UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1201 NE Lloyd Boulevard, Suite 1100
PORTLAND, OREGON 97232

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Informational Report 4
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Sent Via Electronic Mail

Doug Boren, Regional Director
Pacific Outer Continental Shelf (OCS) Regional Office
Bureau of Ocean Energy Management (BOEM)
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Re: Scoping on Morro Bay Wind Energy Area Environmental Assessment

Dear Director Boren:

The Bureau of Ocean Energy Management (BOEM) announced on November 12, 2021, that it designated the Morro Bay Wind Energy Area (WEA)[1] and will prepare an environmental assessment (EA) under the National Environmental Policy Act (NEPA) to consider potential environmental consequences of site characterization activities (i.e., biological, archeological, geological, and geophysical surveys and core samples) and site assessment activities (i.e., installation of meteorological buoys) associated with issuing wind energy leases in the Morro Bay WEA. BOEM announced the opening of the scoping period that same day, accepting public comments through January 11, 2022. This letter is in response to the solicitation of comments.

The National Oceanic and Atmospheric Administration (NOAA) recognizes the importance of offshore wind development off the U.S. West Coast to help achieve the Administration's goal of deploying 30 gigawatts of offshore wind power nationwide by 2030.

NOAA's National Weather Service (NWS) considered the Morro Bay WEA and noted that it is approximately 122.7 kilometers northwest of the Vandenberg Air Force Base, CA, weather radar. Based upon distance and terrain, this project area does not presently present an issue for the radar. Please direct questions for the NWS to Mark Miller (mark.b.miller@noaa.gov).

The NOAA U.S. Integrated Ocean Observing System (IOOS) Office's Surface Currents Program, in NOAA's National Ocean Service, requests that the BOEM Office of Renewable Energy Programs (OREP), in its assessments of the Morro Bay WEA, take into account the need to mitigate the wind turbine interference (WTI) this project will cause to the oceanographic high-frequency (HF) radars in this region due to the implications to maritime safety, navigation, U.S. Coast Guard (USCG) search-and-rescue, weather forecasting, and other applications. It asks that BOEM OREP include the requirement that WEA Lessees must enter into a mitigation agreement with the NOAA IOOS Surface Currents Program, for purposes of implementing measures that correct for this WTI, which include sharing real-time telemetry of surface currents and other oceanographic data with the Surface Currents Program into the public domain, measured at locations in the Project confirmed by the Surface Currents Program and

[1] https://www.boem.gov/newsroom/press-releases/boem-designates-wind-energy-area-central-california

its HF radar operators as sufficient to allow NOAA IOOS mission objectives to be met. The Surface Currents Program point-of-contact for development of the agreement is Brian Zelenke (brian.zelenke@noaa.gov), NOAA IOOS Surface Currents Program Manager.

NOAA's National Marine Fisheries Service (NMFS) West Coast Region (WCR), Northwest Fisheries Science Center (NWFSC), and Southwest Fisheries Science Center (SWFSC) [collectively NMFS WC] provides the following comments on issues and alternatives to be considered in the EA for the Morro Bay WEA pertaining to NMFS' trust resources (i.e., protected species and their habitats, managed fisheries stocks and their habitats), fisheries, and NMFS scientific surveys, as well as information regarding permitting under NMFS' jurisdiction for potential survey activities. We are also aware of the letter that William Douros, West Coast Regional Director of NOAA's National Marine Sanctuaries, sent to BOEM on this matter and are supportive of those recommendations.

Focus of the EA

The Morro Bay WEA (see Figure 1) is located approximately 20 miles offshore of the central California coastline and contains approximately 240,898 acres (376 square miles), and the estimated water depth is between 860 to 1,300 meters (m).[2] It is our understanding that in the EA BOEM intends to evaluate potential impacts from the following proposed actions in the WEA:

- BOEM's issuance of commercial wind energy lease(s), which includes areas in federal waters that might be used for energy production, collection, and transmission;
- BOEM's authorization of ***site characterization activities***, including biological, geological, geotechnical, and archaeological surveys; and
- BOEM's authorization of ***site assessment activities***, including meteorological and oceanographic buoy deployment.

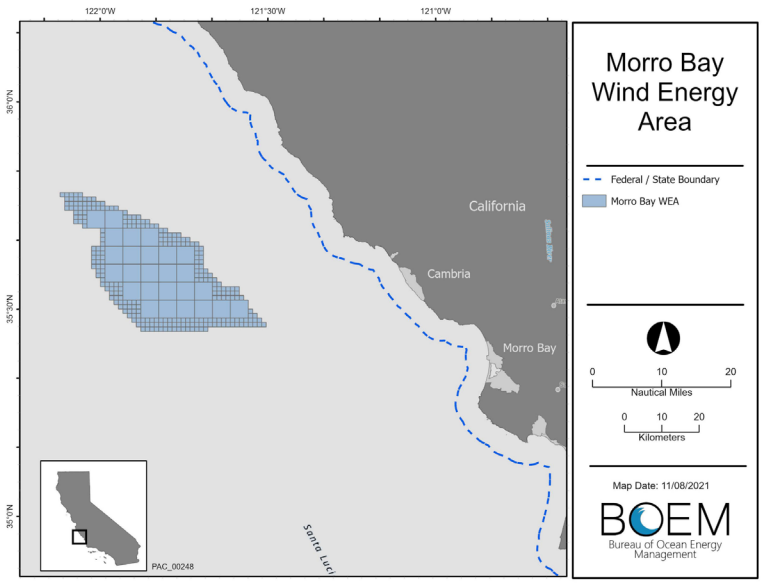
It is our understanding that the latter two activities would be performed by lessees in their lease area(s) after lease issuance.

Additionally, there would be activities outside of the WEA related to the proposed activities in the WEA (e.g., increased vessel traffic to and from nearby ports) that should be evaluated in the EA. We also recommend that the EA consider effects of leasing, including for the purposes of the ESA, any activity that would not occur but for the proposed lease sales and is reasonably certain to occur.[3] For example, it is unclear to us to what extent BOEM will consider running cables to shore in the EA (versus during environmental impact statements for construction and operation plans). We recommend that this issue be addressed in the EA, at least generally, such as by identifying areas that would be at a higher risk than others for impacts to critical habitat, for instance.

[2] https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Area-ID-CA-Morro-Bay.pdf

[3] We recognize that in an EA BOEM must consider the effects of its action as defined in NEPA implementing regulations at 40 CFR 1508.1. However, for purposes of the ESA, BOEM must also consider the effects of the action as defined in ESA implementing regulations at 50 CFR 402.02.

Figure 1: Morro Bay WEA (BOEM).



