

Regional EFH Profile: Pacific

This document was prepared by the Fisheries Leadership & Sustainability Forum with input from council and NOAA Fisheries staff as briefing material for the National Essential Fish Habitat Summit, May 17-19, 2016.

Summary

The Pacific Fishery Management Council (Council) identifies and reviews Essential Fish Habitat (EFH) on a Fishery Management Plan (FMP) basis. The Council's approach to identifying EFH is different for each FMP, based on data availability and the life history of managed species. The Council recently completed an EFH review and FMP amendment for Pacific Salmon, and is nearing the completion of an EFH review and amendment process for Pacific Coast Groundfish. The Groundfish EFH Review process follows a three-phase process formally described in the Council's Operating Procedures, and provides for significant stakeholder participation.

EFH timeline

1998	EFH identified for the Coastal Pelagic Species (CPS) (Amendment 8) and Pacific Coast Groundfish (Amendment 11) FMPs
2000	EFH identified for Pacific Salmon (Amendment 14)
2004	Highly Migratory Species (HMS) FMP implemented, EFH identified
2006	EIS completed for Pacific Coast Groundfish FMP. Amendment 19 to the FMP modified EFH definition, added text descriptions, and provided maps based on habitat suitability analysis. EFH review completed for CPS; does not result in changes.
2008	Krill added to CPS FMP (Amendment 12); EFH identified
2009	EFH review initiated for Pacific Salmon
2010	EFH review initiated for Pacific Coast Groundfish FMP. EFH review completed for CPS; does not result in changes.
2014	Updates to salmon EFH implemented (Amendment 18 to the Pacific Salmon FMP). NMFS publishes final rule January 2015.
2015	Amendment 28 to the Pacific Coast Groundfish FMP (ongoing) will include any changes to groundfish EFH and HAPCs.

EFH identification and review

Coastal Pelagic Species

The CPS FMP includes four pelagic finfish species, market squid, and krill (multiple species). The Council first identified EFH for CPS in 1998. EFH is broadly defined for all species and life stages in the complex as:

"All marine and estuary waters from the shoreline...to the limits of the EEZ and above the thermocline where sea surface temperatures range from 10 to 26 c." (PFMC 1998).

This definition is based on Level 1 presence/absence data, oceanographic data, and published literature. The Council conducted reviews in 2006 and 2010, and concluded that no changes were needed. Fishing gear impacts to pelagic CPS EFH are minimal and there are no measures in place to minimize adverse impacts.

In 2008, the Council added krill to the CPS FMP (Amendment 12) under a new “prohibited harvest species” category in order to preserve trophic relationships in the California Current ecosystem. EFH is defined for each of two primary krill species (including all life stages) as a surface layer that extends from shore outward to a defined isobath and depth. EFH is primarily based on Level 1 presence/absence data based on published literature, a fishery independent survey, and input from krill researchers.

Highly Migratory Species

The HMS FMP was implemented in 2004 and includes tunas, billfish (including swordfish) and sharks. EFH descriptions are based on Level 1 and some level 2 information from catch and logbook data, observer data, tagging studies, expert opinion, and published literature and life history information. HMS are highly mobile pelagic species, and EFH is described in terms of the oceanographic and environmental features that influence their distribution. EFH descriptions may refer to a combination of water depth, temperature, foraging habits, references to seasonal movements, the influence of cold and warm water years (associated with El Niño events), and associations with features such as upwellings and plumes. EFH is described by species and life history stage, though early life history stages of many species are not found within the U.S. Exclusive Economic Zone (EEZ). Fishing gear impacts to pelagic HMS EFH are minimal and there are no measures in place to minimize adverse impacts. EFH for HMS has not yet been reviewed.

Pacific Coast Salmon

The Pacific Coast Salmon FMP includes Chinook salmon, coho salmon, and Puget Sound pink salmon. EFH was first identified through Amendment 14 in 2000. EFH is broadly identified for all three species.

“In the estuarine and marine areas, salmon EFH extends from the extreme high tide line in nearshore and tidal submerged environments within state territorial waters out to the full extent of the EEZ offshore of Washington, Oregon, and California north of Point Conception...The geographic extent of freshwater EFH is identified as all water bodies currently or historically occupied by Council-managed salmon in Washington, Oregon, Idaho, and California.” (PFMC 2014).

This inclusive definition reflects the anadromous life history strategies of salmon, which require a continuum of fresh to marine habitats; as well as data limitations and variation in habitat quality and use. EFH descriptions for each species include additional life history and habitat use information. Descriptions and maps are primarily based on Level 1 data, with some higher level data available by species and life history stage. Additional important EFH components (e.g., migration corridors) are identified for freshwater and marine habitats. The inland extent of freshwater EFH is geographically defined by U.S. Geological Survey hydrological units (HUs), with exclusions where natural or manmade barriers such as dams limit the upstream extent of EFH. Pacific Salmon EFH also includes Alaska waters identified as salmon EFH by the North Pacific Fishery Management Council.

