Essential Fish Habitat in Hawai‘i

NOAA FISHERIES

National Marine Fisheries Service

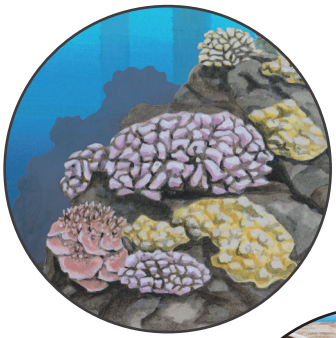
Pacific Islands Regional Office

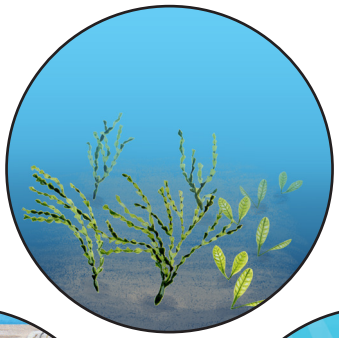
Essential Fish Habitat in Hawai‘i

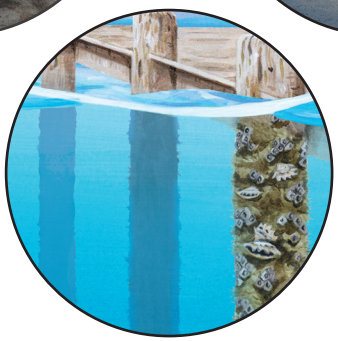
What Is Essential Fish Habitat?

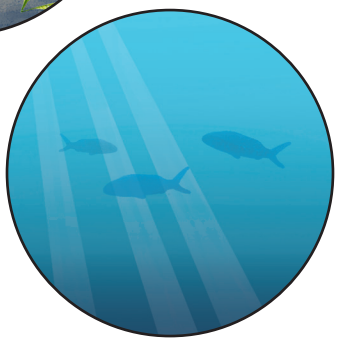
Throughout their lives, fish and invertebrates depend on healthy habitat to thrive, including areas to feed, reproduce, migrate, and grow. Essential Fish Habitat (EFH) helps protect these vital ecosystems by defining where this habitat is located and limiting negative impacts to its function. Established in 1996 through the Magnuson-Stevens Act, EFH includes "...those waters and substrate necessary to [federally-managed] fish for spawning, breeding, feeding, and/or growth to maturity."

Across the United States, Fishery Management Councils are responsible for identifying EFH for federally managed species. They also identify potential adverse effects to EFH from construction or other activities and consider ways to conserve and enhance that habitat. In Hawai‘i, the Western Pacific Fishery Management Council (Council) defines EFH, which is then implemented by NOAA Fisheries, Pacific Islands Regional Office. Federal agencies are required to consult with NOAA Fisheries anytime an action may affect EFH; we then provide those agencies with conservation recommendations intended to help avoid and minimize potential adverse effects from the proposed activities.









EFH can include open waters, wetlands, coral reefs, seagrass beds, and submerged structures with associated biological communities, such as filter-feeding sponges and oysters. We give these habitat types equal weight when considering the potential impacts to the species that live there and measures to limit adverse effects.

Which Species Have EFH?

In Hawai'i, the Council identifies EFH for four groups of "Management Unit Species." The Council uses the best available information to determine the EFH boundaries for these groups, which it reviews and updates every five years.

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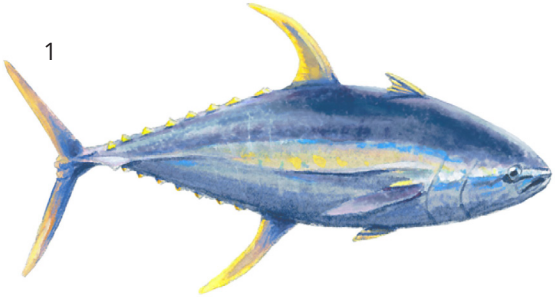

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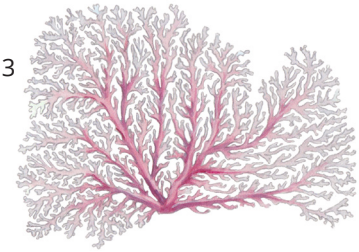


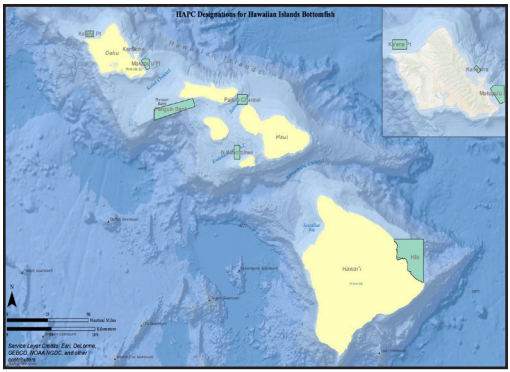
The Management Unit Species include (counter-clockwise from top left): 1) pelagic fish like yellowfin tuna ('ahi, *Thunnus albacares*); 2) bottomfish like ruby snapper (ehu, *Etelis carbunculus*), shown here, and shallow-water species like grey snapper (uku, *Aprion virescens*) shown on the reverse; 3) precious corals like pink coral (*Corallium secundum*); and 4) crustaceans like spanner crab (Kona crab, *Ranina ranina*).