General Issues and Concerns

Potential offshore wind energy development activities we considered in developing these comments included: pre-construction survey activities; installation operations, and maintenance of an offshore wind facility; running cables among the turbines, and from facility to shore; electromagnetic fields (EMFs) from the cables; and shoreside infrastructure needs, such as potential port expansions/deepening, and a fleet of support vessels. General issues of concern we identified and that should be addressed in the EA include:

- entanglement risks (primary and secondary) to marine mammals and sea turtles listed under the Endangered Species Act (ESA) and/or protected under the Marine Mammal Protection Act (MMPA);
- vessel strikes to marine mammals and ESA-listed species, including sea turtles;
- chemical and toxic pollutant runoff into the water from increased vessel traffic and shoreside activities that can affect the health of marine mammals; ESA-listed species, including sea turtles, invertebrates, and fish; fish stocks managed under the Magnuson-Stevens Fishery Conservation and Management Act (MSA); and their forage species and prey;
- impacts to habitat for MSA-managed fish stocks (i.e., essential fish habitat, including habitat areas of particular concern) and ESA-listed fish and marine mammals (including critical habitat) from site assessment and characterization activities, in the nearshore from cables and shoreside infrastructure, and offshore to benthic habitat (primarily rocky reefs) and deep sea corals from turbine installation/anchors, cable laying, cable EMFs, and toxic runoff from turbine maintenance;
- noise from offshore wind energy activities, offshore and nearshore, at a level that could cause harm and/or overall disturbance via increased acoustic pollution that could impact biologically significant behaviors (e.g., foraging, migrating, resting, reproduction) for marine mammals, ESA-listed species, and fish stocks;
- impacts that could cause changes in the abundance, distribution, or migration patterns of living marine resources (e.g., due to new physical structures, acoustics);
- impacts of EMFs on marine animal sensory systems and movements (e.g. sea turtles, some marine mammals, and elasmobranchs);

- impediments to conducting NMFS scientific surveys and safety risks around offshore wind turbines for our scientific operations; and
- impacts to West Coast fisheries and fishing communities, including impacts to fish and invertebrate stocks, access to fishing grounds, gear entanglement, conflicts with increased non-fisheries vessel traffic, safety-at-sea, and shoreside infrastructure necessary for fisheries operation and resilience.

In addition to the above general concerns, following are specific potential issues we recommend be included in BOEM's EA for the Morro Bay WEA. NMFS understands that some of these issues may be addressed when specific projects are proposed at the construction and operation plan stage. Thus, we have focused our comments here on the effects of the leasing stage.

Species Listed and Critical Habitat Designated Under the Endangered Species Act (ESA)

Available information indicates that the following ESA-listed species (including evolutionarily significant units (ESU) or distinct population segments (DPS)) and designated critical habitats (see Table 1) occur within the WEA and surrounding area. More information about these species and their critical habitats is available on our website.[4] Maps of critical habitat should be reviewed to determine if any proposed activities may overlap with these habitats.

Table 1. ESA-listed species that occur within the WEA and surrounding area, their listing status (endangered (E), threatened (T)) and designated critical habitat (CH).

Species	Status and CH	Listing and CH Code of Federal Regulations (CFR) Citations
Marine mammals		
Blue whale (*Balaenoptera musculus*)	**E**	50 CFR 224.101
Fin whale (*Balaenoptera physalus*)	**E**	50 CFR 224.101
Gray whale (*Eschrichtius robustus*) - Western North Pacific stock	**E**	50 CFR 224.101
Humpback whale (*Megaptera novaeangliae*) - 2 DPSs		
-Central America DPS	**E** / CH	50 CFR 224.101; 50 CFR 226.227
-Mexico DPS	T / CH	50 CFR 224.101; 50 CFR 226.227
North Pacific right whales (*Eubalaena japonicus*)	**E** / CH	50 CFR 224.101; 50 CFR 226.215
Sei whale (*Balaenoptera borealis*)	**E**	50 CFR 224.101
Sperm whale (*Physeter macrocephalus*)	**E**	50 CFR 224.101
Guadalupe fur seal (*Arctocephalus townsendi*)	T	50 CFR 223.102
Sea turtles – 2 DPSs		
Green sea turtles (*Chelonia mydas*) - East Pacific DPS	T	50 CFR 223.102
Pacific Leatherback sea turtle (*Dermochelys coriacea*)	**E** / CH	50 CFR 224.101; 50 CFR 226.207

[4] ESA-listed species information found here https://www.fisheries.noaa.gov/species-directory/threatened-endangered?title=&species_category=any&species_status=any&regions=1000001126&items_per_page=all&sort= and critical habitat found here https://www.fisheries.noaa.gov/resource/map/critical-habitat-maps-and-gis-data-west-coast-region

➢ ***Also a NMFS Species in the Spotlight***[5]		
Loggerhead sea turtle - North Pacific DPS	**E**	50 CFR 224.101
Olive ridley sea turtle (*Lepidochelys olivacea*)		
-breeding colony populations on the Pacific coast of Mexico	**E**	50 CFR 224.101
-wherever found, except where listed as Endangered	T	50 CFR 223.102
Abalone		
Black abalone (*Haliotis cracherodii*)	**E** / CH	50 CFR 224.101; 50 CFR 226.221
Chinook salmon (*Oncorhynchus tshawytscha*) - 3 ESUs		
Sacramento River winter-run Chinook salmon ESU	**E** / CH	50 CFR 224.101; 50 CFR 226.204
Central Valley spring-run Chinook salmon ESU	T / CH	50 CFR 223.102; 50 CFR 226.204
California Coastal Chinook salmon ESU	T / CH	50 CFR 223.102; 50 CFR 226.211
Coho salmon (*Oncorhynchus kisutch*) - 1 ESU		
Central California Coast coho salmon ESU	**E** / CH	50 CFR 224.101; 50 CFR 226.210
Steelhead (*Oncorhynchus mykiss*) - 4 DPSs		
California Central Valley steelhead DPS	T	50 CFR 223.102; 50 CFR 226.211
Central California Coast steelhead DPS	T	50 CFR 223.102; 50 CFR 226.211
South-Central California Coast steelhead DPS	T	50 CFR 223.102; 50 CFR 226.211
Southern California Coast steelhead DPS	**E**	50 CFR 224.101; 50 CFR 226.211

The EA should consider the effects of leasing, including any activity that would not occur but for the proposed lease sales and is reasonably certain to occur, such as site characterization and site assessment activities, on all ESA-listed species and critical habitat that occur in the WEA, as well as to ESA-listed species and critical habitat that occur outside the WEA, such as effects to nearshore critical habitat, and effects of vessel traffic to/from the lease areas that could result in vessel strikes.

