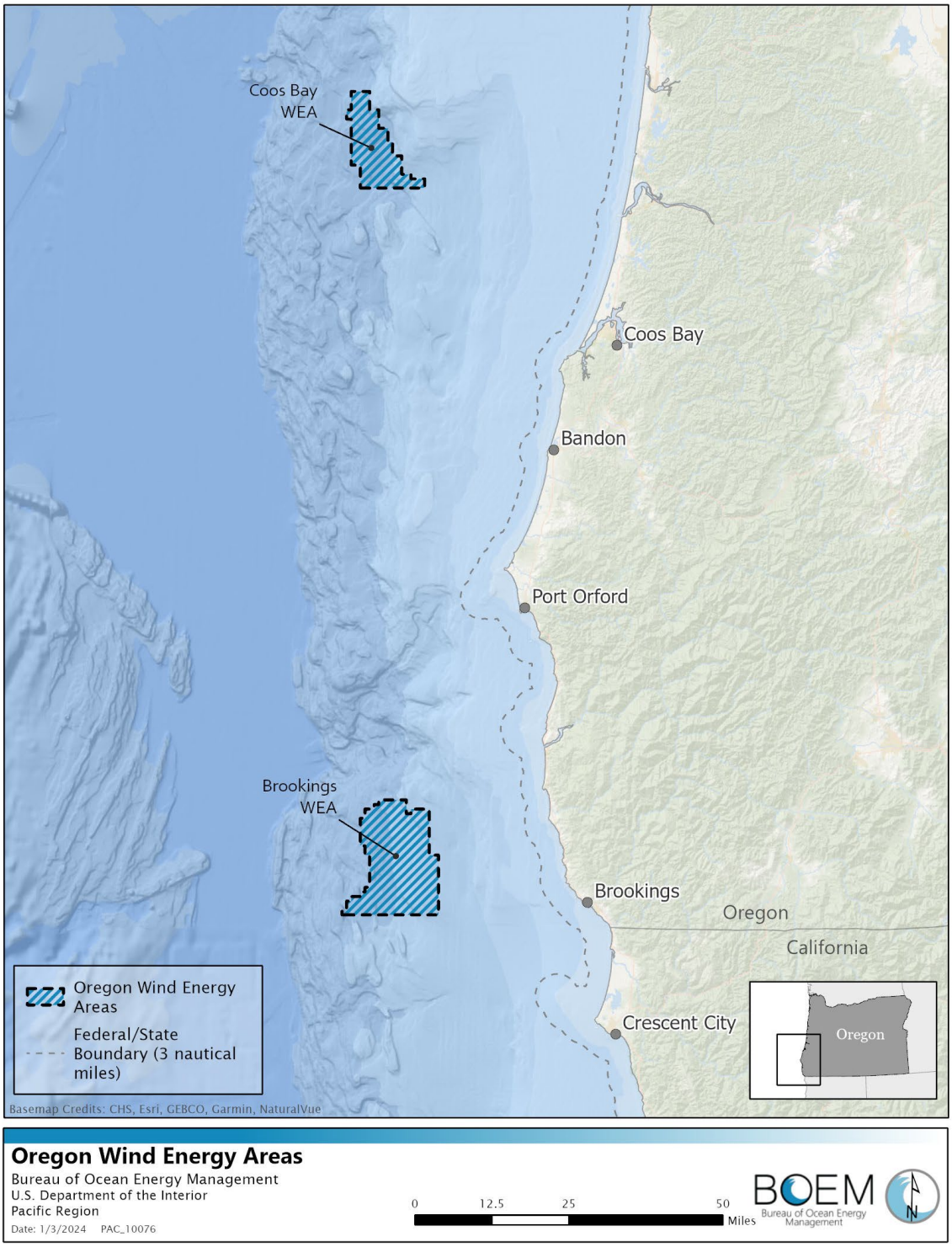

Figure 4: Map of Wind Energy Areas Offshore Oregon

Table 1: Descriptive Statistics for the Recommended Oregon Wind Energy Areas

WEA	Acres	Installation Capacity (MW)[1]	Homes Powered	Power Production (MWh/yr): 40% Capacity Factor[3]	Power Production (MWh/yr): 60% Capacity Factor[4]	Maximum Depth (meters)	Minimum Depth (meters)
Coos Bay	61,203	991	346,752	3,471,482	5,207,224	1,414	635
Brookings	133,792	2,166	758,012	7,588,788	11,383,182	1,531	567
Total (or max, min)	194,995	3,156	1,104,764	11,060,270	16,590,406	1,531	567

1 Megawatts (MW) based upon 4 MW/km^2 [11]

2 Homes powered based upon 350 homes per MW

3 Formula = Capacity (MW) × 8,760 (hrs/yr) × 0.4 (capacity factor)

4 Formula = Capacity (MW) × 8,760 (hrs/yr) × 0.6 (capacity factor)

3.6 Technical Criteria: A Buildable Environment

Oregon meets key technical criteria used to determine the feasibility of floating offshore wind development. These include sustainable wind speeds, suitable water depths, and access to existing transmission interconnections. Specifically, annual wind speeds of 7 to 10.5 meters per second are found in the Oregon WEAs. Winds off Oregon's coast are some of the strongest and most consistent in the world. NREL estimates that Oregon has the technical potential for 62 GW of offshore wind electricity generation capacity.[12] The abundance of this high-quality wind resource provides an opportunity for gigawatt-scales of floating offshore wind to contribute toward meeting the decarbonization and clean energy goals of Oregon and other Western States.[13] The water depths of the WEAs, which range between 567–1,531 meters, is a reasonable limit for near-term development of floating offshore wind energy facilities based on West Coast offshore wind cost modeling studies conducted by NREL.[14] These water depths make pile-driven foundations (e.g., monopile or jacket) infeasible based on current technology in Federal waters offshore Oregon.

The WEAs are roughly located on the relatively flatter areas of the OCS and upper slope offshore Oregon, beyond which the slope and water depths increase quickly. As water depths increase, project costs and complexity increase due to increasingly longer mooring lines, potentially longer array cables, and more difficult logistics in anchor installation. While future planning could include deeper waters, BOEM finds the most feasible floating offshore wind projects would be located in waters shallower than 1,300 meters to remain competitive with other renewable energy resources.

[11] https://www.energy.gov/sites/default/files/2023-09/doe-offshore-wind-market-report-2023-edition.pdf
[12] Pg. 5, https://www.nrel.gov/docs/fy20osti/74597.pdf
[13] Pg. 24, https://www.oregon.gov/energy/energy-oregon/Pages/fosw.aspx
[14] Arent, Douglas et al. *Improved Offshore Wind Resource Assessment in Global Stabilization Scenarios.* NREL/TP-6A20-55049. https://www.nrel.gov/docs/fy13osti/55049.pdf

In 2020, BOEM and the U.S. Department of Energy's Pacific Northwest National Laboratory (PNNL) completed a study called "Exploring the Grid Value Potential of Offshore Wind Energy in Oregon" where model conclusions did not find significant transmission limitations on the larger Oregon transmission system, especially for a 2 GW scenario of offshore wind generation. The study found energy load percentages that existing transmission lines and systems around several southern Oregon areas can accommodate without the need for additional infrastructure for 2 GW of offshore wind generation as follows: Port Orford (98%), Reedsport (92.8%), and Newport (99.8%). However, transmission system capacity efficiency lessens under a 3 GW offshore wind scenario, without significant development to the transmission system, for Port Orford (79.5%), Reedsport (71.9%), and Newport (89.7%).[15]

ODOE stated significant investments to upgrade the onshore electric transmission grid are likely needed to accommodate large-scale floating offshore wind projects. Referencing studies from NREL and PNNL, ODOE notes the threshold for significant transmission infrastructure development is necessary around 2.6 GW of offshore wind capacity. Per ODOE, no single interconnection point on Oregon's coastal grid can accommodate 2 GW and the Bonneville Power Administration notes that southern Oregon existing transmission system, with upgrades, can only accommodate 1 GW before transmission infrastructure expansion is needed.[16] The NREL study notes that northern transmission centers, such as Wendson and Fairview substations, can receive up to 1.5 GWs from both WEAs.[17]

Any transmission infrastructure expansion in Oregon may come with benefits. ODOE notes in their *Floating Offshore Wind: Benefits & Challenges for Oregon* 2022 report that floating offshore wind can encourage alternative benefits such as replacing the development of tens of thousands of onshore acres for renewable energy to meet state goals, or the development of a nearby renewable hydrogen production facility. The 2020 BOEM PNNL study indicates annual generation cost savings due to replacement of fossil fuel plants totaling near $86 million for 3 GW of offshore wind deployment. This savings is associated with significant emissions reductions.[18] In addition, ODOE notes that floating offshore wind can increase the grid reliability and power quality for local coastal communities that are more vulnerable to power disruptions from natural disasters or inclement weather. Finally, developing transmission infrastructure for offshore wind can assist Oregon in reducing the reliance on existing east-west transmission pathways (Figure 5) and providing for alternative north-south interregional lines, thereby increasing the state's overall power resilience.[19]

[15] https://www.boem.gov/BOEM-2020-026

[16] https://www.oregon.gov/energy/Data-and-Reports/Documents/2022-Floating-Offshore-Wind-Report.pdf

[17] https://www.nrel.gov/docs/fy22osti/81244.pdf

[18] Pg. 44, https://www.boem.gov/sites/default/files/documents/regions/pacific-ocs-region/environmental-science/BOEM-2020-026.pdf

[19] https://www.oregon.gov/energy/energy-oregon/Pages/fosw.aspx

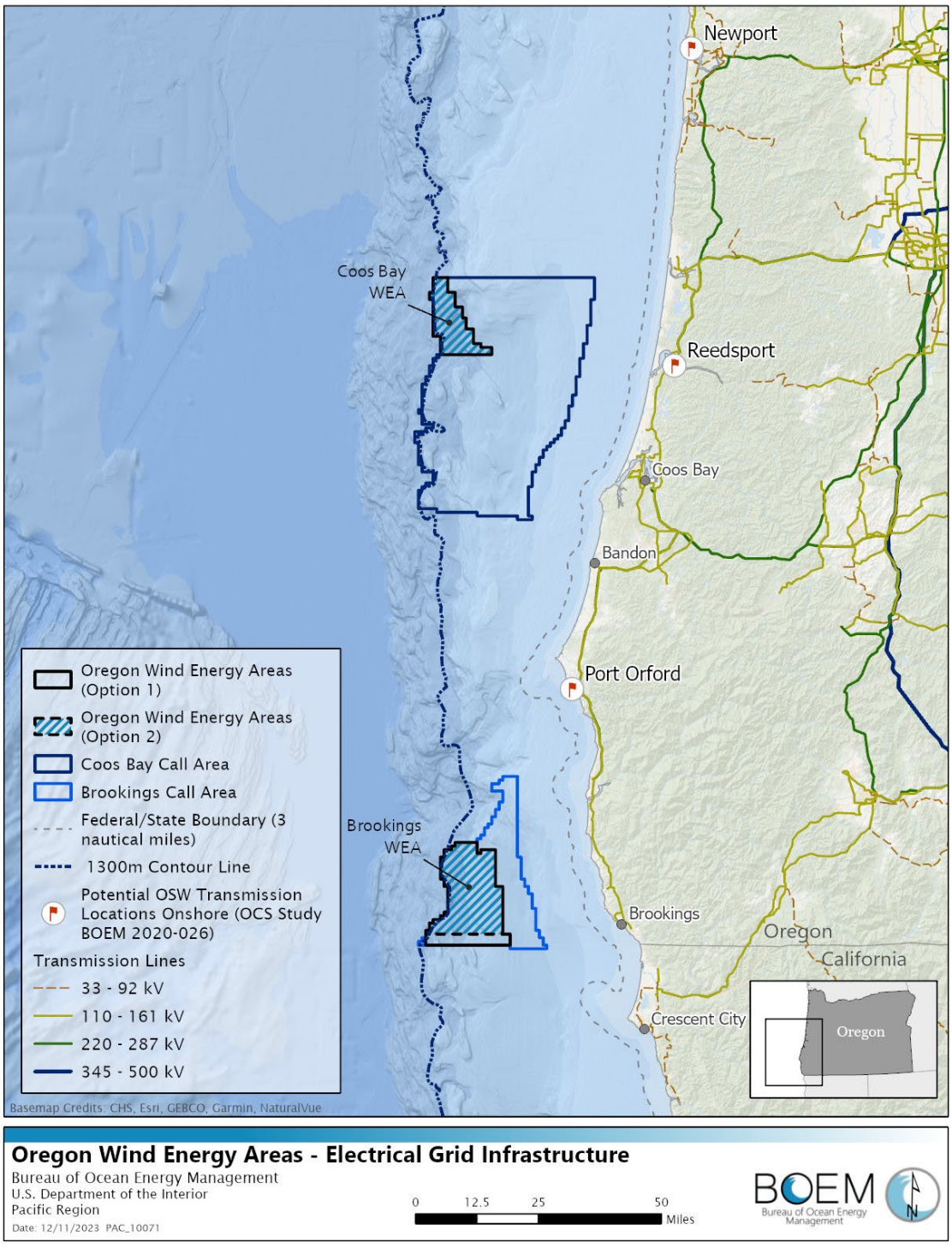

Figure 5: Oregon Transmission Distribution and Connectivity

Source: Homeland Infrastructure Foundation-Level **Data**[20]

[20] https://hifld-geoplatform.opendata.arcgis.com/datasets/geoplatform::transmission-lines/explore?location=43.326051%2C-123.318132%2C7.90

3.7 Environmental Assessment

BOEM has prepared a Draft Environmental Assessment (EA) for the Commercial Wind Lease Issuance on the Pacific Outer Continental Shelf Offshore Oregon, provided as part of this Consistency Determination (CD) as **Appendix B**. The Draft EA will be available for public comment in late April 2024 with a 30-day comment period. BOEM expects to publish the Final EA in mid-2024.

A lease only conveys to the lessee the exclusive right to subsequently seek BOEM approval for the development of a leasehold and associated project easement. The lease does not grant the lessee the right to construct any facilities; rather, a lease grants the right to use the lease area to conduct site assessment and site characterization activities, which must be approved by BOEM before the lessee can move on to the next stage of the process. The EA considers the impacts of the site characterization and site assessment activities, which are reasonably foreseeable to occur as a result of lease issuance. Site assessment and characterization activities include deployment of metocean buoys and sampling equipment and biological and geological surveys. The EA does not consider the installation of cables or facilities. Those activities are typically reviewed through a project specific environmental impact statement, if BOEM receives a Construction and Operations Plan from the lessee for review.

The stipulations attached to the lease reflects the results of BOEM consultations with other Federal, State, and local agencies as well as Tribal governments, industries reliant on coastal waters, and the energy industry detailed in the Draft EA. BOEM has established a number of mechanisms to collaborate with other agencies. For example, BOEM has developed Memoranda of Understanding (MOUs) with other Federal agencies describing each agency's roles for reviewing renewable energy projects on the OCS helping to streamline the leasing and permitting processes. As mentioned previously, BOEM has also established Intergovernmental Renewable Energy Task Forces on a State-by-State basis to coordinate among States, Tribes, local governments, and relevant Federal agencies. To learn more, visit BOEM's Stakeholder Engagement and Partnerships website at: https://www.boem.gov/renewable-energy/stakeholder-engagement.

BOEM may receive a project-specific Site Assessment Plan (SAP) and COP pursuant to 30 CFR § 585.600. BOEM conducts government-to-government consultation with federally recognized Tribes and coordinates other required consultations with the partial list of agencies listed below. More information can be found in BOEM's *A Citizens' Guide to BOEM's Renewable Energy Authorization Process* found at: https://www.boem.gov/KW-CG-Broch/.

3.8 Consultations

BOEM consultations for Renewable Energy Projects may include but are not limited to:

a) Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA)

Section 7(a)(2) of the ESA requires each Federal agency to ensure that any action that it authorizes, funds, or carries out is not likely to jeopardize the continued existence of a listed species or result in the adverse modification of designated critical habitat. To satisfy its ESA

obligations, BOEM consults with NMFS and the U.S. Fish and Wildlife Service (USFWS) (together referred to as the Services) regarding potential impacts to listed species and designated critical habitat under the jurisdiction of the Services.

BOEM will request consultation under the ESA with NMFS on the Proposed Action expected to occur in the lease areas and project easements that extend from the Oregon OCS through State waters to the onshore energy grid. If the lessee intends to conduct biological or other surveys to support offshore renewable energy plans that could interact with ESA-listed species, the surveys must be within the scope of activities described in forthcoming ESA consultations, or the lessee must consult further with BOEM and the Services .

To ensure compliance with the MMPA, in accordance with 30 CFR§ 585.701(b), BOEM will prohibit lease holders from conducting any activity under their lease that may result in an incidental taking of marine mammals until the appropriate authorization has been issued under the MMPA of 1972 as amended (16 U.S.C. 1361 et seq.).

Operators in the OCS will incorporate Best Management Practices (BMPs) to minimize or eliminate potential effects from site assessment and site characterization activities to protected marine mammal and sea turtle species, including vessel strike avoidance measures, visual monitoring, and shutdown and reporting (see Appendix D of the Oregon EA). These practices have been developed through years of conventional energy operations and refined through BOEM's renewable energy program, updated scientific data, and prior consultations with NMFS. All survey plans and site assessment plans (SAPs) will be reviewed by BOEM to ensure inclusion of appropriate BMPs.

The lessee must comply with the BMPs identified by BOEM through its ESA consultation process, as well as those prescribed by any relevant authorization under the MMPA (see Appendix D of the Oregon EA). These measures may be updated as a result of statutory, regulatory, or other consultation processes, including but not limited to consultation under the ESA or the MMPA. BOEM will provide up-to-date information at the pre-survey meeting, during survey plan review, or at another time prior to survey activities as requested by the lessee.

b) Essential Fish Habitat (EFH) Consultation

The Magnuson-Stevens Fishery Conservation and Management Act (as amended) requires Federal agencies to consult with NMFS regarding actions that may adversely affect designated Essential Fish Habitat (EFH). This consultation is ongoing and will be completed concurrent with the EA. The assessment relies on formal EFH descriptions for managed species provided by the PFMC (PFMC 2022a,b; 2023a,b). BOEM will combine the consultation for fishes and invertebrates listed under the ESA with the EFH consultation and will communicate with the NMFS Oregon Coastal Office regarding ESA-listed species.

c) National Historic Preservation Act (NHPA)

Section 106 of the NHPA (54 U.S.C. § 306108) and its implementing regulations (36 CFR Part 800) require Federal agencies to consider the effects of their undertakings on historic

properties and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. BOEM determined that issuing commercial leases within the Oregon WEAs constitutes an undertaking subject to Section 106 of the NHPA (16 U.S.C. 470f) and its implementing regulations (36 CFR Part 800).

BOEM has developed a Draft Programmatic Agreement (PA) pursuant to 36 CFR § 800.14(b) to fulfill its obligations under Section 106 of the NHPA for renewable energy activities on the OCS offshore Oregon. At the time of writing this CD and the Oregon EA, the PA has been routed for signature. BOEM initiated consultation on the Oregon EA through letters sent electronically on February 15, 2024, with the Oregon State Historic Preservation Office (SHPO) and ACHP. A separate letter was sent to 14 federally recognized Tribes on February 12, 2024, that provided advanced notice of the OR WEAs, EA, and invited them to be cooperating Tribal Nations on the EA and as a consulting party for Section 106 of the NHPA.

BOEM further identified potential consulting parties pursuant to 36 CFR § 800.3(f), shared the list of parties with Oregon SHPO on February 7, 2024, and sent invitations to be a consulting party on February 15, 2024.[21] The letter to these parties, which included local governments, historical preservation societies, and museums, solicited public comment and input regarding the identification of, and potential effects on, historic properties for the purpose of obtaining public input for the Section 106 review (36 CFR § 800.2(d)(3)) and invited them to participate as a consulting party. BOEM will continue with the consultation process as the Draft EA circulates for public comment.

d) Tribal Coordination and Government-to-Government Consultations with Federally Recognized Tribal Nations

BOEM recognizes the unique legal relationship of the United States with Tribal Nations. BOEM has a Trust responsibility and is required to consult with federally recognized Tribes, if a BOEM action (departmental regulation, rulemaking, policy, guidance, legislative proposal, grant funding formula changes, or operational activity) may have substantial direct effect on a federally recognized Tribe. In recognition of this special relationship, BOEM extended invitations to Tribal Nations for government-to-government and Tribal Nation coordination meetings. BOEM recognizes the special expertise that Tribal governments have with respect to potential environmental consequences that may occur as a result of this Proposed Action and invited those Tribes to participate as Cooperating Tribal Nations (cooperating agencies) in the EA.

[21] Letters were sent to: Oregon Tribes (CTCLUSI, Coquille Indian Tribe, Burns Paiute Tribe, Cow Creek Band of Umpqua Tribe of Indians, Confederated Tribes of the Grand Ronde Community of Oregon, Klamath Tribe, Confederated Tribes of Siletz Indians, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs); Washington Tribes (Makah Tribe, Hoh Tribe, Quinault Indian Nation, Shoalwater Bay Indian Tribe, Quileute Tribe); California Tribes (Elk Valley Rancheria, Tolowa Dee-ni` Nation, Resighini Rancheria); SHPO, ACHP, NPS, DLCD, Restore Oregon, Coos History Museum and Maritime Collection, Douglas County Museum and Umpqua River Lighthouse Museum, Pacific Maritime Heritage Center, Curry Historical Society and Museum, Columbia River Maritime Museum, City of Coos Bay, City of Brookings, Oregon State Archives, Oregon Heritage Commission, Oregon Historical Society.

For additional information about the various topics, see the following sections of the EA (Table 2).

Table 2: Sections in BOEM's EA Relevant to the Proposed Action of Leasing the Oregon WEAs

Section Number in Oregon EA	Topic
2.5	Foreseeable Activities and Assumptions for the Proposed Action
2.5.1	Site Assessment: Metocean Buoys and Ocean Devices
2.5.1.1	Buoy Installation, Operations and Maintenance, and Decommissioning Assumptions
2.5.2	Site Characterization Surveys
2.5.2.1	Surveying and Sampling Assumptions
2.5.2.2	Geophysical Information: High-Resolution Geophysical (HRG) Surveys
2.5.3	Vessel Trips for Site Assessment and Site Characterization
2.5.4.1	Allisions and Collisions
2.5.4.2	Spills
2.6	Impact-Producing Factors
2.7	Offshore Activities and Resources Eliminated from Further Consideration
3.1	Geology
3.2	Air Quality
3.3	Marine and Coastal Habitats and Associated Biotic Assemblages
3.4	Marine Mammals and Sea Turtles
3.5	Coastal and Marine Birds
3.6.1.1, 3.6.2.1	Counties
3.6.1.2, 3.6.2.2	Ports
3.7	Commercial Fishing
3.8	Recreation and Tourism
3.9	Environmental Justice
3.10	Tribes and Tribal Resources
3.11	Historic Properties
4	Consultation and Coordination, and Stakeholder Comments
Appendix A	Resources Eliminated from Detailed Consideration, and Assessment of Resources with Negligible Impacts
Appendix B	Current and Reasonably Foreseeable Actions
Appendix C	Supplemental Information for Ports, Fisheries, and Military Activities
Appendix D	Typical Best Management Practices for Operations on the Pacific Outer Continental Shelf
Appendix E	Public Comments and Bureau of Ocean Energy Management Responses
Appendix F	Additional Survey Technical Specification and Examples

4. OREGON'S COASTAL ZONE

The implementing regulations of the CZMA and the enforceable policies of the OCMP apply to lands and waters within coastal zone boundaries and to activities conducted outside the coastal zone that may affect state coastal uses or resources. This CD includes actions and programs outside the coastal zone within Federal waters. The term "coastal zone" is defined in 16 U.S.C. § 1453(1) as "the coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the several coastal States, and includes islands, transitional and intertidal areas, salt marshes, wetlands, and beaches...".

Oregon's designated coastal zone[22] stretches from the Washington border on the north, to the California border on the south; bound on the west by the extent of the state's territorial sea (generally 3 nautical miles offshore) and extending east to the crest of the Coast Range. There are a few exceptions to the eastern boundary: (a) the Columbia River, where the coastal zone extends to the downstream end of Puget Island; (b) the Umpqua River, where the coastal zone extends to Scottsburg; and (c) the Rogue River, where the coastal zone extends to Agness.

The proposed activity will take place beyond the three-mile boundary that designates the beginning of Federal waters and within the Exclusive Economic Zone of the United States of America which terminates at 200 miles offshore (*see* United Nations Convention on the Laws of the Seas, Part V Exclusive Economic Zone, Article 57). Federal consistency will apply if a proposed activity that is not within the coastal zone affects coastal uses or resources in the coastal zone.

Under Section 307(c)(1) of the CZMA, 16 USC § 1456(c)(1), Federal activities that affect any land or water use or natural resource of the coastal zone are required to be consistent with the affected State's coastal management program to the "maximum extent practicable." Section 930.32 of NOAA's regulations implementing the CZMA (15 CFR part 930) defines "consistent to the maximum extent practicable" as follows:

(a)(1) The term ''consistent to the maximum extent practicable'' means fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicable to the federal agency.

The Energy Policy Act of 2005 (EPAct) authorized BOEM to issue leases, easements, and rights-of-way to allow for renewable energy development on the OCS. EPAct provided a general framework for BOEM to follow when authorizing these renewable energy activities. For example, EPAct requires that BOEM coordinate with relevant Federal agencies and affected State and local governments, obtain fair return for leases and grants issued, and ensure that renewable energy development takes place in a safe and environmentally responsible manner. *See* 74 Fed. Reg. 19,638 (Apr. 29, 2009); *see also* 30 CFR part 585 and 43 U.S.C § 1337(p)(1)(C). The Secretary must ensure that activities under this subsection are carried out in a manner that provides for 12 specific enumerated requirements, including safety, protection of the environment, and consideration of other uses of the sea or seabed. *Id.* § 1337(p)(4)(A)– (L).

[22] https://www.oregon.gov/lcd/ocmp/pages/where-fc-applies.aspx

BOEM has issued regulations governing the leasing process and management of offshore renewable energy projects. *See* 74 Fed. Reg. 19,638 (Apr. 29, 2009); *see also* 30 CFR part 585.

4.1 Oregon's Marine Renewable Energy Geographic Location Description (GLD)

Under 15 CFR part 930, subpart C, states may review Federal actions that have a reasonably foreseeable effect to state coastal uses and resources, regardless of whether those effects originate inside or outside the state's recognized coastal zone. Oregon obtained approval from the NOAA Office for Coastal Management to review a Federal activity outside of the coastal zone within a specified spatial boundary illustrating where DLCD may review specific activities related to offshore renewable energy development.[23]

Oregon's Marine Renewable Energy Geographic Location Description (GLD) is an area starting from the seaward limit of Oregon State jurisdiction (3 nautical miles (nm) from the shoreline) and extending seaward to a boundary line along the OCS which approximates the 500 fathom bathymetric contour.

Oregon's GLD for Federal waters is within the area defined in Oregon Statewide Planning Goal 19 Ocean Resources as the Oregon Ocean Stewardship Area. The Ocean Stewardship Area is delineated and described in the Oregon Ocean Resources Management Plan, and the state's management goals and policy interests for this area are enumerated in Part One of the Territorial Sea Plan.

Table 7 of the Oregon Marine Renewable Energy GLD describes Federal licenses and permits which must be certified for consistency with the OCMP. For the Department of the Interior, BOEM, the following Federal license or permit activities are subject to review within the GLD in addition to review within the state's coastal zone:

A) Issuance or approval of leases, permits, easements, rights-of-way, exploration plans, development plans, production plans, and other authorizations, as appropriate, pursuant to Outer Continental Shelf Lands Act (OCSLA) for the construction, operation, maintenance and/or support activities related to OCS energy development. (43 U.S.C. §§ 1331 et seq.)

B) Permits to drill, rights-of-use, rights-of-way, and easements for construction and maintenance of pipelines, gathering and flow lines and associated structures pursuant to the OCSLA; explorations and development plans, and any other permits or authorizations granted for activities described in detail in OCS exploration, development, and productions plans. (43 U.S.C. §§ 1334 et seq.)

C) Issuance or approval of leases, permits, easements, rights-of-way, and other authorizations for renewable energy development pursuant to the OCSLA. (43 U.S.C. §§ 1331 et seq.; 43 U.S.C. § 1337(8)(p)(3); implementing regulations at 30 CFR Part 585)

Federal consistency review of Federal license or permit activities is sought for the following types of projects proposed for the GLD. The following thresholds apply to all of the licenses and permits identified in Table 7 of the Oregon Marine Renewable Energy GLD as being subject to review within the GLD:

- Any offshore wind or wave power generation facilities or structures(s), of a permanent nature, regardless of size or number;
- Underwater cables to service power generating facilities; and
- Research and monitoring devices such as light detection and ranging (LiDAR), Met towers or wave energy measurement instruments with a deployment window of 5 years or greater.

Oregon's Marine Renewable Energy GLD is designed to ensure that any marine renewable energy projects within the area are automatically subject to the Federal consistency review process, so that Federal activities such as the leasing and permitting authorized by BOEM, are consistent with the enforceable policies of Oregon's Coastal Management Program.

The Coos Bay and Brookings WEAs are located partially within the boundary of Oregon's Marine Renewable Energy GLD and are therefore subject to the Federal consistency review process.

See the State of Oregon Geographic Location Description for more information at: https://www.oregon.gov/lcd/OCMP/Documents/OCMP_MarineRenewable_GLD_final.pdf.

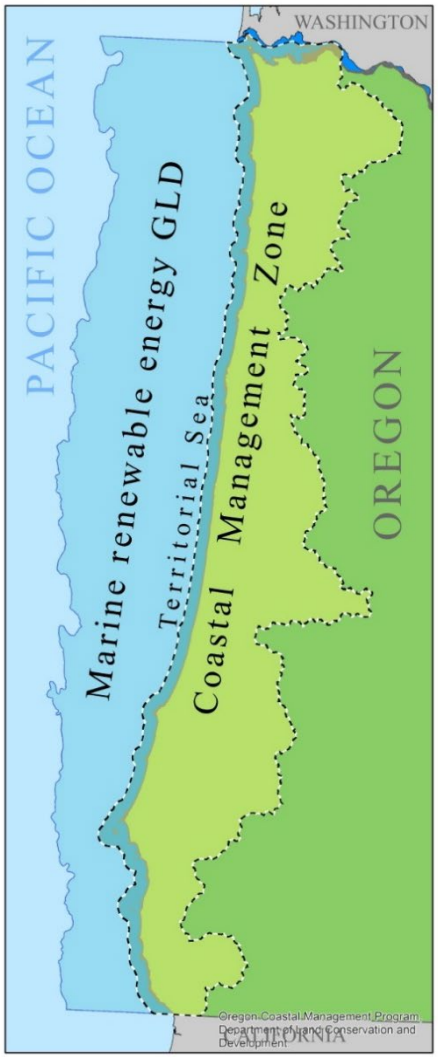

Figure 6: Oregon Marine Renewable Energy GLD

Source: Oregon Coastal Management Program

4.2 List of Enforceable Policies of the Oregon Coastal Management Program

The OCMP is made up of 42 partners at the county and city level and 11 state agency partners. Each local entity has documents governing how they operate and guiding how they administer land use in their community. Each state agency has chapters of statutes guiding operations and helping them administer state law. These documents include comprehensive plans and land use regulations, state statutes, and statewide planning goals. DLCD incorporates the documents in their entirety into the Program. Within the various statutes, goals, plans, and ordinances only certain elements meet the criteria to be used for Federal consistency review. These special policies are called enforceable policies.