What Are Some Threats to EFH?

Federal activities can negatively affect EFH, for example dredging and mining, water intake structures, beach nourishment, and aquaculture facilities. EFH consultations are necessary when a project may adversely affect EFH, either directly (such as by physically breaking or damaging corals or seagrass) or indirectly (such as by causing sedimentation or introducing invasive species).

What Are Habitat Areas of Particular Concern?

Habitat Areas of Particular Concern (HAPC) are a subset of EFH that are prioritized for habitat conservation, management, and research. Defining HAPC encourages increased scrutiny and more rigorous conservation recommendations. It can also serve as a tool for focusing habitat research and monitoring efforts.



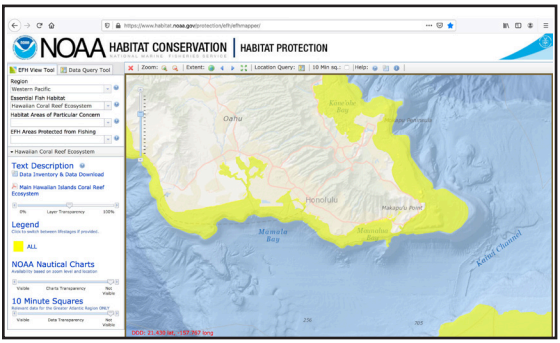
In Hawai'i, HAPC include:

Ka'ena Point, O'ahu
Kāne'ohe Bay, O'ahu
Makapu'u, O'ahu
Penguin Bank
Pailolo Channel, Maui
N. Kaho'olawe, Kaho'olawe
Hilo, Hawai'i

What Are Conservation Recommendations?

As required by law, NOAA Fisheries consults with federal agencies if a project has a federal nexus—it's a federal action, requires a federal permit, or is supported through federal funding. During this consultation process, we might provide conservation recommendations to avoid sensitive EFH, minimize the adverse effects of the project, or offset or provide compensation for resources that may be unavoidably lost.

What Is Some Advice for Federal Agencies?



* Use the EFH Habitat Mapper tool to see which EFH species and habitats are at risk from proposed activities.

* Consider all habitat types, including man-made surfaces that are colonized by habitat-forming organisms. When designated as EFH, they are given equal weight.

* Coordinate with NOAA Fisheries as early as possible, when projects have the greatest ability to modify designs or collect additional information.

* Submit a complete EFH Assessment with the required components:

- A description of the proposed action
- An analysis of the potential adverse effects to EFH
- The federal agency's conclusions on the effects of the project to EFH
- A proposed mitigation, if applicable

* Use common best management practices, for example avoiding physical damage by working from shore whenever possible and minimizing sedimentation by using turbidity curtains.

For More Information, Visit:

https://go.usa.gov/xfDdY

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An Example for a Shallow-Water Bottomfish, Uku or Grey Snapper (*Aprion virescens*)

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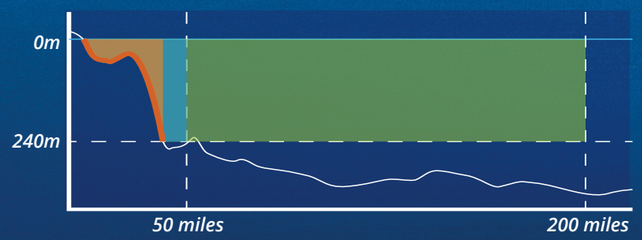
Essential Fish Habitat (EFH) includes all the places in the ocean where federally managed fish and invertebrates live and reproduce across their entire life cycle. These habitats are "essential" because, without them, fish would not be able to survive. To conserve these important habitats, federal agencies must consider them when planning, permitting, funding, or conducting other activities that may have negative effects. As an example for EFH, consider uku, an important commercial bottomfish species in the main Hawaiian Islands.

Uku is a relatively shallow-water snapper that lives in the water column and close to the seafloor at different points in its life. EFH for uku includes all of the ocean areas that support its life cycle—for spawning, breeding, growing, and feeding.

Shallow-Water Bottomfish EFH From Above

Shallow-Water Bottomfish EFH From the Side



The extent of the EFH footprint for uku varies by life history stage. EFH for eggs (BLUE) is bounded by the mean low tide line out to 50 miles. For larvae in the post-hatch pelagic life stage (GREEN), EFH runs all the way from the shore to the outer boundary of the 200 mile Exclusive Economic Zone. For juveniles and adults (ORANGE), EFH is designated to a line where the ocean bottom is a depth of 787.4 ft (240 m).

EFH can change over time as scientists learn more or as conditions change; this example is from March 2020.

Eggs

Uku eggs and larvae are found in the water column. EFH for eggs and post-hatch larvae includes the water column down to 787.4 ft (240 m).

Larvae

Juveniles

Uku juveniles, sub-adults, and adults can live from the surface of the water to the seafloor across a variety of habitats. EFH for these life stages includes the water column to 787.4 ft (240 m) and all bottom habitats.

Adults

The health of fish populations like uku depends on the amount and quality of their habitat.

These bottom habitats include reefs and underwater vegetation, as well as man-made structures like piers and shipwrecks and their associated biological communities.