This assessment should include consideration of effects of geophysical and geotechnical surveys, installation of meteorological buoys (including consideration of entanglement risk), and a thorough consideration of potential effects of biological surveys, including but not limited to fisheries surveys, which may result in the incidental take of ESA-listed species. Types of "take"[6] that should be considered include: capture, collection, harassment, harm[7], injury, and death.

The EA should consider effects of vessel traffic from surveys and site characterization activities on ESA-listed species (e.g., leatherback turtles and whales) and non-listed marine mammals. These activities would not occur but for the lease sales and are reasonably certain to occur. Within the U.S. West Coast exclusive economic zone (EEZ), ship strikes continue to be a threat to all large whale populations, from a

[5] https://www.fisheries.noaa.gov/species/leatherback-turtle#spotlight

[6] The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. 16 U.S.C. 1532(19).

[7] 50 CFR 222.102 provides, "Harm in the definition of 'take' in the [ESA] means an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering."

variety of vessel types, speeds, and destination ports contributing to ship traffic. More information about vessel strikes on whales and sea turtles can be found on our website.[8] Additionally, the EA should consider potential effects on listed species resulting from potential displacement of fishing effort to new or different areas and other existing uses as a result of leasing and related activities.

The EA should also include a reasonable range of alternatives. One or more alternatives, as appropriate, should include measures that could be included as lease conditions to avoid, minimize, mitigate, monitor, and report on effects to ESA-listed species and their habitats from the lease sale and related, subsequent activities. We would be happy to discuss options for such measures with BOEM. Also see the **Recommendations** section of this letter.

ESA Section 7 Consultation

Under Section 7(a)(2) of the ESA, each federal agency is required to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. The consultation process identified in section 7 of the ESA is outlined in joint NMFS and U.S. Fish and Wildlife (USFWS) regulations (50 CFR Part 402). The ESA implementing regulations state that for any federal action that may affect listed species or designated critical habitat, federal agencies must provide NMFS with a written assessment of the effects of that action (50 CFR 402.13(c)(1) and 402.14(c)). This written assessment can be included in the EA provided that specific reference is made to the appropriate sections within the EA for this use when requesting consultation (50 CFR 402.14(c)(2)). A number of activities that may affect ESA-listed species and critical habitat are reasonably certain to occur as a result of lease issuance, including site characterization and site assessment activities. As such, consultation pursuant to section 7 of the ESA on any proposed lease issuance is required.

We recommend that BOEM consider requesting from NMFS WCR programmatic consultation on multiple, similar actions occurring from the lease sales versus requesting individual consultations for leases issued for the WEA. We anticipate that such a consultation would address site characterization and site assessment activities within the WEA and surrounding area, including fisheries surveys and other activities that may affect ESA-listed species and/or critical habitat. Following the lease sale, if any Construction and Operations Plans (COPs) are submitted to BOEM, site specific effects of construction, operation, and decommissioning of any future wind projects would be considered in later consultations on BOEM's proposed approval of the COPs.

Below is additional information about some of the listed species identified in Table 1.

Pacific Leatherback Sea Turtles (Dermochelys coriacea)

Leatherback sea turtles (leatherbacks) are globally listed as endangered. The most recent status review (2020)[9] confirmed their high risk of extinction, particularly for Pacific leatherbacks, which are considered highly endangered and are one of NMFS' nine Species in the Spotlight.[2] Entanglement in fishing gear is one of the primary threats to leatherbacks.

Leatherbacks that feed off the West Coast originate from Western Pacific nesting beaches (including Indonesia, Papua New Guinea, and the Solomon Islands). The abundance of nesting females is declining

[8] https://www.fisheries.noaa.gov/west-coast/marine-mammals-west-coast-vessel-strikes, https://www.fisheries.noaa.gov/national/vessel-strikes, and https://www.fisheries.noaa.gov/insight/understanding-vessel-strikes

[9] https://www.fisheries.noaa.gov/resource/document/status-review-leatherback-turtle-dermochelys-coriacea

at around 5-6 percent per year. Leatherbacks generally arrive off the West Coast in July to August and in October to November head southwest to their nesting beaches in the West Pacific or, for non-breeding animals, to winter foraging areas in the Pacific high seas.

Critical habitat was designated for leatherbacks off Oregon and California,[10] and the final rule noted that offshore energy, including wind, was one of the activities with potential to affect leatherback critical habitat and may require conservation measures. The WEA falls within leatherback critical habitat.[11]

Leatherbacks feed primarily on scyphomedusae (jellies), a primary constituent element of their critical habitat. They rely on aggregations of jellies off the West Coast to acquire energy stores to make their long migration back to their nesting beaches. Essential for leatherback conservation is the occurrence of their prey species of sufficient condition, distribution, diversity, abundance, and density necessary to support individual as well as population growth, reproduction, and development of leatherbacks. The critical habitat review team reviewed the best available science, including telemetry studies, and determined that the oceanographic features of the general area off Morro Bay produce prey of sufficient condition, distribution, abundance and density to provide for foraging that is essential to the conservation of leatherback sea turtles, i.e., **"high"** conservation value (see Table 2 in NMFS 2012).[12]

A recent study (Benson et al 2020)[13] found that leatherbacks that forage off the U.S. West Coast are trending towards extinction in as little as a few decades. Between 1990 and 2003, there was an average estimate of 128 leatherbacks foraging off central California each year, whereas from 2004 to 2017, the average number dropped to 55 individuals. The findings underscore the critical need to protect and conserve leatherbacks throughout their range.

Humpback Whales (Megaptera novaeangliae)

Both the Central America (endangered) and Mexico (threatened) DPSs of humpback whales feed off the West Coast. Critical habitat for humpback whales[14] has been designated off the West Coast, including central/southern California. Based on satellite telemetry data, humpback whales are documented to use very nearshore areas and offshore waters within and outside of the EEZ.

NMFS delineated specific areas off the West Coast and Alaska that meet the definition of critical habitat for one or more of the three DPSs of humpbacks, and the WEA falls within the Central California Coast Area (Unit 17).[15] Unit 17 extends from 36°00' N latitude to a southern boundary at 34°30' N latitude. The nearshore boundary is defined by the 30-m depth contour, with the seaward boundary defined by a

[10] https://www.fisheries.noaa.gov/action/critical-habitat-designation-leatherback-sea-turtles-along-us-west-coast and map https://media.fisheries.noaa.gov/2021-11/ch_2021mapseries_SeaTurtleLeatherback_onlyPacific_notStCroix.jpg

[11] Designated leatherback critical habitat includes the nearshore area from Point Arena, California (38°57'14"N./123°44'26"W.) to Point Arguello, California (34°34'33"N./120°38'41") and offshore to a line connecting 38°57'14"N./124°18'36"W. and 34°34'32"N./124°18'36"W. and 34°34'32"N./121°39'51"W. along the 3,000 meter isobaths. Critical habitat extends to a water depth of 80 meters.

