



Pacific Fishery Management Council

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Brad Pettinger, Chair | Merrick J. Burden, Executive Director

May 16, 2025

Rachel MacDonald
Program Specialist
Siting, Transmission and Environmental Protection Division
California Energy Commission
1516 9th St.
Sacramento, CA 95814

Re: Draft Consultant Report Sea Space Analysis for Wave and Tidal Energy (Docket 24-SB-605)

Dear Ms. MacDonald,

The Pacific Fishery Management Council (Council) appreciates the opportunity to offer comments on the Draft Consultant Report: Sea Space Analysis for Wave and Tidal Energy (Draft Report). The Council manages U.S. West Coast fisheries under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), to ensure a sustainable seafood supply for the Nation. This includes responsibilities for protecting marine ecosystems, the habitats upon which healthy fisheries depend and the wellbeing of coastal fishing communities.

The Council has concerns about the placement of wave and tidal energy projects in areas that are important to marine/estuarine species and Council managed fisheries. Our comments herein offer additional context on potential spatial conflicts with fisheries and habitat resources to better inform the state's decisions about wave and tidal energy development. Our comments address essential fish habitat, MSA fisheries, and cumulative effects.

Fisheries Management Authorities

The Pacific Fishery Management Council is one of eight fishery management councils established by the MSA and manages more than 100 species of salmon, groundfish, coastal pelagic and highly migratory species and are included within the Council's four fishery management plans (FMPs). The Council membership is comprised of representatives from state and Federal agencies, Native American tribes, fisheries, conservation organizations, and other appointed citizens. Council authorities and actions are also guided by the Endangered Species Act, Marine Mammal Protection Act, and the 10 MSA National Standards. In addition to the four FMPs, the Council's non-regulatory Fishery Ecosystem Plan is based on a vision statement that captures these responsibilities: *The Council envisions a thriving and resilient California Current Ecosystem that continues to provide benefits to current and future generations and supports livelihoods, fishing*

opportunities, and cultural practices that contribute to the wellbeing of fishing communities and the nation.

Essential Fish Habitat (EFH) Authorities

The MSA and its implementing regulations at 50 CFR 600.815 require the Council to describe, identify, conserve, and enhance essential fish habitat (EFH) for species managed under the Council's FMPs. The Council has identified EFH for FMP species throughout the Pacific Coast region. The EFH regulations include provisions for designating habitat areas of particular concern (HAPC) and the Council has identified HAPCs for groundfish and salmon. In addition, the Council has designated EFH Conservation Areas (EFHCAs) for groundfish, which are spatially discrete areas that protect sensitive benthic habitats from the effects of some types of bottom fishing. As authorized under MSA, the Council may comment on Federal and state actions/activities that may affect the habitat, including EFH, of a fishery resource under its authority. Adverse effects on EFH may result from actions occurring within EFH or outside of it and may include site-specific or EFH-wide impacts, including individual, cumulative, or synergistic consequences of actions.

General Comments

The Council supports the broad approach taken in the Draft Report. Rather than identifying specific areas on a map/chart for development, it identifies various considerations, uncertainties, and potential conflicts as well as constraints that should be considered for any proposed wave or tidal energy project.

The Council recommends the Final Report include a description of the intended use and/or purpose of the Report. We understand it will be included with the outputs from Phase 1 in a policy Report submitted to the Legislature and Governor's office in compliance with the requirements of Senate Bill 605. If it is also anticipated the Consultant Report and recommendations will be substantially incorporated into guidance for potential wave or tidal energy developers, the Final Report should state that.

Habitat Areas of Particular Concern

HAPCs (50 CFR 600.815(a)(8)) are high priority areas for conservation, management, or research that are based on one or more of the following considerations:

- (i) The importance of the ecological function provided by the habitat
- (ii) The extent to which the habitat is sensitive to human-induced environmental degradation
- (iii) Whether, and to what extent, development activities are, or will be, stressing the habitat type
- (iv) The rarity of the habitat type.

The Draft Report correctly identifies some, but not all HAPCs.¹ HAPCs for groundfish are rocky reefs, estuaries, canopy kelp, seagrasses, and special areas of interest. HAPCs for salmon are estuaries, marine and estuarine submerged aquatic vegetation (SAV), spawning habitat, thermal

¹ Groundfish HAPCs are described in the Pacific Coast Groundfish [Fishery Management Plan](#), and salmon HAPCs can be found in [Appendix A](#) to the Pacific Coast Salmon Fishery Management Plan.

refugia, and complex channels and floodplains. These habitats are [further described](#) by the National Marine Fisheries Service (NMFS) West Coast Region. Note that the map linked here represents only an approximation of the groundfish HAPCs. A thorough evaluation of HAPC presence for all FMP species (e.g., salmon) should be conducted prior to granting easements or rights for wave or tidal energy projects.

The Council appreciates that the Draft Report recommends developers avoid HAPC when considering where to site wave and tidal energy projects, however, the Draft Report does not indicate where such conflict areas occur. HAPC are likely present in (or adjacent to) most areas identified as suitable for siting wave and tidal energy projects. For groundfish, the HAPC resource map was last updated in 2006 as part of FMP [Amendment 19](#). Some HAPC resources (e.g., eelgrass, kelp, rocky habitat) have since been updated by California and others and should inform the Sea Space process. For salmon, HAPC resources have not been comprehensively mapped for the Salmon FMP specifically, but HAPC resources (e.g., spawning habitat, SAV) have been mapped in some areas and should inform the Sea Space process. The Council recommends including any available HAPC resource data in subsequent analyses and in map figures scaled to the areas of interest to illustrate these spatial conflicts early in the process, before investing in locations that are incompatible with sensitive habitats.