List of enforceable policies managed by the OCMP for Federal consistency review include:

- Statewide Planning Goal enforceable policies are selected directly from Goal language and the Territorial Sea Plan. This list of policies can be found at: https://www.oregon.gov/lcd/op/pages/goals.aspx.

- State Statute & Administrative Rule enforceable policies are selected from state statute chapters and administrative rules that help govern resources in the Coastal Zone. This list of policies can be found at: https://www.oregon.gov/lcd/OCMP/FCDocuments/1.%20Oregon%20State%20Statute%20and%20Admin%20Rule%20EP_List_October2022.xlsx.

- South Coast: County and City enforceable policies are selected from local comprehensive plans and land use regulations. This list of policies can be found at: https://www.oregon.gov/lcd/OCMP/Documents/Oregon_South%20Coast%20Local%20Comp%20Plans%20and%20Code_EP_list_MASTER.xlsx.

- North Coast: County and City enforceable policies are selected from local comprehensive plans and land use regulations. This list of policies can be found at: https://www.oregon.gov/lcd/OCMP/FCDocuments/3.%20Oregon_North%20Coast%20Local%20Comp%20Plans%20and%20Code_EP_List_Nov2020.xlsx.

4.3 The Proposed Action

As described in the Oregon EA, the Proposed Action for this CD is the issuance of one commercial wind energy lease within the Coos Bay WEA and associated project easement(s) and one commercial wind energy lease within the Brookings WEA and associated project easement(s). Under the Proposed Action, BOEM would potentially issue leases that may cover the entirety of the WEAs and issue easements associated with each lease. The potential easements would all be located within the OCS and may include corridors that extend from the OCS through State waters to the onshore energy grid. As stated in 30 CFR 585.200, a lease issued under this part confers on the lessee the right to one or more project easements without further competition for the purpose of installing gathering, transmission, and distribution cables; pipelines; and appurtenances on the OCS as necessary for the full enjoyment of the lease. The lessee must apply for the project easement as part of their COP, as provided under 30 CFR part 585, subpart F, and BOEM will incorporate the approved project easement in that lease as an addendum (30 CFR 585.200 (b)).

Because the issuance of a lease only grants the lessee the exclusive right to conduct site characterization activities and submit to BOEM a SAP and/or a COP, it does not constitute an irreversible and irretrievable commitment of resources thereby requiring BOEM to consider the impacts associated with the siting, construction, and operation of any commercial wind power facilities prior to lease issuance. BOEM may decide to issue leases within all of, a portion of, or none of the WEAs analyzed in the EA; BOEM's decision regarding lease issuance will be memorialized in a Final Sale Notice.

The Proposed Action of lease issuance will be followed by site characterization and assessment activities on the OCS and State waters. After lease issuance, a lessee would conduct surveys according to the survey plan(s) reviewed by BOEM to collect data and, if authorized to do so

pursuant to an approved SAP, install meteorological and oceanographic devices to characterize the site's environment and to assess the wind resources in the proposed lease area. Site assessment activities, described in a SAP, would most likely include the temporary placement of meteorological and oceanographic buoys (i.e., metocean or met buoys) and other oceanographic devices within a lease area. Site characterization activities, or surveys, would most likely gather geophysical, geotechnical, biological, archaeological, and/or ocean data. See Section 2.5 of the EA and Appendix F of the EA for more details on the meteorological buoys, oceanographic devices, and survey details and examples. BOEM's regulatory authority is limited to the OCS, and therefore BOEM cannot approve site assessment or characterization activities in State waters or onshore areas.

BOEM would evaluate the potential impacts of the activities described in a COP or GAP in a separate NEPA document tied to the level of potential impacts, likely an EIS. The NEPA process would include an analysis of the potential impacts and reflect, but is not limited to, required consultations with the appropriate Federal, Tribal, State, and local entities; public involvement including public meetings and comment periods; collaboration with the BOEM Oregon Intergovernmental Renewable Energy Task Force; and preparation of an independent, comprehensive, site- and project-specific impact analysis using the best available information. A COP would contain design parameters such as turbine size, anchoring type, project layout, installation methods, and associated onshore facilities and informed from the site assessment and site characterization activities. Pursuant to 30 CFR § 585.628, BOEM would use information and analysis provided in the NEPA document to approve, approve with modification, or disapprove a lessee's COP. A lessee must provide a consistency certification pursuant to 15 CFR part 930, subpart E stating that the proposed activities described in detail in the COP comply with the State(s) approved coastal management program(s), will be conducted in a manner that is consistent with such program(s), and include the necessary data and information, pursuant to 15 CFR § 930.58, to support the consistency certification.

The timing of lease issuance, as well as weather and sea conditions, would be the primary factors influencing timing of site assessment and site characterization survey activities. Under the reasonably foreseeable scenario, BOEM could issue leases in late 2024. SAPs are expected to be submitted to BOEM within one year of lease issuance (30 CFR § 585.601). For leases issued in late 2024, surveys could begin in spring of 2025. Lessees have up to 5 years to perform site assessment activities before they must submit a COP (30 CFR § 585.235(a)(2)). Therefore, site assessment activities could continue through early 2030 prior to a COP being submitted.

In the meantime, BOEM continues to gather information that will inform COP decision making and currently has 14 studies ongoing with the purpose of obtaining more information about how renewable energy may affect the State of Oregon. BOEM also has seven studies that will inform BOEM's review of future COP, which are not specific to the State of Oregon. An overview of research studies that will inform how renewable energy may affect the State of Oregon is provided as **Appendix C – Selected BOEM-Funded Research Informing Renewable Energy Offshore Oregon**.

4.4 Foreseeable Activities and Assumptions for the Proposed Action

BOEM reasonably expects the Proposed Action of lease issuance will be followed by site characterization and site assessment activities on the OCS, as well as in State waters with the appropriate Federal, state, and local permits. However, until BOEM receives survey plans or a SAP pursuant to 30 CFR § 585.605, which does not occur until after a lease is issued, information in this section and in Appendix F of the EA focuses on the most common activities and equipment used offshore the U.S. West Coast or in similar ocean conditions. For example, lessees often install buoys and conduct surveys in ocean waters as a first step to obtain information necessary to support a COP.

4.4.1 Site Assessment: Metocean Buoys and Ocean Devices

Buoy Installation, Operations and Maintenance, and Decommissioning Assumptions

Metocean buoys are anchored at fixed locations to monitor and evaluate the viability of wind as an energy source. In addition, lessees usually gather data on wind velocity, barometric pressure, atmospheric and water temperatures, and current and wave measurements. To obtain these data, scientific measurement devices such as anemometers, vanes, barometers, and temperature transmitters are mounted either directly on a buoy or on a buoy's instrument support arms. Floating LiDAR is of increasing interest to measure wind speeds at multiple heights. BOEM is anticipating that up to six buoys will be deployed in and near to each leased area in the Oregon WEAs. BOEM knows of no LiDAR offshore data currently available to validate wind models and so assumes that multiple LiDAR buoys and placements will be needed for each lease.

Onboard power supply sources for buoys may include solar arrays, lithium or lead-acid batteries, and diesel generators, which require an onboard fuel storage container with appropriate spill protection and an environmentally sound method to perform refueling activities.

The National Data Buoy Center maintains a status list of buoys currently deployed offshore Oregon maintained by NOAA.[24] NREL and PNNL regularly deploy LiDAR buoys offshore (PNNL 2019).[25] The EA assumes buoy installation and decommissioning would take approximately one day, in agreement with PNNL's typical deployment procedure. On-site inspections and preventative maintenance (e.g., marine fouling, wear, or lens cleaning) are expected to occur with one vessel trip per year for all buoys. Buoy decommissioning would occur in Year 6 or Year 7 after lease execution.

Buoy Hull Types and Anchoring Systems

The choice of hull type used usually depends on installation location and measurement requirements. Discus-shaped, boat-shaped, and spar buoys are the buoy types that would most likely be adapted for offshore wind data collection. A large discus-shaped hull buoy has a circular hull 10–12 m (33–40 ft) in diameter. A boat-shaped hull buoy is an aluminum-hulled buoy that is 6 m long (20 ft), in the case of NOAA's NOMAD buoy. Figures of buoy schematics,

[24] https://www.ndbc.noaa.gov/obs.shtml
[25] https://www.pnnl.gov/projects/lidar-buoy-program

a 10-meter discus-shaped hull buoy, and a 6-meter boat-shaped hull buoy are presented in the EA.

Mooring design depends on hull type, location, and water depth (National Data Buoy Center 2008). For example, a smaller buoy in shallow coastal waters may be moored using an all-chain mooring. On the OCS, a larger discus-type or boat-shaped hull buoy may require a combination of a chain, nylon, and buoyant polypropylene materials designed (National Data Buoy Center 2008) with one or two weights. In 2020, PNNL installed two LiDAR buoys off California that had a boat-shaped hull and were moored with a solid cast iron anchor weighing approximately 4,990 kg (11,000 lb) with a 2.3-m^2 footprint.

Buoy Installation, Operation, and Decommissioning

Onshore activities (fabrication, staging, or launching of crew/cargo vessels) related to the installation of buoys are expected to use existing ports and infrastructure. Boat-shaped and discus-shaped buoys are typically towed or carried aboard a vessel to the installation location. The buoy is then lowered to the ocean from the deck of the transport vessel or placed over the final location and the mooring anchor dropped. The accuracy of the anchor bottom location and the size and type of anchor used depends on the buoy type, bottom slope, sediment type, depth, and water currents of the local area. The approximate 1,650-meter-long (~4,500 ft) mooring line connecting the buoy to the mooring anchor is comprised of various components and materials, including chain, jacketed wire, nylon rope, polypropylene rope, and subsurface floats to keep the mooring line taut to semi-taut, reduce slack, and eliminate looping. Since the mooring line will be taut to semi-taut, it is unlikely that the chain at bottom of the mooring line will sweep and disturb the seafloor. Metocean buoy anchors deployed at similar depths in California used a solid cast iron anchor weighing approximately 11,000 lbs and approximately 2.3 m^2 (PNNL 2019), but larger anchors could be used depending on exact site conditions. In total, BOEM anticipates that bottom disturbance associated with the installation of meteorological buoys would disturb the seafloor up to an estimated 10 m^2 per buoy. The buoy will have a watch circle (i.e., excursion radius) on the ocean surface of approximately 1,250 m (4,100 ft). After installation, the transport vessel would likely remain in the area for several hours while technicians configure proper operation of all systems (PNNL 2019).

Monitoring information transmitted to shore would include systems performance information such as battery levels and charging systems output, the operational status of navigation lighting, and buoy positions. Additionally, all data gathered via sensors would be fed to an onboard radio system that transmits the data string to a receiver onshore (Tetra Tech EC Inc. 2010).

Decommissioning is assumed to be essentially the reverse of the installation process. Decommissioning is expected to be completed within one day per buoy equipment recovery and would be performed with the support of a vessel(s) equivalent in size and capability to that used for installation. A COP must include specific information on decommissioning in accordance with 30 CFR § 585.626(b)(13).

Other Equipment and Instrumentation

Multiple types of instrumentation are commonly installed upon a buoy to measure

meteorological data and attached to the buoy or cable to measure oceanographic or biologic parameters. In addition to LiDAR, conventional anemometers, sonic detection, and ranging equipment may be used to obtain meteorological data. A met buoy could also accommodate environmental monitoring equipment such as avian monitoring equipment including thermal imaging cameras, tagging receivers, acoustic monitoring for marine mammals, data logging computers, visibility sensors, water measurements including temperature, and communications equipment.

The speed and direction of ocean currents will likely be assessed with Acoustic Doppler Current Profilers (ADCPs). The ADCP is a remote sensing technology that transmits sound waves at a constant frequency and measures the ricochet of the sound wave off fine particles or zooplanktons suspended in the water column. The ADCPs may be mounted independently on the seafloor, attached to a buoy, or have multiple instruments deployed as a subsea current mooring. A seafloor mounted ADCP would likely be located near the meteorological buoy and would be connected by a wire that is buried into the ocean bottom. A subsea current mooring might have 8–10 ADCPs vertically suspended from an anchor combined with several floats made of syntactic foam. These moorings typically do not breach the surface. A typical ADCP has 3 to 4 acoustic transducers that emit and receive acoustical pulses from different directions, with frequencies ranging from 300-600 kHz with a sampling rate of every 1 to 60 minutes. A typical ADCP is about one to two feet tall and one to two feet wide. Its mooring, base, or cage (surrounding frame) would be several feet wider. Based on information from existing West Coast lessees, BOEM is anticipating that less than 10 ADCP moorings could be installed in the lease area, and second another set of < 10 may be installed along the export cable route.

4.4.2 Site Characterization Surveys

Surveying and Sampling Assumptions

Site characterization activities involve geological, geotechnical, and geophysical surveys of the seafloor to ensure that mooring systems, turbines, and cables can be properly located, as well as look for shallow hazards. These survey methods can also be used to inform archaeological and historic resources assessments. Biological surveys are also part of site characterization surveys and collect data on potentially affected habitats, marine mammals, birds, sea turtles, and fishes. Lessees would likely focus survey efforts within the entire WEA proposed for lease and potential cable easement routes during the 5-year site assessment term. The purpose of site characterization surveys is to collect required information prior to the submission of a SAP and a COP. Table 3 describes the types of site characterization surveys, types of equipment, and deployment methods. If sufficient survey data are available, additional surveys may not be necessary.

BOEM regulations require that the lessee provide data from surveys with its SAP (30 CFR § 585.610) before the installation of met buoys. BOEM guidelines provide recommendations to lessees for acquiring the information required for a SAP. *BOEM Guidelines for Information Requirements for a Renewable Energy SAP* is available at: http://www.boem.gov/Final-SAP-Guidelines/ (BOEM 2019). BOEM national survey guidelines for some resources can be found at: http://www.boem.gov/Survey-Guidelines/.

Site characterization surveys can be conducted before and after met buoy approval to collect data for the COP (30 CFR § 585.626). BOEM Guidelines for *Information Needed for Issuance of a Notice of Intent (NOI) Under the National Environmental Policy Act (NEPA) for a Construction and Operations Plan (COP)* outlines information and data needed for the NEPA review of a COP. These guidelines can be found at: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/BOEM%20NOI%20Checklist.pdf.

For the Proposed Action, BOEM assumes that the lessee would employ these methods to acquire the information required under 30 CFR § 585.610 and 585.626. Lease holders could propose additional methods if they are within the degree of impact proposed in this document.

Table 3: Site Characterization Surveys, Equipment, Methods, and Resources

Survey Type	Resource Surveyed or Information Used to Inform	Survey Equipment or Method	Code of Federal Regulations
High-resolution geophysical surveys	Shallow hazards, archaeology, bathymetry, benthic zone	Side-scan sonar, sub-bottom profiler, magnetometer, multibeam echosounder; ROV; Autonomous Underwater Vehicle (AUV); HOV	30 CFR 585.610(b)(2) 30 CFR 585.610(b)(3)
Geotechnical/sub-bottom sampling	Geological	Vibra, piston, gravity cores; cone penetration tests	30 CFR 585.610(b)(1) 30 CFR 585.610(b)(4)
Biological	Benthic habitats	Grab sampling; benthic sled; underwater imagery/ sediment profile imaging; ROV; AUV	30 CFR 585.610(b)(5)
Biological	Avian	Aerial digital imaging; visual observation; radar; thermal or acoustic monitoring	30 CFR 585.610(b)(5)
Biological	Bats	Ultrasonic detectors installed on buoy and survey vessels, radar, thermal monitoring	30 CFR 585.610(b)(5)
Biological	Marine mammals, sea turtles	Aerial or vessel-based surveys, acoustic monitoring	30 CFR 585.610(b)(5)
Biological	Fishes, some invertebrates	Direct sampling using vessel-based surveys; underwater imagery; acoustic monitoring; environmental DNA	30 CFR 585.610(b)(5)

Geophysical Information: High-Resolution Geophysical (HRG) Surveys

High-Resolution Geophysical (HRG) surveys would be performed to determine siting for geotechnical sampling, whether hazards will interfere with seabed support of the turbines, the presence and hazards, archaeological and habitat resources, and to define seabed slope, water depth, and seafloor conditions. HRG surveys use electrically induced sonar transducers to emit and record acoustic pulses, and do not use air or water compression to generate sound.

Following BOEM's guidelines for geophysical data to fulfill information requirements listed in 30 CFR § 585.610, 585.611,585.626, and 585.627, surveys would be undertaken using equipment and methods described in Table 3 and Table 4. Estimated numbers of vessel trips and survey days for site characterization are shown in Table 6. Equivalent technologies to those

listed in these tables may be used if their potential impacts are similar to those analyzed in the EA and this CD and are reviewed by BOEM prior to the surveys being conducted. Vessels performing surveys are relatively slow moving (approximately 7.4–11.1 km/hr [4–6 kn]).

The line spacing for HRG surveys would vary depending on the data purpose:

- To collect geophysical data for shallow hazards assessments (including multibeam echosounder, side-scan sonar, and sub-bottom profiler systems), BOEM recommends surveying at a 150-m (492-ft) primary line spacing and a 500-m (1640-ft) tie-line spacing over the proposed lease area;

- For the collection of geophysical data for archaeological resource assessments (including magnetometer, multibeam echosounder, side-scan sonar, and sub-bottom profiler systems), BOEM recommends surveying at a 30-m (98-ft) primary line spacing and a 500-m (1640-ft) tie-line spacing over potential pre-contact archaeological sites once part of the terrestrial landscape and since inundated by global sea level rise during the Pleistocene and Holocene, generally thought to be in waters less than 100 m depth, which is typically in cable landing areas.

Table 4: High-Resolution Geophysical Survey Equipment and Methods

Equipment Type	Data Collection and/or Survey Types	Description of the Equipment
Bathymetry/depth sounder (multibeam echosounder)	Collection of bathymetric data for shallow hazards, archaeological resources, and benthic habitats	A depth sounder is a microprocessor-controlled, high-resolution survey-grade system that measures precise water depths in both digital and graphic formats. The system would be used in such a manner as to record with a sweep appropriate to the range of water depths expected in the survey area. This EA assumes the use of multibeam bathymetry systems, which may be more appropriate than other tools for characterizing those lease areas containing complex bathymetric features or sensitive benthic habitats such as hardbottom areas.
Magnetometer	Collection of geophysical data for shallow hazards and archaeological resources assessments	Magnetometer surveys would be used to detect and aid in the identification of ferrous or other objects having a distinct magnetic signature. The magnetometer sensor is typically towed as near as possible to the seafloor and anticipated to be no more than approximately 6 m (20 ft) above the seafloor. This methodology is not anticipated to be used at this time in the WEA since depths are 500 m or greater, but will be used to survey potential cable routes that will occur in depths shallower than 500 m.
Side-scan sonar	Collection of geophysical data for shallow hazards and archaeological resource assessments	This survey technique is used to evaluate surface sediments, seafloor morphology, and potential surface obstructions (MMS 2007a). A typical side-scan sonar system consists of a top-side processor, tow cable, and towfish with transducers (or "pingers") located on the sides which generate and record the returning sound that travels through the water column at a known speed. BOEM assumes that the lessee would use a digital dual-frequency side-scan sonar system with 300–500 kHz frequency ranges or greater to record continuous planimetric images of the seafloor.

Shallow and medium (seismic) penetration sub-bottom profilers	Collection of geophysical data for shallow hazards and archaeological resource assessments and to characterize subsurface sediments	Typically, a high-resolution CHIRP system sub-bottom profiler is used to generate a profile view below the bottom of the seabed, which is interpreted to develop a geologic cross-section of subsurface sediment conditions under the trackline surveyed. Another type of sub-bottom profiler that may be employed is a medium penetration system such as a boomer, bubble pulser, or impulse-type system. Sub-bottom profilers are capable of penetrating sediment depth ranges of 3 m (10 ft) to greater than 100 m (328 ft), depending on frequency and bottom composition.

CHIRP = Compressed High Intensity Radar Pulse kHz = kilohertz

Several different survey methods can be used to collect high-resolution geophysical data. Typically, these methods are based on the water depth of the survey area. However, availability of equipment may affect which survey methods are chosen. The following is a description of each of the possible decisions for these survey methods:

- Autonomous Underwater Vehicle (AUV) survey. AUV surveys consist of an autonomous (non-tethered) submersible with its own power supply and basic navigation logic. An AUV can run many geophysical sensors at once and typically would consist of a multibeam echosounder, side-scan sonar, magnetometer, and a sub-bottom profiler. AUVs also have forward looking sonar for terrain avoidance, a doppler velocity logger for velocity information, an internal navigation system for positioning, an ultra-short baseline pinger for positioning, and an acoustic modem for communication with a surface survey vessel. For single AUV operations the surface survey vessel follows the AUV, keeps in communication via the acoustic modem, provides navigation information to the AUV, and monitors the health of the AUV. During multiple AUV surveys, several AUVs are deployed at once. These AUVs run independently from the survey vessel. Navigation updates and modem communication are provided by a network of Underwater Transponder Positioning devices (UTPs). These transponders are deployed to the seabed in known locations. In both methods of operation, the survey vessel recovers, maintains, and launches the AUV(s) and UTPs (for further details, see Appendix F in the EA). A survey vessel may deploy AUVs and UTPs through a moon pool, which is a large opening through the deck and bottom of a vessel for lowering tools and instruments into the sea.

- Shallow multi-instrument towed surveys. Towed surveys typically happen in shallower waters. A survey vessel will tow side-scan sonar, magnetometers and/or gradiometers with winches to provide altitude adjustments. In addition, passive acoustic monitoring, and, if needed, medium penetration seismic can be towed from hardpoints on the vessel. The survey vessel usually has hull mounted multibeam echosounders, a sub-bottom profiler, and an ultra-short baseline system.

- Deep tow survey. Deep tow surveys use towed methodology in deep waters. The vessel uses a large winch with thousands of meters of cable to tow the survey instruments at depth. The survey instruments usually consist of a large weight (depressor) followed by a side-scan sonar, sub-bottom profiler, and potentially a multibeam echosounder. In deep waters the survey vehicle might be 8–10 km behind the survey vessel, sometimes

requiring the use of a chase vessel to provide ultra-short baseline navigation for the survey vehicle. Vessels maintain slower speeds of 0–4.5 knots when towing equipment.

- Uncrewed Surface Vessel survey. Uncrewed Surface Vessels (USV) are remote controlled vessels that are controlled by operators on shore or from another vessel. USVs can be simple with a single instrument, designed for shallow waters, and controlled by an operator that maintains visual contact with the USV. USVs can also be larger, the size of a small survey vessel, are operated over the horizon, could tow instruments, and use radar and cameras to operate safely and monitor for protected species. USVs can be electrically powered with batteries, sail/solar powered, and/or use diesel motors and generators.

Geotechnical Surveys

Geotechnical surveys are conducted to measure the physical properties of shallow sediments. These measurements are used to design anchor systems, foundations, conduct slope stability studies, determine the armor level of export cables, and determine appropriate cable burial methods. Geotechnical surveys use HRG surveys to select sites for sampling, ensure the sites are free from archaeological, geological, and benthic hazards. The samples for geotechnical evaluation are collected either by direct sampling or in-situ methods. Direct sampling usually employs a dredge or corer off a survey vessel which retrieves a sediment sample from the seabed and returns it to the deck of the vessel for further analysis. In-situ methods use a probe, that is pushed, or dropped into the seabed, and can record various properties of the sediment. Likely methods to obtain geotechnical data and estimated seabed disturbance are in Table 5**.**

The BOEM *Guidelines for Providing Geophysical, Geotechnical, and Geohazard Information* **(**BOEM 2023a) recommend high frequency sub-bottom profiler data and medium penetration seismic surveys. Medium penetration seismic systems, such as boomer, sparker, or other low frequency systems, can be used to provide information on sedimentary structures that exceed the penetrative capability of a high frequency sub-bottom system. BOEM guidance recommends collection of sedimentary structure data 10 m beyond the depth of disturbance, which may not be possible for a high frequency sub-bottom profiler system in certain sediment types (i.e., sand). Survey contractors may elect to acquire medium penetration seismic in areas that are predicted to have poor sub-bottom penetration.

BOEM anticipates that a geotechnical sample would be taken at every proposed anchor site, every anchor touchdown point, every export cable touchdown point, and every kilometer along an export cable route. An unknown number of geotechnical samples might be needed for slope stability studies. In addition, the amount of effort and number of vessel trips required to collect the geotechnical samples varies greatly by the type of technology used to retrieve the sample. Some vessels require anchoring for brief periods using small anchors; however, most deployments for this sampling work would likely involve a vessel having dynamic positioning capability (i.e., no seafloor anchoring impacts) (BOEM 2014a).

The area of seabed disturbed by individual sampling events (e.g., collection of a core or grab sample) and placement of met buoy anchors could range up to an estimated 10 m^2 (Table 5) although the maximum disturbance for many methods is less than half that area. If every sample collected results in 10 m^2 disturbance, then 1,000 samples could theoretically disturb up to

10,000 m^2 (1 ha; 2.5 acres) of seafloor in the Action Area. The number of samples is likely an overestimate. Representative surveys currently estimate closer to 100 total samples associated with each leaseholder, representing a maximum of 1,000 m^2 (0.1 ha; 0.25 acres) of seafloor disturbance. The higher estimate accounts for the complexity of the seafloor and the current state of data collection offshore Oregon. Coring done by the U.S. Geological Survey in the Oregon WEAs to date had smaller disturbance ratios, vibracore diameters were < 0.3 m and piston and gravity cores had a 0.5 m diameter casing.

Table 5: Likely Methods to Obtain Geotechnical Data, Associated Sounds, and Estimated Seabed Disturbance

Geotechnical Method	Use	Description of Equipment and Methods	Acoustic Noise	Seabed Disturbance
Dredge	Collect upper 5–10cm of sediment	**S**pring loaded dredge is lowered to the seabed by hand or with a small winch. Interaction with the seabed causes spring to release and tension on the line provides the closing force for the dredge. Useful for identifying the type of seabed sediment.	None	< 1 m^2
Box Cores	Collect undisturbed "box" of sediment up to 0.5 m x 0.5 m x 1.0 m.	A box core is lowered to the seabed by winch and penetrates the seabed, when tension is applied the box core jaws close, sealing the sample inside. Once on deck various tests can be performed. This type of equipment is also used for benthic studies.	USBL beacon for positioning.	< 4 m^2
Gravity / Piston Coring / Jumbo Piston Coring	Collect a core of sediments for analysis. 3–4" diameter, 10 m–20 m.	Coring is typically conducted off a survey vessel. Gravity coring simply uses a weighted core barrel to take a sample. Piston coring uses a trigger to drop the weighted core barrel into the seabed with a piston that attempts to preserve the seabed. A jumbo piston core is a larger piston corer with increased diameter and length.	USBL beacon for positioning.	< 4 m^2
Cone Penetrometer (CPT)	Measure several properties including tip resistance, pore water pressure, sleeve resistance, among others.	An electrically operated machine pushes a coiled rod into the seabed with a cone penetrometer at the tip. Typically deployed from survey vessels. They are winched to the seabed and remain connected to the survey vessel via umbilical for data transmission and power.	USBL beacon for positioning. Motor noises during operation.	< 10 m^2
Stinger CPT	Measure several properties including tip resistance, pore water pressure, sleeve resistance, among others.	A hydrodynamic dart with a cone penetrometor at the tip. CPT Stingers are typically deployed from survey vessels, much like a gravity core. The CPT records as the equipment embeds into the seafloor. It may then push the CPT further into the seafloor.	USBL beacon for positioning. Motor noises during operation.	< 4 m^2

Geotechnical Method	Use	Description of Equipment and Methods	Acoustic Noise	Seabed Disturbance
Vibracore	Obtain samples of unconsolidated sediment; may also be used to gather information to aid archaeological interpretation of features identified through HRG surveys (BOEM 2020a)	Vibracore samplers typically consist of a core barrel and an oscillating driving mechanism that propels the core barrel into the sub-bottom. Once the core barrel is driven to its full length, the core barrel is retracted from the sediment and returned to the deck of the vessel. Typically, cores up to 6 m long with 8 cm diameters are obtained, although some devices have been modified to obtain samples up to 12 m long (MMS 2007a; USACE 1987).	Vibrations from the motor.	< 10 m^2
Borings	Sampling and characterizing the geological properties of sediments at the maximum expected depths of the structure foundations (MMS 2007a)	A drill rig is used to obtain deep borings. The drill rig is mounted over a moon pool on a dynamically positioned vessel with active heave compensation. Geologic borings can generally reach depths of 30–61 m within a few days (based on weather conditions). The acoustic levels from deep borings can be expected to be in the low-frequency bands and below the 160 dB threshold established by NMFS to protect marine mammals (Erbe and McPherson 2017).	Vessel and drill noise.	< 10 m^2

4.4.3 Vessel Trips for Site Assessment and Site Characterization

Vessel trips anticipated for site assessment and site characterization activities were estimated based on a representative survey plan (Table 6). For metocean buoy placement, BOEM projected vessel trips based on information from the deployments of two LiDAR buoys in the Humboldt and Morro Bay WEAs offshore California (PNNL 2019). PNNL used a marine vessel, transiting at < 6 knots, to tow the Morro Bay LiDAR buoy from shore to deployment site and back to port in one day. To assist with estimating vessel trips needed for metocean buoys, BOEM followed PNNL's plans which included three vessel trips for a 12-month deployment (buoy deployment, mid-year maintenance, buoy recovery).

Vessels performing surveys or towing equipment are relatively slow moving at approximately 7.4–11.1 km/hr [4–6 kn].

