

PACIFIC FISHERY MANAGEMENT COUNCIL

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For more information

Have more questions about habitat and EFH? Please contact the following staff:

Coastal pelagic species: **Kerry Griffin**; phone 1-866-806-7204 ext. 414

Groundfish: **John DeVore**; phone 1-866-806-7204 ext. 413

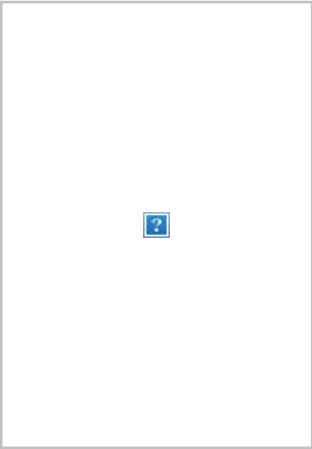
Habitat Committee: **Jennifer Gilden**; phone 1-866-806-7204 ext. 418

Highly migratory species: **Kit Dahl**; phone 1-866-806-7204 ext. 422

Salmon: **Kerry Griffin**; phone 1-866-806-7204 ext. 415

Habitat and Communities: Habitat

What is essential fish habitat (EFH)?



The [Magnuson-Stevens Fishery Conservation and Management Act](#) (MSA) requires that regional fishery management Councils describe [essential fish habitat](#) (EFH) in their fishery management plans, that they minimize impacts on EFH from fishing activities, and that they and other Federal agencies consult with the National Marine Fisheries Service about activities that might harm EFH. Actions that occur outside of EFH, but that might affect the habitat, must also be taken into account. The MSA defines

EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.”

To clarify this definition, “waters” is defined as aquatic areas and their associated physical, chemical, and biological properties that are used by fish, and may include areas historically used by fish. “Substrate” means “sediment, hard bottom, structures underlying the waters, and associated biological communities”; “necessary” means “the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem”; and “spawning, breeding, feeding, or growth to maturity” covers the full life cycle of a species.

The Council has developed documents that describe and map EFH, and suggest management measures to reduce impacts from fishing and non-fishing activities, for coastal pelagic species, salmon, groundfish, and highly migratory species. The Council may use fishing gear restrictions, time and area closures, harvest limits, and other measures to lessen adverse impacts on EFH. When doing so, the Council considers whether the fishing activity is harming the habitat, the nature and extent of the damage, and whether management measures can be enforced. The Council also considers the long-term and short-term costs and benefits to the fishery, fishing communities, and the habitat.

In addition to EFH, the MSA encourages Councils to designate habitat areas of particular concern (HAPCs). These are specific habitat areas, a subset of the much larger area identified as EFH, that play a particularly important ecological role in the fish life cycle or that are especially sensitive, rare, or vulnerable. Designating HAPCs allows managers to focus their attention on conservation priorities during review of

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proposals, gives those habitats extra management protection, and gives the fish species within HAPCs an extra buffer against adverse impacts.

- See the [NOAA Essential Fish Habitat Mapper](#). The mapper gives users newly available data on EFH areas protected from fishing. These data represent areas where steps have been taken to minimize the impact that fisheries have on EFH by geographic area of interest. These steps may include anchoring restrictions, required fishing gear modifications, or a ban on certain types of gear, among others.
- See [NOAA Fisheries Service List of "Frequently Asked Questions on EFH"](#)

ESSENTIAL FISH HABITAT FOR GROUNDFISH

The Pacific Coast Groundfish Fishery Management Plan manages more than 82 species over a large and ecologically diverse area. Groundfish are



fish such as rockfish, sablefish, flatfish, and Pacific whiting that are often (but not exclusively) found on or near the ocean floor or other structures.

The Council first identified groundfish EFH in 1998. Because information about each groundfish species’ habitat was limited, EFH was defined to encompass the whole West Coast exclusive economic zone. However, in 2000, based on the American Oceans Campaign v. Daley court case, the Council was directed to revisit the question of groundfish EFH. Amendment 19 to the Groundfish Fishery Management Plan, completed in 2006, defines EFH and HAPCs for groundfish.

