

## RECORD OF DECISION

### FINAL ENVIRONMENTAL IMPACT STATEMENT FOR ESSENTIAL FISH HABITAT DESIGNATION AND MINIMIZATION OF ADVERSE IMPACTS

National Marine Fisheries Service  
Northwest Region

This Record of Decision documents the decision by the National Marine Fisheries Service (NMFS) to select the preferred alternative, with some modification, that was identified in the December 2005 *Pacific Coast Groundfish Fishery Management Plan, Essential Fish Habitat Designation and Minimization of Adverse Impacts, Final Environmental Impact Statement* (FEIS) and to partially approve the associated fishery management plan (FMP) amendment and rulemaking. The purpose of this action is to: provide the Pacific Fishery Management Council (Council) and NMFS with the information needed to better account for the function of Pacific Coast groundfish Essential Fish Habitat (EFH) when making fishery management decisions; ensure that EFH is capable of sustaining groundfish stocks at levels that support sustainable fisheries; and, that EFH is capable of sustaining enough groundfish to function as a healthy component of the ecosystem. The proposed action would ensure compliance with 303(a)(7) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) by amending the FMP and implementing regulations to describe and identify EFH, designate Habitat Areas of Particular Concern (HAPC), minimize to the extent practicable the adverse effects of fishing on EFH, address research needs, and identify other actions to encourage the conservation and enhancement of EFH.

## 1 Background

The FEIS evaluates the effects of a comprehensive strategy to conserve and enhance EFH for fish managed under the Pacific Coast Groundfish FMP. A notice of availability for the FEIS was published on December 9, 2005 with public comment being accepted through January 9, 2006 (70 FR 73233). The comprehensive strategy to conserve EFH, including its identification and the implementation of measures to minimize to the extent practicable adverse impacts to EFH from fishing must be consistent with provisions of the MSA (16 U.S.C. 1801 *et. seq.*) and implementing regulations. The MSA is the principal statutory basis for fishery management within the Exclusive Economic Zone (EEZ), which extends from the outer boundary of the territorial sea to a distance of 200 nautical miles from shore. Implementation of the strategy will require that the groundfish FMP be amended to describe EFH, designate Habitat Areas of Particular Concern (HAPC) within EFH, minimize to the extent practicable the adverse effects of fishing on EFH, address research needs, and identify other actions to encourage the conservation and enhancement of EFH. New regulations will also be required to implement impact

minimization measures. Preparation of this EIS stems from a 2000 court order in *American Oceans Campaign et. al. v. Daley*, Civil Action No. 99-982 (GK)(D.D.C. September 14, 2000) (*AOC v. Daley*).

NMFS published a Notice of Intent (NOI) to prepare an EIS on April 10, 2001 (66 FR 18586), announcing public scoping meetings during May and June 2001 in Seattle, Washington; Newport and Astoria, Oregon; and Eureka, Los Alamitos, and Burlingame, California. According to the NOI, the EIS would evaluate the groundfish FMP from a broad, programmatic perspective, presenting “an overall picture of the environmental effects of fishing as conducted under Pacific Coast Groundfish FMP.” However, as a result of this initial public scoping, NMFS decided the process would be improved if the programmatic evaluation of the groundfish FMP were shifted from an EIS more narrowly focused on EFH issues (67 FR 5962).

At a March 2002 workshop NMFS habitat scientists agreed on a rough decisionmaking framework, which was approved by the Council as a “road map” for the EIS at their April 2002 meeting in Portland, Oregon. The decisionmaking framework was designed for the best available science to be interpreted through a comprehensive risk assessment for policy makers prior to the development of alternatives. In order to guide development of the risk assessment, at their November 2002 meeting, the Council established the Ad Hoc Groundfish Habitat Technical Review Committee (Habitat TRC), composed of experts on groundfish biology and ecology, marine geologists, fishermen, and environmental advocates. The Habitat TRC met three times to provide guidance on risk assessment development: a February 19–20, 2003, meeting in Seattle, Washington; an August 4, 2003, teleconference (with public listening posts in Seattle, Washington; Gladstone and Newport, Oregon; and, Santa Cruz, California); and a November, 20-21, 2003, meeting Santa Cruz, California. The Habitat TRC also met December 7-8, 2004, in Portland, Oregon, to conduct a technical review of the alternatives developed by the Council for inclusion in this EIS, which was a requirement of the joint stipulation in *AOC v. Daley*.