Table 6: Estimated Number of Vessel Trips for Site Characterization and Site Assessment Per Lease Over a 3–5 Year Period

Survey Task	Number and Duration of Survey Days or Round Trips[1]
HRG surveys	250 (24 hrs/day)
Geotechnical sampling	50 (24 hrs/day)
Avian surveys[2]	30 to 54 (10 hrs/day)
Bat surveys[2]	30 to 54 (10 hrs/day)
Fish surveys[2]	8 to 365 (10 hrs/day)
Marine mammal and sea turtle surveys[2]	30 to 54 (10 hrs/day)
Benthic habitat surveys and sampling	50 (24 hrs/day)
Metocean buoy installation based on 6 buoys	6 (1 round trip x 6 buoys)
Metocean buoy maintenance trips (at 1 per year per buoy)	30 (6 buoys x 5 years)
Metocean buoy decommissioning	6 (1 round trip x 6 buoys)
Additional trips for maintenance/weather challenges	50
Total estimated number of days or round trips	540–969

[1] A range has been provided when data or information was available to determine an upper and lower number of round trips. Otherwise, only a maximum value was determined. Number of vessel trips are intended to be conservative estimates of survey requirements, with actual numbers likely to be lower.

[2] Biological surveys are typically done during daylight hours (10-hours). These surveys may occur at the same time from the same vessel but not concurrently with HRG surveys. Totals include vessel trips for both.

5. CONSISTENCY OF PROPOSED ACTION WITH PROVISIONS OF THE OREGON COASTAL MANAGEMENT PROGRAM

Using the Oregon Federal Consistency Portal (https://ocmp.info/federalconsistency/), provided by the State of Oregon for Federal agencies undergoing Federal consistency review, as well as frequent consultations with the Oregon DLCD, BOEM composed a comprehensive list of relevant enforceable policies. This list of enforceable policies potentially relevant to this Proposed Action is provided as **Appendix A – Enforceable Policy User Report.**

This CD evaluates the Proposed Action based on the information currently available. Some actions, programs, and proposals will need additional Federal consistency certifications in the future when lease-specific information is available. If there are modifications to the Proposed Action that are outside of the scope of the EA, supplemental coordination for proposed activities may be required under 15 CFR § 930.46. Additional Coastal Zone Management Federal consistency review will be conducted during the COP stage pursuant to 15 CFR part 930, subpart E. A lessee must provide a consistency certification with its COP stating that the proposed activities described in the COP comply with the State(s) approved coastal management program(s), will be conducted in a manner that is consistent with such program(s), and include the necessary data and information, pursuant to 15 CFR § 930.58, to support any such consistency certification.

This section of the Federal consistency determination demonstrates that the Proposed Action is consistent with the enforceable policies of the OCMP The relevant enforceable policies are listed first followed by BOEM's comment and analysis.

5.1 Statewide Planning Goals Enforceable Policies: Analysis and Comment

5.1.1 Statewide Planning Goals – Goals 1-18

Statewide Planning Goal 1: Citizen Involvement

Applicable Policy Section(s):

- To develop a citizen involvement program that ensures the opportunity for citizens to be involved in all phases of the planning process. The governing body charged with preparing and adopting a comprehensive plan shall adopt and publicize a program for citizen involvement that clearly defines the procedures by which the general public will be involved in the on-going land-use planning process. The citizen involvement program shall be appropriate to the scale of the planning effort. The program shall provide for continuity of citizen participation and of information that enables citizens to identify and comprehend the issues. Federal, state and regional agencies and special-purpose districts shall coordinate their planning efforts with the affected governing bodies and make use of existing local citizen involvement programs established by counties and cities.
- The citizen involvement program shall incorporate the following components:
    - 1. Citizen Involvement -- To provide for widespread citizen involvement. The citizen involvement program shall involve a cross-section of affected citizens in all phases of the planning process. As a component, the program for citizen involvement shall include an officially recognized committee for citizen involvement (CCI) broadly representative of geographic areas and interests related to land use and land use decisions. Committee members shall be selected by an open, well publicized public process.
    - 2. Communication -- To assure effective two-way communication with citizens.
    - 3. Citizen Influence -- To provide the opportunity for citizens to be involved in all phases of the planning process.
    - 4. Technical Information -- To assure that technical information is available in an understandable form.
    - 5. Feedback Mechanisms -- To assure that citizens will receive a response from policy-makers.
    - 6. Financial Support -- To insure funding for the citizen involvement program.
- Guidelines:
    - A. Citizen Involvement: 1. A program for stimulating citizen involvement should be developed using a range of available media (including television, radio, newspapers, mailings and meetings). 2. Universities, colleges, community colleges, secondary and primary educational institutions and other agencies and institutions with interests in land-use planning should provide information on land-use education to citizens, as well as develop and offer courses in land-use education which provide for a diversity of educational backgrounds in land-use planning. 3. In the selection of members for the committee for citizen involvement, the following selection process should be observed: citizens should receive notice they can understand of the opportunity to serve on the CCI; committee appointees should receive official notification of their selection; and

committee appointments should be well publicized.

- B. Communication: Newsletters, mailings, posters, mail-back questionnaires, and other available media should be used in the citizen involvement program.
- C. Citizen Influence: 1. Data Collection - The general public through the local citizen involvement programs should have the opportunity to be involved in inventorying, recording, mapping, describing, analyzing and evaluating the elements necessary for the development of the plans. 2. Plan Preparation – The general public, through the local citizen involvement programs, should have the opportunity to participate in developing a body of sound information to identify public goals, develop policy guidelines, and evaluate alternative land conservation and development plans for the preparation of the comprehensive land-use plans. 3. Adoption Process – The general public, through the local citizen involvement programs, should have the opportunity to review and recommend changes to the proposed comprehensive land-use plans prior to the public hearing process to adopt comprehensive land-use plans. 4. Implementation - The general public, through the local citizen involvement programs, should have the opportunity to participate in the development, adoption, and application of legislation that is needed to carry out a comprehensive land-use plan. The general public, through the local citizen involvement programs, should have the opportunity to review each proposal and application for a land conservation and development action prior to the formal consideration of such proposal and application. 5. Evaluation - The general public, through the local citizen involvement programs, should have the opportunity to be involved in the evaluation of the comprehensive land use plans. 6. Revision - The general public, through the local citizen involvement programs, should have the opportunity to review and make recommendations on proposed changes in comprehensive land-use plans prior to the public hearing process to formally consider the proposed changes.
- D. Technical Information: 1. Agencies that either evaluate or implement public projects or programs should provide assistance to the citizen involvement program. The roles, responsibilities and timeline in the planning process of these agencies should be clearly defined and publicized. 2. Technical information should include, but not be limited to, energy, natural environment, political, legal, economic and social data, and places of cultural significance, as well as those maps and photos necessary for effective planning.
- E. Feedback Mechanism: 1. At the onset of the citizen involvement program, the governing body should clearly state the mechanism through which the citizens will receive a response from the policy-makers. 2. A process for quantifying and synthesizing citizens' attitudes should be developed and reported to the general public.
- F. Financial Support: 1. The level of funding and human resources allocated to the citizen involvement program should be sufficient to make citizen involvement an integral part of the planning process.

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

At the request of former Oregon Governor Kulongoski, BOEM established an Intergovernmental Renewable Energy Task Force (Task Force) with Oregon in 2011 to facilitate coordination of offshore renewable energy planning efforts in Oregon among relevant Federal agencies and affected federally recognized Tribal, state, and local governments. Beginning in 2019, the Task Force meetings focused on the identification of potential areas for wind leasing offshore Oregon. These meetings were held on September 27, 2019; June 4, 2020; October 21, 2021; February 25, 2022; and September 18, 2023.

In partnership with DLCD, BOEM and the State of Oregon developed an outreach and engagement plan to support offshore wind planning and analysis in Oregon in 2019. BOEM and DLCD shared a Draft Outreach and Engagement Plan (Plan) with the Task Force for review and input. Following adoption of the final Plan[26] with input from the Task Force, BOEM and DLCD engaged in a collaborative, data-based offshore wind energy planning outreach process to foster coordinated and informed decisions about Oregon's shared ocean resources and the many users who depend on them.

This outreach, from June 2020 through December 2021, consisted of 75 meetings, webinars, and briefings with coastal communities, fishing communities, federally recognized Tribes, state and Federal agencies, academia and scientists, environmental NGOs, and the offshore renewable energy industry. A summary of the key findings from this outreach is contained in the *Data Gathering and Engagement Summary Report – Oregon Offshore Wind Energy Planning*,[27] published in January 2022. BOEM reviewed data and incorporated feedback from this outreach, as well as discussions with the State of Oregon, Federal partners, and Tribal Nations to delineate three proposed Call Areas offshore Oregon. The results of BOEM's outreach and discussions were used by BOEM to inform the Call for Information and Nominations published on April 29, 2022. BOEM identified the Call Areas after discussion with numerous parties and consideration of relevant information sources, including the State of Oregon, Tribal governments, the Task Force, coastal communities, and the fishing community.

On April 27, 2022, BOEM provided notice that the public comment period would begin on April 29 and invited government-to-government consultation with all federally recognized Tribes in Oregon, as well as Tribes along the northern California coast and Tribes along the Washington coast. On April 29, 2022, BOEM published the Call for Commercial Leasing for Wind Energy Development on the OCS Offshore Oregon (Call) in the Federal Register for a 60-day public comment period. BOEM received 278 unique comments and 4 nominations. Comments received on the Call are available for viewing online at regulations.gov.[28] BOEM consulted separately with the Coquille Indian Tribe and CTCLUSI in May 2022 during the Call comment period.

In response to public comments for the Call, BOEM modified its Renewable Energy Authorization Process in Oregon to include the identification of Draft WEAs with analysis from

[26] https://www.boem.gov/sites/default/files/documents/regions/pacific-ocs-region/BOEM-OR-OSW-Engagement-Plan.pdf#:~:text=The%20Data%20Gathering%20and%20Engagement,wind%20energy%20leasing%20decisions%20offshore

[27] https://www.boem.gov/sites/default/files/documents//Data%20Gathering%20and%20Engagement%20Report%20OR%20OSW%20Energy%20Planning%20January%202022.pdf

[28] https://www.regulations.gov/document/BOEM-2022-0009-0001

an ocean planning model as described in a Notice to Stakeholders[29] issued September 16, 2022. This new step in the Area Identification process increased transparency in BOEM's process and provided for additional public input. In addition, BOEM, with support from NOAA's NCCOS, conducted spatial analyses using the NCCOS Spatial Suitability Modeling tool in response to public comments.

In support of BOEM's commitment to share information on Oregon planning early with Tribal Nations, BOEM hosted a virtual inter-Tribal meeting on April 25, 2023. At this meeting, BOEM shared the results of the draft Oregon suitability model, Draft WEAs, and results of a viewshed analysis for the Draft WEAs. BOEM invited sixteen Tribes to attend this meeting, including all federally recognized Tribes in Oregon, as well as two Tribes along the northern California coast and five Tribes along the Washington coast. BOEM also invited government-to-government consultation on the Draft WEAs at that time.[30]

On June 9, 2023, two Oregon U.S. Senators, two Congressional Representatives, and Oregon Governor Tina Kotek requested the BOEM Director pause the offshore wind planning process in Oregon to further consult with Tribal Nations and stakeholders, such as coastal communities, to better identify and address local concerns. On August 08, 2023, two Senators and two Congressional Representatives also requested the BOEM Director hold a 60-day comment period for the draft Oregon WEAs. BOEM honored these requests by hosting 4 additional public meetings, 3 in-person public meetings in the coastal communities of Brookings, Gold Beach, Coos Bay, and an online fishing webinar, as well as extending the comment period an additional 15 days for a 75-day total comment period for the Draft WEAs.

During the Area ID process, BOEM considered the following non-exhaustive list of information sources:

- Draft NCCOS Report: A Wind Energy Siting Analysis for the Oregon Call Areas (Carlton et al. 2024)
- Comments received in response to the 2022 Call for Information and Nominations
- Comments received in response to the 2023 Request for Comment on the Draft WEAs
- BOEM Oregon Intergovernmental Renewable Energy Task Force meetings, including public comment at end of the meetings
- Oregon Offshore Wind Energy Planning Outreach Summary Report
- Input from Federal and State agencies
- Comments received at consultation meetings and written comments from federally recognized Tribes
- State renewable energy goals
- Domestic and global offshore wind market and technological trends
- OROWindMap data and information

[29] https://www.boem.gov/newsroom/notes-stakeholders/boem-enhances-its-processes-identify-future-offshore-wind-energy-areas

[30] Oregon Tribes (CTCLUSI, Coquille Indian Tribe, Burns Paiute Tribe, Cow Creek Band of Umpqua Tribe of Indians, Confederated Tribes of the Grand Ronde Community of Oregon, Klamath Tribe, Confederated Tribes of Siletz Indians, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs); Washington Tribes (Makah Tribe, Hoh Tribe, Quinault Indian Nation, Shoalwater Bay Indian Tribe, Quileute Tribe); California Tribes (Elk Valley Rancheria, Tolowa Dee-ni` Nation)

On August 15, 2023, BOEM published a Notice of Draft WEAs which was available for review and comment on www.regulations.gov.[31] BOEM also notified over eighty federally recognized West Coast Tribes[32] of the Draft WEAs and invited government-to-government consultation. Draft methods and results of the spatial suitability analyses summarized in a Draft Report*: A Wind Energy Siting Analysis for the Oregon Call Areas* were also published online in August 2023.

BOEM received approximately 1,150 comments in response, including submissions from Tribal governments; private citizens; Federal, state, and local government agencies; environmental and other advocacy groups; industry groups; and wind developers. A *Summary of Comments* received in response to the RFC is in Appendix A of the Area ID Memo found at: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20A_Summary%20of%20Comments.pdf.

On February 13, 2024, BOEM released the Announcement of Area Identification Memorandum, which documents the analysis and rationale in support of the recommended designation of two WEAs offshore Oregon for environmental analysis and consideration for leasing.

To address issues that resulted from public engagement and analysis of the Draft WEAs, BOEM recommended changes to the size of the Final WEAs, including accommodation of scientific surveys. For the Final WEAs, the Draft WEA Coos Bay was retained while the southern boundary of the Brookings WEA was modified with removal of the bottom three rows of aliquots of the Draft WEA to preserve NMFS fixed, long-term sampling stations and surveys, and be protective of sensitive seafloor habitat.

Statewide Planning Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces

Applicable Policy Section(s):

- Implementation: 4. Fish and wildlife areas and habitats should be protected and managed in accordance with the Oregon Wildlife Commission's fish and wildlife management plans.

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable*.

Under 30 CFR § 585.701, the lessee must not conduct any activity under the lease or grant that may affect threatened or endangered species or that may affect designated critical habitat of such species until the appropriate level of consultation is conducted, as required under the ESA, as amended (16 U.S.C. 1§§ 531 *et seq.*), to ensure that actions are not likely to jeopardize a

[31] https://www.regulations.gov/document/BOEM-2023-0033-0001

[32] To ensure awareness and participation of any Tribe along the West Coast that may have an interest in offshore wind energy, BOEM extended its invitation to Tribes along the West Coast and did not confine its invitation to Tribes more closely tied to the areas of the WEAs.

threatened or endangered species and are not likely to destroy or adversely modify designated critical habitat.

If there is reason to believe that a threatened or endangered species may be present while the lessee conducts BOEM-approved activities or may be affected by the direct or indirect effects of the actions or if there is reason to believe that designated critical habitat of a threatened or endangered species may be affected, the lessee must notify BOEM. BOEM will consult with appropriate State and Federal fish and wildlife agencies and, after consultation, shall identify whether, and under what conditions, the lessee may proceed (30 CFR § 585.701).

Additionally, Section 7(a)(2) of the ESA requires each Federal agency to ensure that any action that they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the adverse modification of designated critical habitat. To satisfy its ESA obligations, BOEM consults with NMFS and USFWS regarding potential impacts to listed species and designated critical habitat under the jurisdiction of the Services.

BOEM will request consultation under the ESA with NMFS on the Proposed Action expected to occur in the lease areas and project easements that extend from the Oregon OCS through State waters to the onshore energy grid. If the lessee intends to design and conduct biological or other surveys to support offshore renewable energy plans that could interact with ESA-listed species, the surveys must be within the scope of activities described in forthcoming ESA consultations, or the lessee must consult further with BOEM and the Services. Additional time should be allowed for consultation and/or permits authorizing proposed activities which are outside of the scope of existing consultations/authorizations.

To ensure compliance with the MMPA, per BOEM regulation 30 CFR§ 585.701(b), BOEM will require that lease holders must not conduct any activity under their lease that may result in an incidental taking of marine mammals until the appropriate authorization has been issued under the MMPA of 1972 as amended (16 U.S.C. §§ 1361 et seq.).

Operators in the OCS will incorporate BMPs to minimize or eliminate potential effects from site assessment and site characterization activities to protected marine mammal and sea turtle species, including vessel strike avoidance measures, visual monitoring, and shutdown and reporting (see Appendix D of the Oregon EA). These practices have been developed through years of conventional energy operations and refined through BOEM's renewable energy program, updated scientific data, and consultations with NMFS. All survey plans and SAPs will be reviewed by BOEM to ensure inclusion of appropriate BMPs.

The lessee must comply with the BMPs identified by BOEM through its ESA consultation process, as well as those prescribed by any relevant authorization under the MMPA (see Appendix D of the Oregon EA). These measures may be updated as a result of statutory, regulatory, or other consultation processes, including but not limited to consultation under the ESA or the MMPA. BOEM will provide up-to-date information at the pre-survey meeting, during survey plan review, or at another time prior to survey activities as requested by the lessee.

Additionally, the Magnuson-Stevens Fishery Conservation and Management Act (as amended) requires Federal agencies to consult with NMFS regarding actions that may adversely affect

designated Essential Fish Habitat (EFH). This consultation is ongoing and will be completed concurrent with the EA. The assessment relies on formal EFH descriptions for managed species provided by the PFMC (PFMC 2022a,b; 2023a,b). BOEM will combine the consultation for fishes and invertebrates listed under the ESA with the EFH consultation and will communicate with the NMFS Oregon Coastal Office regarding ESA-listed species.

BOEM's regulatory authority is limited to the OCS, and therefore BOEM cannot approve site assessment or characterization activities in State waters or onshore areas. Per BOEM's commercial wind energy lease, the lessee must conduct, and agrees to conduct, all activities in the leased area and project easement(s) in accordance with an approved SAP or COP, and with all applicable laws and regulations. Additionally, BOEM's lease includes the following stipulation regarding an Agency Communications Plan (ACP). Per the lease stipulation, the lessee must develop a publicly available ACP that describes the strategies that the lessee intends to use for communicating with Federal, state, and local agencies (including harbor districts) with authority related to the Lease Area and should outline specific methods for engaging with and disseminating information to these agencies. The lease also states that the ACP should include detailed information and protocols for regular engagement with permitting, planning, and resource agencies and that the lessee must provide the ACP to the lessor and other permitting, planning, and resource agencies with authority related to the Lease Area for review and comment and host a meeting with the lessor and all interested agencies to discuss the ACP. In addition to other requirements, the lessee must invite agencies with planning and/or permitting roles and/or resource expertise to participate in the ACP.

Therefore, any consistency in activities with the Oregon Wildlife Commission's fish and wildlife management plans may be coordinated with the lessee during and throughout the development and implementation of the ACP.

Statewide Planning Goal 6 (OAR 660-015-0000(6)): Air, Water and Land Resources Quality

Applicable Policy Section(s):

- To maintain and improve the quality of the air, water and land resources of the state.
    - All waste and process discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules and standards. With respect to the air, water and land resources of the applicable air sheds and river basins described or included in state environmental quality statutes, rules, standards and implementation plans, such discharges shall not (1) exceed the carrying capacity of such resources, considering long range needs; (2) degrade such resources; or (3) threaten the availability of such resources.
    - Waste and Process Discharges -- refers to solid waste, thermal, noise, atmospheric or water pollutants, contaminants, or products therefrom. Included here also are indirect sources of air pollution which result in emissions of air contaminants for which the state has established standards.

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable*.

Trash and Debris

Site characterization activities may generate trash comprising paper, plastic, wood, glass, and metal. Most trash is associated with galley and offshore food service operations. However, over the last several years, companies operating offshore have developed and implemented trash and debris reduction programs and improved handling practices to reduce the amount of offshore trash that could potentially be lost into the marine environment. These trash management practices include substituting paper and ceramic cups and dishes for those made of Styrofoam, recycling offshore trash, and transporting and storing supplies and materials in bulk containers when feasible, and have resulted in a reduction of accidental loss of trash and debris. In addition, all authorizations for shipboard surveys would include guidance for marine debris awareness. The guidance would be similar to the Bureau of Safety and Environmental Enforcement's (BSEE) Notice to Lessees (NTL) No. 2015-G03 ("Marine Trash and Debris Awareness and Elimination") or any NTL that supersedes this NTL. Therefore, the amount of trash and debris dumped offshore would be expected to be minimal, as only accidental loss of trash and debris is anticipated, given that vessel operators are required to comply with pollution regulations outlined in 33 CFR § 151.51-77. Therefore, any impacts from trash and debris, generated by site characterization vessels or sampling and other site characterization related activities, would be negligible. Appendix D of the EA provides BMPs to Minimize Marine Trash and Debris. Additionally, BOEM places stipulations in leases for standard operating conditions for marine trash and debris prevention.

For additional reference to this policy, see the **Oregon EA** (**Section 3.5.1 Impacts of the Proposed Action [Coastal and Marine Birds]).**

Air Quality

The Proposed Action's primary potential areas of impact on the air quality would be in onshore areas corresponding to the Coos Bay WEA (Coos County) and the Brookings WEA (Curry County). The western coastal areas of Douglas, Lane, and Lincoln counties also have the potential to be impacted, depending on wind velocity and vessel activity.

Air pollutants can be classified as criteria pollutants, hazardous air pollutants (HAPs), and greenhouse gases. The criteria pollutants are carbon monoxide (CO), lead, ground-level ozone, particulate matter (PM), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2), which are all regulated under the health-based National Ambient Air Quality Standards (NAAQS). HAPs are those pollutants that are known to cause cancer or other serious health effects. These pollutants are frequently associated with specific industries or equipment, for example, benzene from oil and gas operations. GHGs are gases that trap heat in the atmosphere. The primary GHGs are carbon dioxide (CO_2), methane, and nitrous oxide. Fossil fuel combustion represents the vast majority of the energy-related GHG emissions, with CO_2 being the primary GHG (EPA 2022). In contrast to the NAAQS and HAPs contaminants, which have more local impacts, GHGs have a global impact.

When the monitored pollutant levels in an area exceed the NAAQS for any pollutant, the area is classified as being in "nonattainment" for that pollutant. The Federal and State attainment status for Coos, Brookings, Douglas, Lane, and Lincoln counties NAAQS contaminants is found at 40 CFR 81.338. None of the potential areas of impact are classified as nonattainment for any NAAQS criteria pollutants. The U.S. Environmental Protection Agency (USEPA) has air quality permitting jurisdiction over sources on the OCS offshore Oregon. The Oregon Department of Environmental Quality has air quality permitting jurisdiction over Oregon State waters (with the exception of areas covered by the Lane Regional Air Protection Agency).

The primary air contaminants emitted are CO, NO_2, SO_2, fine particulate matter ($PM_{2.5}$), and GHGs, though these emissions would be generated in negligible quantities due to the size and limited number of emissions sources. Marine diesel and lube oils, to a lesser degree due to their low volatility, are also potential contaminants.

CO, NO_2, SO_2, and PM are criteria pollutants that are regulated under the NAAQS, which are health-based standards. Marine diesel and lube oils may contain HAPs, primarily benzene, and have adverse human health effects; they are also hydrocarbons, which, if volatilized, become precursors of photochemical smog (i.e., ozone, another NAAQS contaminant). NO_2, in the presence of sunlight, is also an ozone precursor. The primary GHG emitted is carbon dioxide. CO_2 traps heat in the atmosphere and creates adverse impacts such as climate change, ocean acidification, and sea level rise.

Vessel activity will primarily take place between 30 and 50 mi offshore and, if there are multiple leases granted, survey activity may not occur simultaneously. Truck and locomotive activity might occur if either is needed to transport parts and equipment to the staging area. The emissions from these activities are expected to be insignificant due to their short-term nature.

Emissions will mix in the ambient atmosphere, be quickly dissipated, and will be indistinguishable from the emissions created by other daily vessel traffic offshore Coos, Curry, Douglas, Lane, and Lincoln counties.

Survey vessels and ancillary equipment emit a variety of air pollutants, including NO_2, SO_2, PM, volatile organic compounds, CO, and GHGs. The air emissions from this Proposed Action are anticipated to be primarily from the survey vessels' propulsion engines and engines that power ancillary equipment. Lesser amounts of air pollutants may be emitted from trucks, locomotives, and goods-movement equipment if they are used to transport equipment and personnel to the project staging area.

The GHG emissions from the Proposed Action will be from marine vessels conducting surveys and while this level of emissions would be additive to the global inventory, it is not expected to have any measurable impacts on the local environment.

BOEM requires lessees to adhere to all appropriate Federal, State, and local air quality regulations and obtain any applicable permits.

Once a COP has been submitted by a lessee, BOEM will review potential impacts to air quality offshore wind development. BOEM depends upon the EPA's air quality districts for the State of

Oregon to determine effects upon air quality. For more information on the EPA's plan for the State of Oregon, visit the EPA's website at: https://www.epa.gov/air-quality-implementation-plans/epa-approved-regulations-oregon-sip.

For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.2, Air Quality**).

Water Quality

Most met buoys do not contain petroleum. However, the vessels used to place the me t buoys may utilize petroleum and BOEM requires any such vessels to comply with the U.S. Coast Guard (USCG) spill prevention requirement and to comply with 33 CFR Parts 151, 154, and 155, which contain guidelines for spill response plans and shipboard oil pollution emergency plans. Further, in the event of a spill, it would be expected to be small, to dissipate rapidly and then evaporate and biodegrade within a day or two, limiting the potential impacts to a localized area for a short duration.

All vessels are required to comply with the discharge requirements under Section 402 of the Clean Water Act and the level of additional vessel traffic associated with site assessment and site characterization activities will not result in changes to water quality. The U.S. Army Corps of Engineers (USACE) Nationwide Permit (NWP) Program was developed to streamline the evaluation and approval process for certain types of activities that have only minimal impacts on the aquatic environment that require USACE permits for discharge of dredged or fill material under Section 404 of the Clean Water Act and/or for Section 10 of the Rivers and Harbors Act of 1899. Met buoys would likely qualify for USACE general permits. Short-term and localized resuspension of seafloor sediment into the water column resulting from core and grab sampling is not expected to result in any lasting impact to water or sediment quality in either the WEA or along any surveyed projected transmission cable route.

For additional reference to this policy, see the **Oregon EA (Section 2.7, Offshore Activities and Resources Eliminated from Further Consideration (Water Quality); Appendix A – Resources Eliminated from Detailed Consideration, and Assessment of Resources with Negligible Impacts; Appendix B – Current and Reasonably Foreseeable Planned Actions).**

Noise

Noise – Marine and Coastal Habitats

Noise from HRG surveys and project vessels may alter fish behavior within the WEAs but the effect would be temporary and is not expected to affect viability of regional populations. Noise impacts from HRG surveys and project vessels to EFH and fishes would be minimal and temporary in duration.

Noise – Marine Mammals and Sea Turtles

The potential impacts for marine mammals and sea turtles associated with the Proposed Action include noise from HRG and geotechnical surveys. The assessment of potential hearing effects in marine mammals is based on NMFS' technical guidance for assessing acoustic impacts, defined

as Permanent Threshold Shift (PTS) and Temporary Threshold Shift (TTS) (NMFS 2018). PTS results in permanent hearing loss while TTS is a temporary loss in hearing function related to the exposure level and durations.

Using physical criteria about various HRG sources, such as source level, transmission frequency, directionality, beamwidth, and pulse repetition rate, Ruppel et al (2022) divided marine acoustic sources into four tiers that could inform regulatory evaluation. Tier 4 includes most high resolution geophysical, oceanographic, and communication/tracking sources, which are considered unlikely to result in incidental take of marine mammals and therefore termed *de minimis*. The majority of acoustic sources under this Proposed Action fall into this *de minimis* category, as evidenced in the analysis below. BMPs (Appendix D of the EA) are therefore applicable to only those acoustic sources that are shown to present a risk of disturbance to protected species, i.e., CHIRP sub-bottom profilers, boomers, sparkers, and MBES operating below 160 kHz.

For marine mammal species expected to occur in the Proposed Action Area, PTS distances are generally small ranging from 0 to 47 m (0 to 154 ft). The largest possible PTS distance is 251.4 m (825 ft) for porpoise species, only when the 100 kHz multibeam echosounder is used. However, this range is likely an overestimate since it assumes the unit is operated in full power mode and that it is an omnidirectional source. Additionally, the range does not take the absorption of sound over distance into account.

PTS exposure thresholds (calculated for 204 cSEL and 23 dB peak criteria) (U.S. Navy 2017) are higher for sea turtles than for marine mammals. Based on the PTS exposure thresholds for sea turtles, HRG sound source levels are not likely to result in PTS. The predicted distances from these mobile sound sources indicate the sound sources are transitory and have no risk of exposure to levels of noise that could result in PTS for sea turtles (NMFS 2021).

Potential for disturbance: Using the same sound sources as for the PTS analysis, the disturbance distances to 160 dB re 1 µPa RMS for marine mammals and 175 dB re 1 µPa RMS for sea turtles were calculated using a spherical spreading model (20 LogR). These results describe maximum disturbance exposures for protected species to each potential sound source.

The disturbance distances depend on the equipment and the species present. The range of disturbance distances for all protected species expected to occur in the Proposed Action Area is from 40 to 502 m (131 to 1,647 ft), with sparkers producing the upper limit of this range. Disturbance distances to protected species are conservative, as explained above, and any behavioral effects will be intermittent and short in duration.

Geotechnical surveys (vibracores, piston cores, gravity cores) related to offshore renewable energy activities are typically numerous, but brief, sampling activities that introduce relatively low levels of sound into the environment. General vessel noise is produced from vessel engines and dynamic positioning to keep the vessel stationary while equipment is deployed, and sampling is conducted. Recent analyses of the potential impacts to protected species exposed to noise generated during geotechnical survey activities determined that effects to protected species from exposure to this noise source are extremely unlikely to occur (NMFS 2021).

BOEM recommends lessees incorporate BMPs into their SAPs and COPs to minimize any potential impacts. These have been developed through years of conventional energy operations and refined through BOEM's renewable energy program and consultations with NMFS, including vessel strike avoidance BMPs, visual monitoring, and shutdown and reporting. These BMPs, will minimize or eliminate potential effects from site assessment and site characterization activities to protected marine mammal and sea turtle species [and others], are listed in Appendix D of the EA.

BOEM places stipulations in leases that protect the environment during the proposed activities, including stipulations resulting from consultations required under other Federal statutes (Appendix D of the EA). Due to these stipulations and the nature of the proposed activities, the impacts to critical habitat and protected marine mammal and sea turtle species from site assessment and site characterization activities related to noise from HRG and geotechnical surveys are anticipated to be negligible.