[12] https://media.fisheries.noaa.gov/dam-migration/leatherback_criticalhabitat_biological-508.pdf

[13] https://www.sciencedirect.com/science/article/pii/S2351989420309124?via%3Dihub and https://www.fisheries.noaa.gov/feature-story/pacific-leatherback-turtles-west-coast-disappearing-new-survey-shows

[14] https://www.fisheries.noaa.gov/action/final-rule-designate-critical-habitat-central-america-mexico-and-western-north-pacific, Map https://www.fisheries.noaa.gov/resource/map/humpback-whale-critical-habitat-maps-and-gis-data

[15] See map on pg 73 of the 2020 Biological Report, and page 83 for Unit 17 description: https://media.fisheries.noaa.gov/2021-04/Biological%20Report_HWCH_081420_updated_508.pdf?null

3,700-m depth contour. This unit encompasses a biologically important area (BIA)[16] that extends from Morro Bay to Point Sal and typically supports high density feeding aggregations of humpback whales from April to November. Photo-identification data confirms that this area is a destination for both DPSs.

Table 2 in the final rule[17] and Table 3(B) in the Biological Report, shows that Unit 17 received a **"very high"** conservation value rating for the endangered Central America DPS and a **"high"** conservation value rating for the threatened Mexico DPS. The Central America DPS is well documented in this area, with nearly 40 percent of unique sightings of it documented in this feeding ground, which was the highest percentage (tied with Unit 16) of all 19 units.[18] One BIA (out of 7 identified) for humpback whales includes Morro Bay to Point Sal, where humpback whales may be found foraging from April through November.

NMFS has identified offshore alternative energy activities as a potential threat to humpback whale critical habitat because large, permanent structures within the designated area may impede humpback whale movement (i.e., access to prey concentrations) and feeding behavior, and chemical leaks or use of biocides to control growth of marine organisms may pollute the ecosystem, harming prey.[19]

Blue whales (Balaenoptera musculus)

Endangered blue whales are not evenly distributed along the West Coast; they are found in aggregations, particularly on the continental shelf, with a greater tendency to aggregate off California compared to Oregon and Washington. Their primary foraging season is from July to November. While the BIAs identified for blue whales are outside of the Morro Bay WEA, with three located within and north of Monterey Bay, and six located south of Point Arguello, feeding areas may extend farther north and for longer time periods than were known during the last identification of BIAs (Calambokidis et al. 2015).[20]

Fin whale (Balaenoptera physalus)

Fin whales are present year-round off California, although their distribution appears to shift somewhat seasonally (closer to shore in winter and spring, and farther offshore in the summer and fall). They occur in both nearshore and pelagic waters, feeding on both krill and fish. Based on ship and opportunistic surveys, relatively high densities of fin whales are found within the Morro Bay WEA (e.g., see Becker et al. 2012[21]; Figure 4.8 in Calambokidis et al. 2015). BIAs have not been identified for fin whales, but they should be considered foraging year-round in the Morro Bay area given their seasonal shifts in distribution throughout the year (described above).

Black abalone (Haliotis cracherodii)

Critical habitat for black abalone includes approximately 360 square kilometers of rocky intertidal and subtidal habitat along the California coast. Along the coast near Morro Bay, Area 9 (to the north) received a **"high"** conservation rating (NMFS 2011).[22] Relevant activities that may threaten the habitat features essential for black abalone conservation are: waste-water discharge, oil and chemical spills and

[16] https://cetsound.noaa.gov/important and https://www.cascadiaresearch.org/files/publications/Calambokidisetal2015BIAs.pdf
[17] https://www.govinfo.gov/content/pkg/FR-2021-04-21/pdf/2021-08175.pdf
[18] https://media.fisheries.noaa.gov/2021-04/Biological%20Report_HWCH_081420_updated_508.pdf?null=
[19] https://repository.library.noaa.gov/view/noaa/29488
[20] https://www.cascadiaresearch.org/files/publications/Calambokidisetal2015BIAs.pdf
[21] https://repository.library.noaa.gov/view/noaa/4470
[22] https://repository.library.noaa.gov/view/noaa/18669

clean-up, and in general, activities that exacerbate global climate change. Some relevant activities associated with construction of wind farms in the Morro Bay WEA and supporting activities that may threaten habitat features essential for black abalone conservation include: in-water construction (increased sedimentation); oil spill cleanup activities, including the application of toxic dispersants and use of high pressure and/or high temperature water to flush out oil which may affect the quality of rocky substrate and settlement habitat in an area; construction and operation of energy projects (i.e., installation of power lines to transport power to shore; potential for hydraulic liquids used in construction and operations to leak or be accidentally spilled; and release of toxins that may be used in the use of biocides to control the growth of marine organisms).

Marine Mammal Species

All marine mammals receive protection under the MMPA of 1972, as amended. Several marine mammal species occur in the WEA or nearby coastal area where support activities will occur (see Table 2), and some of these species are also listed under the ESA (see also Table 1). Stock assessments can be found on our website.[23]

Table 2. Marine mammals that occur within the WEA and surrounding area (status for ESA-listed species: endangered (E), threatened (T), and designated critical habitat (CH)).

Non-ESA-listed marine mammals	ESA-listed marine mammals (see also Table 1)
Gray whale (*Eschrichtius robustus*) - Eastern North Pacific stock	Gray whale (*Eschrichtius robustus*) - Western North Pacific stock - **E**
Minke whale (*Balaenoptera acutorostrata*)	Fin whale (*Balaenoptera physalus*) - **E**
Killer whale - Eastern North Pacific Offshore stock (*Orcinus orca*)	Blue whale (*Balaenoptera musculus*) - **E**
Bryde's whale (*Balaenoptera edemi*)	Humpback whale (*Megaptera novaeangliae*) - 2 DPSs
Cuvier's beaked whale (*Ziphius cavirostris*)	-Central America DPS - **E** / CH
Baird's beaked whale (*Berardius bairdii*)	-Mexico DPS - T / CH
Northern right-whale dolphin (*Lissodelphis borealis*)	North Pacific right whales (*Eubalaena japonicus*) - **E** / CH
Long-beaked common dolphin (*Delphinus capensis*)	Sei whale (*Balaenoptera borealis*) - **E**
Short-beaked common dolphin (*Delphinus delphis*)	Sperm whale (*Physeter macrocephalus*) - **E**
Pacific white-sided dolphin (*Lagenorhynchus obliquidens*)	Guadalupe fur seal (*Arctocephalus townsendi*) - T
Dall's porpoise (*Phocoenoides dalli*)	
Northern elephant seals (*Mirounga angustirostris*)	
Harbor seal (*Phoca vitulina*)	
Northern fur seal (*Callorhinus ursinus*)	
California sea lion (*Zalophus californianus*)	

The MMPA prohibits the "take"[24] of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1371 (a)(5)(A) and (D)) direct the Secretary of Commerce (as delegated

[23] https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region

[24] "Take" means to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal. "Harassment" means any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or has the potential to disturb a marine mammal or marine mammal stock in the wild by

to NMFS) to allow, upon request, the incidental, but not intentional, take of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the take is limited to harassment, a notice of a proposed incidental take authorization is provided to the public for review.