As the comprehensive risk assessment neared completion in early 2004, the Council’s Scientific and Statistical Committee (SSC) reviewed its components and provided recommendations to the Council on its use by the Council for developing the alternatives evaluated in this EIS. The Council, at their June 2004 meeting, adopted components of the risk assessment and directed its Ad Hoc EFH EIS Oversight Committee to meet and develop a preliminary range of alternatives. Membership of the Ad Hoc EFH EIS Oversight Committee includes the Washington, Oregon, and California state representatives to the Council, fishermen, and environmental advocates. The Committee held a three-day meeting in August 2004 and developed the preliminary range of alternatives. These alternatives were considered by the Council at their September 2004 meeting and adopted with some modifications. At their next meeting, in November 2004, the Council further refined the range of alternatives and identified their preliminary preferred alternatives. A Notice of Availability for the Draft EIS was published on February 11, 2005 with public comment through May 11, 2005. The Council adopted a final preferred alternative and FMP amendment at their June 13-17, 2005 meeting. Throughout the development of the EIS, public review and input was facilitated by the Council and attendant committees. The final preferred alternative and FMP amendment, designated by the Council as Amendment 19 to the FMP, was

transmitted to NMFS for review on November 23, 2005. Public comment on the amendment was requested through February 6, 2006 (70 FR 72777, December 7, 2005). NMFS must approve, disapprove, or partially approve the amendment by March 8, 2006.

The alternatives considered through the NEPA process are described in section 2. The Environmentally Preferred alternatives are described in section 3. Public comments on the FEIS and FMP amendment are summarized in section 4. NMFS final decision and supporting rationale is described in section 5.

## **2 Alternatives Considered**

The decision was split into four parts, each of which contained individual alternatives. The Four categories of alternatives are included in the EIS in order to present decisionmakers with a full range of choices to assemble a comprehensive solution to achieving the purpose and need for action: (A) Identifying and describing EFH, (B) designating habitat areas of particular concern (HAPCs), (C) mitigating the adverse effects of fishing, and (D) research and monitoring. The alternatives in each category are described in the following text. NMFS considered several other alternatives during development of the EIS. A summary of those alternatives, and a brief rationale as to why they were not fully analyzed, is provided in Section 2.8 of the EIS. Many of the alternatives in the EIS are based on Habitat Suitability Probability (HSP) which refers to the probability that the habitat is suitable for a managed species. Additional information regarding HSP values can be found in Section 2.3.1 of the EIS. The final preferred alternative in some cases is a modification of the alternatives listed below.

### **2.1 Alternatives to Identify and Describe EFH**

Alternative A1: No Action. The no action alternative would maintain the current EFH identification and description, incorporated into the groundfish FMP by Amendment 11 in 1998, which is all waters from the mean higher high water line, and the upriver extent of saltwater intrusion in river mouths, along the coasts of Washington, Oregon, and California to the seaward boundary to the U.S. EEZ.

Alternative A.2: Depths less than 3,500 m (Component of the Final Preferred Alternative). In this alternative, EFH would be identified as 100% of the area where Habitat Suitability Probability (HSP) is greater than zero for all species and any additional area in depths less than or equal to 3,500 m (1,914 fm). By including areas out to the 3,500 m depth curve, this alternative includes all habitats where groundfish have been observed with the addition of 100 m depth as a precautionary adjustment in case of unobserved fish.

Alternative A.3: 100% HSP Area. Designate 100% of the area where HSP is greater than zero for all species.

Alternative A.4: HSP Based on Management Status. Designate the upper 90% of the HSP area of overfished species HSP, upper 80% of the HSP area for precautionary zone species, and upper 60% of the HSP area for all other groundfish, and all seamounts.

Alternative A.5: 70% HSP Area. Designate the upper 70% of the area where HSP is greater than zero.

Alternative A.6: 30% HSP Area. Designate the upper 30% of the area where HSP is greater than zero for all species.

## **2.2 Alternatives to Designate HAPC**

Alternative B.1: No Action. No HAPCs are currently designated for groundfish. Choosing this alternative would maintain no HAPC designations.

