



Regional EFH Profile: Western 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 Western Pacific Regional Fishery Management Council (Council) first identified Essential Fish Habitat (EFH) and developed EFH maps in 1999. EFH is identified by species assemblage using primarily level 1 and 2 data, typically for two or more life history stages combined. In 2009, the Council reorganized its species-based fishery management plans (FMPs) into a set of five place-based Fishery Ecosystem Plans (FEP), and existing EFH and Habitat Areas of Particular Concern (HAPC) descriptions were carried forward. The Council completed its first five-year review for Hawaii Archipelago bottomfish in 2012, and received Secretarial approval on the amendment implementing changes to EFH in April of 2016. The region is currently reviewing EFH for additional management unit species in each FEP.

EFH timeline

Year	Action
1999	EFH first identified described and mapped for four species-specific FMPs
2001	EFH identified for the Coral reef ecosystem FMP
2008	Deepwater shrimp added to Crustaceans FMP (Amendment 13); EFH identified. EFH review initiated for Hawaii Archipelago Bottomfish
2009	Existing species-based FMPs reorganized into Fishery Ecosystem Plans; EFH and HAPC designations maintained
2012	EFH review completed for Hawaii Archipelago Bottomfish. EFH review initiated for other management unit species in each region (with the exception of crustaceans)
2016	Secretarial approval received for Amendment 4 to the Hawaii Archipelago Fishery Ecosystem Plan, updating EFH descriptions for bottomfish and seamount groundfish

EFH identification and review (see table below)

Comprehensive Amendment

The Council first identified EFH in 1999 through a comprehensive amendment that amended the region's four existing FMPs for pelagics, bottomfish, crustaceans, and precious corals. The Western Pacific region has limited habitat information and bathymetry is characterized by deep water and steep drop-offs. The Council adopted a precautionary approach to identifying EFH for species assemblages, primarily in terms of suitable depth ranges. The Council chose to identify specific beds of precious corals as EFH, rather than using a depth range, because suitable habitat conditions for these species are rare.

EFH is identified based primarily on level 1 and 2 data, with higher level information available for some species and life stages. The Council also used a “Level 0” to indicate where no information on distribution exists, most frequently for egg and larval stages. Additional information about the life history and habitat use is provided by species and life history stage, where available. Adverse habitat impacts from fishing gear were considered minimal. Bottom trawls, bottom-set nets, explosives, and poisons were prohibited by the management regime in place at the time EFH was described.

Coral reef ecosystem FMP

The Council later developed a Coral Reef Ecosystem FMP that includes thousands of species not managed under existing FMPs. A general EFH description is provided for all species, and EFH descriptions for some taxa and life history stages may provide a more limited affiliation with particular substrates. EFH is also described through the use of tables depicting the affiliation of life history stages with habitat composite types that include mangrove lagoons, estuarine, seagrass beds, soft substrate, coral reef/hard substrate, deep slope terraces, and pelagic/open ocean. As with the other four FMPs, adverse habitat impacts from fishing gear are considered minimal.

Deepwater shrimp

Amendment 13 (2008) to the Crustaceans FMP added eight deepwater shrimp species to the management unit, and designates EFH at the species assemblage level. Very little information exists describing the distribution and habitat associations of these species.

EFH Definitions (Adapted from Table 1, WPRFMC 2012)

Management Unit	Juveniles and adults	Eggs and larvae
Pelagic	Water column from shoreline to 1000 m isobath	Water column down to 200 m from shoreline to EEZ
Bottomfish	Overall designation for post-settlement/sub-adult/adult - Water column and bottom habitat from shoreline to 400 m isobath; depth ranges vary by complex for individual species and life stages	Eggs: Water column down to 400 m from shoreline to 50 mi from shore Post-hatch pelagic: water column down to 400 m from shoreline to EEZ Depth ranges vary by complex for individual species and life stages
Seamount groundfish	Water column and bottom habitat in depths from 120 m to 600 m, in EEZ waters west of 180° W and north of 28° N	Pelagic zone to a depth of 600 m, in EEZ waters west of 180° W and north of 28° N
Precious corals	Keahole, Makapuu, Kaena, Westpac, Brooks, and 180 Fathom gold/red coral beds, and Milolii, S. Kauai, and Auau Channel black coral beds	N/A
Crustaceans	Bottom habitat from shoreline to 100 m isobath	Water column down to 150 m from shoreline to EEZ
Coral reef	Water column and bottom	Water column down to 100 m from

ecosystem	habitat from shoreline to 100 m isobath	shoreline to EEZ
<i>Heterocarpus</i> shrimps	Outer reef slopes between 300 and 700 m surrounding every island and submerged bank in the Western Pacific Region	Outer reef slopes between 550 and 700 m surrounding every island and submerged bank in the Western Pacific Region

Fishery ecosystem plans

In 2009 the Council reorganized the five species-specific FMPs into five place-based fishery ecosystem plans, which include the American Samoa Archipelago, Hawaii Archipelago, Mariana Archipelago, Pacific Pelagics, and Pacific Island Remote Areas. Each of the FEPs incorporated existing EFH and HAPC descriptions.

