

## **1.1 ESSENTIAL FISH HABITAT**

### **1.1.1 INTRODUCTION**

Per requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA; 50 CFR § 600.815), Essential Fish Habitat (EFH) information for all Pelagic Management Units Species (MUS) is found in the Pelagic Fishery Ecosystem Plan (FEP). The EFH Final Rule requires that the Council review and revise EFH provisions periodically and report on this review as part of the annual Stock Assessment and Fishery Evaluation (SAFE) report, with a complete review conducted as recommended by the Secretary, but at least once every five years.

The habitat objective of the FEP is to refine EFH and minimize impacts to EFH, with the following sub-objectives:

- Review EFH and Habitat Areas of Particular Concern (HAPC) designations every 5 years and update such designations based on the best available scientific information, when available.
- Identify and prioritize research to: assess adverse impacts to EFH and HAPC from fishing (including aquaculture) and non-fishing activities, including, but not limited to, activities that introduce land-based pollution into the coastal environment.

Pelagic EFH information was not updated during preparation of 2019 SAFE report, except for the research and information needs. Non-fishing impacts to pelagic EFH were reviewed as part of the Council's omnibus review of non-fishing effects on EFH. The Council's support of non-fishing activities research is monitored through the program plan and five-year research priorities, not the annual report.

### **1.1.2 RESPONSE TO PREVIOUS COUNCIL RECOMMENDATIONS**

At its 172<sup>nd</sup> meeting in March 2018, the Council recommended that staff develop an omnibus amendment updating the non-fishing impacts to EFH sections of the FEPs, incorporating the non-fishing impacts EFH review report by Minton (2017). An options paper has been developed. The 2019 Pelagic Plan Team recommended that Council staff work appropriate Plan Team members to evaluate the EFH section of the Annual SAFE Report to see how it may be refined going forward, which was completed prior to the 2020 Pelagic Plan Team meeting.

### **1.1.3 HABITAT USE BY MUS AND TRENDS IN HABITAT CONDITION**

The geographic extent of EFH for PMUS in the Western Pacific region is the shoreline to the edge of the exclusive economic zone (EEZ; 64 FR 19067, April 19, 1999). Egg/larval PMUS EFH is the water column to a depth of 200 m, while juvenile/adult PMUS EFH is designated to 1000 m. HAPC is designated to a depth of 1,000 m above seamounts and banks with summits shallower than 2,000 m.

Because the habitat is the water column, the Climate and Oceanic Indicators section (Section **Error! Reference source not found.**) provides data and trends relevant to pelagic EFH, including oceanic pH, the ONI PDO, tropical cyclones, North Pacific oligotrophic area, ocean color, and subtropical front/transition zone chlorophyll front indicators. Future SAFE reports may provide further interpretation of these indicators as they relate to EFH.

#### **1.1.4 REPORT ON REVIEW OF EFH INFORMATION**

No pelagic EFH reviews were completed in 2019, though a review of crustacean EFH in Guam and Hawaii was finalized. This review can be found in the 2019 Archipelagic SAFE Reports for the Mariana and Hawaii Archipelagos. The non-fishing impacts and cumulative impacts components were reviewed in 2016 through 2017, which can be found in Minton (2017).

#### **1.1.5 RESEARCH AND INFORMATION NEEDS**

The Council previously identified pelagic scientific data needs to more effectively address the EFH provisions in the FEP. This section includes active research and data collection to address these needs as well as a list of revised and focused critical research needs for specific management concerns.

The Bigeye Tuna (BET) Initiative is a PIFSC initiative launched in 2019 that focuses on science to support EFH delineation and ecosystem-based fisheries management for bigeye tuna in Hawaii. The BET Initiative is a cross-divisional effort to learn as much as possible about BET and the environment that supports them, an environment which is dynamic in both time and space, and may experience large geographic shifts in the face of global climate change. The initiative has multiple focus areas to advance BET and other pelagic research conducted at PIFSC:

- Delineate stock structure of BET caught in the Hawaii longline fishery
- Identify spawning grounds and larval distributions of BET
- Drivers of BET fishery ecosystem dynamics and forecasting future BET fishery performance
- Life history with an emphasis on age and growth
- Environmental linkage to BET recruitment into the Hawaii-based longline fishery
- Lancetfish (key prey item) project
- Network analysis for the Hawaii deep-set longline fishery
- Mesoscale features influencing longline catch
- Central equatorial Pacific BET CPUE and relationship to ENSO

Other proposed PIFSC research relevant to EFH includes using telemetry data to define pelagic habitat, projecting movement of the pelagic fishing fleet in response to climate change, developing automated underwater vehicle (AUV)-based sampling plans to understand and delineate the physiochemical parameters of major oceanic convergence zones, identifying key life history relationships and their responses to climate change, and mapping efforts to identify and integrate the influence of seamounts on pelagic reproduction, recruitment, and dispersal. The Pelagic Plan Team also previously recommended that Council staff explore a minimum depth for the definition of pelagic EFH that excludes depths seldom occupied by PMUS.