Alternative B.2: Estuaries (Component of the Final Preferred Alternative). Estuaries are protected nearshore areas such as bays, sounds, inlets, and river mouths, influenced by ocean and freshwater. Areas defined as estuaries would be designated as HAPC.

Alternative B.3: Canopy Kelp (Component of the Final Preferred Alternative). Areas where kelp has been documented and mapped would be designated as HAPC. GIS data for the floating kelp species, *Macrocystis spp.* and *Nereocystis sp.*, are available from state agencies in Washington, Oregon, and California.

Alternative B.4: Seagrass (Component of the Final Preferred Alternative). Areas where seagrasses have been documented and mapped would be designated as HAPC. Seagrass species found on the West Coast of the U.S. include eelgrass (*Zostera spp.*, *Ruppia sp.*) and surfgrass (*Phyllospadix spp.*). These grasses are vascular plants, not seaweeds, forming dense beds of leafy shoots year-round in the lower intertidal and subtidal areas.

Alternative B.5: Core Habitat. This alternative designates core areas, defined as the upper 10% of area with an HSP greater than 0%, for the juvenile and adult life history stages of overfished and precautionary zone groundfish species.

Alternative B.6: Rocky Reefs (Component of the Final Preferred Alternative). This alternative designates all rocky reef areas as HAPC. Rocky habitat may be composed of bedrock, boulders, or smaller rocks such as cobble and gravel.

Alternative B.7: Areas of Interest (Component of the Final Preferred Alternative). This alternative would designate areas that are of special interest due to their unique geological and ecological characteristics, such as Olympic Coast National Marine Sanctuary (NMS), Thompson Seamount, and the Cowcod Conservation Area(s).

Alternative B.8: Oil Production Platforms (Component of the Final Preferred Alternative). This alternative designates areas around oil production platforms in Southern California waters.

Alternative B.9: Process for New HAPC Designations (Component of the Final Preferred Alternative). This alternative establishes a streamlined process for designating new HAPCs, based on proposals submitted to the Council. The process would allow organizations and individuals to petition the Council at any time to consider a new designation and ensures that the Council will consider their proposal, provided they submit specified information.

### **2.3 Alternatives to Minimize Adverse Impacts to EFH**

Alternative C.1: No Action. There is a broad range of regulatory measures in effect on the West Coast, including areas that are closed to fishing or non-fishing activities, fishing gear restrictions, and measures to reduce fishing effort which may have a beneficial effect on EFH. These measures would be maintained.

Alternative C.2: Depth-based Gear-specific Restrictions (Component of the Final Preferred Alternative). This alternative contains three options, which vary by the areas closed to large footrope trawl gear and fixed gear. The footrope runs along the bottom of the net opening and its size is regulated to dictate the maximum size of rollers that can be affixed to the footrope. Without larger footrope gear, bottom trawl nets snag more easily on rough, irregular terrain; thus restrictions on footrope size discourage fishing in rocky areas.

Alternative C.3: Close Sensitive Habitat. Area closures are defined using gear and habitat specific sensitivity and recovery index values. Habitat areas above index value thresholds for any gear type would be closed to all fishing. This alternative has four options, specifying the closed areas by various index values and a threshold value on higher historic trawl effort are excluded from closure.

Alternative C.4: Prohibit the Geographic Expansion of Fishing (Component of the Final Preferred Alternative). Under this alternative, areas that have not been fished recently (2000-2002) would be closed to fishing to protect areas that are potentially pristine. This alternative has two options applying to either bottom trawling or all bottom-tending gear types.

Alternative C.5: Prohibit a Krill Fishery. This alternative would designate krill as a component of EFH and prohibit fisheries that target it.

Alternative C.6: Close Hotspots. This alternative prohibits trawling in hotspot areas defined as habitat that has high probability of being EFH for a large number of groundfish. Areas that are associated with a high HSP value for 50 or more species/lifestage combinations would be closed to bottom trawling.

Alternative C.7: Close Areas of Interest (Component of the Final Preferred Alternative). This alternative closes the areas of interest HAPCs designated under Alternative B.7 to fishing by specified gear types. (The 21 areas of interest listed under Alternative B.7 are underwater features, such as seamounts and submarine areas, or are currently under some form of

protection.) This alternative has two options, which would close areas of interest to either bottom trawling or all bottom-contact fishing.