Active Acoustic Sound Sources – Coastal and Marine Birds

The primary potential for impact to marine and coastal birds from active acoustic sound sources is to marine birds and waterfowl that dive below the water surface and are exposed to underwater noise (Turnpenny and Nedwell 1994), including the Marbled Murrelet as well as other alcids, loons, cormorants, storm-petrels, shearwaters, petrels, grebes, and sea ducks.

Only those species that dive are at risk of exposure to active acoustic sound sources since pulses are directed downward and are highly attenuated near the surface. In addition, active acoustic sound sources such as side-scan sonar and sub-bottom profilers are highly directive (e.g., downward, toward the seafloor), with beam widths as narrow as a few degrees; this directivity and narrow beam width also diminishes the risk to bird species other than diving species. Because of these factors, other species of seabirds, waterfowl, and shorebirds would not be affected by active acoustic sound sources.

Investigations into the effects of acoustic sound sources on seabirds are extremely limited; however, studies performed by Stemp (1985) and Lacroix et al. (2003) did not observe any mortality to the several species of seabirds studied when exposed to seismic survey noise. Further, they did not observe any differences in distribution or abundance of those same species as a result of HRG survey activity. Based on the directionality of the sound and the low frequency equipment used for HRG surveys, it is expected that there would be no mortality or life-threatening injury and little disruption of behavioral patterns or other non-injurious effects to any diving marine birds or waterfowl from this acoustic impact, resulting in a negligible impact.

Underwater Noise – Coastal and Marine Birds

The sound generated from individual vessels can contribute to overall ambient noise levels in the marine environment on variable spatial scales. The survey vessels would contribute to the overall noise environment by transmitting noise through both air and water. Underwater noise produced by vessels is a combination of narrow-band (tonal) and broadband sound. The underwater noise generated from the survey vessels would dissipate prior to reaching the coastline and the shore/beach habitats of shorebirds, including the threatened Western Snowy Plover. Because of

the dissipation of underwater noise from survey vessels prior to reaching the shore/beach habitat, it is expected that underwater noise would produce negligible impacts to shorebird species, including the Western Snowy Plover.

Some marine birds—including gulls, terns, pelicans, albatrosses, shearwaters, and petrels, as well as the endangered Short-tailed Albatross and Hawaiian Petrel—either rest on the water surface, skim the water surface, or shallow-dive for only short durations. Because of these behaviors, members of these families would not come in contact with underwater vessel and equipment noise generated from HRG survey vessels, or the contact would be for such a short time that it would result in little disruption of behavioral patterns or other non-injurious effects. Therefore, impacts to these marine birds (including the Short-tailed Albatross, and Hawaiian Petrel) from vessel and equipment noise would be negligible.

Diving marine birds and waterfowl—including the Marbled Murrelet as well as alcids, loons, grebes, cormorants, storm-petrels, shearwaters, petrels, and sea ducks—could be susceptible to underwater noise generated from HRG survey vessels and equipment. Site assessment-related surveys typically use a single vessel. This level of vessel activity per survey event is not a significant increase in the existing vessel and equipment noise, the vessels are typically moving at slow speeds, and noise levels dissipate quickly with distance from the vessel. Therefore, impacts of underwater noise from survey vessels to the Marbled Murrelet and other diving marine birds and waterfowl are expected to be negligible.

Disturbance to Nesting or Roosting – Coastal and Marine Birds

There is the potential for impact to marine and coastal birds from the potential disturbance of breeding colonies by airborne noise from vessels and equipment (Turnpenny and Nedwell 1994). Most marine and coastal bird species nest and roost along the shore and on coastal islands. Survey vessels for renewable energy projects are expected to make daily round trips to their shore base.

If a vessel approached too close to a breeding colony, vessels could cause a disturbance to breeding birds, with the potential to adversely affect egg and nestling mortality. Surveys would not occur close enough to land to affect marine and coastal bird breeding colonies during survey activities. However, survey vessels are anticipated to transit from a shore base to offshore and return daily. The expectation is that this daily vessel transit would occur at one of the shore bases identified or at other established ports, which have established transiting routes for ingress and egress in the coastal areas and existing vessel traffic. Because of this existing vessel traffic, it is not anticipated that marine and coastal birds would roost in adjacent areas, or if they did already roost nearby, the addition of survey vessels would not significantly increase the existing vessel traffic such that there would be any noticeable effect. In addition, noise generated from the survey vessels and equipment would typically dissipate prior to reaching the coastline and the nesting habitats of coastal birds. Impacts of airborne vessel and equipment noise to nesting or roosting marine and coastal birds would be negligible.

Disturbance to Feeding or Modified Prey Abundance – Coastal and Marine Birds

Survey vessel and equipment noise could cause pelagic bird species, including gulls, terns,

jaegers, alcids, pelicans, storm-petrels, albatrosses, shearwaters, and petrels, to be disturbed by the survey vessel and equipment noise and relocate to alternative areas, which could result in a localized, temporary displacement and disruption of feeding. However, it is expected that if these species temporarily moved out of the area, it would be limited to a small portion of a bird's foraging range, and it would be unlikely that this temporary relocation would affect foraging success. Therefore, any potential impacts to pelagic birds from disturbance associated with vessel and equipment noise would be negligible.

BOEM anticipates that aerial surveys could be used for marine mammal or avian species. Surveys are done to avoid species disturbance and to maximize the identification and count of those species. Surveys would not be conducted during periods of reduced visibility conditions, as flying at low elevations would pose a safety risk during storms.

Potential impacts to marine and coastal birds from aircraft traffic include noise disturbance and collision. Noises generated by project-related survey aircraft that are directly relevant to birds include airborne sounds from passing aircraft for both individual birds on the sea surface and birds in flight above the sea surface. Both helicopters and fixed-wing aircraft generate noise from their engines, airframe, and propellers. The dominant tones for both types of aircraft are generally below 500 Hz (Richardson et al. 1995) and are within the airborne auditory range of birds. Aircraft noise entering the water depends on aircraft altitude, the aspect (direction and angle) of the aircraft relative to the receiver, and sea surface conditions. The level and frequency of sounds propagating through the water column are affected by water depth and seafloor type (Richardson et al. 1995). Because of the expected airspeed (250 km/hr [135 kn]), noise generated by survey aircraft is expected to be brief in duration, and birds may return to relaxed behavior within 5 minutes of the overflight (Komenda-Zehnder et al. 2003); however, birds can be disturbed up to 1 km (0.6 mi) away from an aircraft (Efroymson et al. 2000).

The physical presence of low-flying aircraft can disturb marine and coastal birds, including those on the sea surface as well as in flight. Behavioral responses to flying aircraft include flushing the sea birds into flight or rapid changes in flight speed or direction. These behavioral responses can cause collision with the survey aircraft. However, Efroymson et al. (2000) reported that the potential for bird collision decreases for aircrafts flying at speed greater than 150 km/h.

BOEM assumes less than 10 and possibly no aerial surveys could be conducted. Considering the relatively low numbers of aerial surveys that might be undertaken, along with the short duration of potential exposure to aircraft-related noise, physical disturbance, and potential collision to marine and coastal birds, it is expected that potential impacts from this activity would range from negligible to minor.

Metocean Buoys – Coastal and Marine Birds

Noise and other disturbance generated by the installation or decommissioning of met buoys are expected to be short-term and localized, resulting in negligible impacts to birds.

Noise – Commercial Fishing

Impacts to fish from met buoy installation, HRG and geotechnical surveys, and vessel operations

associated with the Proposed Action will be localized and short-term. Impacts are expected to last for the duration of the activities that are producing the noise and are not expected to have long-lasting consequences. Fish species capable of sensing the introduced noise may alter their behavior and leave the affected area temporarily. BOEM anticipates further investigation to all these anthropogenic noise sources in preparation for future environmental review of a COP.

For additional reference to this policy, see the **Oregon EA (Section 3.3.2 Impacts of the Proposed Action [Marine and Coastal Habitats and Associated Biotic Assemblages], Section 3.4.2 Impacts of the Proposed Action [Marine Mammals and Sea Turtles]), Section 3.5.2 Impacts of the Proposed Action [Coastal and Marine Birds], and Section 3.7.2 Impacts of the Proposed Action [Commercial Fishing]).**

Statewide Planning Goal 16: Estuarine Resources

Applicable Policy Section(s):

- Implementation Requirements: 1. Unless fully addressed during the development and adoption of comprehensive plans, actions which would potentially alter the estuarine ecosystem shall be preceded by a clear presentation of the impacts of the proposed alteration. Such activities include dredging, fill, in-water structures, riprap, log storage, application of pesticides and herbicides, water intake or withdrawal and effluent discharge, flow-lane disposal of dredged material, and other activities which could affect the estuary's physical processes or biological resources.
- State agencies with planning, permit, or review authorities affected by this goal shall review their procedures and standards to assure that the objectives and requirements of the goal are fully addressed. In estuarine areas the following authorities are of special concern:
    - Division of State Lands Fill and Removal Law ORS 541.605-541.665
    - Mineral Resources ORS 273.551; ORS 273.775 - 273.780
    - Submersible and Submerged Lands ORS 274.005 – 274.940
    - Economic Development Department Ports Planning ORS 777.835
    - Water Resources Department Appropriation of Water ORS 37.010-537.990; ORS 543.010-543.620
    - Department of Geology and Mineral Industries Mineral Extraction ORS 520.005
    - Oil and Gas Drilling ORS 520.095
    - Department of Forestry Forest Practices Act ORS 527.610-527.730
    - Department of Energy Regulation of Thermal Power and Nuclear Installation ORS 469.300469.570
    - Department of Environmental Quality Water Quality ORS 468.700-468.775
    - Sewage Treatment and Disposal Systems ORS 454.010-454.755

Analysis and Comment:

Determination of BOEM activities: *Not applicable*.

BOEM's regulatory authority is limited to the OCS, and therefore BOEM cannot approve site assessment or characterization activities in State waters or onshore areas. Per BOEM's commercial wind energy lease, the lessee must conduct, and agrees to conduct, all activities in

the leased area and project easement(s) in accordance with an approved SAP or COP, and with all applicable laws and regulations. Additionally, BOEM's lease includes the following stipulation regarding an ACP. Per the lease stipulation, the lessee must develop a publicly available ACP that describes the strategies the lessee intends to use for communicating with Federal, state, and local agencies (including harbor districts) with authority related to the Lease Area and should outline specific methods for engaging with and disseminating information to these agencies. The lease also states that the ACP should include detailed information and protocols for regular engagement with permitting, planning, and resource agencies and that the lessee must provide the ACP to the lessor and other permitting, planning, and resource agencies with authority related to the Lease Area for review and comment and host a meeting with the lessor and all interested agencies to discuss the ACP. In addition to other requirements, the lessee must invite agencies with planning and/or permitting roles and/or resource expertise to participate in the ACP.

Therefore, any of the following permits, as applicable, may be coordinated with the lessee during and throughout the development and implementation of the ACP: Division of State Lands Fill and Removal Law ORS 541.605-541.665; Mineral Resources ORS 273.551; ORS 273.775 - 273.780; Submersible and Submerged Lands ORS 274.005 – 274.940; Economic Development Department Ports Planning ORS 777.835; Water Resources Department Appropriation of Water ORS 37.010-537.990; ORS 543.010-543.620; Department of Geology and Mineral Industries Mineral Extraction ORS 520.005; Oil and Gas Drilling ORS 520.095; Department of Forestry Forest Practices Act ORS 527.610-527.730; Department of Energy Regulation of Thermal Power and Nuclear Installation ORS 469.300469.570; Department of Environmental Quality Water Quality ORS 468.700-468.775; and Sewage Treatment and Disposal Systems ORS 454.010-454.755.

Statewide Planning Goal 17: Coastal Shorelands

Applicable Policy Section(s):

- Identification of Coastal Shorelands; definition of coastal shorelands.
    - 4. **Areas of significant shoreland and wetland biological habitats** whose habitat quality is primarily derived from or related to the association with coastal water areas
    - 6. **Areas of exceptional aesthetic or scenic quality**, where the quality is primarily derived from or related to the association with coastal water areas
- Coastal shoreland Uses: Protection for significant areas and allowed uses.
    - Coastal Shoreland Uses 1. Major marshes, **significant wildlife habitat,** coastal headlands, and **exceptional aesthetic resources** inventoried in the Identification Section, **shall be protected**. Uses in these areas shall be consistent with protection of natural values.
- Implementation Requirement: 3. Coastal shorelands identified under the Estuarine Resources Goal for dredged material disposal shall be protected from new uses and activities which would prevent their ultimate use for dredged material disposal.

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

Intertidal and Coastal Habitats

Defined as the interface beween terrestrial and marine zones, two types of intertidal habitats exist: soft sediments (e.g., sandy and cobble beaches, mudflats) and hard substrate (e.g., rock outcrops, human-made structures such as rock walls). The coastal zone is defined in this document as benthic and water column habitats and species that reside seaward of intertidal habitats out to the Federal-State waters delineation point (3 nm from shore). Key references that summarize details concerning regional coastal habitats are described by Kaplan et al. (2010). Special coastal features include kelp forests, seagrasses, and estuaries all of which are also desginated as Habitat Areas of Particular Concern for Pacific Coast Groundfish.

Impacts to benthic resources in coastal and intertidal habitats are not expected for site assessment and site characterization activities. Any impacts that could occur would be from accidental events, such as vessel grounding or collision. Impacts to fishes and EFH may occur from noise generated by project vessels and potential introduction of non-native species from non-local project vessels. These potential effects are not expected to affect viability of regional populations or cause long-lasting damage to habitats.

Public comments on the Draft WEAs suggested the exclusion of seafloor areas that could potentially have hard substrate, chemosynthetic communities, or other unique and fragile habitats. Should a lease sale proceed, BOEM will require extensive, high-resolution habitat mapping and data collection as described in the 30 CFR part 585, BOEM's guidance, and potential future lease stipulations. Avoidance or mitigation strategies will be developed and reviewed with the submission of a COP, prior to BOEM's decision to approve, approve with modification, or not approve.

For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.3.1.3, Intertidal and Coastal Habitats**).

For Implementation Requirement related to coastal shorelands identified under the Estuarine Resources Goal for dredged material disposal, refer to the previous analysis and comment provided in Statewide Planning Goal 16 Estuarine Resources.

BOEM's regulatory authority is limited to the OCS, and therefore BOEM cannot approve site assessment or characterization activities in State waters or onshore areas. Per BOEM's commercial wind energy lease, the lessee must conduct, and agrees to conduct, all activities in the leased area and project easement(s) in accordance with an approved SAP or COP, and with all applicable laws and regulations. Additionally, BOEM's lease includes the following stipulation regarding an ACP. Per the lease stipulation, the lessee must develop a publicly available ACP that describes the strategies the lessee intends to use for communicating with Federal, state, and local agencies (including harbor districts) with authority related to the Lease Area and should outline specific methods for engaging with and disseminating information to these agencies. The lease also states that the ACP should include detailed information and protocols for regular engagement with permitting, planning, and resource agencies and that the lessee must provide the ACP to the lessor and other permitting, planning, and resource agencies with authority related to the Lease Area for review and comment and host a meeting with the lessor and all interested agencies to discuss the ACP. In addition to other requirements, the lessee

must invite agencies with planning and/or permitting roles and/or resource expertise to participate in the ACP.

The State Territorial Sea section of the *Oregon Renewable Energy Siting Assessment (ORESA) Supporting Materials Report* discusses the processes for permitting projects within the state's jurisdiction. State permits to be obtained prior to activities in state waters may include any, some, or all of the following: Ocean shores permit issued by the Oregon Parks and Recreation Department (OPRD), 401 Water Quality Certification issued by the Oregon Department of Environmental Quality (DEQ), CZMA Consistency Certification provided by DLCD, Removal/Fill Permit issued by the Oregon Department of State Lands (DSL), and Temporary Use Authorization or Ocean Renewable Energy Facility Lease through DSL. Federal permits to be obtained prior to activities in state waters may include: USACE permits, NOAA NMFS permits, USFWS permits, and Federal Energy Regulatory Commission (FERC) applicable permits. Additionally, the authority for issuing permits at the county-level is established in Oregon Revised Statutes (ORS) Chapter 215. In addition to the general authority to govern land use that is conferred upon counties, there are specific statutes that apply to renewable energy facilities within ORS Chapter 215. The Oregon Renewable Energy Siting Assessment Supporting Materials Report can be found at: https://www.oregon.gov/energy/energy-oregon/Documents/2022-ORESA-Procedures-Report.pdf.

Additional Coastal Zone Management Federal consistency review will be conducted during the COP stage pursuant to 15 CFR part 930, subpart E. A lessee must provide a consistency certification with its COP stating that the proposed activities described in the COP comply with the State(s) approved coastal management program(s), will be conducted in a manner that is consistent with such program(s), and include the necessary data and information, pursuant to 15 CFR § 930.58, to support any such consistency certification.

Altered Viewsheds

Visual effects on onshore cultural resources from meteorological structures, and vessel traffic associated with surveys and structure construction, which most likely would not be distinguishable from existing vessel traffic, are expected to be negligible and temporary in nature. No impacts from changes in ocean and coastal viewsheds are anticipated for site assessment and characterization activities.

For additional information of the viewshed impacts and how the Proposed Action complies with this policy, see the **Oregon EA (Section 3.10.2.5 Altered Viewsheds [Tribes and Tribal Resources]).**

Statewide Planning Goal 18: Beaches and Dunes

Applicable Policy Section(s):

- Implementation Requirements:
    - 1. Local governments and state and federal agencies shall base decisions on plans, ordinances and land use actions in beach and dune areas, other than older stabilized dunes, on specific findings that shall include at least: (a) The type of use proposed and the adverse effects it might have on the site and adjacent areas;

(b) Temporary and permanent stabilization programs and the planned maintenance of new and existing vegetation; (c) Methods for protecting the surrounding area from any adverse effects of the development; and (d) Hazards to life, public and private property, and the natural environment which may be caused by the proposed use.

- 3. Local governments and state and federal agencies shall regulate actions in beach and dune areas to minimize the resulting erosion. Such actions include, but are not limited to, the destruction of desirable vegetation (including inadvertent destruction by moisture loss or root damage), the exposure of stable and conditionally stable areas to erosion, and construction of shore structures which modify current or wave patterns leading to beach erosion.
- 4. Local, state and federal plans, implementing actions and permit reviews shall protect the groundwater from drawdown which would lead to loss of stabilizing vegetation, loss of water quality, or intrusion of salt water into water supplies.
- 6. Foredunes shall be breached only to replenish sand supply in interdune areas, or on a temporary basis in an emergency (e.g., fire control, cleaning up oil spills, draining farm lands, and alleviating flood hazards), and only if the breaching and restoration after breaching is consistent with sound principles of conservation.
- 7. Grading or sand movement necessary to maintain views or to prevent sand inundation may be allowed for structures in foredune areas only if the area is committed to development or is within an acknowledged urban growth boundary and only as part of an overall plan for managing foredune grading.

Analysis and Comment:

Determination of BOEM activities: *Not applicable*.

BOEM's regulatory authority is limited to the OCS, and therefore BOEM cannot approve site assessment or characterization activities in State waters or onshore areas. Per BOEM's commercial wind energy lease, the lessee must conduct, and agrees to conduct, all activities in the leased area and project easement(s) in accordance with an approved SAP or COP, and with all applicable laws and regulations. Additionally, BOEM's lease includes the following stipulation regarding an ACP. Per the lease stipulation, the lessee must develop a publicly available ACP that describes the strategies the lessee intends to use for communicating with Federal, state, and local agencies (including harbor districts) with authority related to the Lease Area and should outline specific methods for engaging with and disseminating information to these agencies. The lease also states that the ACP should include detailed information and protocols for regular engagement with permitting, planning, and resource agencies and that the lessee must provide the ACP to the lessor and other permitting, planning, and resource agencies with authority related to the Lease Area for review and comment and host a meeting with the lessor and all interested agencies to discuss the ACP. In additional to other requirements, the lessee must invite agencies with planning and/or permitting roles and/or resource expertise to participate in the ACP.

The State Territorial Sea section of the *ORESA Supporting Materials Report* discusses the processes for permitting projects within the state's jurisdiction. State permits to be obtained prior to activities in state waters may include any, some, or all of the following: Ocean shores permit

issued by OPRD, 401 Water Quality Certification issued by the Oregon DEQ, CZMA Consistency Certification provided by DLCD, Removal/Fill Permit issued by the Oregon DSL, and Temporary Use Authorization or Ocean Renewable Energy Facility Lease through DSL. Federal permits to be obtained prior to activities in state waters may include: USACE permits, NOAA NMFS permits, USFWS permits, and FERC applicable permits. Additionally, the authority for issuing permits at the county-level is established in ORS Chapter 215. In addition to the general authority to govern land use that is conferred upon counties, there are specific statutes that apply to renewable energy facilities within ORS Chapter 215.

5.1.2 Statewide Planning Goals – Goal 19

Statewide Planning Goal 19 – Ocean Resources

Applicable Policy Section(s):

- To conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social value and benefits to future generations. To carry out this goal, **all actions by local, state, and federal agencies that are likely to affect the ocean resources and uses of Oregon's territorial sea shall be developed and conducted to conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social values and benefits and to give higher priority to the protection of renewable marine resources—i.e., living marine organisms—than to the development of non-renewable ocean resources.**
- Ocean Stewardship Area: The State of Oregon has interests in the conservation of ocean resources in an Ocean Stewardship Area, an ocean area where natural phenomena and human uses can affect uses and resources of Oregon's territorial sea. **The Ocean Stewardship Area includes the state's territorial sea, the continental margin seaward to the toe of the continental slope, and adjacent ocean areas.** Within the Ocean Stewardship Area, the State of Oregon will:
    1. **Use all applicable state and federal laws to promote its interests in management and conservation of ocean resources;**
    2. **Encourage scientific research on marine ecosystems, ocean resources and uses, and oceanographic conditions to acquire information needed to make ocean and coastal-management decisions;**
    3. **Seek co-management arrangements with federal agencies when appropriate to ensure that ocean resources are managed and protected consistent with the policies of Statewide Planning Goal 19, Ocean Resources, and the Territorial Sea Plan; and**
    4. **Cooperate with other states and governmental entities directly and through regional mechanisms to manage and protect ocean resources and uses.**
- The Ocean Stewardship Area is not intended to change the seaward boundary of the State of Oregon, extend the seaward boundaries of the state's federally approved coastal zone under the Federal Coastal Zone Management Act, affect the jurisdiction of adjacent coastal states, alter the authority of federal agencies to manage the resources of the United States Exclusive Economic Zone, or limit or otherwise change federal agency responsibilities to comply with the consistency requirements of the Federal Coastal Zone Management Act.

- Information and Effects Assessment Required: Prior to taking an action that is likely to affect ocean resources or uses of Oregon's territorial sea, **state and federal agencies shall assess the reasonably foreseeable adverse effects of the action as required in the Oregon Territorial Sea Plan.** The effects assessment shall also address reasonably foreseeable adverse effects on Oregon's estuaries and shorelands as required by Statewide Planning Goal 16, Estuarine Resources; Goal 17, Coastal Shorelands; and Goal 18, Beaches and Dunes.
- Implementation Requirements:
    1. **Uses of Ocean Resources: State and federal agencies shall carry out actions that are reasonably likely to affect ocean resources and uses of the Oregon territorial sea in such a manner as to: a. maintain and, where appropriate, restore the long-term benefits derived from renewable marine resources; b. protect: 1. renewable marine resources— i.e., living marine organisms— from adverse effects of development of nonrenewable resources, uses of the ocean floor, or other actions; 2. the biological diversity of marine life and the functional integrity of the marine ecosystem; 3. important marine habitat, including estuarine habitat, which are areas and associated biologic communities that are:** a) important to the biological viability of commercially or recreationally caught species or that support important food or prey species for commercially or recreationally caught species; or b) needed to assure the survival of threatened or endangered species; or c) ecologically significant to maintaining ecosystem structure, biological productivity, and biological diversity; or d) essential to the life-history or behaviors of marine organisms; or e) especially vulnerable because of size, composition, or location in relation to chemical or other pollutants, noise, physical disturbance, alteration, or harvest; or f) unique or of limited range within the state; and **4. areas important to fisheries, which are:** a) areas of high catch (e.g., high total pounds landed and high value of landed catch); or b) areas where highly valued fish are caught even if in low abundance or by few fishers; or c) areas that are important on a seasonal basis; or d) areas important to commercial or recreational fishing activities, including those of individual ports or particular fleets; or e) habitat areas that support food or prey species important to commercially and recreationally caught fish and shellfish species. **c. Agencies, through programs, approvals, and other actions, shall 1. protect and encourage the beneficial uses of ocean resources— such as navigation, food production, recreation, aesthetic enjoyment, and uses of the seafloor—provided that such activities do not adversely affect the resources protected in subsection 1., above; avoid, to the extent possible, adverse effects on or operational conflicts with other ocean uses and activities; and 2. comply with applicable requirements of the Oregon Territorial Sea Plan.**
    2. **Management Measures**: Management measures for ocean resources and uses shall be appropriate to the circumstances and provide flexibility for future actions. Such management measures may include: a. **Adaptive Management**: to adapt management programs to account for variable conditions in the marine environment, the changeable status of resources, and individual or cumulative effects of uses; b**. Condition Approvals or Actions**: to place conditions or limit actions to protect or shield other uses and resources; c. **Special Management**

Area Plans: to develop management plans for certain marine areas to address the unique management needs for resource protection, resource utilization, and interagency cooperation in the areas; d. **Intergovernmental Coordination and Cooperation**: to coordinate, integrate, and co-manage programs and activities with all levels of government, including Indian tribal governments; e**. Regional Cooperation and Governance**: to cooperate with other coastal states, countries, organizations, and federal agencies within the larger marine region to address common or shared ocean resource management issues; f. **Public Involvement**: to involve the public and affected groups in the process of protecting ocean resource, especially through public awareness, education, and interpretive programs; g. **Precautionary Approach**: to take a precautionary approach to decisions about marine resources and uses when information is limited.

3. **Contingency Plans**: State and federal agencies, when approving or taking an action that could, under unforeseen circumstances, result in significant risks to ocean resources and uses, shall, in coordination with any permittee, establish appropriate contingency plans and emergency procedures to be followed in the event that the approved activity results in conditions that threaten to damage the marine or estuarine environment, resources, or uses.

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

Conservation of Marine Resources and Ecological Functions

Geology

Although the geology of the Oregon continental shelf is complex, the anticipated impacts to the local geologic resources by activities performed as part of a SAP and site characterization activities include HRG surveys and geotechnical sampling. Geotechnical sampling is likely to occur as cone penetration, vibracore, and/or piston cores. Geotechnical sampling within the WEA and along potential export cable routes would result in only minor, temporary disturbance of the upper 25 m (82 ft) of sediment that underlies the seafloor. Benthic sampling and equipment testing could occur with negligible, temporary disturbance of the upper 2 m (6 ft) of seafloor sediment.

In conclusion, impacts to geologic resources would be limited to the lease area and potential export cable routes . HRG survey activity would be temporary and short-term. Impacts to geologic resources would be **negligible** and temporary in duration.

For additional information on the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.1, Geology**).

Marine and Coastal Habitats and Associated Biotic Assemblages

Stressors to the environment may include benthic disturbance and the associated water quality changes from disturbance (turbidity and sediment suspension), noise, introduction of artificial habitat, and accidents. This CD assumes that standard lease stipulations, regulations, BMPs

(Appendix D of the EA), and project design criteria that protect the environment (e.g., Anchoring Plan Lease Stipulation that includes avoidance of contact within hard substrate, rock outcroppings, seamounts, or deep-sea coral/sponge habitats and buffer areas around these habitats; Protected Habitat and Species Lease Stipulations; Avian and Bat Survey Reporting Requirements; Marine Debris Prevention Program) will be implemented by lessees when required.

Benthic Habitats: Metocean buoy anchors deployed at similar depths in California used a solid cast iron anchor weighing approximately 11,000 lbs and are approximately 2.3 m^2 in size (PNNL 2019), but larger anchors could be used depending on exact site conditions. In total, BOEM anticipates that bottom disturbance associated with the installation of meteorological buoys would disturb the seafloor up to an estimated 10 m^2 per buoy. Since the mooring line will be taut to semi-taut, it is unlikely that the mooring line will have a chain sweep. Up to six met buoys per lease may be installed as part of the Proposed Action. Impacts to the outer shelf and upper slope habitats, including EFH, would be crushing or smothering of organisms by an anchor. Sediment suspension by anchor placement would cause temporary turbidity in the water column and could interfere with filter-feeding of nearby invertebrates and the respiration and feeding of fishes. Physical sampling methods (grab samplers, benthic sleds, bottom cores, deep borings) may disturb, injure, or cause mortality to benthic resources and EFH in the immediate sampling area. Data collection buoys and associated mooring systems may act as small artificial reefs situated within an area that may exclude fishing, and these areas may provide a benefit to local benthic and fish assemblages associated with hard substrate. Decommissioning of the buoy may create short-term sediment suspension and would remove or reduce the artificial reef effect.

In the unlikely event of recovering lost equipment, seafloor disturbance would be expected during the recovery operation. Impacts to the outer shelf and upper slope habitats, including EFH, would be crushing or smothering of organisms by the dragging of grapnel lines to retrieve the lost item(s). If a vibracore rod cannot be retrieved, there may be additional bottom disturbance if the rod is cut and capped below the seabed.

Pelagic Environments: Noise from HRG surveys and project vessels may alter fish behavior within the WEA but the effect would be temporary and is not expected to affect viability of regional populations. Further details of noise from HRG surveys are discussed below in the Marine Mammals and Sea Turtles subparts of this enforceable policy.

Intertidal and Coastal Habitats: Impacts to benthic resources in coastal and intertidal habitats are not expected for site assessment and site characterization activities. Any impacts that could occur would be from accidental events, such as vessel grounding or collision. Impacts to fishes and EFH may occur from noise generated by project vessels and potential introduction of non-native species from non-local project vessels. These potential effects are not expected to affect viability of regional populations or cause long-lasting damage to habitats.

Threatened and Endangered Species: Twenty-eight taxa, including Chinook salmon, Chum salmon, Coho salmon, Steelhead, Green Sturgeon, and Eulachon, occur or potentially occur in the region's coastal and marine habitats that are listed as threatened and endangered under the ESA. The regional population viability of these listed species is not expected to be adversely affected by the stressors associated with the Proposed Action.

In conclusion, impacts to benthic resources would be limited to the immediate footprint of the anchors or direct sampling. Sediment suspension would be temporary and short-term. Noise impacts from HRG surveys and project vessels to EFH and fishes would be minimal and temporary in duration. The artificial reef effect may provide a local, short-term (less than 5 years) benefit to fish populations.