The Council initiated a review of Pacific Salmon EFH in 2009. The process was led by an Oversight Panel that included council, regional office, and science center staff, with support from an independent contractor. The Council reviewed a final report in 2011, and implemented changes to the FMP in 2014 that include updating EFH descriptions, description of the adverse effects of fishing on salmon EFH, adding or removing HUs as EFH, updating the list of barriers that define the upstream extent of EFH, and updating the description of non-fishing activities that may adversely affect salmon EFH.

Pacific Coast Groundfish

1998 Process (Amendment 11)

The Pacific Coast Groundfish FMP includes more than 90 species with diverse habitat needs. The Council first identified EFH for Pacific Coast Groundfish in 1998 (Amendment 11). EFH was identified as the entire EEZ and marine coastal waters inshore of the EEZ (PFMC 1998). EFH was further described in terms of seven “composite” EFH types that recognize ecological relationships between species and habitat types. These included estuarine, rocky shelf, non-rocky shelf, canyon, continental slope/basin, neritic zone, and oceanic zone habitats. The EFH Technical Team considered identifying EFH based on areas of high density, trawl survey and fishery dependent information. The team concluded that this approach would not adequately represent areas of importance to groundfish, due to spatial and temporal limitations on trawl survey data as well as a lack of early life history information. Amendment 11 did not adopt any measures to minimize adverse impacts to EFH.

2006 Process (Amendment 19)

An Environmental Impact Statement was later completed for Amendment 11, and led to Amendment 19 to the Groundfish FMP. EFH designations were informed by a habitat suitability analysis that considered depth, latitude, and substrate type to approximate the distribution of groundfish species. The model generated a Habitat Suitability Probability (HSP) of 0% to 100% for most species and life history stages, which was used to generate EFH maps. The Council adopted a precautionary approach to identifying EFH for groundfish, which includes all areas where HSP is greater than 0%:

“...Depths less than or equal to 3,500m to mean higher high water level or the upriver extent of saltwater intrusion...seamounts in depths greater than 3,500m as mapped in the EFH assessment GIS [and] areas designated as HAPCs not already identified by the above criteria.” (PFMC 2006).

Amendment 19 also constituted the Council’s first 5-year review for groundfish EFH. The EFH Technical Team conducted a literature review and developed an appendix that describes habitat associations by species and life history stage. The amendment implemented three categories of closed areas to minimize adverse impacts to EFH, including 34 bottom trawl closed areas, 17 bottom contact closed areas (closed to all bottom tending gear, including fixed gear such as long lines and pots); and a bottom trawl footprint closure of the EEZ between 1280 and 3500m.

Current Groundfish EFH Review (Amendment 28)

The Council initiated a three-phase EFH review process in 2010. This process follows a formal Process for Essential Fish Habitat Review and Modification, described in the Council’s Operation Procedures (COP22). The review process was guided by an Essential Fish Habitat Review

Committee (EFHRC) that includes participation by NOAA Fisheries science center and regional office staff, fishery stakeholders, and the academic and conservation communities.

- Phase 1 (completed): the EFHRC reviewed new information. NOAA Fisheries staff with the Northwest and Southwest Fisheries Science Centers provided a Synthesis Report to the Council to summarize new information and provide a starting point to consider changes to EFH and HAPCs. The new information and analyses are available online at: <http://efh-catalog.coas.oregonstate.edu/mapservice/>.
- Phase 2 (completed): The Council evaluated this new information and initiated a request for proposals to consider changes to EFH and HAPC. Eight proposals were submitted. The EFHRC developed a final report and recommendations to the Council.
- Phase 3 (ongoing): The Council is in the process of developing and analyzing alternatives for Amendment 28.

The Council is also considering revising rockfish conservation areas (RCAs) which are depth-based closures based specifically on species conservation, and merged the RCA and EFH changes into a single action that will become Amendment 28. The Council anticipates selecting preferred alternatives later in 2016.

EFH consultations

The majority of EFH consultations on the West Coast occur in areas that also have species listed as “threatened” or “endangered” under the Endangered Species Act (ESA), which has its own consultation requirements. In these cases, the EFH and ESA consultations are conducted simultaneously by the same staff biologist to streamline the process and reduce the regulatory burden on the action agencies. A single combined EFH/ESA Assessment is submitted by the action agency and NOAA Fisheries produces a single EFH/ESA consultation document.

Looking ahead

In 2013, the Council adopted a Fishery Ecosystem Plan (FEP) that serves as a repository for information relevant to the other four FMPs. While the FEP is not regulatory, the information compiled in it serves as a catalyst for management actions in the other four FMPs. For example, the Council adopted an ‘ecosystem initiative’ that adds language to each of the four FMPs prohibiting directed harvest of forage fish species that aren’t already under management. In addition, there have been informal discussions about developing EFH definitions common to all four FMPs. These definitions could be included in the FEP, with corollary regulatory language included the other FMPs.