The EA should consider those activities that may result in a take of a marine mammal such as geophysical and geotechnical surveys, installation of meteorological buoys, and biological surveys, including fisheries surveys that may result in the incidental capture, collection, harassment, injury, or death of marine mammals. Some concerns include risks from entanglement, acoustics, vessel strikes, and impacts of potential displacement of fishing effort. Also see the **Recommendations** section of this letter.

As the National Academies of Sciences, Engineering, and Medicine described with regards to cumulative effects of stressors on marine mammals,[25] marine mammals face a large array of anthropogenic and natural stressors, including, for example, noise pollution, loss of habitat, vessel traffic, fishing, competition for prey, and predators. Cumulatively, these stressors may compromise an individual's capacity to successfully thrive in the wild, affecting their physiological well-being or subtly altering their behavior. Multiple stressors may cumulatively affect marine mammal populations, particularly those with restricted ranges, narrow migratory routes, or low abundances. Recognizing the complexity of the interaction and cumulative effects of stressors on marine mammals and affected stocks is important in considering any activity(ies) associated with offshore wind energy within and adjacent to the Morro Bay WEA.

MMPA Incidental Take Authorization

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other "means of effecting the least practicable adverse impact" on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as "mitigation"); and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth.

MMPA authorization needs should be carefully considered by developers and discussed with NMFS well in advance of any planned activities. More information on the MMPA incidental take authorization process is available on our website at: https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act

Below is additional information about some of the species identified in Table 2.

Gray whales (Eschrichtius robustus)

Both the Eastern North Pacific (ENP) gray whale stock and the Western North Pacific (WNP) gray whale stock (ESA-listed) may be found in the area. Potential impacts to these whales could include death or

causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment). 16 U.S.C 1362.

[25] https://doi.org/10.17226/23479

injury from vessel strikes and entanglement in lines from the floating structures (primary) and marine debris, such as lost fishing gear, that may collect on lines from floating structures (secondary).

ENP gray whales undergo yearly migrations to/from low latitude wintering areas and high latitude feeding grounds, often close to the U.S. west coastline (primarily less than 10 km, but as close as 5 km, depending on the migratory phase). The gray whale migration along the west coast can be loosely categorized into three phases. The Southbound Phase includes all age classes as they migrate south from foraging areas in Alaska to the lagoons in Baja California, Mexico (October-March, peaking in December-February). In addition, there are two northbound migration phases (i.e., from Baja to Alaska): Phase A consists mainly of adults and juveniles and occurs February-June, peaking in April-May; and B consists of female-calf pairs and generally occurs April-May. The Northbound Phase B is the most sensitive of the migratory herds with nursing female-calf pairs typically traveling within 1-2 km of shore.

WNP gray whales, which are listed as endangered under the ESA, number less than 300 animals and a portion of them migrate across the Pacific and along the West Coast. Less is known about this population, although they could potentially be vulnerable to any coastal activities.

Harbor porpoise (Phocoena phocoena) – Morro Bay stock

Harbor porpoises along the West Coast are found in coastal and inland waters, with four distinct stocks identified from Point Conception, California through southern Oregon, and include a Morro Bay stock, located just south of the Morro Bay WEA.[26] Harbor porpoises are found primarily in waters shallower than approximately 200 meters, with most concentrated abundance from shore to around 92 meters.[27] Off the West Coast, harbor porpoises appear to have more restrictive movements, shown through their significant genetic differences, pollutant concentrations, and density minima observed from aerial surveys, which consequently may make them more vulnerable to local threats, including wind energy development adjacent to their normal habitat. A BIA for harbor porpoise was identified for the Morro Bay stock due to their relatively small abundance estimate (a few thousand animals) and restricted geographic range. Aerial surveys consistently indicate a core area of higher density of this stock near the center of the population's range, between Point Arguello and Point Estero, California. Harbor porpoises are sensitive to disturbance by a variety of anthropogenic sound sources (e.g., vessel traffic or underwater noise), particularly given their very limited range; therefore, efforts should be made to minimize disturbance to this coastal stock.

Northern elephant seals (Mirounga angustirostris)

Northern elephant seals breed and give birth in California and Mexico (Baja California), primarily on offshore islands but there are some important breeding colonies on the mainland, including along the coastline in Cambria, California, which is adjacent to the Morro Bay WEA. While elephant seals may be found on the rookery year-round, there are biologically sensitive time periods associated with their presence. Females arrive on the rookery in late December-early January, giving birth through February. Weaning continues concurrent with mating activities, with most of the adults/subadults leaving the beach at the end of February. Newborn seals will remain on the beach for a couple of months until they are ready to begin feeding for months in the offshore waters. Molting season begins in April, lasting several months, through August. More seals arrive throughout the late summer and fall, with early births and mating activities beginning in mid-December. In general, the pupping/molting season is most sensitive

[26] https://media.fisheries.noaa.gov/2021-07/Pacific%202020%20SARs%20Final%20Working%20508.pdf?null%09
[27] https://www.cascadiaresearch.org/files/publications/Calambokidisetal2015BIAs.pdf

for northern elephant seals and, thus, disturbance to the rookery should be avoided from mid-December through the early summer months.

Habitat under the Magnuson-Stevens Fishery Conservation and Management Act (MSA)

The WEA and associated activities will occur within designated Essential Fish Habitat (EFH) for species managed by the Pacific Fishery Management Council (PFMC) for four Federal Fishery Management Plans (FMP's)[28]:

- Pacific Coast Salmon (PFMC 2016)
- Coastal Pelagic Species (PFMC 2019a)
- Pacific Coast Groundfish (PFMC 2019b)
- Highly Migratory Species (PFMC 2018)

You can find information on species with designated EFH in and around the project area at https://www.habitat.noaa.gov/apps/efhmapper/?page=page_4.