For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.3, Marine and Coastal Habitats and Associated Biotic Assemblages**).

Marine Mammals and Sea Turtles

The potential impacts for marine mammals and sea turtles associated with the Proposed Action include noise from HRG and geotechnical surveys, the potential for collision with project-related vessels, and potential entanglement in mooring systems associated with the installation of a met buoy.

Using physical criteria about various HRG sources, such as source level, transmission frequency, directionality, beamwidth, and pulse repetition rate, Ruppel et al (2022) divided marine acoustic sources into four tiers that could inform regulatory evaluation. Tier 4 includes most high resolution geophysical, oceanographic, and communication/tracking sources, which are considered unlikely to result in incidental take of marine mammals and therefore termed *de minimis*. The majority of acoustic sources under this Proposed Action fall into this *de minimis* category, as evidenced in the analysis below. BMPs (Appendix D of the EA) are therefore applicable to only those acoustic sources that are shown to present a risk of disturbance to protected species, i.e., CHIRP sub-bottom profilers, boomers, sparkers, and MBES operating below 160 kHz.

For marine mammal species expected to occur in the Proposed Action Area, PTS distances are generally small ranging from 0 to 47 m (0 to 154 ft). The largest possible PTS distance is 251.4 m (825 ft) for porpoise species, only when the 100 kHz multibeam echosounder is used. However, this range is likely an overestimate since it assumes the unit is operated in full power mode and that it is an omnidirectional source. Additionally, the range does not take the absorption of sound over distance into account.

PTS exposure thresholds (calculated for 204 cSEL and 23 dB peak criteria) (U.S. Navy 2017) are higher for sea turtles than for marine mammals. Based on the PTS exposure thresholds for sea turtles, HRG sound source levels are not likely to result in PTS. The predicted distances from these mobile sound sources indicate the sound sources are transitory and have no risk of exposure to levels of noise that could result in PTS for sea turtles (NMFS 2021).

Potential for disturbance: Using the same sound sources as for the PTS analysis, the disturbance distances to 160 dB re 1 µPa RMS for marine mammals and 175 dB re 1 µPa RMS for sea turtles were calculated using a spherical spreading model (20 LogR). These results describe maximum disturbance exposures for protected species to each potential sound source.

The disturbance distances depend on the equipment and the species present. The range of

disturbance distances for all protected species expected to occur in the Proposed Action Area is from 40 to 502 m (131 to 1,647 ft), with sparkers producing the upper limit of this range. Disturbance distances to protected species are conservative, as explained above, and any behavioral effects will be intermittent and short in duration.

Geotechnical surveys (vibracores, piston cores, gravity cores) related to offshore renewable energy activities are typically numerous, but brief, sampling activities that introduce relatively low levels of sound into the environment. General vessel noise is produced from vessel engines and dynamic positioning to keep the vessel stationary while equipment is deployed, and sampling is conducted. Recent analyses of the potential impacts to protected species exposed to noise generated during geotechnical survey activities determined that effects to protected species from exposure to this noise source are extremely unlikely to occur (NMFS 2021).

Vessel strikes pose a threat to the West Pacific population of leatherback sea turtles. While some risk of a vessel strike exists for large whales in all the U.S. West Coast waters, 74% of blue whale, 82% of humpback whale, and 65% of fin whale known vessel strike mortalities occur in the shipping lanes in the southern California Bight and outside the San Francisco Bay Area, with less than 1% of total mortality for all species occurring in Oregon waters (Rockwood et al. 2017).

The number of vessel trips for site characterization and site assessment within the Proposed Action Area is a conservative estimate, meaning that BOEM included a higher number of trips than likely in its estimate. If future consultation with NMFS, USFWS, or other State or Federal agencies result in vessel speed requirements, BOEM will work with the Oregon DLCD staff to ensure that any new requirements remain consistent and do not diminish the level of resource protection provided by this requirement.

BMPs for Vessel Strike Avoidance and Injured/Dead Protected Species Reporting (Appendix D of the EA) are meant to minimize the risk of vessel strikes to protected species. These include

- immediate operator reporting of a vessel strike of any ESA-listed marine animal;
- reporting observations of injured or dead protected species;
- having qualified protected species observers (PSOs) on board (or dedicated crew) to monitor a vessel strike avoidance zone for protected species;
- steering a course away from any whale detected within 500 m of the forward path of any vessel; or stopping the vessel to avoid striking protected species.

Additionally, wherever available, lessees will ensure all vessel operators check for daily information regarding protected species sighting locations. These media may include, but are not limited to: Channel 16 broadcasts, whalesafe.com, and the Whale/Ocean Alert App.

Although the project-related vessel traffic would increase the overall vessel traffic and risk of collision with protected marine mammal and sea turtle species in the Proposed Action Area, vessels associated with vessel strikes on the U.S. West Coast do not have mandated vessel strike avoidance protocols. BOEM's BMPs align with recommended types of enhanced conservation measures to decrease ship strike mortality (Rockwood et al. 2017). Similar activities have taken

place since at least 2012 in association with BOEM's renewable energy program in the Atlantic OCS, following similar BMPs, and there have been no reports of any vessel strikes of marine mammals and sea turtles. BOEM believes that impacts to protected species from vessel interactions will be negligible because of vessel strike avoidance BMPs, as well as reporting requirements (Appendix D of the EA).

Including the multiple met buoys deployed along the Northeast Atlantic coast associated with site assessment activities and PNNL's LiDAR buoys in California, no incidents of entanglement have been reported to date. BOEM continues to work with lessees and requires the use of the best available mooring systems, using the shortest practicable line lengths, anchors, chain, cable, or coated rope systems, to prevent or reduce to discountable levels any potential entanglement of marine mammals and sea turtles. BOEM reviews each buoy design to ensure that reasonable low risk mooring designs are used. Potential impacts on protected marine mammal species from entanglement related to buoy operations are thus expected to be discountable.

Lost or derelict fishing gear may become entangled in the met buoy lines and present an entanglement risk to protected species. Approximately twelve met buoys total for the two lease areas may be deployed as part of the Proposed Action. From 1982 to 2017, direct entanglements in fishing gear were most attributed to unidentifiable gear, netting, and pot/traps (Saez et al. 2021). Changes in gillnet fishing regulations helped address the 1980s increase, which was primarily gray whales entangled with gillnets (Saez et al. 2021). Considering the general inshore deployment (~200 ft water depth) and weight of pot traps, it is unlikely that these will be moved in such a way as to become entangled in met buoy lines and present an entanglement risk to protected species. Risk of secondary entanglement related to buoy deployment and operations are thus expected to be discountable.

Any potential displacement of fishing effort, as a result of leasing and site characterization and site assessment activities, are described in Section 3.7 of the EA and are expected to be limited in spatial scope, considering existing fishing grounds, and short-term. Entanglement impacts to marine mammals and sea turtles, as a result of displaced fishing effort, are expected to be discountable.

Moon pool usage presents a potential for marine mammals and sea turtles to become entrapped. Although moon pools have not been proposed for use offshore Oregon, they may be used to deploy and/or retrieve AUVs. There is no known record of entrapment of protected species in the moon pools in the Pacific. The limited occurrence of sea turtles in Oregon waters, as well as BOEM's BMPs described in Appendix D of the EA, reduce the potential impact from moon pools to discountable levels.

BOEM recommends lessees incorporate BMPs into their SAPs and COPs to minimize any potential impacts. These have been developed through years of conventional energy operations and refined through BOEM's renewable energy program and consultations with NMFS, including vessel strike avoidance BMPs, visual monitoring, and shutdown and reporting. These BMPs, which will minimize or eliminate potential effects from site assessment and site characterization activities to protected marine mammal and sea turtle species can be found in Appendix D of the EA.

In compliance with Section 7 of the ESA, BOEM will consult with NMFS regarding the potential impacts of the Proposed Action to ESA-listed species. The analysis of impacts of the Proposed Action will be reflected in the consultation with NMFS.

In conclusion, BOEM places stipulations in leases that protect the environment during the proposed activities, including stipulations resulting from consultations required under other Federal statutes (see Appendix D of the EA). Due to these stipulations and the nature of the proposed activities, the impacts to critical habitat and protected marine mammal and sea turtle species from site assessment and site characterization activities related to noise from HRG and geotechnical surveys, collisions with project-related vessels, and entanglement in met buoy moorings are anticipated to be **negligible**.

BOEM will evaluate actual HRG survey equipment proposed for use when any future survey plan is submitted in support of any site characterization activities that may occur in the WEAs, and BOEM will continue to reevaluate the BMPs as new information becomes available.

For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.4, Marine Mammals and Sea Turtles**).

Coastal and Marine Birds

The marine and coastal bird population off southern Oregon is both diverse and complex, being composed of as many as 170 species (eBird 2023). Of the many different types of birds that occur in this area, three groups are generally the most sensitive to the potential impacts of the Proposed Action: marine birds (e.g., grebes, alcids, gulls, terns, loons, albatrosses, storm-petrels, shearwaters, and cormorants), waterfowl (geese and ducks), and shorebirds (e.g., plovers and sandpipers). While some of these species breed in the area, others may spend their non-breeding or “wintering” period in the area or may simply pass through during migration. The analysis presented in the EA considers the Coos Bay and Brookings regions and their shorelines, the offshore cable routes, and WEAs.

Several bird species that have the potential to occur within the Proposed Action Area are protected by the State and/or Federal governments due to declining populations and/or habitats. In addition, all native birds within the area are protected by the Migratory Bird Treaty Act of 1918, which is enforced by the USFWS.

Impact-producing factors (IPFs) for marine and coastal birds include (1) active acoustic sound sources, (2) vessel and equipment noise and vessel traffic, (3) underwater noise, (4) vessel attraction, (5) disturbance to nesting or roosting, (6) disturbance to feeding or modified prey abundance, (7) aircraft traffic and noise from surveys, (8) met buoys, (9) trash and debris, and (10) accidental fuel spills. See Section 3.5, Coastal and Marine Birds, of the Oregon EA for details regarding these IPFs.

Measures to Minimize Potential Adverse Impacts to Birds: To minimize the potential for adverse impacts on birds, BOEM has developed measures to reduce or eliminate the potential risks to or conflicts with specific environmental resources. If leases are issued, BOEM may require the lessee to comply with these measures, as deemed appropriate at the time of review, through lease

stipulations and/or as conditions of SAP approval. The following measures are intended to ensure that the potential for adverse impacts on birds is minimized, if not eliminated.

- The lessee will use only red flashing strobe-like lights for aviation obstruction lights and must ensure that these aviation obstruction lights emit infrared energy within 675–900 nanometers wavelength to be compatible with Department of Defense (DOD) night vision goggle equipment.
- Any lights used to aid marine navigation by the lessee during construction, operations, and decommissioning of a meteorological tower or buoys must meet USCG requirements for private aids to navigation (Form CG-2554: https://www.dcms.uscg.mil/forms/smdsearch4081/2554/).
- For any additional lighting not described in (1) or (2) above, the lessee must use such lighting only when necessary, and the lighting must be hooded downward and directed, when possible, to reduce upward illumination and illumination of adjacent waters.
- An annual report shall be provided to BOEM documenting any dead birds found on vessels and structures during site assessment and site characterization. The report must contain the following information: the name of species, date found, location, a picture to confirm species identity (if possible), and any other relevant information. Carcasses with Federal or research bands must be reported to the U.S. Geological Survey's Bird Band Laboratory, available at https://www.pwrc.usgs.gov/BBL/bblretrv/.
- Anti-perching devices must be installed on the met buoys to minimize the attraction of birds.

Overall, impacts to birds would be **negligible**. The construction, presence, and decommissioning of met buoys would pose minimal threats to birds. Loss of water column habitat, benthic habitat, and associated prey abundance are expected to have negligible impacts because of the small area affected by buoys. Impacts to birds in coastal waters from vessel traffic are expected to be negligible due to the small amount of proposed new vessel traffic relative to existing traffic. Impacts on birds from site characterization surveys are expected to be negligible. Impacts to birds from trash or debris releases and from accidental fuel spills would be moderate for species that have special-status designations and are susceptible to spills, but since it is an accidental impact and unlikely to happen, the impact to birds in general are expected to be negligible. Potential noise impacts from met buoy deployment could have localized, short-term minor impacts on birds foraging near or migrating through the construction site, and noise impacts from decommissioning are expected to be negligible. The risk of collision with a met buoy would be negligible because of buoy height and distance from shore. Additionally, lessees operating on the OCS can reduce impacts to birds by following the BMPs (see Appendix D of the EA).

For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.5, Coastal and Marine Birds**).

Commercial Fishing

The waters offshore Oregon support numerous types of fishing, and stakeholders place high cultural and economic significance on these activities. Data collection buoys and vessel traffic associated with the Proposed Action may generate space-use conflicts and interfere with fishing

operations by (1) making the area occupied by met buoys temporarily inaccessible as fishing grounds, (2) reducing fishing efficiency, and/or (3) causing economic losses associated with gear entanglement. Data collection buoys emplaced within leases may inadvertently be spatially incompatible with nearby fishing operations, particularly for bottom trawling, due to the challenge of navigating and deploying/retrieving fishing gear near fixed structures. Fishers may suffer decreased efficiency when trying to avoid buoys during their operations. If fishers fail to avoid buoys, subsequent entanglement may result in damage to or loss of fishing gear. If damage to a data collection buoy or its scientific instrumentation occurs because of fishing operations, the fishing vessel captain could be held financially responsible.

The spatial extent of fishing grounds that may be impacted by buoys and traffic is estimated using, as an analog, USCG safety zone considerations for OCS facilities (33 CFR §147.1), where 500 m (1,640 ft) safety zones were established to promote the safety of life and property (e.g., 33 CFR §147.1109). This approach estimates a 0.785 km^2 (0.303 mi^2) circular zone per buoy—a very small fraction of the total fishing grounds available for the Pacific Coast Groundfish Fishery (PFMC 2020), the Pacific Coast Salmon Fishery (PFMC 2016), and the West Coast albacore fishery (Frawley et al. 2021). Given that harvest strategies vary among individual fishers, potential impacts may also vary.

Oregon and its nearshore waters host a variety of commercial fisheries, so the expected increase in activity from vessels will be small compared to the overall level of survey effort. Marine vessels associated with the Proposed Action mobilizing and transiting from ports to the WEA may reduce efficiency of fishing operations due to time delays associated with congestion or avoidance. These vessels may accidentally damage fishing gear (e.g., by cutting trap floats) or release marine debris which could cause entanglement or interfere with other fishing operations. These impacts would be short-term and temporary; lessees have five years to complete their surveys, buoy deployments typically last one year, and the duration of a single survey is days or a few weeks.

Many of the region's important fishing grounds are in depths less than 900 m (2,953 ft), so a buoy within the WEA (900 m and 1,300 m [2,953 ft and 4,265 ft] depth) decreases conflict with the fishing industry due to its offshore location. BOEM recommends lessees incorporate BMPs as described in Appendix D of the Oregon EA that will aim to minimize adverse effects to commercial fishing from their site assessment and site characterization activities. At the end of the 5-year term data collection, instrumentation will be decommissioned, and large marine debris objects removed so any space-use conflict will be eliminated. Vessel operators are required to comply with pollution regulations outlined in 33 CFR § 151.51-77 so only accidental loss of trash and debris is anticipated. Lessees will develop a Fisheries Communications Plan with a designated liaison. Other measures may include a Local Notice to Mariners, vessel traffic corridors, lighting specifications, incident contingency plans, or other appropriate measures. Some of these navigational safety measures are also expected to reduce negative interactions between fishers and project vessels. To assist BOEM in complying with NEPA analysis and CZMA consistency determination for any future activities, the SAP must contain a description of the social and economic conditions, including recreational and commercial fishing (including typical fishing seasons, location, and type) that could be affected by the activities proposed in the COP (30 CFR § 585.611(a), and (b)(6)).

Impacts from project activities to fish in the project area are likely to be largely undetectable and temporary due to the minimal influence project activities may have across larger spatial and temporal scales. Impacts to fish from met buoy installation, HRG and geotechnical surveys, and vessel operations associated with the Proposed Action will be localized and short-term. Impacts are expected to last for the duration of the activities that are producing the noise and are not expected to have long-lasting consequences. Fish species capable of sensing the introduced noise may alter their behavior and leave the affected area temporarily.

As part of site characterization, leaseholders are required to collect HRG surveys (if no data exist) to gain information on the seafloor and sub-sea sediments, faulting, and to survey for the presence of hazards, hardbottom or other unique biology, archaeological and or cultural resources. These surveys emit sound that can affect some commercial fish species. For fishes, PTS exposure distances from mobile, impulsive, intermittent HRG sources towed at a speed of 4.5 kn are 3.2 m, in the case of boomers or bubble guns (that emit at 4.3 kHz), and 9.0 m for sparkers (2.7 kHz). This means that fish must be within these narrow distances of a sound source for PTS injury to possibly result. While PTS distances are estimates of the distance at which sound exposure could cause permanent hearing loss, disturbance distances indicate how far away an animal may experience TTS or exhibit a temporary behavioral response. The maximum disturbance distance for fishes is 708 m from a boomer or bubble gun and 1,585 m from a sparker. Thus, sounds from an HRG survey may temporarily affect fish that are up to 708 m away from a boomer or bubble gun and up to 1,585 m from a sparker. Other HRG equipment, such as a CHIRP Sub-Bottom Profiler (5.7 kHz), does not risk PTS or disturbance to fishes, because the sound sources are out of the hearing range of fishes (BOEM 2022).

Impacts from the Proposed Action to fish in the project area are likely to be largely undetectable and temporary due to the minimal influence project activities may have across larger spatial and temporal scales. Impacts to fish from met buoy installation, HRG and geotechnical surveys, and vessel operations associated with the Proposed Action will be localized and short-term. Impacts are expected to last for the duration of the activities that are producing the noise and are not expected to have long-lasting consequences. Fish species capable of sensing the introduced noise may alter their behavior and leave the affected area temporarily.

In conclusion, potential impacts to commercial fishing from the Proposed Action are expected to be **minor, intermittent** and temporary in duration (five years or less), and primarily associated with a spatial incompatibility around the data collection buoy(s) and interactions with project vessels, which is comparatively small in size when compared to the full extent of available fishing grounds. BOEM recommends lessees incorporate BMPs as described in Appendix D of the Oregon EA that will aim to minimize adverse effects to commercial fishing from their site assessment and site characterization activities.

Additional Coastal Zone Management Federal consistency review will be conducted during the COP stage pursuant to 15 CFR part 930, subpart E. A lessee must provide a consistency certification with its COP stating that the proposed activities described in the COP comply with the State(s) approved coastal management program(s), will be conducted in a manner that is consistent with such program(s), and include the necessary data and information, pursuant to 15 CFR § 930.58, to support any such consistency certification.

If a COP is submitted by a lessee, the siting, construction, and operation of wind turbines in the leased areas will be evaluated by BOEM. BOEM will review how these activities may affect commercial fishing and analyze potential concerns. If a COP is submitted, consideration of the effects on commercial fishing would be reviewed. For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.7, Commercial Fishing**).

Socioeconomics

The area of potential socioeconomic effects from site assessment and site characterization activities in the Oregon WEAs includes Coos and Curry counties and the Ports of Newport (Yaquina), Coos Bay, Port Orford, Brookings, Crescent City, and Humboldt (Eureka). This affected environment for socioeconomics was selected due to their proximity to the WEAs—within 88 mi or less of the Oregon WEAs and the likelihood that activities associated with the Proposed Action will be based in their ports. Port facilities and capacity for supporting the activities, such as site assessments and site characterizations, are associated with the Proposed Action.

Counties: Temporary increases in employment from Proposed Action activities, such as surveying, tower and buoy fabrication, and construction could occur in various local economies associated with onshore- and offshore-related industries in Coos, Curry and Lincoln counties, Oregon. However, BOEM expects any impacts to employment, population, and the local economies in and around these counties to be short-term, and imperceptible, and thus negligible. An analysis of similar projects on the east coast (BOEM 2014) found that the small number of workers (approximately 10–20 people) directly employed in site characterization surveys would be insufficient to have a perceptible impact on local employment and population.

The approximate number of workers directly employed could be measurable, but the benefits to the local economy in Curry County would be difficult to measure, especially when there are no ports that can adequately support the activities performed in a site characterization or assessment. Although, Coos County and Lincoln County have ports that can support the activities performed in a site characterization or assessment, the ports and counties have more than three times the amount of population, total ocean economy employees, and port staff represented in Curry County. Therefore, the overall beneficial impacts to the local economy, including labor, employment, and wages, would be negligible when taking into consideration the distribution of activities and the time frame over which they would occur in Coos and Lincoln counties.

Ports: Proposed Action impacts on the Port of Port Orford and Brookings in Curry County, Oregon, and the Port of Crescent City in Del North County, California are negligible. These three ports have the lowest physical (infrastructure or geophysical) capacity and socioeconomic ability to support Proposed Action activities.

The Ports of Coos Bay, Newport, and Humboldt have suitable physical infrastructure or geophysical capacity for hosting maritime vessels frequently used in carrying out the Proposed Action. Coos Bay has the physical characteristics (i.e., a deep-draft navigation channel and available upland space) to serve various staging, operations and maintenance for floating offshore wind (MacDonald, 2022). Trowbridge et al. (2022) notes that the Port of Coos Bay

"represents the best option (across metrics) for supporting floating wind activities in Oregon." Therefore, impacts on employment, labor, and wages in the Port of Coos Bay and the Port of Newport are minor, but impacts on employment, labor, and wages in the Port of Humboldt Bay are moderate.

In conclusion, the Proposed Action would produce **negligible** impacts on employment and wages in Curry County and the Port of Port Orford and the Port of Brookings. The Proposed Action would have beneficial, short-term, and minor impacts on employment and wages in Coos County if site characterization and assessment use locally based employees, pay employees state-average wages, and use the Port of Coos Bay facilities (e.g., fuel, repair, storage, docking). The impact of the Proposed Action to the Port of Crescent City would be **negligible**. The Port of Humboldt Bay and the Port of Newport and Port of Coos Bay have the highest likelihood of hosting and serving vessels used for site assessment and characterization. The impacts on employment, labor, and wages are anticipated to be **minor**, beneficial, and unobtrusive in the Port of Newport.

For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.6 Socioeconomics**).

Recreation and Tourism

Recreation and tourism occur on coastal lands and include shore-based activities such as visiting historic towns and landmarks, biking, bird watching, and beach going. Recreation and tourism also include ocean activities and attractions used by locals and tourists, such as recreational fishing, diving, and scenic water tours.

The affected environment for recreation and tourism includes Coos, Curry, and Lincoln counties due to their proximity to the WEAs and likelihood that activities associated with the Proposed Action will be based in their ports.

The temporary placement of met buoys could impact marine viewsheds and beach going tourism, which is high in Lincoln County, but relatively low for Coos and Curry counties. Ocean sports, such as surfing, diving, and kayaking, rarely occur on the OCS and will not be affected or impacted. Increased maritime traffic for conducting geophysical, geotechnical, biological, archaeological, and ocean use surveys could have small, short-term, minor impacts on recreational fisheries, namely salmon and albacore fishing in Coos and Lincoln counties, but negligible in Curry County.

In conclusion, recreation and tourism bring outside money into Coos, Curry, and Lincoln's economy when visitors from more than 50 miles away come for recreation, overnight stays, to visit friends and family, and to conduct business. The Proposed Action could increase the amount of people visiting the affected counties and thereby increase economic activities such as restaurants and hotels. The impacts from the Proposed Action on recreation and tourism will likely be short-term, beneficial, and difficult to measure and overall **minor**.

For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.8 Recreation and Tourism**).

Management Measures

Adaptive Management; Condition Approvals or Actions; Special Management Area Plans

The Oregon EA describes aspects of the natural and human environment that may be impacted by the Proposed Action and briefly describes those impacts in Section 3 of the Oregon EA. Resources unlikely to be impacted by the Proposed Action are discussed in Section 2.7 of the Oregon EA. Additional resources that are unlikely to be affected by the Proposed Action are noted in the individual resource sections with an accompanying statement explaining why impacts are not expected.

The Proposed Action for some resources includes BMPs to reduce or eliminate potential risks to or conflicts with specific environmental resources. If leases are issued, BOEM will require the lessee to comply with BMPs through lease stipulations and/or as conditions of SAP approval. The lessee's SAP must contain a description of environmental protection features or measures that the lessee will use. Specific information on the BMPs is listed in Appendix D of the Oregon EA.

Operators in the OCS will incorporate BMPs to minimize or eliminate potential effects from site assessment and site characterization activities to protected marine mammal and sea turtle species, including vessel strike avoidance measures, visual monitoring, and shutdown and reporting (Appendix D of the EA). These practices have been developed through years of conventional energy operations and refined through BOEM's renewable energy program, updated scientific data, and consultations with NMFS. All survey plans and SAPs will be reviewed by BOEM to ensure inclusion of appropriate BMPs. The lessee must comply with the BMPs identified by BOEM through its ESA consultation process, as well as those prescribed by any relevant authorization under the MMPA. These measures may be updated due to statutory, regulatory, or other consultation processes, including but not limited to consultation under the ESA or the MMPA.

Per BOEM's regulations at 30 CFR § 585.610-613, BOEM strives to balance each of these issues within the confines of the SAP. Per § 585.611(b), BOEM requires information about (1) Hazards, (2) Water Quality, (3) Biological Resources, (4) Threatened or Endangered Species, (5) Sensitive biological resources or habitats, (6) Archaeological Resources, and (7) Social and Economic Conditions, (8) Coastal and Marine Uses, (9) Consistency Certification, and (10) Other Resources, Conditions, and Activities during the SAP phase of development. This information, along with other information required per the above- mentioned regulations, is used in determining if a lessee's SAP will be approved. Additionally, BOEM regulations at 30 CFR §§ 585.700-703 set out BOEM's requirements that lessees must comply with for safety and environmental management. 30 CFR § § 585.701 sets out the requirements lessees must comply with to obtain approval of SAP activities. These detailed instructions guide leaseholders on appropriate consultations under the ESA, including consideration of critical habitats.

Intergovernmental Coordination and Cooperation; Regional Cooperation and Governance; Public Involvement

BOEM worked in partnership with the State of Oregon to perform outreach and involve the

public in wind energy planning offshore Oregon starting in 2021. See Section 2.4 of the EA for links to previous comment dockets and summary reports.

To satisfy its ESA obligations under Section 7(a)(2) of the ESA, BOEM consults with NMFS and USFWS regarding potential impacts to listed species and designated critical habitat under the jurisdiction of the Services. BOEM will request consultation under the ESA with NMFS on the Proposed Action expected to occur in the lease areas. If the lessee intends to design and conduct biological or other surveys to support offshore renewable energy plans that could interact with ESA-listed species, the surveys must be within the scope of activities described in forthcoming ESA consultations, or the lessee must consult further with BOEM and the Services. Additional time should be allowed for consultation and/or permits authorizing proposed activities which are outside of the scope of existing consultations/authorizations.

The Magnuson-Stevens Fishery Conservation and Management Act (as amended) requires Federal agencies to consult with NMFS regarding actions that may adversely affect designated EFH, and this consultation is ongoing. The assessment herein relied on formal EFH descriptions for managed species provided by the PFMC (PFMC 2022a,b; 2023a,b). BOEM will combine the consultation for fishes and invertebrates listed under the ESA with the EFH consultation and will communicate with the NMFS Oregon Coastal Office regarding ESA-listed species.

BOEM has a Draft PA pursuant to 36 CFR § 800.14(b) to fulfill its obligations under Section 106 of the NHPA for renewable energy activities on the OCS offshore Oregon. At the time of writing this CD the PA has been routed for signature. BOEM initiated consultation on its EA through letters sent electronically on February 15, 2024, with the Oregon SHPO and ACHP. A separate letter was sent to 14 federally recognized Tribes on February 12, 2024, that provided advanced notice of the OR WEAs, EA, and invited them to be Cooperating Tribal Nations on the EA and as a consulting party for Section 106 of the NHPA.

BOEM further identified potential consulting parties pursuant to 36 CFR § 800.3(f), shared the list of parties with Oregon SHPO on February 7, 2024, and sent invitations to be a consulting party on February 15, 2025. The letter to these parties, which included certified local governments, historical preservation societies, and museums, solicited public comment and input regarding the identification of, and potential effects on, historic properties for the purpose of obtaining public input for the Section 106 review (36 CFR § 800.2(d)(3)) and invited them to participate as a consulting party. BOEM will continue with the consultation process as the Draft EA circulates for public comment.

BOEM recognizes the unique legal relationship of the United States with Tribal Nations. BOEM has a Trust responsibility and is required to consult with federally recognized Tribes, if a BOEM action (departmental regulation, rulemaking, policy, guidance, legislative proposal, grant funding formula changes, or operational activity) may have substantial direct effect on a federally recognized Tribe. In recognition of this special relationship, BOEM extended invitations to Tribal Nations for government-to-government and Tribal Nation coordination meetings. BOEM recognizes the special expertise that Tribal governments have with respect to potential environmental consequences that may occur because of this Proposed Action and invited those Tribes to participate as Cooperating Tribal Nations (cooperating agencies) in its EA.

Because the issuance of a lease only grants the lessee the exclusive right to submit to BOEM a SAP and/or a COP, it does not constitute an irreversible and irretrievable commitment of resources thereby requiring BOEM to consider the impacts associated with the siting, construction, and operation of any commercial wind power facilities. The Proposed Action of lease issuance will be followed by site characterization and assessment activities on the OCS and State waters. BOEM would evaluate the potential impacts of the activities described in a COP or GAP in a separate NEPA document tied to the level of potential impacts, likely an EIS. The EIS process would include an analysis of the potential impact and reflect, but is not limited to, required consultations with the appropriate Federal, Tribal, State, and local entities; public involvement including public meetings and comment periods; collaboration with the BOEM Oregon Intergovernmental Renewable Energy Task Force; and preparation of an independent, comprehensive, site- and project-specific impact analysis using the best available information.

For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 4, Consultation and Coordination, and Stakeholder Comment**).

Non-Routine Events (Contingency Plans)

Non-routine and low-probability events and hazards that could occur during site characterization and site assessment-related activities include the following: (1) allisions and collisions between the site assessment structures or associated vessels and other vessels or marine life; (2) spills from collisions or fuel spills resulting from generator refueling; and (3) recovery of lost survey equipment.

Allisions and Collisions: An allision occurs when a moving object (i.e., a vessel) strikes a stationary or moored object (e.g., met buoy); a collision occurs when two moving objects strike each other. A met buoy in the WEA could pose a risk to vessel navigation. An allision between a ship and a met buoy could result in the damage or loss of the buoy and/or the vessel, as well as loss of life and spillage of petroleum product. Vessels associated with site assessment and site characterization activities could collide with other vessels, resulting in damages, petroleum product spills, or capsizing. However, risk of allisions and collisions is reduced through routing measures such as Traffic Separation Schemes (TSS), safety fairways, anchorages, and USCG Navigation Rules and Regulations. Thus, collisions and allisions are considered unlikely. Further, areas or relatively higher traffic were excluded from the WEAs. Risk of allisions with buoys would be further reduced by USCG-required marking and lighting.