Alternative C.8: Zoning Fishing Activities. Under this alternative NMFS limits the use of bottom-tending fishing gear to specified zones where the agency determines that such activities can be conducted without altering or destroying a significant amount of habitat. Areas deeper than the 2,000 m (1,094 fm) are closed to bottom contact gear and additional areas in shallower depths are considered for closure during a five-year transition period, creating areas zoned for specific gear types. This alternative has two options, which differ based on the types of gear considered for zoning.

Alternative C.9: Gear Restrictions (Component of the Final Preferred Alternative). This alternative includes specific gear modifications and prohibitions. Eight different gear modifications and prohibitions are separate options under this alternative.

Alternative C.10: Central California No-trawl Zones (Component of the Final Preferred Alternative). This alternative is based on a project being undertaken by two environmental advocacy organizations, The Nature Conservancy (TNC) and Environmental Defense Fund (EDF). It involves a public-private partnership under which private funds are used to purchase groundfish limited entry trawl licenses and vessels in concert with the designation, through the Council and NMFS, of no-trawl zones off the central California coast.

Alternative C.11: Relax Gear Endorsement Requirements. Vessels holding a groundfish limited entry permit account for a large portion of groundfish landings. Currently, limited entry permits include a gear endorsement specifying the type of gear the permit holder may use. Under this alternative, gear endorsements are relaxed but the sablefish endorsement is not. This would allow permit holders to switch gear types, providing fishermen greater flexibility in changing strategies based on prevailing conditions in the fishery.

Alternative C.12: Close Ecologically Important Areas to Bottom Trawl (Component of the Final Preferred Alternative). This alternative would close a network of areas to bottom trawling; set a maximum footrope size of eight inches on bottom trawl gear within open area; require Vessel Monitoring Systems on all bottom trawl vessels with positions recorded every five minutes; increase onboard observer coverage on bottom trawl vessels to a level determined to be necessary by NOAA to estimate annual bycatch of habitat-forming invertebrates; establish a process for setting a limit on the bycatch of habitat-forming invertebrates; require ongoing research including comprehensive benthic mapping.

Alternative C.13: Close Ecologically Important Areas to Bottom-contacting Gear (Component of the Final Preferred Alternative). Under this alternative, the areas identified in Alternative C.12 are closed to all bottom-contacting gear types, defined as both fixed gear (longlines, pots, and traps) and bottom trawl.

Alternative C.14: Close Ecologically Important Areas to Fishing. Under this alternative, the areas identified in Alternative C.12 are closed to all fishing.

## **2.4 Research and Monitoring Alternatives**

Alternative D.1: No Action. NMFS conducts extensive fishery-related research relevant to groundfish and has a variety of methods to monitor these fisheries. Current monitoring programs especially relevant to the alternatives described here include the limited entry trawl logbook program, the West Coast Groundfish Observer Program, and VMS covering limited entry trawl and fixed gear vessels. These programs are primarily intended to monitor discards and landings of groundfish and to enforce current harvest limits and area restrictions. There is no component specifically intended to monitor the effects of fishing on EFH.

Alternative D.2: Expanded Logbook Program (Component of the Final Preferred Alternative). Under this alternative vessels in all commercial sectors, including recreational charter (for hire) vessels, will participate in an expanded logbook program. This alternative has two options for how an expanded program would be implemented.

Alternative D.3: Expanded Vessel Monitoring System (Component of the Final Preferred Alternative). This alternative will identify expansion of the Vessel Monitoring Program to cover all West Coast groundfish commercial and recreational charter vessels.

Alternative D.4: Research Reserve System (Component of the Final Preferred Alternative). This alternative will establish a system of designated research areas within areas closed to fishing to foster habitat-related research and comparison of fished areas with unfished areas.

## **3 Environmentally Preferred Alternatives**

NMFS is required by regulation to specify in the Record of Decision “the alternative or alternatives which were considered to be environmentally preferable” (40 CFR 1505.2(b)). The environmentally preferred alternative generally means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources. In this case the environmentally preferred alternative is a package that includes elements from each of the four categories of alternatives to compose a comprehensive and practicable suite of actions for EFH conservation.