The WEA also falls within designated Habitat Areas of Particular Concern (HAPCs)[29] for the Pacific Coast Groundfish FMP.[30] These include canopy kelp, seagrass, rocky reefs, and areas of interest that have unique geologic or ecological characteristics.

Habitats affected by the site characterization activities and installation of meteorological buoys or towers should be mapped (characterized and delineated) and impacts to these habitats should be described. Measures taken to avoid and minimize impacts to ecologically sensitive habitats should also be included in both the EA and the EFH Assessment required by the MSA as described further below.

EFH Consultation

The MSA requires federal agencies to consult with the Secretary of Commerce, through NMFS, with respect to "any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this Act" (16 U.S.C. 1855(b)(2)). This consultation process is described in our EFH regulations at 50 CFR 600.905 through 600.930. The EFH regulations state that for any federal action that may adversely affect EFH, federal agencies must provide NMFS with a written assessment of the effects of that action on EFH (50 CFR 600.920(e)). This EFH Assessment should include analyses of all potential impacts, including temporary, permanent, direct, indirect individual, cumulative, and synergistic impacts, of the proposed project.

The EFH consultation is a separate review mandated pursuant to the MSA, although BOEM may rely on other existing procedures (such as ESA) to fulfill the EFH consultation obligations. If BOEM does so, the EFH Assessment should be included within a separate section or appendix of the Biological Assessment that is prepared for ESA consultation and be clearly identified as an EFH Assessment. To aid BOEM and

[28] https://www.pcouncil.org/managed_fishery/habitat/

[29] HAPCs are subsets of EFH that are identified based on one or more of the following considerations: the importance of the ecological function provided by the habitat; the extent to which the habitat is sensitive to human-induced environmental degradation; whether, and to what extent, development activities are, or will be stressing the habitat type; and the rarity of the habitat type (50 CFR 600.815(a)(8)).

[30] https://www.fisheries.noaa.gov/west-coast/habitat-conservation/habitat-areas-particular-concern-west-coast and map at https://media.fisheries.noaa.gov/dam-migration/map-gfish-hapc.pdf

developers in the development of comprehensive and complete EFH Assessments, NMFS' Greater Atlantic Regional Office (GARFO) has published Recommendations for Mapping Fish Habitat.[31] NMFS WC will be reviewing those Recommendations and amending them, as appropriate, for waters off the U.S. West Coast. In the interim, we request that BOEM and developers follow GARFO guidance when operating off the West Coast.

Potential MSA Compliance for Surveys and Monitoring Plans

We understand that developers may carry out surveys of fisheries resources within the WEA as part of site characterization. All offshore wind energy fisheries monitoring plans or survey activities that engage in "fishing" as defined by the MSA[32] must comply with all applicable fishery management regulations. The MSA defines "fish" as "finfish, mollusks, crustaceans, and all other forms of marine animal and plant life other than marine mammals and birds" (16 U.S.C. 1802(12)).

MSA Letter of Acknowledgement for "scientific research"

Monitoring or survey activities that meet the definition of "scientific research activity" from a "scientific research vessel" (e.g. a vessel chartered and controlled by a university/scientific institution and operating under a scientific research plan), as defined in MSA implementing regulations at 50 CFR 600.10, are not considered to be fishing and are not subject to MSA fishery management regulations. This means that such vessels are not restricted by fishing regulations established under 50 CFR Part 300 for U.S vessels operating in internationally-managed fisheries, 50 CFR Part 600 for U.S. fisheries generally, 50 CFR Part 660 for fisheries off the West Coast, including quotas, gear restrictions, or area closures. The full scope of vessel activity must be consistent with the MSA definition for scientific research activity, and the scientific research vessel may not conduct fishing and research activities on the same trip.

NMFS recognizes, but does not authorize, scientific research activities from a scientific research vessel by providing, upon request, a Letter of Acknowledgement under the MSA (50 CFR 600.745). While a Letter of Acknowledgement is not required, we highly encourage that research programs (those of BOEM's and/or the developers) obtain such a letter from NMFS WCR to ensure NMFS concurs the criteria have been met and the vessel is not subject to MSA-based fishing regulations. Obtaining a Letter of Acknowledgement minimizes any delays caused by potential U.S. Coast Guard and law enforcement vessel inquiries.

Please note that an MSA Letter of Acknowledgement is not an authorization and is separate and distinct from any permit, authorization, or consultation required under the MMPA, the ESA, or any other applicable law. The issuance of an MSA Letter of Acknowledgement is not considered a federal action that triggers ESA section 7 consultation; as such, if the proposed survey may affect one or more species listed under the ESA (inclusive of capture and release without injury), additional coordination with NMFS is necessary.

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[31] Found here: https://www.fisheries.noaa.gov/new-england-mid-atlantic/science-data/offshore-wind-energy-development-new-england-mid-atlantic-waters

[32] Fishing, or to fish means any activity, other than scientific research conducted by a scientific research vessel, that involves: (1) The catching, taking, or harvesting of fish; (2) The attempted catching, taking, or harvesting of fish; (3) Any other activity that can reasonably be expected to result in the catching, taking, or harvesting of fish; or (4) Any operations at sea in support of, or in preparation for, any activity described in paragraphs (1), (2), or (3) of this definition. 50 CFR 600.10.

MSA Exempted Fishing Permit (EFP)

Monitoring plans or survey activities that do not meet the definition of scientific research activity by a scientific research vessel that deploy fishing gears similar to typical fishing operations may need an exemption from specific fishing regulations. Depending on the monitoring activities, exemptions may be needed for existing possession limits, minimum fish sizes, closure areas, and gear requirements, among other regulations, to support experimental/monitoring activities during trips conducting monitoring activities. Exemption(s) may be obtained by applying for an Exempted Fishing Permit (EFP) by contacting NMFS WCR. Issuance of an EFP is a federal action that may require ESA section 7 consultation and NEPA compliance.

Impacts to NMFS Scientific Surveys

Wind farm development in the Morro Bay WEA will have impacts on NMFS' long-term scientific surveys and assessments. The impacts will occur through four main mechanisms:

1) exclusion of NMFS sampling platforms from the wind development area;
2) impacts on the random-stratified statistical design that is the basis for data analysis and use in scientific assessments, advice, and analyses;
3) the fundamental alteration of benthic, pelagic, and airspace habitats in and around the wind energy development; and
4) in combination with adjacent developments, impact of sampling efforts outside developed areas by increasing vessel transit time.