BOEM anticipates that aerial surveys (if necessary) could be used for marine mammals or avians. Surveys are done to avoid species disturbance and to maximize the identification and count of those species. Surveys would not be conducted during periods of reduced visibility conditions, as flying at low elevations would pose a safety risk during storms. Considering the relatively low numbers of aerial surveys that might be done, along with the short duration of potential exposure to aircraft-related noise, physical disturbance, and potential collision to marine and coastal birds, it is expected that potential impacts from this activity would range from negligible to minor. For additional analysis and comment regarding aerial surveys, refer to the previous section for Statewide Planning Goal 6: Air, Water and Land Resources Quality.

Spills: A petroleum spill could result from allisions, collisions, accidents during the maintenance or transfer of offshore equipment and/or crew, or due to natural events (i.e., strong waves or storms). From 2000 to 2009, the average spill size for vessels other than tank ships and tank barges was 88 gallons (USCG 2011); should a spill from a vessel associated with the Proposed Action occur, BOEM anticipates that the volume would be similar. Diesel fuel is lighter than water and may float on the water's surface or be dispersed into the water column by waves. Diesel would be expected to dissipate very rapidly, evaporate, and biodegrade within a few days (MMS 2007b). The NOAA's Automated Data Inquiry for Oil Spills was used to predict dissipation of a maximum spill of 2,500 barrels, a spill far greater than what is assumed as a non-routine event during the Proposed Action. Results of the modeling analysis showed that dissipation of spilled diesel fuel is rapid. The amount of time it took to reach diesel fuel concentrations of less than 0.05% varied between 0.5 and 2.5 days, depending on ambient wind (Tetra Tech EC Inc. 2015), suggesting that 88 gallons would reach similar concentrations faster and limit the environmental impact.

Most met buoys do not have petroleum. BOEM expects vessels involved in transporting the buoys to a location will comply with USCG spill prevention requirement and will follow the regulations at 33 CFR Parts 151 (Vessels Carrying Oil, Noxious Liquid Substances, Garbage, Municipal or Commercial Waste, and Ballast Water), 154 (Facilities Transferring Oil or Hazardous Material in Bulk), and 155 (Oil or Hazardous Material Pollution Prevention Regulation for Vessels), which contain guidelines for spill response plans and shipboard oil pollution emergency plans. Further, a spill would be expected to be small, to dissipate rapidly and then evaporate and biodegrade within a day or two, limiting the potential impacts to a localized area for a short duration.

Lost Survey Equipment: In the event of equipment lost during surveys or a met buoy disconnecting from its anchor, recovery operations may be undertaken. Recovery operations may be performed in a variety of ways, including remote operating vehicles (ROVs) and grapnel lines, depending on water depth and equipment lost. If grapnel lines (e.g., hooks, trawls) are used to retrieve lost equipment, bottom disturbances could result from dragging the line along the bottom until it hooks the lost equipment. In addition, after the line catches the lost equipment, components are dragged along the seafloor until recovery.

Survey equipment could be carried away by currents or become embedded in the seafloor. Additional bottom disturbance may also occur. For example, a broken vibracore rod that cannot be retrieved may need to be cut and capped 1–2 m (3–6.5 ft) below the seafloor. For the recovery of lost survey equipment, BOEM will work with the lessee/operator to develop an emergency response plan. Selection of a mitigation strategy would depend on the nature of the lost equipment, and further consultation may be necessary with the applicable state and federal agencies. Impacts associated with recovery of lost survey equipment may include vessel trips, noise and lighting, air emissions, and routine vessel discharges from a single vessel. Bottom disturbance and habitat degradation may also occur from recovery operations.

For additional reference to this policy, see the **Oregon EA** (**Section 2.5.4, Non-Routine Events**).

The State Territorial Sea section of the *ORESA Supporting Materials Report* discusses the

processes for permitting projects within the state's jurisdiction. State permits to be obtained prior to activities in state waters may include any, some, or all of the following: Ocean shores permit issued by the OPRD, 401 Water Quality Certification issued by the Oregon DEQ, CZMA Consistency Certification provided by DLCD, Removal/Fill Permit issued by the Oregon DSL, and Temporary Use Authorization or Ocean Renewable Energy Facility Lease through DSL. Federal permits to be obtained prior to activities in state waters may include: USACE permits, NOAA NMFS permits, USFWS permits, and FERC applicable permits. Additionally, the authority for issuing permits at the county-level is established in ORS Chapter 215. In addition to the general authority to govern land use that is conferred upon counties, there are specific statutes that apply to renewable energy facilities within ORS Chapter 215.

Oregon Territorial Sea Plan, Part 2: Making Resource Use Decisions

Applicable Policy Section(s):

- **SECTION A. Resources Inventory and Effects Evaluation** – The policy states that:
    1. **Context:** "Informed decision making, the heart of Goal 19 and the Ocean Plan, depends upon adequate information about ocean resources and uses and the effects of any Proposed Action on those resources and uses."
    2. **Mandatory Policies:**
        a. **Inventory/Evaluation Required:**
            - **Duty To Inventory and Evaluate.** Prior to making any decision to conduct, approve, or fund any action that will occur within Oregon's territorial sea or the Rocky Shores Management area of the Territorial Sea Plan and that is related to or affects marine resources and uses in Oregon's territorial sea, an agency **shall prepare, or cause to be prepared, a resource inventory and effects evaluation as required by this section.**
            - **Sufficiency of Inventory and Evaluation.** The resource inventory and effects evaluation shall be sufficient to **understand the short-term and long-term effects of the proposed decision** on the affected resources and uses.
        b. **Standards For Decision Making:** "Any government agency making decisions that relate to marine resources and uses in Oregon's territorial sea shall conform to the requirements of this Territorial Sea Plan; Oregon's ocean law; Statewide Planning Goal 19, Ocean Resources; and the policies of the Oregon Ocean Resources Management Plan, as well as any amendments by the Land Conservation and Development Commission upon recommendation from the Ocean Policy Advisory Council."
        c. **Inventory Content:** "At a minimum, the following factors shall be considered for inclusion in the inventory as appropriate to the magnitude, likelihood of effects, and the significance of potentially affected resources and uses:
            - 1.) The proposed action: (a) Location (using maps, charts, descriptions, etc.); (b) Numbers and sizes of equipment, structures; (c) Methods, techniques, activities to be used; (d) Transportation and transmission modes needed to serve/support the proposed

project; (e) Materials to be disposed of and method of disposal; (f) Physical and chemical properties of hazardous materials to be used or produced, if any; (g) Navigation aids; and (h) Proposed time schedule.

- 2.) Location and description of all affected areas, including areas for onshore support facilities.
- 3.) Physical and chemical conditions such as: (a) Water depth; (b) Wave regime; (c) Current velocities; (d) Dispersal, horizontal transport, and vertical mixing characteristics of the area; (e) Meteorological conditions; and (f) Water quality.
- 4.) Bathymetry (bottom topography).
- 5.) Geological structure and hazards.
- 6.) Biological features, including: (a) Critical marine habitats (see Definitions); (b) Other habitats important to the marine ecology, such as kelp and other algae beds, exposed seafloor gravel beds, seagrass beds, rocky reef areas, marine mammal rookeries and haulout areas, seabird rookeries, and areas where fish and shellfish congregate in large numbers; (c) Fish and shellfish stocks and other biologically important species; (d) Recreationally or commercially important finfish or shellfish species; (e) Planktonic and benthic flora and fauna; and (f) Other elements important to the primary productivity and the food chain.
- 7.) Mineral deposits, including sand, gravel and hydrocarbon resources.
- 8.) Cultural, economic, and social uses (present and projected) associated with the affected resources, such as: (a) Commercial and sport fishing; (b) Aquaculture; (c) Scientific research; (d) Ports, navigation, and DMD sites; (e) Recreation; (f) Tourism; (g) Mineral extraction; and (h) Waste discharge.
- 9.) Significant historical or archaeological sites.

d. **Effects Evaluation:**

- 1.) **Written Evaluation**. The government agency shall use the inventory information or cause it to be used to write an evaluation of all reasonably foreseeable adverse effects of the proposed actions.
- 2.) **Reasonably Foreseeable Adverse Effects**. For purposes of the above evaluation, the determination of "reasonably foreseeable adverse effects" shall be based on scientific evidence. The evaluation need not discuss highly speculative consequences. However, the evaluation shall discuss catastrophic environmental effects of low probability.
- 3.) **Use of Available Environmental Information**. State and federal agencies may use existing data and information from any source when complying with the requirements for resource inventory and effects evaluation. All data and information used for the inventory and evaluation, including existing data from federal

environmental impact statements or assessments, shall meet the same standards of adequacy required for the inventory and the evaluation.

e. **Insufficient/Incomplete Information:**

- 1.) Choice. When any agency discovers during the decision-making process that information regarding the effects of the proposed action is insufficient or incomplete, the agency must then determine whether and how to acquire the additional information. In the situation of insufficient information, the agency has the following options: (a) Terminate, suspend, or postpone the decision-making process until the information is available. OR (b) Determine whether the provisions of Subsection A.2.e.2. Limited Environmental Disturbance are appropriate to provide the needed information; OR (c) In the case of Developmental Fisheries pursuant to ORS 506.455, apply the provisions of Subsection A.2.e.3.
- **2.) Limited Environmental Disturbances**. To obtain adequate environmental-effects information, it may be necessary to create a limited environmental disturbance and measure the effects. The state agency's decision to allow such a disturbance shall be based on the following: (a) Approval Criteria, (b) Conditions on the Limited Environmental Disturbance, and (c) Work Plan: A written work plan shall be developed.
- 3.) Developmental Fishery Harvest
- **4.) Supervision of Research Quality**: (a) The approving agency may, subject to its statutory authority, require that the research be conducted or paid for by the applicant/development proponent. (b) The approving agency is responsible for ensuring research quality, techniques which may include the following: i. Specify the qualifications of researchers, and approve the applicant's proposed research team (that is, the actual people doing the research) and the methods of research. ii. Determine costs for any cost-incurring participation by state government agencies and assign those costs to the applicant. iii. Encourage the technical staff of affected state and federal agencies to involve themselves in data collection, analyses, etc. being conducted by or for the applicant--for example, to be on board during research cruises (the applicant would be responsible for any associated costs).iv. Encourage the submission of results to scientific journals, and the use of peer groups, steering groups, panels of experts, etc. to review research plans, data, analyses, and conclusions. v. Use administrative techniques to avoid problems with proprietary data, such as summarizing proprietary data. (c) Oregon Ocean Policy Advisory Council (OPAC) recommends to the Legislature that relevant state agencies be provided with adequate staff and funding to conduct long term

ocean research and management. (d) All research data shall be in the public domain as allowed by ORS 192.410 et seq.

- **Analysis of Data:** Proponents and opponents of any proposed ocean development, proposed environmental disturbance, or developmental fishery shall each be held to the same standards when analyzing resource inventories and effects evaluations or environmental disturbance data.
- **Inventory/Evaluation Checklist:** The Department of Land Conservation and Development shall develop a "checklist" for assisting the relevant agencies in identifying applicable ocean management rules/requirements. The checklist will not be mandatory but merely a guide.
- **Agency Responsibilities, Coordination:** Any government agency required to comply with OPAC ocean-management policies and with Goal 19 also has certain responsibilities for making the process work properly.
    - 1.) Process Coordinator. When multiple agencies are involved for whatever reason, a single agency among the group should serve to coordinate the participation of the agencies and the overall working of the process.
    - 2.) Individual Agency Responsibilities. When multiple agencies are involved, each is responsible for incorporating its relevant components into the inventory and evaluation.
    - **3.) Public Participation**. Agencies implementing the Territorial Sea Plan's policies on resource inventories and evaluations shall provide adequate opportunities for citizens to be involved in all phases of the process.

- **SECTION B. Joint Review Panels** – The policy states that:
    1. **Purpose of JRPs:** "Joint Review Panels (JRPs) shall be used when appropriate to coordinate interagency involvement and to provide technical advice to state, federal, and local agencies regarding compliance with the Ocean Plan, the Territorial Sea Plan, and Statewide Planning Goal 19 on specific proposals to use or alter ocean resources. JRP review and recommendations shall focus on technical issues. Specific proposals subject to JRP review may include but are not limited to the following: 1.) Applications for permits, leases, or other forms of approval;2.) Development actions being proposed directly by an agency; such as facility construction; alteration of ocean habitat, flora, or fauna; resource management plan; 3.) Funding by an agency of another party's development or management actions; 4.) Marine resource management plans proposed by government agencies; or 5.) Proposed state agency administrative rules.
    2. **Functions and Duties of JRPs:** "JRPs may perform any of the following tasks: 1.) Advise on preparation of resource inventories and effects evaluations, and comment on their adequacy; 2.) Review and comment on the adequacy of NEPA environmental assessments and impact statements, mitigation plans, monitoring programs, and contingency plans; 3.) Advise on the design of environmental disturbances, special permit conditions, construction and operational performance standards, lease stipulations, and mitigation measures. 4.) Review and comment on alternatives to the proposed action."

- **SECTION C. Local Government Consultation** – The policy states that:

1. **Consultation Process Described:** "The mandatory process for state agencies to consult with local governments consists of three basic parts:
    a. Agencies inform local governments of the opportunity to comment regarding a major ocean development;
    b. Agencies respond in writing to local government comments;
    c. Agencies offer assistance to local governments if appropriate."
2. **Eligible Local Governments: "Any local coastal city or county that submits written comments to a relevant state or federal agency regarding a major ocean development is eligible for this mandated consultation process**. The local government's comments shall describe how the proposed major ocean development would be: **1.)** Compatible or incompatible with specific provisions in the local comprehensive plan applicable to land-use decisions within the local government's land-use planning jurisdiction; OR **2.)** Contrary or beneficial to the interests of the community; that is, would have secondary or indirect adverse or beneficial effects which are not covered by the local comprehensive plan."
3. **Response to Comments:** "**Agencies That Must Respond: This mandatory consultation process applies to the Governor's Office, any other state agency, or federal agency that is: (a) Proposing a major ocean development;** or (b) Approving a major ocean development; or (c) Funding a major ocean development; or (d) In the case of state government, the "lead" or "coordinating" agency formulating a "state" response to a major ocean development. Such agencies must "consult" with eligible local governments as described below."
4. **Duty to Inform:** "Agencies shall inform local coastal governments regarding major ocean developments."
5. **Agency Response – Local Plan Compatibility: "**The responding federal or state agency must provide a written response to each coastal city and county government which comments on whether the proposed major ocean development would be compatible with the local comprehensive plan."
6. **Tribal Governments:** "Agencies shall notify and consult with relevant tribal governments as required by this Part 2.C. for coastal city and county governments."
7. **Local Plan "Compatibility":** "A local government may wish to amend its comprehensive plan to accommodate the onshore effects of a proposed major ocean development. If needed, the agency making the ocean-development decision should work with DLCD and the local government to develop an understanding of the proposed development's specific onshore land-use effects, and to suggest potential land-use solutions to mitigate or accommodate the effects."

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable*.

Territorial Sea Plan (TSP), Part Two (Making Resource Use Decisions), Section A – Resources Inventory and Effects Evaluation

Inventory and Evaluation Requirements

BOEM is preparing an EA to analyze whether the issuance of leases within the WEAs in Oregon would result in significant impacts to the environment, and therefore require the preparation of an EIS prior to lease issuance. The Proposed Action in the EA is the issuance of commercial wind energy lease(s) within the Oregon WEAs (Figure 4) on the OCS and associated project easement(s). Issuance of leases would allow for site characterization activities and only the submittal of SAPs and COP for BOEM's consideration and approval, which does not constitute an irreversible and irretrievable commitment of resources. As stated in 30 CFR 585.200, a lease issued under this part confers on the lessee the right to one or more project easements without further competition for the purpose of installing gathering, transmission, and distribution cables; pipelines; and appurtenances on the OCS as necessary for the full enjoyment of the lease. The lessee must apply for the project easement (30 CFR 585.200 (b)) and BOEM will incorporate the approved project easement in that lease as an addendum.

Therefore, BOEM's environmental analysis is focused on the effects of site characterization and site assessment activities expected to take place after the issuance of commercial wind energy leases. BOEM requires information from lease holders in order to approve future offshore wind plans. The issuance of a lease by BOEM to a lessee conveys no right to proceed with construction of a wind energy facility. BOEM may decide to issue leases within all of, a portion of, or none of the WEAs analyzed in the EA; BOEM's decision regarding lease issuance will be memorialized in a Final Sale Notice.

The EA serves as the written evaluation of all reasonably foreseeable effects of the Proposed Action as required by this enforceable policy. The EA analyzes the Inventory Content factors of this enforceable policy that were relevant to the Proposed Action and includes the short-term and long-term effects of the Proposed Action on the affected resources.

Factors in the Inventory Content requirement that are relevant to the Proposed Action can be found in the following sections of the EA:

1) The Proposed Action: (a) Location (using maps, charts, descriptions, etc.); (b) Numbers and sizes of equipment, structures; (c) Methods, techniques, activities to be used; (d) Transportation and transmission modes needed to serve/support the proposed project; (e) Materials to be disposed of and method of disposal; (f) Physical and chemical properties of hazardous materials to be used or produced, if any; (g) Navigation aids; and (h) Proposed time schedule.

    - Section 1 – Purpose and Need for the Proposed Action
    - Section 2.1 – Proposed Action
    - Section 2.5.1 – Site Assessment: Metocean Buoys and Ocean Devices
    - Section 2.5.2 – Site Characterization Surveys
    - Section 2.5.3 – Vessel Trips for Site Assessment and Site Characterization
    - Section 2.5.4 – Non-Routine Events
    - Section 2.6 – Impact-Producing Factors

2) Location and description of all affected areas, including areas for onshore support

facilities.

- Section 1 – Purpose and Need for the Proposed Action
- Section 2.1 – Proposed Action
- Section 3.1.1 – Geology, Affected Environment
- Section 3.2.1 – Air Quality, Affected Environment
- Section 3.3.1 – Marine and Coastal Habitats and Associated Biotic Assemblages, Affected Environment
- Section 3.4.1 – Marine Mammals and Sea Turtles, Affected Environment
- Section 3.5.1 – Coastal and Marine Birds, Affected Environment
- Section 3.6.1.1 – Socioeconomics, Affected Environment, Counties
- Section 3.6.1.2 – Socioeconomics, Affected Environment, Ports
- Section 3.7.1 – Commercial Fishing, Affected Environment
- Section 3.8.1 – Recreation and Tourism, Affected Environment
- Section 3.9.1 – Environmental Justice, Affected Environment
- Section 3.10.1 – Tribes and Tribal Resources, Affected Environment
- Section 3.11.1 – Historic Properties, Affected Environment
- Appendix C: Supplemental Information for Ports, Fisheries, and Military Activities

3) Physical and chemical conditions such as: (a) Water depth; (b) Wave regime; (c) Current velocities; (d) Dispersal, horizontal transport, and vertical mixing characteristics of the area; (e) Meteorological conditions; and (f) Water quality.

- Section 2.7 – Offshore Activities and Resources Eliminated from Further Consideration – Water Quality
- Appendix A – Resources Eliminated from Detailed Consideration, and Assessment of Resources with Negligible Impacts
- The Proposed Action of lease issuance will be followed by site characterization and assessment activities on the OCS and State waters. After lease issuance, a lessee would conduct surveys to collect data and, if authorized to do so pursuant to an approved SAP, install meteorological and oceanographic devices to characterize the site's environment and to assess the wind resources in the proposed lease area. Site assessment activities, described in a SAP, would most likely include the temporary placement of meteorological and oceanographic buoys (i.e., metocean or met buoys) and other oceanographic devices within a lease area. Site characterization activities, or surveys, would most likely gather geophysical, geotechnical, biological, archaeological, and/or ocean data.

4) Bathymetry (bottom topography).

- Section 3.1.1 – Geology, Affected Environment

5) Geological structure and hazards.

- Section 3.1.1 – Geology, Affected Environment

- Section 3.1.2 – Geology, Impacts of the Proposed Action

6) Biological features, including: (a) Critical marine habitats (see Definitions); (b) Other habitats important to the marine ecology, such as kelp and other algae beds, exposed seafloor gravel beds, seagrass beds, rocky reef areas, marine mammal rookeries and haulout areas, seabird rookeries, and areas where fish and shellfish congregate in large numbers; (c) Fish and shellfish stocks and other biologically important species; (d) Recreationally or commercially important finfish or shellfish species; (e) Planktonic and benthic flora and fauna; and (f) Other elements important to the primary productivity and the food chain.

- Section 3.3.1 – Marine and Coastal Habitats and Associated Biotic Assemblages, Affected Environment
- Section 3.3.2 – Marine and Coastal Habitats and Associated Biotic Assemblages, Impacts of the Proposed Action
- Section 3.4.1 – Marine Mammals and Sea Turtles, Affected Environment
- Section 3.4.2 – Marine Mammals and Sea Turtles, Impacts of the Proposed Action
- Section 3.5.1 – Coastal and Marine Birds, Affected Environment
- Section 3.5.2 – Coastal and Marine Birds, Impacts of the Proposed Action
- Section 3.7.1 – Commercial Fishing, Affected Environment
- Section 3.7.2 – Commercial Fishing, Impacts of the Proposed Action

7) Mineral deposits, including sand, gravel and hydrocarbon resources.

- This factor is not considered relevant to the Proposed Action and is therefore not addressed in the EA.

8) Cultural, economic, and social uses (present and projected) associated with the affected resources, such as: (a) Commercial and sport fishing; (b) Aquaculture; (c) Scientific research; (d) Ports, navigation, and DMD sites; (e) Recreation; (f) Tourism; (g) Mineral extraction; and (h) Waste discharge.

- Section 2.5.4 – Non-Routine Events (vessel discharges)
- Section 3.6.1.1 – Socioeconomics, Affected Environment, Counties (including mineral extraction)
- Section 3.6.1.2 – Socioeconomics, Affected Environment, Ports
- Section 3.6.2.1 – Socioeconomics, Impacts of the Proposed Action, Counties
- Section 3.6.2.2 – Socioeconomics, Impacts of the Proposed Action, Ports
- Section 3.7.1 – Commercial Fishing, Affected Environment
- Section 3.7.2 – Commercial Fishing, Impacts of the Proposed Action
- Section 3.8.1 – Recreation and Tourism, Affected Environment
- Section 3.8.2 – Recreation and Tourism, Impacts of the Proposed Action
- BOEM continues to gather information that will inform COP decision making and currently has 14 studies ongoing with the purpose of finding out more information about how renewable energy will affect the State of Oregon. BOEM also has

seven studies that will inform BOEM's review of COPs in the future which are not specific to the State of Oregon. Visit BOEM's Environmental Studies webpage for the Pacific for more information at: https://www.boem.gov/Selected-BOEM-Research-Renewable-OR/.

9) Significant historical or archaeological sites.
   - Section 3.11.1 – Historic Properties, Affected Environment
   - Section 3.11.2 – Historic Properties, Impacts of the Proposed Action

BOEM has provided this Consistency Determination to demonstrate that its Proposed Action is consistent with the enforceable policies of the Territorial Sea Plan; Oregon's ocean law; Statewide Planning Goal 19, Ocean Resources; and the policies of the Oregon Ocean Resources Management Plan.

Public Participation

Regarding public participation throughout the process, BOEM conducted public engagement activities at the Call and Draft WEA stages of the Oregon wind leasing process, and, more recently, publicly announced the start of the environmental review process and solicited input through a comment period. Additional information regarding public participation and engagement that has been conducted throughout the renewable energy leasing process can be found in the above sections: Section 3.2 Planning and Analysis, Section 3.3 Call for Information and Nominations, Section 3.4 Draft Wind Energy Areas, Section 3.5 Area Identification, Section 3.7 Environmental Assessment, and Statewide Planning Goal 1 Citizen Involvement.

If BOEM decides to move forward with the leasing process, BOEM would publish the proposed area(s) for lease, associated lease terms and conditions, and a proposed format of the competitive auction in a Proposed Sale Notice (PSN) issued pursuant to 30 CFR § 585.216. A formal public comment period would follow issuance of the PSN. BOEM will review any comments received to help develop the final lease sale terms and conditions that would be published in the Final Sale Notice (FSN). BOEM may use information from its environmental analysis, as well as information gathered in response to the PSN, in the FSN, further refine lease areas and develop lease terms and conditions.

If a lease is issued and a lessee submits a COP on that lease, BOEM would invite consultation with the appropriate Tribal, Federal, state, and local governments, solicit input from the public and Task Force members and conduct a project-specific environmental analysis under NEPA. Additional opportunities for public involvement will be available during this project-specific COP analysis. BOEM uses this information to evaluate the potential environmental impacts and related socioeconomic considerations associated with the Proposed Action, which would inform its decision to approve, approve with modification, or disapprove a lessee's COP pursuant to 30 CFR § 585.628.

TSP, Part Two (Making Resource Use Decisions), Section B – Joint Review Panels (JRP)

The Proposed Action does not include an application for permits or leases, development actions, funding, marine resources management plans, or proposed state agency administrative rules, the

Oregon TSP Part Two Section B to coordinate a Joint Review Panel does not apply**.** Rather, **t**he Proposed Action for this CD is the issuance of commercial wind energy lease(s) within the Oregon WEAs on the OCS. Issuance of leases would allow for site characterization activities and only the submittal of SAPs and a COP for BOEM's consideration, which does not constitute an irreversible and irretrievable commitment of resources. Therefore, this CD is focused on the effects of site characterization and site assessment activities expected to take place after the issuance of commercial wind energy leases. The purpose is to allow lessees access to gather information in the WEAs. BOEM requires such information from lease holders to evaluate whether to approve future offshore wind plans. The issuance of a lease by BOEM to a lessee conveys no right to proceed with construction of a wind energy facility.

Additional Coastal Zone Management Federal consistency review will be conducted during the COP stage pursuant to 15 CFR part 930, subpart E. A lessee must provide a consistency certification with its COP. The certification must demonstrate that the activities proposed in a COP will comply with the State(s) approved coastal management program(s), will be conducted in a manner that is consistent with such program(s), and include the necessary data and information to support any such certification.

TSP, Part Two (Making Resource Use Decisions), Section C – Local Government Consultation

The Proposed Action for this CD is the issuance of commercial wind energy lease(s) within the Oregon WEAs on the OCS and is not considered a major ocean development as defined in TSP, Part Two, Section C. In Section C, the term major ocean development is defined as: 1) Any ocean development that involves the siting of an onshore facility in a coastal county or city; 2) Any ocean activity that results in a Joint Review Panel; 3) Federal or state ocean leasing for oil/gas or hard mineral exploration or development (not geological or geophysical testing or sampling); 4) Any ocean activity or action for which state or federal law requires approval from the Governor; or 5) Designation of any restricted ocean-use area, whether for resource protection (e.g., marine sanctuary) or for development (e.g., kelp lease). Therefore, Section C of the TSP Part Two is not relevant to the current analysis of this CD. Rather, issuance of leases would allow for site characterization activities and only the submittal of SAPs and COP for BOEM's consideration, which does not constitute an irreversible and irretrievable commitment of resources. Therefore, this CD is focused on the effects of site characterization and site assessment activities expected to take place after the issuance of commercial wind energy leases. The purpose is to allow lessees access to gather information in the WEAs. BOEM requires information from lease holders in order to evaluate whether to approve future offshore wind plans. The issuance of a lease by BOEM to a lessee conveys no right to proceed with construction of a wind energy facility.

Additional Coastal Zone Management Federal consistency review will be conducted during the COP stage pursuant to 15 CFR part 930, subpart E. A lessee must provide a consistency certification with a COP stating that the proposed activities described in the COP will comply with the State(s) approved coastal management program(s), will be conducted in a manner that is consistent with such program(s), and include the necessary data and information to support any such certification.

Oregon Territorial Sea Plan, Part 3: Rocky Shores Management Strategy

Applicable Policy Section(s):

- B.1. Rocky Shores Policy Framework: Goal, Objectives, Policies
- C.1. Mandatory Policies for Site Management
- C.2. Mandatory Policies for Amending the Rocky Shores Strategy
- F.2. Management categories
- G.1-39. Site Designations and Management Prescriptions

Analysis and Comment:

Determination of BOEM activities: *Not applicable.*

The Proposed Action does not include activities on rocky shores as the shoreland is under the jurisdiction of the state. Therefore, Part Three of the Oregon TSP is not relevant to this CD. Rather, the Proposed Action for this CD is the issuance of commercial wind energy lease(s) within the Oregon WEAs on the OCS. Issuance of leases would allow for site characterization activities on the OCS and only the submittal of SAPs and COP for BOEM's consideration, which does not constitute an irreversible and irretrievable commitment of resources

BOEM's regulatory authority is limited to the OCS, and therefore BOEM cannot approve site assessment or characterization activities in State waters or onshore areas. Per BOEM's commercial wind energy lease, the lessee must conduct, and agrees to conduct, all activities in the leased area and project easement(s) in accordance with an approved SAP or COP, and with all applicable laws and regulations. Additionally, BOEM's lease includes the following stipulation regarding an ACP. Per the lease stipulation, the lessee must develop a publicly available ACP that describes the strategies that the lessee intends to use for communicating with Federal, state, and local agencies (including harbor districts) with authority related to the Lease Area and should outline specific methods for engaging with and disseminating information to these agencies. The lease also states that the ACP should include detailed information and protocols for regular engagement with permitting, planning, and resource agencies and that the lessee must provide the ACP to the lessor and other permitting, planning, and resource agencies with authority related to the Lease Area for review and comment and host a meeting with the lessor and all interested agencies to discuss the ACP. In addition to other requirements, the lessee must invite agencies with planning and/or permitting roles and/or resource expertise to participate in the ACP.

The State Territorial Sea section of the *ORESA Supporting Materials Report* discusses the processes for permitting projects within the state's jurisdiction. State permits to be obtained prior to activities in state waters may include any, some, or all of the following: Ocean shores permit issued by OPRD, 401 Water Quality Certification issued by the Oregon DEQ, CZMA Consistency Certification provided by DLCD, Removal/Fill Permit issued by the Oregon DSL, and Temporary Use Authorization or Ocean Renewable Energy Facility Lease through DSL. Federal permits to be obtained prior to activities in state waters may include: USACE permits, NOAA NMFS permits, USFWS permits, and FERC applicable permits. Additionally, the authority for issuing permits at the county-level is established in ORS Chapter 215. In addition to the general authority to govern land use that is conferred upon counties, there are specific

statutes that apply to renewable energy facilities within ORS Chapter 215.