### **3.1 EFH Identification and Description**

For the first category, EFH identification and description, the environmental consequences of the alternative are distinguishable in terms of scientific refinement and geographic extent. There is no clear difference in environmental benefits between the alternatives in that each would be

expected to have a similar effect. The environmental benefits of each alternative are similar in that there are no direct effects. Rather, they provide a scientific foundation upon which to base fishing impact minimization measures and conservation recommendations developed through EFH consultations. For this reason, environmental preference is based on scientific accuracy and precaution in the face of scientific uncertainty.

Alternative A.2 is all waters shoreward of the 3500 meter depth contour and was modified for the final EIS to include areas that would be designated as HAPC in the final preferred alternative but would not otherwise be included as EFH. Alternative A.2, as modified, was designed to reflect the best available science as well as precautionary decisionmaking to reflect uncertainty and is therefore considered to be environmentally preferred. It is also chosen as the final preferred alternative.

The environmentally preferred alternative describes and identifies EFH as all waters between the 3500 meter depth contour line in the EEZ shoreward to the mean higher high water line and any HAPC identified by the final preferred alternative but not otherwise described as EFH. NMFS gathered all available information on location of groundfish species, and then used a GIS-based model to determine the relationship between the location of the fish and information including substrate, estuaries, kelp, seagrass, invertebrates, depth, latitude, pelagic habitat, and available literature on functional relationships between fish and habitat. This approach allowed NMFS to consider all of the best available information regarding where groundfish are found and their habitat associations. Additionally, NMFS considered the fact that a number of these species are overfished. Even though NMFS considered a huge amount of available information, there still are data gaps that prevented the quantification of the relationship between habitat and numbers of fish. Therefore, the preferred EFH description alternative encompasses all known areas of suitable habitat for groundfish, and adds a buffer to account for known scientific uncertainty. Areas of scientific uncertainty, either in underlying data or within the supporting statistical model, were identified through the assessment process. The EIS includes text descriptions and maps and complete descriptions of all the available data and underlying models.

### **3.2 HAPC Designation**

For the second category, HAPC designation, the environmental consequences of the alternatives are similar to EFH in that there are no direct effects. As with EFH identification, HAPCs are a starting point for consideration of management and conservation measures but do not insure such measures take place. HAPC designation may however have greater indirect effects than EFH by raising the priority of specific areas and habitat types for the EFH conservation and management process. Because they are contingent on the consultation process, the specific effects of HAPC designation are fundamentally unknown. However, the designation of these HAPC allow NMFS to provide additional focus when minimizing adverse fishing impacts on EFH and in conducting EFH consultations. Therefore HAPC designation may have positive indirect effects.

HAPCs were developed by the Council and NMFS as areas that meet the considerations listed in the EFH regulations and areas that the Council would like NMFS to focus on during the EFH consultation process. HAPCs based on habitat type may vary in location and extent over time, and are determined by the defining characteristics. For these reasons, maps are only an

approximation of the location of these HAPCs. The environmentally preferred alternative would combine estuaries, canopy kelp, seagrass, rocky reefs, specific areas of interest, specific oil production platforms, and a process for considering new or revised HAPCs. Each is described below.

**Estuaries:** The EIS contains a full discussion of the role of estuaries as groundfish habitat, maps of estuaries, and a discussion of the potential for estuaries to be degraded by anthropogenic activities and potential conservation recommendations. Estuaries on the West Coast include major features such as San Francisco Bay and Puget Sound as well as smaller areas such as Gray's Harbor, Washington and Yaquina Bay, Oregon. Estuaries are naturally dynamic and complex, and human actions that degrade or eliminate estuarine conditions have the effect of stabilizing and simplifying this complexity, reducing their ability to fulfill fish and wildlife needs for reproduction, feeding, and other physiological necessities. Anthropogenic impacts to estuaries may include nutrient loading, introduction of non-native species, changes in water temperature, increased turbidity etc. NMFS included estuaries as an HAPC designation alternative under 50 CFR 600.815(a)(8)(1)-(3) because they are of ecological importance, are sensitive to human-induced environmental degradation and are hosts to environmentally stressful development activities.