These impacts will reduce the accuracy and precision of the biological indices derived from these surveys, which are essential for informing fisheries management decisions and ecosystem-level assessments and impact the data critical for conservation and recovery of protected species. This compels a need to develop standardized methodologies within and across lease areas for sampling inside of wind farms that are comparable with the long-term monitoring that occurs outside of wind farms.

NMFS surveys are conducted on NOAA owned and chartered research vessels, chartered commercial fishing vessels, NOAA owned and chartered aircraft and uncrewed platforms. Regardless of the primary survey target or purpose, an essential element of all surveys is that they maintain both survey protocols and allocation of survey effort as consistently as possible over time to avoid introducing bias into the survey results that inform stock assessments, ecosystem assessments, and other science products used to inform the public and marine resources managers. Should leases result in changes to the surveys that are not avoidable (e.g. station grid, transect location, geographic extent, sampling protocols), mitigation will be a costly process that involves developing, evaluating, and calibrating new survey designs that avoid bias and allow continuation of the scientific uses of the survey data.

Potentially Impacted NMFS Surveys

1. **West Coast Groundfish Bottom Trawl Survey (WCGBTS)** is a key source of fishery-independent data used for stock assessments and groundfish management. https://repository.library.noaa.gov/view/noaa/14179
2. **Joint U.S.-Canada Integrated Ecosystem and Pacific Hake Acoustic Trawl Survey** The hake survey provides data to support sustainable populations of Pacific hake on the West Coast. https://www.fisheries.noaa.gov/west-coast/science-data/joint-us-canada-integrated-ecosystem-and-pacific-hake-acoustic-trawl-survey

3. **West Coast Pelagic Fish Survey** is an acoustic trawl survey focusing on coastal pelagic species (e.g. sardine, anchovy, Pacific mackerel, jack mackerel, herring, krill). These forage species are an essential component of the California Current Ecosystem. The survey consists of a series of onshore-offshore oriented acoustic transects and directed trawl sampling and extends along the west coast from British Columbia to Baja California. https://swfsc-publications.fisheries.noaa.gov/publications/TM/SWFSC/NOAA-TM-NMFS-SWFSC-625.pdf
4. **West Coast Marine Mammal Survey** is designed to estimate the distribution and abundance of approximately 35 species of marine mammals. It is a line transect survey extending from British Columbia to Baja California and approximately 300 miles offshore. https://www.fisheries.noaa.gov/west-coast/science-data/ship-based-cetacean-and-ecosystem-assessment-surveys-california-current
5. **California Cooperative Oceanic Fisheries Investigations (CalCOFI) Survey** has been conducted several times a year since 1949. It is the longest time series of observations of the pelagic marine ecosystem on the west coast and informs numerous status assessments. The survey consists of oceanographic and biological sampling on a grid of fixed stations and underway observations along connecting transects. https://www.fisheries.noaa.gov/west-coast/science-data/fisheries-oceanography-california-current
6. **Rockfish Recruitment and Ecosystem Survey** is designed to sample approximately 60 species of rockfish during a short window in their life history when they are distributed in the upper water column and before they have settled to their adult benthic habitat. The survey consists of a series of standard trawl stations and associated ecological observations and informs several stock assessments. https://doi.org/10.5670/oceanog.2021.212

Commercial and Recreational Fisheries

We recommend BOEM carefully consider in the EA the safety of fishing vessels at sea. BOEM should analyze the potential impacts of vessel traffic resulting from leasing and any activity associated with the proposed lease sales, including site characterization and site assessment activities, as well as impacts from changes to or displacement of existing vessel traffic (e.g., fishing, shipping, scientific). In analyzing the effects of vessel traffic associated with Morro Bay WEA, BOEM should coordinate closely with the USCG, including through the USCG's Pacific Port Access Route Study of West Coast vessel traffic, to consider potential effects in or near to areas with historically high levels of maritime hazards and accidents.

We are aware that there have been some conflicts between developers' survey vessels activities and fishing operations along the East Coast.[33] Commercial fisheries use a broad range of gears in and around the Morro Bay WEA, including but not limited to: trawl gear, bottom and pelagic longlines, pot/trap tear, seine gear, and others (see Section VI of table at 50 CFR 600.725(v))[34]. The EA should consider potential for such conflicts on the West Coast and should include an alternative that specifies measures that could be included as lease conditions to avoid such conflicts/interactions; the reporting point of contact at the responsible agency and a protocol for fishermen and developers to follow, should incidents arise; and any other reasonable accountability measures to support the co-existing uses.

[33] https://www.nationalfisherman.com/northeast/fishermen-say-offshore-wind-surveys-rip-up-gear-there-has-to-be-accountability and https://www.delmarvanow.com/story/news/local/maryland/2021/11/12/ocean-city-md-fishermen-sound-off-us-wind-encroachment-offshore-wind-energy/6391485001/

[34] https://www.ecfr.gov/current/title-50/chapter-VI/part-600/subpart-H/section-600.725

The Morro Bay area has a long history of commercial and recreational fisheries, and multi-generation commercial fishing families. We recommend that in the EA BOEM analyze potential impacts on commercial fisheries by addressing the following:

- Number of vessels likely to be impacted, and percent of revenue estimated to be displaced by the WEA for these vessels (by month, taking into account seasonal nature of fishery and management measures).
- Ports and port infrastructure impacted by the WEA. While existing fisheries data from Vessel Monitoring Systems, observers, and logbooks does not cover all fisheries that may operate in the WEA, it might at least be used to better understand which ports have connections to vessels that operate in the WEA.[35]
- Percent of landings revenue for each impacted port that would be displaced by the WEA.
- Commercial and recreational fishing reliance and engagement in fisheries, along with vulnerability indices for impacted ports[36]. Of particular relevance to Morro Bay will be considering the pressures of development and increasing residential and commercial real estate costs along with increase in moorage costs/availability for fisheries boats, crew, and support sectors due to increased demand from pleasure boats, other waterfront uses, and the additional boats required to support the WEA.
- The impacts of the offshore human activities that may alter the geographic areas available to fisheries, including possible restrictions on gear types and fishing footprint to limit interactions with protected species or prevent overfishing; and potential impacts to fisheries displaced by the WEA taking into account predicted shifts in biomass and distribution associated with climate change.

Some recreational and commercial fishing may be negatively affected by the Morro Bay WEA (e.g., albacore, swordfish, and other highly migratory species; and thornyhead, sablefish, and some other groundfish) due to increased vessel traffic and potential closed areas to fishing.