Additional Coastal Zone Management Federal consistency review will be conducted during the COP stage pursuant to 15 CFR part 930, subpart E. A lessee must provide a consistency certification with their COP stating that the proposed activities described in the COP will comply with the State(s) approved coastal management program(s), will be conducted in a manner that is consistent with such program(s), and include the necessary data and information to support such a certification.

Oregon Territorial Sea Plan, Part 4: Uses of the Seafloor

Applicable Policy Section(s):

- When making decisions to approve routing, placement or operation of a seafloor utility or fixture, state and federal agencies shall:
    - a. **Protect ocean fisheries** and other ocean uses from any adverse effects that may be caused by installation or operation of cables, pipelines, or other fixtures by requiring that such routing, placement, or operation: 1.) **avoid conflicts between commercial or recreational fishing or other activities and utilities, as a first priority**; 2.) **reduce any adverse effects** when conflicts cannot be avoided; and 3.) **mitigate for adverse effects** after first reducing them to the minimum practicable.
    - b. **Protect marine habitat, fishery areas, and other marine resources as required by Statewide Planning Goal 19, Ocean Resources and the Oregon Territorial Sea Plan;** and
    - c. Promote direct communication between affected ocean users to resolve or avoid conflicts and require written agreements among the parties when necessary to ensure communication and memorialize agreements.

Analysis and Comment:

Determination of BOEM activities: *Not applicable*.

The Proposed Action does not include the routing, placement, or operation of a seafloor utility or fixture, and therefore, Part Four of the Oregon TSP is not relevant to this CD. Rather, **t**he Proposed Action for this CD is the issuance of commercial wind energy lease(s) within the Oregon WEAs on the OCS. Issuance of leases would allow for site characterization activities and only the submittal of SAPs and COP for BOEM's consideration, which does not constitute an irreversible and irretrievable commitment of resources. Therefore, this CD is focused on the effects of site characterization and site assessment activities expected to take place after the issuance of commercial wind energy leases. The purpose is to allow lessees access to gather information in the WEAs. BOEM requires information from lease holders in order to evaluate future offshore wind plans. The issuance of a lease by BOEM to a lessee conveys no right to proceed with construction of a wind energy facility.

BOEM's regulatory authority is limited to the OCS, and therefore BOEM cannot approve site assessment or characterization activities in State waters or onshore areas. Per BOEM's commercial wind energy lease, the lessee must conduct, and agrees to conduct, all activities in the leased area and project easement(s) in accordance with an approved SAP or COP, and with all applicable laws and regulations. Additionally, BOEM's lease includes the following stipulation regarding an ACP. Per the lease stipulation, the lessee must develop a publicly available ACP that describes strategies the lessee intends to use for communicating with Federal, state, and local agencies (including harbor districts) with authority related to the Lease Area and should outline specific methods for engaging with and disseminating information to these agencies. The lease also states that the ACP should include detailed information and protocols for regular engagement with permitting, planning, and resource agencies and that the lessee must provide the ACP to the lessor and other permitting, planning, and resource agencies with authority related to the Lease Area for review and comment and host a meeting with the lessor and all interested agencies to discuss the ACP. In addition to other requirements, the lessee must invite agencies with planning and/or permitting roles and/or resource expertise to participate in the ACP.

The State Territorial Sea section of the *ORESA Supporting Materials Report* discusses the processes for permitting projects within the state's jurisdiction. State permits to be obtained prior to activities in state waters may include any, some, or all of the following: Ocean shores permit issued by OPRD, 401 Water Quality Certification issued by the Oregon DEQ, CZMA Consistency Certification provided by DLCD, Removal/Fill Permit issued by the Oregon DSL, and Temporary Use Authorization or Ocean Renewable Energy Facility Lease through DSL. Federal permits to be obtained prior to activities in state waters may include: USACE permits, NOAA NMFS permits, USFWS permits, and FERC applicable permits. Additionally, the authority for issuing permits at the county-level is established in ORS Chapter 215. In addition to the general authority to govern land use that is conferred upon counties, there are specific statutes that apply to renewable energy facilities within ORS Chapter 215.

Additional Coastal Zone Management Federal consistency review will be conducted during the COP stage pursuant to 15 CFR part 930, subpart E. A lessee must provide a consistency certification with their COP stating that the proposed activities described in the COP will comply with the State(s) approved coastal management program(s), will be conducted in a manner that is consistent with such program(s), and include the necessary data and information to support such a certification.

Oregon Territorial Sea Plan, Part 5: Uses of the Territorial Sea for the Development of Renewable Energy Facilities or Other Related Structures, Equipment or Facilities

Applicable Policy Section(s):

- Part Five of the Oregon Territorial Sea Plan describes the process for making decisions concerning the development of renewable energy facilities (*e.g.* wind, wave, current, thermal, etc.) in the state territorial sea, and specifies the areas where development may be sited.

Analysis and Comment:

Determination of BOEM activities: *Not applicable*.

The Proposed Action does not include the development of renewable energy facilities, and therefore, Part Five of the Oregon TSP is not relevant to this CD. Rather, the Proposed Action for this CD is the issuance of commercial wind energy lease(s) within the Oregon WEAs on the OCS. Issuance of leases would allow for site characterization activities and only the submittal of SAPs and COP for BOEM's consideration, which does not constitute an irreversible and irretrievable commitment of resources. Therefore, this CD is focused on the effects of site characterization and site assessment activities expected to take place after the issuance of commercial wind energy leases. The purpose is to allow lessees access to gather information in the WEAs. BOEM requires information from lease holders to evaluate future offshore wind plans. The issuance of a lease by BOEM to a lessee conveys no right to proceed with construction of a wind energy facility.

Additional Coastal Zone Management Federal consistency review will be conducted during the COP stage pursuant to 15 CFR part 930, subpart E. A lessee must provide a consistency certification with their COP stating that the proposed activities described in the COP will comply with the State(s) approved coastal management program(s), will be conducted in a manner that is consistent with such program(s), and include the necessary data and information to support such a certification.

5.2 State Agency Authorities Enforceable Policies: Comment and Analysis

5.2.1 Oregon Revised Statutes (ORS) and Oregon Administrative Rules (OARs)

ORS 468A: Air Quality

Applicable Policy Section(s):

- .005 Definitions for air pollution laws
- .010 Policy

  (1) In the interest of the public health and welfare of the people, it is declared to be the public policy of the State of Oregon:

  (a) To restore and maintain the quality of the air resources of the state in a condition as free from air pollution as is practicable, consistent with the overall public welfare of the state.

  (b) To provide for a coordinated statewide program of air quality control and to allocate between the state and the units of local government responsibility for such control.

  (c) To facilitate cooperation among units of local government in establishing and supporting air quality control programs.

  (2) The program for the control of air pollution in this state shall be undertaken in a progressive manner, and each of its successive objectives shall be sought to be accomplished by cooperation and conciliation among all the parties concerned.

- .020 Application of air pollution laws
- .025 Air purity standards; air quality standards; treatment and control of emissions; rules
  By rule the Environmental Quality Commission may establish areas of the state and prescribe the degree of air pollution or air contamination that may be permitted therein, as air purity standards for such areas.

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

BOEM requires lessees to comply with all applicable Federal, State, and local air quality regulations by obtaining any necessary permits and complying with the terms of such permits, including any required mitigation.

The analysis of coastal effects regarding air quality is previously discussed in Statewide Planning Goal 6: Air, Water and Land Resources Quality. Refer to the Analysis and Comment for Statewide Planning Goal 6 (Air, Water and Land Resources) in Section 5.1.1 Statewide Planning Goals 1-18.

ORS 468: Environmental Quality Generally

Applicable Policy Section(s):

- .936 Unlawful air pollution in the second degree
- .939 Unlawful air pollution in the first degree
- .941 Determination of number of punishable offenses under ORS 468.936 and 468.939
- .942 Unlawful water pollution in the second degree
- .946 Unlawful water pollution in the first degree
- .949 Determination of number of punishable offenses under ORS 468.943 and 468.946
- .951 Environmental endangerment

The sections of this policy refer to unlawful air pollution and water pollution as well as environmental endangerment.

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

The analysis of coastal effects for this policy related to air and water quality is discussed above in Statewide Planning Goal 6: Air, Water and Land Resources Quality. Refer to the Analysis and Comment for Statewide Planning Goal 6 (Air, Water and Land Resources) in Section 5.1.1 Statewide Planning Goals 1-18.

ORS 468b: Water Quality

Applicable Policy Section(s):

- .005 Definitions for water pollution control laws
- .015 Policy

- **.020 Prevention of pollution**
- .025 Prohibited activities
- .048 Rules for standards of quality and purity; factors to be considered; meeting standards
- .060 Liability for damage to fish or wildlife or habitat; agency to which damages payable
- .070 Prohibited activities for certain municipalities
- .080 Prohibitions for relating to garbage or sewage dumping into waters of the state
- .083 When motor vehicle parts may be placed in waters of state; rules
- .085 Depositing vehicles or manufactured structures into water prohibited
- .305 Entry of oil into waters of state prohibited; exceptions
- .315 Duty to collect and remove oil; dispersal of oil
- .320 Action by state; liability for state expense; order; appeal
- **.345 Oil spill contingency plan required to operate facility or covered vessel in state or state waters; exceptions**
- **.350 Standards for contingency plans; oil spill response zones; rules**
- **.360 Review of contingency plan**
- .365 Plan approval; change affecting plan; certificate of approval
- .370 Determination of adequacy of plan; practice drills; rules
- .375 Inspection of facilities and vessels; coordination with State of Washington
- .380 Tank vessel inspection program; rules
- .385 Modification of approval of contingency plan; revocation of approval; violation
- .390 Compliance with federal Oil Pollution Act of 1990; proof of financial responsibility
- .450 Willful or negligent discharge of oil; civil penalty; authority of director to mitigate
- .460 Rules
- .475 Legislative finding; need for evidence of financial assurance for ships transporting oil
- .485 Methods of establishing financial assurance

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent possible.*

A petroleum spill could result from allisions, collisions, accidents during the maintenance or transfer of offshore equipment and/or crew, or due to natural events (i.e., strong waves or storms). From 2000 to 2009, the average spill size for vessels other than tank ships and tank barges was 88 gallons (USCG 2011); should a spill from a vessel associated with the Proposed Action occur, BOEM anticipates that the volume would be similar. Diesel fuel is lighter than water and may float on the water's surface or be dispersed into the water column by waves. Diesel would be expected to dissipate very rapidly, evaporate, and biodegrade within a few days (MMS 2007b). The NOAA's Automated Data Inquiry for Oil Spills was used to predict dissipation of a maximum spill of 2,500 barrels, a spill far greater than what is assumed as a non-routine event during the Proposed Action. Results of the modeling analysis showed that dissipation of spilled diesel fuel is rapid. The amount of time it took to reach diesel fuel concentrations of less than 0.05% varied between 0.5 and 2.5 days, depending on ambient wind (Tetra Tech EC Inc. 2015), suggesting that 88 gallons would reach similar concentrations faster and thereby limiting any potential environmental impact.

Most met buoys do not contain petroleum. BOEM expects vessels involved in transporting any such buoys to their location will comply with USCG spill prevention requirement and to follow 33 CFR Parts 151 (Vessels Carrying Oil, Noxious Liquid Substances, Garbage, Municipal or Commercial Waste, and Ballast Water), 154 (Facilities Transferring Oil or Hazardous Material in Bulk), and 155 (Oil or Hazardous Material Pollution Prevention Regulation for Vessels), which contain guidelines for spill response plans and shipboard oil pollution emergency plans. Further, a spill would be expected to dissipate rapidly and then evaporate and biodegrade within a day or two, limiting the potential impacts to a localized area for a short duration.

Additional analysis of coastal effects for this policy regarding pollution and water quality is previously discussed in Statewide Planning Goal 6: Air, Water and Land Resources Quality. Refer to the Analysis and Comment for Statewide Planning Goal 6 (Air, Water and Land Resources) in Section 5.1.1 Statewide Planning Goals 1-18.

For additional reference to this policy, see the **Oregon EA** (**Section 2.5.4, Non-Routine Events; Section 2.7, Offshore Activities and Resources Eliminated from Further Consideration; Appendix A of the EA - Resources Eliminated from Detailed Consideration, and Assessment of Resources with Negligible Impacts**).

OAR 340-041: Water Quality Standards: Beneficial Uses, Policies, and Criteria for Oregon

Applicable Policy Section(s):

- 0002 Definitions
- 0004 Antidegradation
- 0007 Statewide Narrative Criteria
- 0009 Bacteria
- 0011 Biocriteria
- 0016 Dissolved Oxygen
- 0021 pH
- 0028 Temperature
- 0031 Total Dissolved Gas
- 0032 Total Dissolved Solids (TDS)
- 0033 Toxic Substances
- 0036 Turbidity
- 0061 Other Implementation of Water Quality Criteria
- 0104 Basin-Specific Criteria (Main Stem Columbia River): Water Quality Standards and Policies Specific to the Main Stem Columbia River
- 0225 Basin-Specific Criteria (Mid Coast Basin): Water Quality Standards and Policies for this Basin
- 0235 Basin-Specific Criteria (North Coast): Water Quality Standards and Policies for this Basin
- 00275 Basin-Specific Criteria (Rogue): Water Quality Standards and Policies for this Basin
- 0305 Water Quality Standards and Policies for South Coast Basin
- 0326 Basin-Specific Criteria (Umpqua Basin): Water Quality Standards and Policies for this Basin

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

The analysis of coastal effects regarding water quality is previously discussed in Statewide Planning Goal 6: Air, Water and Land Resources Quality. Refer to the Analysis and Comment for Statewide Planning Goal 6 (Air, Water and Land Resources) in Section 5.1.1 Statewide Planning Goals 1-18.

For additional reference to this policy, see the **Oregon EA** (**Section 2.7, Offshore Activities and Resources Eliminated from Further Consideration; Appendix A of the EA - Resources Eliminated from Detailed Consideration, and Assessment of Resources with Negligible Impacts**).

OAR 660-015: Land Conservation and Development Commission

Applicable Policy Section(s):

- 0010(4) Definitions
  - Coastal State-Wide Planning Goals:
  - (1) #16 — Estuarine Resources
  - (2) #17 — Coastal Shorelands
  - (3) #18 — Beaches and Dunes
  - (4) #19 — Ocean Resources

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

The analysis of coastal effects regarding coastal shorelands and ocean resources is previously discussed in the Analysis and Comment sections for the Statewide Planning Goal 16 Estuarine Resources, Statewide Planning Goal 17: Coastal Shorelands, and Statewide Planning Goal 18 Beaches and Dunes in Section 5.1.1 above, and Statewide Planning Goal 19: Ocean Resources in Section 5.1.2 above.

ORS 196: Ocean Resource Planning; Wetlands; Removal and Fill

Applicable Policy Section(s):

- .405 Definitions for ORS 196.405 to 196.515
- .420 Policy
  1. **It is the policy of the State of Oregon to: (1) Conserve the long-term values, benefits and natural resources of the ocean both within the state and beyond by giving clear priority to the proper management and protection of renewable resources over non-renewable resources; (2) Encourage ocean resources development which is environmentally sound and economically beneficial to adjacent local governments and to the state; (3) Assert the interests of this state as a partner with federal agencies in the sound management of the ocean resources within the United States Exclusive Economic Zone and on the continental shelf; (4) Encourage research, study**

and understanding of ocean processes, marine life and other ocean resources; (5) Encourage research and development of new, innovative marine technologies to study and utilize ocean resources; and (6) Ensure that the Ocean Policy Advisory Council will work closely with coastal local governments to incorporate in its activities coastal local government and resident concerns, coastal economic sustainability and expertise of coastal residents.

- .425 Oregon Ocean Resources Management Program
    1. To ensure the conservation and development of ocean resources affecting Oregon consistent with the purposes of ORS 196.405 to 196.515, a program of ocean resource planning and management is established. This program shall be known as the Oregon Ocean Resources Management Program and is part of Oregon's coastal management program. The Oregon Ocean Resources Management Program consists of: (1) Applicable elements of the Oregon Coastal Management Program approved by the U.S. Secretary of Commerce on July 7, 1977, and as subsequently amended pursuant to the Coastal Zone Management Act of 1972, including statutes that apply to coastal and ocean resources, those elements of local comprehensive plans of jurisdictions within Oregon's coastal zone as defined in the Oregon Coastal Management Program which may be affected by activities or use of resources within the ocean, and those statewide planning goals which relate to the conservation and development of ocean and coastal resources; (2) The Ocean Policy Advisory Council or its successor; (3) Those portions of the Oregon Ocean Resources Management Plan that are consistent with ORS 196.405 to 196.515; and (4) The Territorial Sea Plan as reviewed by the council and submitted to the agencies represented on the council.
- .435 Primary agency for certain federal purposes
    1. (1) The Department of Land Conservation and Development is designated the primary agency for coordination of ocean resources planning. The department is designated the State Coastal Management Agency for purposes of carrying out and responding to the Coastal Zone Management Act of 1972.
- .455 Coordination with federal programs
    1. To insure that the Oregon Ocean Resources Management Plan and Territorial Sea Plan are coordinated with federal agency programs for coastal and ocean resources, the Ocean Policy Advisory Council may invite federal agencies with responsibility for the study and management of ocean resources or regulation of ocean activities to designate a liaison to the council to attend council meetings, respond to council requests for technical and policy information and review draft plan materials prepared by the council.
- **.583 Requirement to share geological data regarding territorial sea floor**
    1. Any person authorized by a public body, as defined in ORS 174.109, to develop energy resources in Oregon's territorial sea, shall share any geological and geophysical data, including bathymetry, backscatter, seismic reflection and sample data, generated by the person regarding Oregon's territorial sea floor with the Oregon territorial sea mapping project at Oregon State University. [2013 c.208 §1]
- .805 Policy

1. (1) The protection, conservation and best use of the water resources of this state are matters of the utmost public concern. Streams, lakes, bays, estuaries and other bodies of water in this state, including not only water and materials for domestic, agricultural and industrial use but also habitats and spawning areas for fish, avenues for transportation and sites for commerce and public recreation, are vital to the economy and well-being of this state and its people. **Unregulated removal of material from the beds and banks of the waters of this state may create hazards to the health, safety and welfare of the people of this state. Unregulated filling in the waters of this state for any purpose, may result in interfering with or injuring public navigation, fishery and recreational uses of the waters.**

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

Oregon Ocean Resources Management Program

The Coastal Zone Management Act requires that Federal actions that are reasonably likely to affect any land or water use or natural resource of the coastal zone be "consistent to the coastal management program (15 CFR part 930, subpart C). BOEM has prepared this CD under 15 CFR 930.36(a) to determine whether issuing leases and site assessment activities (including the construction/installation, operation and maintenance, and decommissioning of wind energy research buoys) in the Oregon WEAs was consistent to the maximum extent practicable with the enforceable policies in Oregon's approved Coastal Zone Management Program.

.583 Requirement to share geological data regarding territorial sea floor

The Proposed Action does not include the development of energy resources and therefore this requirement to share geological data regarding the territorial sea floor is not applicable at this stage in the process. 30 CFR 585.114 describes how data and information that is obtained by BOEM under this part may be disclosed to the public. BOEM will make data and information available in accordance with its regulations subject to the provisions of the Freedom of Information Act (FOIA) (5 U.S.C. 552). BOEM will not release such data and information that it has determined is exempt from disclosure under exemption 4 of FOIA. BOEM will review such data and information and objections of the submitter by the schedule listed in 30 CFR 585.114 to determine whether release at that time will result in substantial competitive harm or disclosure of trade secrets. For commercial leases, BOEM will review data and information for possible release at the earlier of three years after the initiation of commercial generation, or three years after the lease terminates (30 CFR 585.114).

Unregulated removal of material and unregulated filling in the waters

Although the geology of the Oregon continental shelf is complex, the anticipated impacts to the local geologic resources by activities performed as part of a SAP and site characterization activities include HRG surveys and geotechnical sampling. Geotechnical sampling is likely to occur as cone penetration, vibracore, and/or piston cores. Geotechnical sampling within the

WEA and along potential export cable routes would result in only minor, temporary disturbance of the upper 25 m (82 ft) of sediment that underlies the seafloor. Benthic sampling and equipment testing could occur with negligible, temporary disturbance of the upper 2 m (6 ft) of seafloor sediment.

Geotechnical surveys are conducted to measure the physical properties of shallow sediments. These measurements are used to design anchor systems, foundations, conduct slope stability studies, determine the armor level of export cables, and determine appropriate cable burial methods. Geotechnical surveys use HRG surveys to select sites for sampling, ensuring the sites are free from archaeological, geological, and benthic hazards. The samples for geotechnical evaluation are collected either by direct sampling or in-situ methods. Direct sampling usually employs a dredge or corer off a survey vessel which retrieves a sediment sample from the seabed and returns it to the deck of the vessel for further analysis. In-situ methods use a probe, that is pushed, or dropped into the seabed, and can record various properties of the sediment. Likely methods to obtain geotechnical data and estimated seabed disturbance are in Table 5**.**

The BOEM *Guidelines for Providing Geophysical, Geotechnical, and Geohazard Information* **(**BOEM 2023a) recommend high frequency sub-bottom profiler data and medium penetration seismic surveys. Medium penetration seismic systems, such as boomer, sparker, or other low frequency systems, can be used to provide information on sedimentary structures that exceed the penetrative capability of a high frequency sub-bottom system. BOEM guidance recommends collection of sedimentary structure data 10 m beyond the depth of disturbance, which may not be possible for a high frequency sub-bottom profiler system in certain sediment types (i.e., sand). Survey contractors may elect to acquire medium penetration seismic in areas that are predicted to have poor sub-bottom penetration.

BOEM anticipates that a geotechnical sample would be taken at every proposed anchor site, every anchor touchdown point, every export cable touchdown point, and every kilometer along an export cable route. An unknown number of geotechnical samples might be needed for slope stability studies. In addition, the amount of effort and number of vessel trips required to collect the geotechnical samples varies greatly by the type of technology used to retrieve the sample. Some vessels require anchoring for brief periods using small anchors; however, most deployments for this sampling work would likely involve a vessel having dynamic positioning capability (i.e., no seafloor anchoring impacts) (BOEM 2014).

The area of seabed disturbed by individual sampling events (e.g., collection of a core or grab sample) and placement of met buoy anchors could range up to an estimated 10 m^2 (Table 5) although the maximum disturbance for many methods is less than half that area. If every sample collected results in 10 m^2 disturbance, then 1,000 samples could theoretically disturb up to 10,000 m^2 (1 ha; 2.5 acres) of seafloor in the Action Area. The number of samples is likely an overestimate. Representative surveys currently estimate closer to 100 total samples associated with each leaseholder, representing a maximum of 1,000 m^2 (0.1 ha; 0.25 acres) of seafloor disturbance. The higher estimate accounts for the complexity of the seafloor and the current state of data collection offshore Oregon. Coring done by the U.S. Geological Survey in the Oregon WEAs to date had smaller disturbance ratios, vibracore diameters were < 0.3 m and piston and gravity cores had a 0.5 m diameter casing.

Impacts to geologic resources would be limited to the lease area and potential export cable routes. HRG survey activity would be temporary and short-term. Geologic impact would be negligible and temporary in duration.

For additional information about BOEM's review of this issue, see the previous analysis in Statewide Planning Goal 6: Air, Water and Land Resources Quality and Statewide Planning Goal 19: Ocean Resources.

Lost Survey Equipment:

In the event of equipment lost during surveys or a met buoy disconnecting from its anchor, recovery operations may be undertaken. Recovery operations may be performed in a variety of ways, including ROVs and grapnel lines, depending on water depth and equipment lost. If grapnel lines (e.g., hooks, trawls) are used to retrieve lost equipment, bottom disturbances could result from dragging the line along the bottom until it hooks the lost equipment. In addition, after the line catches the lost equipment, components are dragged along the seafloor until recovery.

Survey equipment could be carried away by currents or become embedded in the seafloor. Additional bottom disturbance may also occur. For example, a broken vibracore rod that cannot be retrieved may need to be cut and capped 1–2 m (3–6.5 ft) below the seafloor. For the recovery of lost survey equipment, BOEM will work with the lessee/operator to develop an emergency response plan. Selection of a mitigation strategy would depend on the nature of the lost equipment, and further consultation may be necessary. Impacts associated with recovery of lost survey equipment may include vessel trips, noise and lighting, air emissions, and routine vessel discharges from a single vessel. Bottom disturbance and habitat degradation may also occur from recovery operations.

The State Territorial Sea section of the *ORESA Supporting Materials Report* discusses the processes for permitting projects within the state's jurisdiction. State permits to be obtained prior to activities in state waters may include any, some, or all of the following: Ocean shores permit issued by the Oregon Parks and Recreation Department (OPRD), 401 Water Quality Certification issued by the Oregon Department of Environmental Quality (DEQ), CZMA Consistency Certification provided by DLCD, Removal/Fill Permit issued by the Oregon DSL, and Temporary Use Authorization or Ocean Renewable Energy Facility Lease through DSL. Federal permits to be obtained prior to activities in state waters may include: USACE permits, NOAA NMFS permits, USFWS permits, and FERC applicable permits. Any renewable energy proposals on state lands will need to obtain the appropriate state and Federal permits. The authority for issuing permits at the county-level is established in ORS Chapter 215. In addition to the general authority to govern land use that is conferred upon counties, there are specific statutes that apply to renewable energy facilities within ORS Chapter 215.

ORS 390: Oregon Parks and Recreation Department

Applicable Policy Section(s):

- .010 Policy of state toward outdoor recreation resources
- (1) It is desirable that all Oregonians of present and future generations and visitors who are lawfully present within the boundaries of this state **be assured adequate outdoor**

> **recreation resources.** It is desirable that all levels of government and private interests take prompt and coordinated action to the extent practicable without diminishing or affecting their respective powers and functions to **conserve, develop, and utilize such resources for the benefit and enjoyment of all the people**. (2) The economy and well-being of the people are in large part dependent upon proper utilization of the state's outdoor recreation resources for the physical, spiritual, cultural, scientific and other benefits which such resources afford. (3) It is in the public interest to increase outdoor recreation opportunities commensurate with the growth in need through necessary and appropriate actions, including, but not limited to, the following: (a) **Protection of existing and needed open spaces** for appreciation, use and enjoyment of Oregon's scenic landscape. (b) Provision of adequate land for outdoor recreation. (c) Preservation and restoration for public enjoyment and education of structures, objects, facilities and resources which are examples of Oregon history, archaeology and natural science, etc.

Analysis and Comment:

> Determination of BOEM activities: *Consistent to the maximum extent practicable.*

The analysis of coastal effects for this policy related to recreation resources is previously discussed in Statewide Planning Goal 19: Ocean Resources. Refer to the Analysis and Comment for Statewide Planning Goal 19 Ocean Resources in Section 5.1.2.

Recreation and tourism bring outside money into Coos, Curry, and Lincoln's economy when visitors from more than 50 miles away come for recreation, overnight stays, to visit friends and family, and to conduct business. The Proposed Action could increase the amount of people visiting the affected counties and thereby increase economic activities such as restaurants and hotels. The impacts from the Proposed Action on recreation and tourism will likely be short-term, beneficial, and difficult to measure and overall **minor**.

The State Territorial Sea section of the *ORESA Supporting Materials Report* discusses the processes for permitting projects within the state's jurisdiction. State permits to be obtained prior to activities in state waters may include any, some, or all of the following: Ocean shores permit issued by OPRD, 401 Water Quality Certification issued by the Oregon DEQ, CZMA Consistency Certification provided by DLCD, Removal/Fill Permit issued by the Oregon DSL, and Temporary Use Authorization or Ocean Renewable Energy Facility Lease through DSL. Federal permits to be obtained prior to activities in state waters may include: USACE permits, NOAA NMFS permits, USFWS permits, and FERC applicable permits. Additionally, the authority for issuing permits at the county-level is established in ORS Chapter 215. In addition to the general authority to govern land use that is conferred upon counties, there are specific statutes that apply to renewable energy facilities within ORS Chapter 215.

For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.8 Recreation and Tourism**).

ORS 506: Commercial Fishing and Fisheries

Applicable Policy Section(s):

- .109 Food fish management policy
    1. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of food fish management are:
        - **a. (1) To maintain all species of food fish at optimum levels in all suitable waters of the state and prevent the extinction of any indigenous species.**
        - **b. (2) To develop and manage the lands and waters of this state in a manner that will optimize the production, utilization and public enjoyment of food fish.**
        - c. (3) To permit an optimum and equitable utilization of available food fish.
        - d. (4) To develop and maintain access to the lands and waters of the state and the food fish resources thereon.
        - e. (5) To regulate food fish populations and the utilization and public enjoyment of food fish in a manner that is compatible with other uses of the lands and waters of the state and provides optimum commercial and public recreational benefits.
        - **f. (6) To preserve the economic contribution of the sports and commercial fishing industries in a manner consistent with sound food fish management practices.**
        - g. (7) To develop and implement a program for optimizing the return of Oregon food fish for Oregon's recreational and commercial fisheries.
- .455 Policy
    1. It is the policy of the State of Oregon to institute a management system for developmental fishery resources that addresses both long term commercial and biological values and that protects the long term sustainability of those resources through planned commercial development when appropriate.

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

The analysis of coastal effects for this policy related to commercial fishing is previously discussed in Statewide Planning Goal 19: Ocean Resources. Refer to the Analysis and Comment for Statewide Planning Goal 19 Ocean Resources in Section 5.1.2.

Potential impacts to commercial fishing from the Proposed Action are expected to be **minor** and temporary in duration (five years or less), and primarily associated with a spatial incompatibility around the data collection buoy(s) and interactions with project vessels, which is comparatively small in size when compared to the full extent of available fishing grounds. BOEM recommends lessees incorporate BMPs that will aim to minimize adverse effects to commercial fishing from their site assessment and site characterization activities.

Lost Survey Equipment: In the event of equipment lost during surveys or a met buoy disconnecting from its anchor, recovery operations may be undertaken. Recovery operations may be performed in a variety of ways, including ROVs and grapnel lines, depending on water depth

and equipment lost. If grapnel lines (e.g., hooks, trawls) are used to retrieve lost equipment, bottom disturbances could result from dragging the line along the bottom until it hooks the lost equipment. In addition, after the line catches the lost equipment, components are dragged along the seafloor until recovery.

Survey equipment could be carried away by currents or become embedded in the seafloor. Additional bottom disturbance may also occur. For example, a broken vibracore rod that cannot be retrieved may need to be cut and capped 1–2 m (3–6.5 ft) below the seafloor. For the recovery of lost survey equipment, BOEM will work with the lessee/operator to develop an emergency response plan. Selection of a mitigation strategy would depend on the nature of the lost equipment, and further consultation may be necessary. Impacts associated with recovery of lost survey equipment may include vessel trips, noise and lighting, air emissions, and routine vessel discharges from a single vessel. Bottom disturbance and habitat degradation may also occur from recovery operations.