**Canopy Kelp:** The EIS contains a full discussion of the role of canopy kelp as groundfish habitat, maps of documented kelp locations, and a discussion of the potential for kelp to be degraded by anthropogenic activities and potential conservation recommendations. Lush kelp forest communities (e.g., giant kelp, bull kelp, elk kelp, and feather boa kelp) are found relatively close to shore along the open coast. The canopy kelp HAPC would include those waters, substrate, and other biogenic habitat associated with canopy-forming kelp species. On the rocky shelf, these subtidal communities provide vertically-structured habitat through the water column. The stands provide nurseries, feeding grounds and shelter to a variety of groundfish species and their prey. Giant kelp communities are highly productive relative to other habitats, including wetlands, shallow and deep sand bottoms, and rock bottom artificial reefs. Net primary productivity of kelp beds may be the highest of any marine community. Kelp forests are also vulnerable to cascading effects of top-down forcing and fishing down food webs. NMFS included canopy kelp as an HAPC designation alternative under 50 CFR 600.815(a)(8)(1) and (2) because they are of ecological importance and are sensitive to human-induced environmental degradation.

**Seagrass:** The EIS contains a full discussion of the role of seagrass as groundfish habitat, maps of documented seagrass locations, and a discussion of the potential for seagrass to be degraded by anthropogenic activities and potential conservation recommendations. Seagrass species found on the West Coast of the U.S. include eelgrass (*Zostera* spp.) and surfgrass (*Phyllospadix* spp.). These grasses form dense beds of leafy shoots year-round in the lower intertidal and subtidal areas. Eelgrass is found on soft-bottom substrates in intertidal and shallow subtidal areas of estuaries. Surfgrass is found on hard-bottom substrates along higher energy coasts. The seagrass HAPC includes those waters, substrate, and other biogenic features associated with eelgrass species (*Zostera* spp.), widgeongrass (*Ruppia maritima*), or surfgrass (*Phyllospadix* spp.).

Seagrass beds have high primary productivity and provide habitat for many invertebrates and epiphytes, and provide many crustaceans, fish, and birds with protection and food. Several commercially important species use seagrass beds including Dungeness crab and Pacific herring. Pacific coast seagrasses have been shown to be vulnerable to anthropogenically introduced species of seagrasses such as *Spartina alterniflora* and *Zostera japonica*. NMFS included seagrasses as an HAPC designation alternative under 50 CFR 600.815(a)(8)(1) and (2) because they are of ecological importance and are sensitive to human-induced environmental degradation.

**Rocky Reefs:** The EIS contains a full discussion of the role of rocky reefs as groundfish habitat, maps of known hard substrate, and a discussion of the potential for rocky reefs to be degraded by anthropogenic activities and potential conservation recommendations. Rocky habitats are generally categorized as either nearshore or offshore in reference to the proximity of the habitat to the coastline. Rocky habitat may be composed of bedrock, boulders, or smaller rocks such as cobble and gravel. Hard substrates are one of the least abundant benthic habitats, yet they are among the most important habitats for fishes. Typical shallow water hard bottom fishes include rockfish (e.g. *Sebastes* spp.), lingcod, and sculpins. Managed species known to use tide pools and other nearshore hard bottom habitat in the coastal zone include black rockfish, black-and-yellow rockfish, brown rockfish, cabezon, calico rockfish, California scorpionfish, canary rockfish, chilipepper, copper rockfish, grass rockfish, gopher rockfish, kelp greenling, leopard shark, lingcod, olive rockfish, quillback rockfish, redstripe rockfish, rosethorn rockfish, shortbelly rockfish, silvergray rockfish, and spotted ratfish. In the offshore area, many managed species are dependent on hard bottom habitat during some portion of their life cycle. Typically, deeper water hard bottom habitats are inhabited by large, mobile fishes such as rockfish, sablefish, Pacific hake, spotted ratfish, and spiny dogfish. It has been estimated that about 30% of the fish species and 40% of fish families occur over hard substrates. NMFS included rocky reefs as an HAPC designation alternative under 50 CFR 600.815(a)(8)(1) (2) and (4) because they are of ecological importance, are sensitive to human-induced environmental degradation, and are relatively rare.