Hawaii Bottomfish EFH Review

The region’s first EFH review was initiated in 2008. This process focused on Hawaii Archipelago bottomfish due to the availability of new science, and in order to focus limited funding and staff capacity. The NOAA Fisheries Pacific Islands Regional Office (PIRO) hired a contractor to review available information. The final report was completed in 2012 after review through the Western Pacific Stock Assessment Review (WPSAR) process and by the Council’s Scientific and Statistical Committee (SSC).

The Council’s preliminary preferred alternatives (as recommended by the WPSAR panel and endorsed by the SSC) retained the aggregate designation of 0-400 m and proposed changes to bottomfish EFH that include specifying three species sub-groups (shallow, intermediate, and deepwater complexes), defining four life history stage categories (eggs, post hatch pelagic, post settlement and subadult, adult), and providing updated EFH text descriptions for each species. Changes were also proposed for seamount groundfish, including designating HAPC congruent with EFH and adjustments to overall and life stage-specific EFH depths ranges. Secretarial approval was received for Amendment 4 to the Hawaii Archipelago Fishery Ecosystem Plan in April 2016, reflecting the Council’s preferred alternative.

Current EFH review process

PIRO hired a contractor to conduct a review of EFH and HAPC for all managed species, excluding crustaceans and the Hawaii bottomfish and seamount groundfish, which was drafted and presented to the Council in 2012. This review was put on hold temporarily due to the need for more information and limited resources to address needs. However, the EFH review is now being conducted through the plan team annual report process in accordance with the FEPs. The FEPs require the plan teams to review EFH information, as necessary, during assembly of the annual report. The Council restructured its plan teams in 2015 with the expertise necessary for assembling annual reports that meet the requirements of both the Stock Assessment and Fishery Evaluation (SAFE) reports and the Council’s FEP annual reports.

During production of the 2015 Annual SAFE Report, the Pacific Islands Fisheries Science Center’s (PIFSC) habitat expert on the plan team updated the precious corals species descriptions. The Council will consider the review as well as other management implications from the review when the species descriptions draft is complete. PIRO is contracting for a review of non-fishing activities, corresponding conservation and enhancement recommendations, and cumulative impacts to EFH. The scope of work for this contract was collaboratively developed by the

Council, PIFSC, and PIRO habitat staff. Finally, an SSC member is developing a method to utilize existing fisheries-independent survey data with geographically-explicit marine habitat information to identify EFH for Hawaiian Coral Reef Ecosystem Management Unit Species (CREMUS) and assess the relative value of marine habitats. The approach will be applicable to CREMUS groups for other regions under the Council's jurisdiction where similar NOAA Fisheries independent surveys have occurred and GIS data exist.

EFH consultations

EFH consultations are conducted by PIRO.¹ Council and PIRO staff coordinate on a proportion of the couple of hundred EFH consultation/review requests that are received by PIRO each year. Most of these requests are for non-fishing actions. The main Federal action agencies consulted with include the Navy, Army Corp of Engineers, and U.S. Department of Transportation. The types of projects most often consulted on include military training and testing activities, harbor construction and dredging, and shoreline hardening.

PIRO prioritizes review of federal actions with more than minimal adverse effect on EFH. PIRO also prioritizes actions with adverse effect on EFH where: the federal action agency is unfamiliar with EFH and the consultation requirement and process; the federal action agency has a history of non-compliance with MSA; the action is connected to important past or ongoing consultations; the action occurs within a NOAA Fisheries priority site; and/or the community has expressed a particular interest in NOAA Fisheries review of EFH/habitat impacts.

Existing EFH consultations are focused in coastal areas in Hawaii, the Marianas and American Samoa where the majority of development occurs. EFH in nearshore waters as designated for a range of management unit species includes the seafloor and the marine water column. PIRO's EFH conservation recommendations often address mitigation of impacts to coral reef, seagrass, and water quality. Emerging actions in the region include open ocean aquaculture, offshore renewable energy development, and deep sea minerals mining. The nature of these activities drives an increasing need to refine offshore EFH, understand new potential impacts to EFH and ensure effective coordination between Council and PIRO staff conducting EFH consultations.

Looking ahead

At its 165th meeting in Honolulu, HI, the Council voted to include the EFH review process in the Regional Operating Agreement. Council, PIFSC, and PIRO leadership will schedule the 5 year EFH reviews in a process similar to how stock assessments are scheduled for the region. This will help ensure that EFH reviews are consciously prioritized with respect to the region's limited resources, and provide the plan team with direction on which EFH reviews to conduct.

¹ The NOAA Fisheries Pacific Islands Regional Office and Pacific Islands Fisheries Science Center were both established in 2003. Prior to 2003, fishery management responsibilities for the region, including EFH consultations, were supported by the NOAA Fisheries Southwest Regional Office and Southwest Fisheries Science Center.