Fisheries

The Draft Report includes a preliminary analysis of three nearshore commercial fisheries to identify potential conflict areas (Dungeness crab, market squid, and Chinook salmon). The Council appreciates that the Draft Report acknowledges the need for a full fisheries analysis (along with outreach) of every fishery operating in the project area as a next step. While the Council understands this initial analysis is incomplete, this may not be evident to stakeholders and may create concern about the lack of representation of other fisheries in the state's decision to move ahead with wave and tidal energy development. The Council recommends providing further explanation regarding areas of potential conflict of wave or tidal energy development and nearshore fisheries, and additional rationale in the Executive Summary and in the Conclusion of the Final Report.

Fisheries Data

The Draft Report explains that the analysis of fishing effort for the commercial Dungeness crab fishery used Vessel Monitoring System (VMS) data from 2010 to 2022. VMS has never been required for California's commercial Dungeness crab fishery so this VMS data was likely obtained from the limited number of vessels participating in the Dungeness crab fishery that also participate in a fishery for which VMS is required. If so, the analysis may not accurately represent Dungeness crab fishing effort. The Council recommends exploring other sources of effort data, as well as engaging directly with participants in the California commercial Dungeness crab fishery to determine if the analysis represents fleet-wide fishing effort.

NMFS, in collaboration with the states and Pacific States Marine Fisheries Commission, has the capabilities and tools to develop high quality data layers and maps to support appropriate siting decisions for marine energy development and is working with the California Department of Fish and Wildlife (CDFW) to improve fisheries information. The Council supports this collaborative

effort to develop more detailed fishery data layers that could be useful in future spatial planning efforts.

Recreational fishing effort is challenging to quantify and map for many reasons. For the limited data used in the analysis, there are important caveats that require additional consideration and explanation in the Draft Report. The CDFW California Recreational Fishing Survey (CRFS) data is collected from public access sites that are accessible to the general public. Private access sites, including publicly or privately owned marinas and moorings and docks at private residences are not sampled by CRFS. The inability to collect data from private access sites results in an underrepresentation of numerous private vessels that do not utilize launch ramps.

As alluded to in the Draft Report, Commercial Passenger Fishing Vessel logbooks report catch and effort based on “fishing blocks.” Because a block is generally 100 square miles (and up to 900 square miles), block data is too coarse to make informed decisions and protect important fishing grounds.

Also, if the recreational fishing effort was analyzed at a statewide scale, then the north coast will appear to have very low fishing effort compared to the south coast. This is due to the abundance of charter boats in Southern California that would skew a statewide analysis. A statewide-scale analysis thus undervalues the importance of the north coast to recreational fisheries. Whereas a regional-scale analysis would better represent actual fishing distribution and the importance of fishing to each region. Whichever approach was used for the analysis in the Draft Report should be explained, along with relevant data caveats.

While appreciating the effort made to consider fisheries in the Draft Report, the Council sees the need for additional considerations to be included in fisheries-specific analyses if the evaluation of suitable sea space continues. Among these are fishing vessel traffic, navigation routes, potential financial impacts to fishing and safety issues, the displacement or loss of preferred commercial and recreational fishing grounds (past, present, and potential future grounds), and the potential economic and social impacts to fishing communities.

Specific Comments:

The Council recommends the following edits to the Report (underline/strikethrough):

- Page 9: Developers should engage with parties concerned — including local communities, Native American tribes, environmental groups, fishing community members and government agencies — to understand potential concerns and ensure regulatory compliance.
- Page 77: Marine renewable energy development should be balanced with the needs of marine ecosystems, ~~and~~ fisheries, food security, and coastal community culture and heritage.
- Page 60: The text refers to the “*EFH Deep-sea Ecosystem Conservation Area (DECA)* *which was created to protect deep sea habitats such as corals.*” However, the DECA is not part of EFH and was implemented via a different regulatory authority. The report should clarify this point.

Cumulative Effects

The effect of multiple activities in a waterbody can amplify impacts on marine/estuarine resources beyond the impacts of a single activity; especially in a major estuary like Humboldt Bay where a new large-scale aquaculture operation and the Heavy Lift Terminal are rapidly developing. Should wave and tidal energy development move forward for California, it will be important to identify and analyze the cumulative effects from all major activities in and around areas deemed suitable for development. This would include analysis of all acoustic effects on listed species, as well as whether co-locating transmission cables or transmission hubs for wave and wind energy projects is compatible with HAPC resources (and other EFH components) found in and adjacent to project areas.

In closing, please consider these issues in any subsequent analyses and planning efforts. The Council plans to track this process through our Marine Planning Committee and welcomes continued engagement opportunities

Thank you for considering these comments. Please contact Council Staff member Kerry Griffin (Kerry.Griffin@pcouncil.org) with any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Brad Pettinger", with a long horizontal flourish extending to the right.

Brad Pettinger
Council Chair

KFG: ael

Cc: Council Members