To identify EFH for groundfish, NMFS developed a GIS-based assessment model that looked at the occurrence of groundfish in relation to depth, latitude, and substrate type. A detailed description of this model is included in [Appendix B.1 to the groundfish FMP](#).

Ultimately the Council identified groundfish EFH as all waters from the high tide line (and parts of estuaries) to 3,500 meters (1,914 fathoms) in depth.

HAPCs are a subset of EFH used to focus management and restoration efforts. The Council identified six HAPC types. One of these types, certain oil rigs in Southern California waters, was disapproved by NMFS.

The current HAPC types are: estuaries, canopy kelp, seagrass, rocky reefs, and “areas of interest” (a variety of submarine features, such as banks, seamounts, and canyons, along with Washington State waters.)

In addition to identifying EFH and describing HAPCs, the Council also adopted mitigation measures directed at the adverse impacts of fishing on groundfish EFH. Principal among these are closed areas to protect sensitive habitats. There are three types of closed areas: bottom trawl closed areas, bottom contact closed areas, and a bottom trawl footprint closure. The 34 bottom trawl closed areas are closed to all types of bottom trawl fishing gear. The bottom trawl footprint closure closes areas in the EEZ between 1,280 meters (700 fathoms) and 3,500 meters (1,094 fathoms), which is the outer extent of groundfish EFH. The 17 bottom contact closed areas are closed to all types of bottom contact

gear intended to make contact with bottom during fishing operations, which includes fixed gear, such as longline and pots.

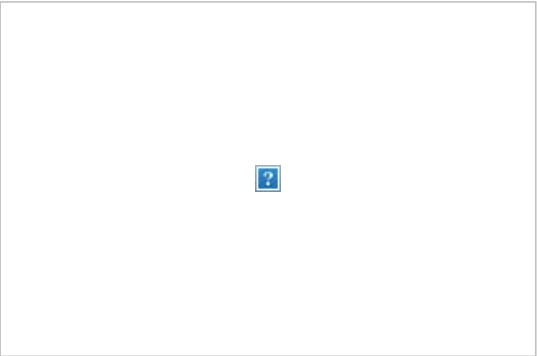
ESSENTIAL FISH HABITAT FOR COASTAL PELAGIC SPECIES

The coastal pelagic species (CPS) fishery includes four finfish (Pacific sardine, Pacific (chub) mackerel, northern anchovy, and jack mackerel), and market squid. CPS finfish generally live nearer to the surface than the sea floor. The definition of EFH for CPS is based on the temperature range where they are found, and on the geographic area where they occur at any life stage. This range varies widely according to ocean temperatures. The EFH for CPS also takes into account where these species have been found in the past, and where they may be found in the future.

The east-west boundary of CPS EFH includes all marine and estuary waters from the coasts of California, Oregon, and Washington to the limits of the EEZ (the 200-mile limit) and above the thermocline where sea surface temperatures range between 10° and 26° centigrade. (A thermocline is an area where water temperatures change rapidly, usually from colder at the bottom to warmer on top). The southern boundary is the U.S./Mexico maritime boundary. The northern boundary is more changeable and is defined as the position of the 10° C isotherm, which varies seasonally and annually. (The 10° C isotherm is a rough estimate of the lowest temperature where finfish are found, and represents their northern boundary). In years with cold winter sea surface temperatures, the 10° C isotherm during February is around 43° N latitude offshore, and slightly further south along the coast. In August, this northern boundary moves up to Canada or Alaska.

For more information about CPS EFH, see the [CPS background page](#).

ESSENTIAL FISH HABITAT FOR SALMON



Salmon range from more than 1,000 miles inland to thousands of miles out at sea. Although the waters off Canada are salmon habitat, they are also not included in the description of salmon EFH because they are outside of U.S. jurisdiction. However, waters off Alaska are included in the description.