For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.7, Commercial Fishing,**).

ORS 496: Wildlife

Applicable Policy Section(s):

- .004 Definitions
- .007 "Game bird" defined
- .009 "Game fish" defined
- .012 Wildlife policy
    - It is the policy of the State of Oregon that **wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state**. In furtherance of this policy, the State Fish and Wildlife Commission shall represent the public interest of the State of Oregon and implement the following coequal goals of wildlife management: (1) To maintain all species of wildlife at optimum levels. (2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife. (3) To permit an orderly and equitable utilization of available wildlife. (4) To develop and maintain public access to the lands and waters of the state and the wildlife resources thereon. (5) To regulate wildlife populations and the public enjoyment of wildlife in a manner that is compatible with primary uses of the lands and waters of the state. (6) To provide optimum recreational benefits. (7) To make decisions that affect wildlife resources of the state for the benefit of the wildlife resources and to make decisions that allow for the best social, economic and recreational utilization of wildlife resources by all user groups.

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

The analysis of coastal effects for this policy related to wildlife is previously discussed in Statewide Planning Goal 19: Ocean Resources.

OAR 635-415: Fish and Wildlife Habitat Mitigation Policy

Applicable Policy Section(s):

- 0005 Definitions
    1. **(2) "Development Action" means any activity subject to regulation by local, state, or federal agencies that could result in the loss of fish and wildlife habitat.**
- 0010 Fish and Wildlife Habitat Mitigation Policy
    1. It is the fish and wildlife habitat mitigation policy of the Oregon Department of Fish and Wildlife to require or recommend, depending upon the habitat protection and mitigation opportunities provided by specific statutes, mitigation for losses of fish and wildlife habitat resulting from development actions. Priority for mitigation actions shall be given to habitat for native fish and wildlife species. Mitigation actions for nonnative fish and wildlife species may not adversely affect habitat for native fish and wildlife.
- 0020 Implementation of Department Habitat Mitigation Requirements
    1. (1) The Department shall provide mitigation consistent with the goals and standards of OAR 635-415-0025 for Department development actions that impact fish and wildlife habitat.
    2. (2) The Department shall require mitigation consistent with the goals and standards of OAR 635-415-0025 for development actions that impact fish and wildlife habitat for which the Department has statutory authority to require mitigation as a condition of a permit or order
    3. (3) The Department shall recommend mitigation consistent with the goals and standards of OAR 635-415-0025 for development actions which impact fish and wildlife habitat for other than Department actions when:
    (a) Federal or state environmental laws or land use regulations authorize or require mitigation for impacts to fish and wildlife; or (b) Local environmental laws or land use regulations authorize or require mitigation for impacts to fish and wildlife habitat; or (c) The proposed development action requires either an amendment to an acknowledged comprehensive plan or land use regulation relating to fish and wildlife habitat protection, or adoption of a new land use regulation relating to fish and wildlife habitat protection, and the Department believes that mitigation is necessary to comply with Statewide Planning Goal 5 or other applicable statewide planning goal requirements for fish and wildlife habitat protection.
    - (4) The Department's recommendations or requirements for mitigating the impacts of a development action shall be based on the following considerations:
    (a) The location, physical and operational characteristics, and duration of the proposed development action; and (b) The alternatives to the proposed development action; and (c) The fish and wildlife species and habitats which will be affected by the proposed development action; and (d) The nature, extent, and duration of impacts expected to result from the proposed development action.

- (5) The Department shall require the project proponent to prepare a written mitigation plan approved by the Department if required by an ODFW implemented statute; or recommend or require a written plan approved by the Department if the impacts of the proposed development action may, in the opinion of the Department, be so significant in nature, extent, or duration that mitigation measures to achieve the goals and standards of OAR 635-415-0025 cannot be identified without the evaluation that would be provided in a written mitigation plan.
- (8) In addition to any other information that may be required by law, a written mitigation plan prepared for the Department shall: (a) Include the information required in OAR 635-415-0020(4)(a)–(d); and (b) Describe the mitigation actions which shall be taken to achieve the fish and wildlife habitat mitigation goals and standards of OAR 635-415-0025; and (c) Describe and map the location of the development action and mitigation actions including the latitude and longitude, township, range, section, quarter section and county; and (d) Complement and not diminish mitigation provided for previous development actions; and (e) Include protocols and methods, and a reporting schedule for monitoring the effectiveness of mitigation measures. Monitoring efforts shall continue for a duration and at a frequency needed to ensure that the goals and standards in OAR 635-415-0025 are met, unless the Department determines that no significant benefit would result from such monitoring; and (f) Provide for future modification of mitigation measures that may be required to meet the goals and standards of OAR 635-415-0025; and (g) Be effective throughout the project life or the duration of project impacts whichever is greater. (h) Contain mitigation plan performance measures including: (A) Success Criteria. The mitigation plan must clearly define the methods to meet mitigation goals and standards and list the criteria for measuring success; (B) Criteria and a timeline for formal determination that the mitigation goals and standards have been met; (C) Provisions for long-term protection and management of the site if appropriate; (D) A reporting schedule for identifying progress toward achieving the mitigation goals and standards and any modification of mitigation measures. Mitigation goals and standards must be achieved within a reasonable time frame to benefit the affected fish and wildlife species.
- (9) The requirement for a mitigation plan pursuant to OAR 635-415-0020(8) may, at the discretion of the Department, be partially or entirely fulfilled by incorporation of environmental assessments or environmental impact statements prepared for the proposed development action; or by local government land use regulations which implement the requirements of Statewide Planning Goals 5, 8, 15, 16, or 17 pertaining to fish and wildlife habitat protection.
- (10) The project proponent is responsible for the expenses of developing, evaluating, and implementing the mitigation plan and monitoring the mitigation site; however, to the extent that available resources allow, the Department may take one or more of the following actions to assist in the development of a mitigation plan: (a) Identify fish and wildlife species and habitats to be affected by the proposed development action; (b) Determine the Habitat Categories that are likely to be affected by the proposed development action; (c) Identify the

nature, extent, and duration of potential impacts upon fish and wildlife habitat resulting from the proposed development action; (d) Identify mitigation measures to achieve the goals and standards of OAR 635-415-0025; (e) Furnish any information or counsel to further the purpose of OAR 635 division 415.

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

The analysis of coastal effects related to fish and wildlife habitat mitigation is previously discussed in Statewide Planning Goal 19: Ocean Resources. For additional analysis, refer to the Analysis and Comment for Statewide Planning Goal 19 Ocean Resources in Section 5.1.2.

The Proposed Action for some resources includes BMPs to reduce or eliminate potential risks to or conflicts with specific environmental resources, including fish and wildlife habitat. If leases or grants are issued, BOEM will require the lessee to comply with BMPs through lease stipulations and/or as conditions of SAP approval. The lessee's SAP must contain a description of environmental protection features or measures that the lessee will use. Specific information on BMPs related to fish and wildlife mitigation is listed in Appendix D of the EA.

Stressors to the environment may include benthic disturbance and the associated water quality changes from disturbance (turbidity and sediment suspension), noise, introduction of artificial habitat, and accidents. This impact analysis assumes that standard lease stipulations, regulations, BMPs, and project design criteria that protect the environment (e.g., Anchoring Plan Lease Stipulation that includes avoidance of contact within hard substrate, rock outcroppings, seamounts, or deep-sea coral/sponge habitats and buffer areas around these habitats; Protected Habitat and Species Lease Stipulations; Avian and Bat Survey Reporting Requirements; Marine Debris Prevention Program) will be implemented by lessees when required.

For additional information of the coastal effects and how the Proposed Action complies with this enforceable policy, see the **Oregon EA** (**Section 3.3 Marine and Coastal Habitats and Associated Biotic Assemblages, Section 3.4 Marine Mammals and Sea Turtles, Section 3.5 Coastal and Marine Birds, 3.7 Commercial Fishing, 4.2.1 Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA), 4.2.2 Essential Fish Habitat (EFH) Consultation**).

ORS 358: Archaeological Objects and Sites

Applicable Policy Section(s):

- .905 Archaeological Objects and Sites: Definitions
- .910 Archaeological Objects and Sites: Policy
    1. The Legislative Assembly hereby declares that:
       (1) Archaeological sites are acknowledged to be a finite, irreplaceable and nonrenewable cultural resource, and are an intrinsic part of the cultural heritage of the people of Oregon. As such, archaeological sites and their contents located on public land are under the stewardship of the people of Oregon to be protected and managed in perpetuity by the state as a public trust.

(2**) The State of Oregon shall preserve and protect the cultural heritage of this state embodied in objects and sites that are of archaeological significance**.

- .920 Archaeological Objects and Sites: Prohibited Conduct
    1. (1)(a) A person may not excavate, injure, destroy or alter an archaeological site or object or remove an archaeological object located on public or private lands in Oregon unless that activity is authorized by a permit issued under ORS 390.235.
- .945 Archaeological Objects and Sites: **Notice required upon finding of object**
    1. (1) If a person who is conducting an archaeological investigation on public lands according to the provisions of ORS 390.235 or on private land with the owner's written permission finds a sacred object or object of cultural patrimony, the person conducting the archaeological investigation shall notify in writing:
       (a) The State Historic Preservation Officer; and
       (b) The appropriate ethnic group, religious group or Indian tribe with which the object is associated.
       (2) If a sacred object or object of cultural patrimony is recovered on any land, the State Historic Preservation Officer shall assist the appropriate group to repossess the object.
       (3) This section does not apply to the contents of an Indian cairn or burial regulated under ORS 97.740 to 97.760.
       (4) Failure to notify the appropriate Indian tribe as required by subsection (1)(b) of this section is a Class B misdemeanor. [1983 c.620 §8; 1993 c.459 §8; 1995 c.543 §5; 1997 c.249 §116; 2001 c.104 §124]
- .950 Archaeological Objects and Sites: When notice to Indian tribe required
    1. (1) Any person who conducts an archaeological excavation associated with a prehistoric or historic American Indian archaeological site shall notify the most appropriate Indian tribe.

Analysis and Comment:

Determination of BOEM activities: *Consistent to the maximum extent practicable.*

Both site assessment activities (i.e., installation of meteorological buoys) and site characterization (i.e., HRG survey and geotechnical exploration) have the potential to affect historic properties. Construction activities associated with the placement of site assessment structures that disturb the ocean bottom have the potential to affect historic properties on or under the seabed. Vessel traffic associated with surveys and construction, although indistinguishable from existing ocean vessel traffic could, at times, be visible from coastal areas, potentially impacting historic properties onshore. Similarly, although indistinguishable from other lighted structures on the OCS, some meteorological buoys might be visible from historic properties onshore.

The WEAs have not been extensively surveyed and that, in part, is the reason that BOEM requires the results of historic property identification surveys to be submitted with a SAP and COP.

Site characterization activities include shallow hazards assessments, and geological,

geotechnical, archaeological, and biological surveys, and may include installation, operation, and decommissioning of meteorological buoys. HRG surveys do not impact the seafloor and therefore have no ability to impact cultural resources. Geotechnical testing and sediment sampling does impact the bottom and, therefore, does have the ability to impact cultural resources. However, when the lessee conducts HRG surveys prior to conducting geotechnical/sediment sampling, the lessee may avoid impacts on historic properties by relocating the sampling activities away from potential cultural resources. Therefore, BOEM assumes the lessee will conduct HRG surveys prior to conducting geotechnical/sediment sampling, and, when a potential historic property is identified, the lessee will avoid it.

BOEM recommends lessees incorporate BMPs into their plans. These practices are typical mitigation measures developed through years of conventional energy operations and refined through BOEM's renewable energy program and consultations under Section 106 of the National Historic Preservation Act. These measures will minimize or eliminate potential effects from site assessment and site characterization activities and protect historic properties. BOEM intends to include the following stipulations in any leases that may be issued to ensure avoidance of historic properties:

BOEM plans to include a lease stipulation under which the lessee may only conduct geotechnical exploration activities, including geotechnical sampling or other direct sampling or investigation techniques, in areas of the leasehold in which an analysis of the results of geophysical surveys have been completed for that area. The geophysical surveys should follow the recommendations in BOEM's Archaeological Survey Guidelines, and the analysis must be completed by a qualified marine archaeologist who meets both the Secretary of the Interior's Professional Qualifications Standards (48 Federal Register (FR) 44738–44739) and has experience analyzing marine geophysical data. This analysis must include a determination whether any potential archaeological resources are present in the area, and the geotechnical (seabed and subsurface) sampling activities must avoid potential archaeological resources by a minimum of 50 m (164 ft). The avoidance distance must be calculated from the maximum discernible extent of the archaeological resource. In no case may the lessee's actions impact a potential archaeological resource without BOEM's prior approval.

Additionally, during all ground-disturbing activities, including geotechnical exploration, BOEM requires lessees to comply with the unanticipated finds requirements set out in 30 CFR § 585.702. If a lessee, while conducting activities, discovers a potential archaeological resource, the lessee must immediately halt all seafloor-disturbing activities within the area of discovery, notify BOEM within 72 hours of the discovery, and keep the location of the discovery confidential and not take any action that may adversely affect the resource until BOEM has made an evaluation and instructed the lessee on how to proceed.

Finally, vessel traffic associated with survey activities, although indistinguishable from existing ocean vessel traffic, could at times be within the viewshed of onshore historic properties. These effects would be limited and temporary.

Site assessment activities consist of construction, operation, and decommissioning of up to six meteorological buoys per lease area. To assist BOEM in complying with the NHPA and other relevant laws (30 CFR § 585.611(a), and (b)(6)), at the time of writing this CD, the SAP must

contain a description of the archaeological resources that could be affected by the activities proposed in the plan. Under its Draft PA, BOEM will then consult to ensure potential effects to historic properties are avoided, minimized, or mitigated under Section 106 of the NHPA. However, BOEM is preparing the finalization of its Renewable Energy Modernization Rule and this action finalizes the elimination of the existing regulations that required on lease SAPs and BOEM permitting for met buoys. However, deployment of met buoys that qualify as obstructions deployed in U.S. navigable waters under section 10 of the Rivers and Harbors Act (RHA) would continue to require USACE permits. Met buoys will continue to require U.S. Coast Guard PATON approval under 33 CFR part 66 and 14 U.S.C. 545. This final rule clarifies that the elimination of the Department's regulations requiring SAPs and BOEM permitting for met buoys does not reduce or eliminate the need for BOEM's environmental review of site characterization (geotechnical and geophysical surveys, biological surveys) and site assessment activities (deployment of met towers and buoys). A marine archaeological resource assessment (MARA) is still required and will be reviewed prior to any ground disturbance activities. Additional review of the COP will include the NHPA Section 106 consultation process, including consultations with Native Americans or other Indigenous peoples.

BOEM anticipates that bottom disturbance associated with the installation of meteorological buoys would disturb the seafloor up to an estimated 10 m^2 although the maximum disturbance is likely 2.3-m^2 footprint (PNNL 2019). Impacts on archaeological resources up to an estimated 10 m^2 of each meteorological buoy could result in direct destruction or removal of archaeological resources from their primary context. Although this would be extremely unlikely given that site characterization surveys described above would be conducted prior to the placement of any buoys (see e.g., 30 CFR § 585.610-611), should contact between the activities associated with site assessment and a historic property occur, BOEM will follow their regulations for unexpected discoveries (30 CFR § 585.802). Should the surveys reveal the possible presence of an archaeological resource in an area that may be affected by its planned activities, the applicant would have the option to demonstrate through additional investigations that an archaeological resource either does not exist or would not be adversely affected by the seafloor/bottom-disturbing activities (30 CFR § 585.702(b)). Although site assessment activities have the potential to affect cultural resources either on or below the seabed or on land, existing regulatory measures, coupled with the information generated for a lessee's initial site characterization activities and presented in the lessee's SAP, make the potential for bottom-disturbing activities (e.g., anchoring, installation of meteorological buoys) to cause damage to cultural resources very low.

Installation of meteorological buoys would likely not be visible from shore, based on the low profile of the structure (current industry standard buoys rise 12 to 15 ft above the sea surface); distance from shore; and earth curvature, waves, and atmosphere. Visual impacts to onshore cultural resources would be limited and temporary in nature and would consist predominately of vessel traffic, which most likely also would not be distinguishable from existing vessel traffic. Therefore, the likelihood of impacts on onshore cultural resources from meteorological structures and from construction vessel traffic would also be very low.

In conclusion, bottom-disturbing activities have the potential to affect historic properties. However, existing regulatory measures, information generated for a lessee's initial site characterization activities, and the unanticipated discoveries requirement make the potential for

bottom-disturbing activities (e.g., coring, anchoring, installation of meteorological buoys) to have an adverse effect (i.e., cause significant impact or damage) on historic properties very low. Visual effects on onshore cultural resources from meteorological structures, and vessel traffic associated with surveys and structure construction, are expected to be **negligible** and temporary in nature.

BOEM or the leaseholder would alert the appropriate parties if any additional archaeological or paleontological resources were found to be present in the offshore waters during the future SAP phase. 30 CFR § 585.702 guides leaseholders as to "[w]hat must I do if I discover potential archaeological resources while conducting my approved activities?" BOEM's guidance instructs leaseholders that "[i]f you, your subcontractors, or any agent acting on your behalf discovers a potential archaeological resource while conducting construction activities, or any other activity related to your project, you must: (1) Immediately halt all seafloor-disturbing activities within the area of the discovery; (2) Notify BOEM of the discovery within 72 hours; and (3) Keep the location of the discovery confidential and not take any action that may adversely affect the archaeological resource until we have made an evaluation and instructed you on how to proceed." This should ameliorate any potential impacts SAP and site characterization activities might have on archaeological and paleontological resources.

BOEM's regulatory authority is limited to the OCS, and therefore BOEM cannot approve site assessment or characterization activities in State waters or onshore areas. Per BOEM's commercial wind energy lease, the lessee must conduct, and agrees to conduct, all activities in the leased area and project easement(s) in accordance with an approved SAP or COP, and with all applicable laws and regulations. Additionally, BOEM's lease includes the following stipulation regarding an ACP. Per the lease stipulation, the lessee must develop a publicly available ACP that describes strategies the lessee intends to use for communicating with Federal, state, and local agencies (including harbor districts) with authority related to the Lease Area and should outline specific methods for engaging with and disseminating information to these agencies. The lease also states that the ACP should include detailed information and protocols for regular engagement with permitting, planning, and resource agencies and that the lessee must provide the ACP to the lessor and other permitting, planning, and resource agencies with authority related to the Lease Area for review and comment and host a meeting with the lessor and all interested agencies to discuss the ACP. In addition to other requirements, the lessee must invite agencies with planning and/or permitting roles and/or resource expertise to participate in the ACP. For additional information of the coastal effects and how the Proposed Action complies with this policy, see the **Oregon EA** (**Section 3.11 Historic Properties**).

5.3 Local Comprehensive Plans / Land Use Regulations Enforceable Policies: Comment and Analysis

As stated in Oregon's TSP, Part Two, Section C, "current state statute (ORS 201.370(2)) prohibits local coastal governments from exercising their planning authorities in Oregon's territorial sea, which essentially extends seaward from the low water line. Consequently, the issue of major ocean development decisions being compatible with local comprehensive plans becomes an issue of the offshore development's onshore land-use effects, both direct and indirect." Local coastal plans can only "address the onshore effects of major ocean

developments" per Oregon's TSP Part Two, Section C.

Analysis and Comment:

The Proposed Action for this CD is the issuance of commercial wind energy lease(s) within the Oregon WEAs on the OCS. Issuance of leases would be followed by site characterization activities, and issuance of leases only allows the submittal of SAPs and COP for BOEM's consideration, which does not constitute an irreversible and irretrievable commitment of resources. Therefore, BOEM's environmental analysis is focused on the effects of site characterization and site assessment activities expected to take place after the issuance of commercial wind energy leases to allow lessees access to gather information in the WEA. The issuance of a lease by BOEM to a lessee conveys no right to proceed with construction of a wind energy facility.

Onshore activities (fabrication, staging, or launching of crew/cargo vessels) related to the installation of buoys are expected to use existing ports and infrastructure. The analysis of onshore land-use effects, such as impacts to ports, can be found in the previous section for Statewide Planning Goal 19: Ocean Resources in Section 5.1.2. For additional information on the impact to ports and how the Proposed Action complies with Oregon's enforceable policies, see the Oregon EA (Section 3.6 Socioeconomics).

The State Territorial Sea section of the *ORESA Supporting Materials Report* discusses the processes for permitting projects within the state's jurisdiction. State permits to be obtained prior to activities in state waters may include any, some, or all of the following: Ocean shores permit issued by OPRD, 401 Water Quality Certification issued by the Oregon DEQ, CZMA Consistency Certification provided by DLCD, Removal/Fill Permit issued by the Oregon DSL, and Temporary Use Authorization or Ocean Renewable Energy Facility Lease through DSL. Federal permits to be obtained prior to activities in state waters may include: USACE permits, NOAA NMFS permits, USFWS permits, and FERC applicable permits. Additionally, the authority for issuing permits at the county-level is established in ORS Chapter 215. In addition to the general authority to govern land use that is conferred upon counties, there are specific statutes that apply to renewable energy facilities within ORS Chapter 215.

This CD evaluates all other relevant enforceable policies based on currently available information. Some actions, programs, and proposals will need additional Federal consistency certifications in the future when lease-specific information is available. If there are modifications to the Proposed Action that are outside of the scope of the EA, supplemental coordination for proposed activities may be required under 15 CFR § 930.46.

Additional Coastal Zone Management Federal consistency review will be conducted during the COP stage pursuant to 15 CFR part 930, subpart E. A lessee must provide a consistency certification with their COP stating that the proposed activities described in detail in their plans comply with the State(s) approved coastal management program(s), will be conducted in a manner that is consistent with such program(s), and include the necessary data and information to support such a certification.

6. REFERENCES

BOEM. 2014. Atlantic OCS proposed geological and geophysical activities Mid-Atlantic and South Atlantic planning areas: Final programmatic environmental impact statement. New Orleans (LA): U.S. Department of the Interior, Bureau of Ocean Energy Management. 3 vols. 788 p. Report No.: OCS EIS/EA BOEM 2014-001.

BOEM. 2019. Guidelines for Information Requirements for a Renewable Energy Site Assessment Plan (SAP). Washington (DC): U.S. Department of the Interior, Bureau of Ocean Energy Management, Renewable Energy Programs. 60 p.

BOEM. 2020. Guidelines for providing geophysical, geotechnical, and geohazard information pursuant to 30 CFR Part 585. Sterling (VA): 32 p.

BOEM. 2022. Offshore Wind Lease Issuance, Site Characterization, and Site Assessment: Central and Northern California. Biological Assessment, Endangered and Threatened Species, and Essential Fish Habitat Assessment. Camarillo (CA): U.S. Department of the Interior, Bureau of Ocean Energy Management. 113 p.

Carlton J, Jossart JA, Pendleton F, Sumait N, Miller J, Thurston-Keller J, Reeb D, Gilbane L, Pereksta D, Schroeder D, Morris Jr JA. 2024. A wind energy area siting analysis for the Oregon Call Areas. Camarillo (CA): U.S. Department of the Interior, Bureau of Ocean Energy Management. 237 p. Report No.: BOEM 2024-015.

eBird. 2023. https://ebird.org/home.

Efroymson RA, Rose WH, Nemeth S, Suter II GW. 2000. Ecological risk assessment framework for low-altitude overflights by fixed-wing and rotary-wing military aircraft. Oak Ridge (TN): Oak Ridge National Laboratory. 116 p. Report No.: ORNL/TM-2000/289.

Erbe C, McPherson C. 2017. Underwater noise from geotechnical drilling and standard penetration testing. Journal of the Acoustical Society of America. 142(3):EL281. Doi:10.1121/1.5003328.

Frawley T, Muhling B, Brodie S, Fisher M, Tommasi D, Le Fol G, Hazen E, Stohs S, Finkbeiner E, Jacox M. 2021. Changes to the structure and function of an albacore fishery reveal shifting social-ecological realities for Pacific Northwest fishermen. Fish and Fisheries. 22(2):280-297.

Lacroix DL, Lanctot RB, Reed JA, McDonald TL. 2003. Effect of underwater seismic surveys on molting male Long-tailed Ducks in the Beaufort Sea, Alaska. Canadian Journal of Zoology. 81(11):1862-1875.

Kaplan B, Beegle-Krause C, French McCay D, Copping A, Geerlofs S. 2010. Updated summary of knowledge: selected areas of the Pacific Coast. Camarillo (CA): U.S. Department of the Interior, Bureau of Ocean Energy Management, Regulation, and Enforcement, Pacific Outer Continental Shelf Region. 939 p. Report No.: OCS Study BOEMRE 2010-014.

Komenda-Zehnder S, Cevallos M, Bruderer B. 2003. Effects of disturbance by aircraft overflight on waterbirds–an experimental approach. In: Proceedings International Bird Strike Committee May; May 5–9, 2003; Warsaw, Poland.

MacDonald M. 2022. Coos Bay offshore wind port infrastructure study. Beaverton, OR: Report No.: Final Report to TotalEnergies SBE US.

MMS. 2007a. Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf, Final Environmental Impact Statement. 4 vols. Report No.: OCS EIS/EA MMS 2007-046.

MMS. 2007b. Gulf of Mexico OCS oil and gas lease sales: 2007-2012. Western Planning Area sales 204, 207, 210, 215, and 218; Central Planning Area sales 205, 206, 208, 213, 216, and 222. Final environmental impact statement. New Orleans (LA): U.S. Department of the Interior, Minerals Management Service. 2 vols. 1095 p. Report No.: OCS EIS/EA MMS 2007-018.

National Data Buoy Center. 2008. Moored buoy program. Stennis Space Center, MS: NOAA; [accessed August 1, 2022]. https://webarchive.library.unt.edu/web/20130214041406/http://www.ndbc.noaa.gov/mooredbuoy.shtml.

NMFS. 2018. 2018 revision to: technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing (version 2.0). Underwater thresholds for onset of permanent and temporary threshold shifts. Silver Spring (MD): U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Protected Resources. 178 p. Report No.: NOAA Technical Memorandum NMFS-OPR-59.

NMFS. 2021. Endangered and threatened wildlife and plants: designating critical habitat for the Central America, Mexico, and Western North Pacific distinct population segments of humpback whales. Federal Register. 86(21082):21082-21157.

PFMC. 2016. Pacific Coast Salmon Fishery Management Plan for commercial and recreational salmon fisheries off the coasts of Washington, Oregon, and California as revised through Amendment 19. Portland (OR): 90 p.

PFMC. 2020. Pacific coast groundfish fishery management plan for the California Oregon, and Washington groundfish fishery. Portland (OR): 147 p.

PFMC. 2022a. Pacific Coast Groundfish Fishery Management Plan for the California, Oregon, and Washington groundfish fishery. Portland (OR): Pacific Fishery Management Council. 147 p. https://www.pcouncil.org/documents/2022/08/pacific-coast-groundfish-fishery-management-plan.pdf/

PFMC. 2022b. Pacific Coast Salmon Fishery Management Plan for Commercial and Recreational Salmon Fisheries off the Coasts of Washington, Oregon, and California as Revised through Amendment 23. Portland (OR): Pacific Fisheries Management Council. 84 p. https://www.pcouncil.org/documents/2022/12/pacific-coast-salmon-fmp.pdf/

PFMC. 2023a. Fishery Management Plan for U.S. West Coast Fisheries for Highly Migratory Species as Amended through Amendment 7. Portland (OR): Pacific Fishery Management Council. 86 p. https://www.pcouncil.org/documents/2023/04/fishery-management-plan-for-west-coast-fisheries-for-highly-migratory-species-through-amendment-5.pdf/.

PFMC. 2023b. Coastal Pelagic Species Fishery Management Plan as Amended through Amendment 20. Portland (OR): Pacific Fishery Management Council. 53 p. https://www.pcouncil.org/documents/2023/06/coastal-pelagic-species-fishery-management-plan.pdf/

PNNL. 2019. California LiDAR Buoy Deployment: Biological Assessment / Essential Fish Habitat Assessment. Richland (WA): U.S. Department of Energy – Pacific Northwest Site Office. 39 p.

Richardson WJ, Greene Jr CR, Malme CI, Thomson DH. 1995. Marine mammals and noise. Academic press. San Diego (CA): Academic Press Inc. 576 p.

Rockwood RC, Calambokidis J, Jahncke J. 2017. High mortality of blue, humpback and fin whales from modeling of vessel collisions on the U.S. West Coast suggests population impacts and insufficient protection. PLOS ONE. 12(8):e0183052. Doi:10.1371/journal.pone.0183052.

Ruppel CD, Weber TC, Staaterman ER, Labak SJ, Hart PE. 2022. Categorizing active marine acoustic sources based on their potential to affect marine animals. Journal of Marine Science and Engineering. 10(9):1278. Doi:10.3390/jmse10091278.

Saez L, Lawson D, DeAngelis M. 2021. Large whale entanglements off the U.S. West Coast, from 1982-2017. Silver Spring, MD: National Oceanic and Atmospheric Administration, U.S. Office of Protected Resources. 50 p. Report No.: NOAA-TM-NMFS-OPR-63A.

Stemp R. 1985. Observations on the effects of seismic exploration on seabirds. In: Proceedings of the Workshop on the Effects of Explosives Use in the Marine Environment; 29-31 p.

Tetra Tech EC Inc. 2010. Garden State offshore energy project plan for the deployment and operation of a meteorological data collection buoy within interim lease site, Block 7033. Prepared for Deepwater Wind, LLC.

Tetra Tech EC Inc. 2015. USCG final environmental impact statement for the Port Ambrose Project deepwater port application, vol I and II. Washington (DC): U.S. Coast Guard Vessel and Facility Operating Standards. 549 p. Report No.: USCG-2013-0363.

Trowbridge M, Lim J, Phillips S. 2022. Port of Coos Bay Port, port infrastructure assessment for offshore wind development. U.S. Department of the Interior, Bureau of Ocean Energy Management. 91 p. Report No.: OCS Study BOEM 2022-073.

Turnpenny AW, Nedwell J. 1994. The effects on marine fish, diving mammals and birds of underwater sound generated by seismic surveys. Fawley Aquatic Research Laboratories Ltd. Consultancy report.

USACE. 1987. Confined disposal of dredged material. Washington (DC): U.S. Army Corps of Engineers. 243 p. Report No.: Engineer Manual EM 1110-2-502

USCG. 2011. Pollution incidents in and around U.S. waters, a spill/release compendium: 1969–2004 and 2004–2009. U.S. Coast Guard Marine Information for Safety and Law Enforcement (MISLE) System.

U.S. Navy. 2017. Criteria and thresholds for U.S. Navy acoustic and explosive effects analysis (Phase III). 183 p.