The PFMC sent BOEM a letter on September 13, 2021,[37] in response to the Morro Bay Call for Information. That letter includes pertinent information about commercial and recreational fisheries in the vicinity (e.g., the historic importance for albacore and swordfish fisheries and the potential for a future swordfish buoy-gear fishery). We recommend BOEM address in the EA issues the PFMC raised in that letter.

Recommendations that Cross Multiple Issues

While we have provided recommendations throughout this letter, there are several recommendations we have that apply across multiple issues addressed in this letter, which are described below.

Considerations Due to Site Characterization Surveys

Site characterization activities have the potential to affect living marine resources as well as NMFS surveys that may coincide during the site characterization process. Site characterization activities may include ensonification of the water column and seafloor with vessel-based side-scan and multi-beam

[35] Rebecca L Selden, James T Thorson, Jameal F Samhouri, Steven J Bograd, Stephanie Brodie, Gemma Carroll, Melissa A Haltuch, Elliott L Hazen, Kirstin K Holsman, Malin L Pinsky, Nick Tolimieri, Ellen Willis-Norton, Coupled changes in biomass and distribution drive trends in availability of fish stocks to US West Coast ports, *ICES Journal of Marine Science*, Volume 77, Issue 1, January-February 2020, Pages 188–199, https://doi.org/10.1093/icesjms/fsz211

[36] https://www.st.nmfs.noaa.gov/data-and-tools/social-indicators/

[37] https://www.pcouncil.org/documents/2021/09/sept-2021-letter-to-boem-on-morro-bay-call-for-information.pdf/

sonar, coring, grab sampling, and use of shallow ground penetrating high-resolution seismic systems to map bottom and sub-bottom substrates and benthos. These activities could alter benthic and pelagic habitats as well as the distribution and abundance of fisheries resources and protected species. This issue should be thoroughly addressed in the EA, including the potential nature and magnitude of these impacts to existing fisheries or marine mammal data collections that may be carried out during such activities.

Given the complex issues associated with site characterization and assessment surveys, we strongly recommend that BOEM and developers contact NMFS WCR well in advance **prior to planned surveys**. This will allow for sufficient time to review plans and obtain any necessary MSA, ESA, and/or MMPA permits or authorizations.

Vessel Strike and Entanglement Avoidance Alternative

The EA should include an alternative that contains measures that could be incorporated as lease conditions to avoid, minimize, monitor, and report on effects to **leatherbacks and large whales** (ESA-listed and non-listed whales), to address the risk of:

- vessel strikes during months when they are present,
- potential impacts to their critical habitat, prey base, and migratory corridors,
- primary entanglement risk from the proposed activities (e.g., lines from floating structures, including meteorological buoys), and
- secondary entanglement risk (e.g., marine debris, including lost fishing gear, that may collect on lines from proposed floating structures).

Monitoring

We recommend that all alternatives pertaining to living marine resources incorporate the **Passive Acoustic Monitoring (PAM) Framework**[38] that NMFS and BOEM recently jointly developed[39] for monitoring for underwater sounds related to offshore wind development activities. This will ensure consistency in passive acoustic mitigation plans and long-term baseline monitoring programs.

BOEM Pacific and NMFS WC should also work closely together to determine and implement conditions for other types of long-term monitoring standards and best practices pertaining to NMFS trust resources to ensure consistency in long-term baseline monitoring programs.

Mitigation

NOAA's draft Mitigation Policy for Trust Resources[40] and NMFS' California Eelgrass Mitigation Policy[41] provide that project development should adhere to the mitigation hierarchy of first avoiding the impact; then minimizing the impact if it cannot be avoided; and finally developing offsetting or compensatory mitigation measures to reconcile the effects that cannot be avoided or minimized.

We recommend working with us to develop a programmatic mitigation approach early to identify alternatives in the EA that adhere to the mitigation hierarchy to benefit all stakeholders and achieve efficiencies during development and buildout. The development activities occurring throughout the lease

[38] https://www.frontiersin.org/articles/10.3389/fmars.2021.760840/full

[39] https://www.fisheries.noaa.gov/feature-story/new-passive-acoustic-monitoring-framework-help-safeguard-marine-resources-during

[40] The final policy is anticipated early in 2022. The draft policy can be found at: https://www.fisheries.noaa.gov/feature-story/noaas-draft-mitigation-policy-trust-resources-available-public-comment

[41] https://media.fisheries.noaa.gov/dam-migration/cemp_oct_2014_final.pdf

area and shoreside support areas will likely lead to effects to specific habitats that cannot be avoided or minimized, and NMFS encourages BOEM to schedule a meeting with us so that we can work together to identify an effective and transparent mitigation strategy.

Reasonably Foreseeable Impacts, Climate Change, and an Ecosystem Approach

It will be critical to fully consider both the project-specific effects and effects that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action of offshore wind energy development on living marine resources, their habitats, and oceanographic processes (particularly upwelling), and to develop and implement measures to mitigate for the adverse effects of such activities on those species, habitat, and the larger marine ecosystem. It will also be critical for BOEM to assess how the long-term effects of offshore wind energy development will interact with anticipated near-term and long-term effects of climate variability and change.

Impact analyses that consider full build-out scenarios within the WEA as well as other offshore wind energy development along the U.S. West Coast are needed to fully understand the potential effects of offshore wind energy installations on living marine resources and habitats, their interactions with each other, and their interactions with human and natural systems. NMFS is involved in multiple inter disciplinary research efforts that provide science support for ecosystem-based management, including the California Current Integrated Ecosystem Assessment (CCIEA).[42] We welcome discussing how NMFS science and data collection could be used to help BOEM in the EA to evaluate impacts of offshore wind energy development off the U.S. West Coast.

Conclusion

NMFS WC recognizes the importance of the Morro Bay WEA development contributing to the goal of deploying 30 gigawatts of offshore wind power nationwide by 2030. We look forward to working with BOEM Pacific and other partners to discuss these comments more closely and anticipate providing additional information and comments as this process moves forward, including potentially recommending lease conditions to reduce impacts of future surveys and development on our trust resources and other issues described in this letter. If you have any questions regarding these comments, please contact Jennifer Lilah Isé (Jennifer.Ise@noaa.gov), NMFS West Coast Offshore Wind Energy Coordinator.

Sincerely,

Barry A. Thom
Regional Administrator

cc: Richard Yarde, Regional Supervisor, Office of Environment, BOEM Pacific
Dr. Scott Rumsey, Deputy Regional Administrator, NMFS WCR
Jennifer Lilah Isé, NMFS WCR
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[42] https://www.integratedecosystemassessment.noaa.gov/regions/california-current

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RADM Brian K. Penoyer, District Commander USCG 11
RADM Melvin W. Bouboulis, District Commander USCG 13