In estuaries and marine areas, salmon habitat extends from the shoreline to the 200-mile limit of the EEZ and beyond. In freshwater, salmon EFH includes all the lakes, streams, ponds, rivers, wetlands, and other bodies of water that have been historically accessible to salmon. The description of EFH also includes areas above artificial barriers, except for certain barriers and dams that fish cannot pass. However, activities that occur above these barriers, and that are likely to affect salmon below the barriers, may be affected by EFH rulings.

The Council is required to minimize the negative impacts of fishing activities on essential salmon habitat. The ocean activities that the Council is concerned with include the

effects of fishing gear, removal of salmon prey by other fisheries, and the effect of salmon fishing on reducing nutrients in streams due to fewer salmon carcasses in the spawning grounds. The Council may use gear restrictions, time and area closures, and harvest limits to reduce negative impacts on salmon EFH.

The Council is also required to comment and make recommendations regarding other agencies' actions that may effect salmon EFH. This usually takes the form of endorsing an enhancement program or other type of program, requesting information and justification for actions that might effect salmon habitat, and promoting the needs of the salmon fisheries. The Council works with many other agencies to identify cumulative impacts on salmon habitat, to encourage conservation, and to take other actions to protect salmon habitat.

For more information about EFH for salmon, please see the [salmon background page](#).

ESSENTIAL FISH HABITAT FOR HIGHLY MIGRATORY SPECIES

Defining EFH for highly mobile species such as tuna, swordfish, and sharks is a challenging task. These species range widely in the ocean, both in terms of area and depth. Highly migratory species are usually not associated with the features that are typically considered fish habitat (such as seagrass beds, rocky bottoms, or estuaries). Their habitat may be defined by temperature ranges, salinity, oxygen levels, currents, shelf edges, and seamounts. Little is known about why highly migratory species frequent particular areas. Nevertheless, these species may be affected by actions close to shore or on land, such as fishing, dredging, wastewater discharge, oil and gas exploration and production, aquaculture, water withdrawals, release of hazardous materials, and coastal development.

A more detailed description of EFH for highly migratory species is included in the [Fishery Management Plan and Environmental Impact Statement for U.S. West Coast Fisheries for Highly Migratory Species](#).

The Council's Habitat Committee

The Council's Habitat Committee works with other Council advisory bodies on habitat issues that affect Council fisheries. The committee brings habitat issues to the attention of the Council, helps develop ways to resolve habitat problems, and it makes recommendations for actions that will help achieve the Council's habitat objectives. The Habitat Committee includes one member each from National Marine Fisheries Service, the U.S. Fish and Wildlife Service, and the Pacific States Marine Fisheries Commission; one at-large member; one conservation representative; four members from the four state fishery agencies; two tribal representatives; two fishing industry members, and one National Marine Sanctuaries representative.

View the current [Habitat Committee Roster](#) here.

EFH Consultation

Federal agencies are required to consult with National Marine Fisheries Service (NMFS) when any activity proposed to be permitted, funded, or undertaken by a Federal agency may have adverse impacts on designated EFH. The EFH regulations define an adverse effect as "any impact which reduces quality and/or quantity of EFH...[and] may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site-specific or habitat wide impacts, including individual,

cumulative, or synergistic consequences of actions.”

Only Federal actions require consultation. States are not required to consult, but if NMFS receives information on a State action that may adversely affect EFH, NMFS is required to provide EFH conservation recommendations to the State agency. These recommendations may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects on EFH. Federal agencies are required to respond to EFH Conservation Recommendations in writing within 30 days. More information on Federal consultation requirements is available [here](#). States are not required to initiate consultation with NMFS, or to respond to its recommendations.

Private landowners do not need to consult with NMFS on private land activities affecting EFH (however, such activities may be subject to Endangered Species Act or National Environmental Policy Act regulations). Only if the project is funded, permitted, or authorized by a Federal agency and the project may adversely affect EFH is consultation with NMFS required.

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