**Areas of Interest:** The following areas of interest are included in the environmentally preferred alternative: Thompson Seamount; Daisy Bank; President Jackson Seamount; Cordell Bank; Gumdrop Seamount; Pioneer Seamount; Guide Seamount; Washington state waters (0-3 nm); Monterey Canyon; Taney Seamount; Davidson Seamount; San Juan Seamount; Cowcod Conservation Area East; Potato Bank; Cherry Bank; Hidden Ref/Kidney Bank in the Cowcod Conservation Area West; selected areas in the Channel Islands National Marine Sanctuary (Anacapa Island SMCA, Anacapa Island SMR, Carrington Point, Footprint, Gull Island, Harris Point, Judith Rock, Painted Cove, Richardson Rock, Santa Barbara, Scorpion, Skunk Point, South Point); any seamounts off the coast of California not already included above. The EIS contains a full discussion of the role of the various habitat types that occur within these areas as groundfish habitat, maps of the areas and component habitat types, and a discussion of the potential for the areas to be degraded by anthropogenic activities and potential conservation recommendations. NMFS included areas of interest as an HAPC designation alternative under

50 CFR 600.815(a)(8)(4); their unique geological and ecological characteristics and based on Council discretion.

Oil Platforms: High concentrations of groundfish have been observed in association with many of the platforms off the California coast, including overfished species such as bocaccio and cowcod. In addition to providing suitable habitat, most of these structures are not fished and act as de facto reserves. The platforms rise steeply from the bottom and provide distinctive high relief habitat in primarily soft bottom habitat. Recent scientific study has yielded supporting evidence of the high productivity, and possibly strong ecological importance, of platform habitats to groundfish species; however, the ecological function of oil platforms is the subject of legitimate scientific debate. Much of the scientific information related to the ecological value of oil platforms is inclusive with the exception that large numbers of overfished groundfish species are known to associate with the platforms. Designation of oil production platforms as HAPC does not change the Minerals Management Service obligation to consult with NMFS prior to decommissioning the platforms, although it may heighten the importance of NMFS's EFH conservation recommendations. In effect, it forces the consideration of the effects of decommissioning on groundfish without necessarily altering the outcome of the decommissioning process. NMFS included oil platforms as an HAPC designation alternative under 50 CFR 600.815(a)(8)(1) based on the possible importance of the ecological function provided by the habitat and on Council discretion. Amendment 19 includes only 13 oil platforms; however, in response to public comment NMFS is including all 27 platforms in the environmentally preferred alternative.

New HAPC Designation: This component of the environmentally preferred alternative is a process for designating new HAPCs with the same procedural components of Alternative B.9. Alternative B.9 is included in the environmentally preferred alternatives as a means of enhancing the potential that proposals to create or modify HAPC receive full consideration by the Council and NMFS. B.9, as modified from the DEIS, would establish a new standing committee that would serve the Council by considering EFH related proposals including those related to HAPC.

Alternatives B.1 and B.5 are not included in the environmentally preferred alternative. Alternative B.1 would maintain no HAPC designations and therefore would not allow the accrual of reasonably expected positive indirect effects. B.5 would establish HAPC based on high Habitat Suitability Probability (the same model used to identify EFH) but is not considered environmentally preferred due to scientific uncertainty in using HSP at comparatively high levels of resolution.

### **3.3 Impacts Minimization**

NMFS and the Pacific Council undertook an assessment process to determine if and where adverse effects to EFH have occurred or are occurring. As a result of the assessment process, NMFS determined that the best available information is not sufficient to support a definitive determination of adverse effects on EFH from fishing. However, based on all the information available regarding impacts of fishing, NMFS and the Pacific Council concluded there is a potential for adverse effects. Therefore, the environmentally preferred alternative includes

precautionary management measures that would protect EFH from potential adverse effects of fishing while avoiding significant socioeconomic consequences. With the exception of the status quo (C.1), each of the impacts minimization alternatives in the EIS would be expected to have direct positive environmental effects by reducing impacts from fishing gear either throughout the project area or within geographically defined areas. Implementation of all the alternatives simultaneously would be impracticable however and therefore the environmentally preferred alternative, which with one exception is identical to the final preferred alternative, has been constructed to account for social and economic considerations. The final preferred alternative combines gear restrictions from alternative C.9 and gear specific area closures from C.4, C.7, C.10, C.12, and C.13.

The environmentally preferred alternative is designed to distribute the management measures geographically to: a) protect a diverse array of habitat types across latitude ranges and within the two known biogeographic zones that occur in the project area; b) protect the full range of benthic habitat to account for each managed species; c) prioritize pristine or sensitive habitats and the gear types most likely to have the highest impact; d) distribute socioeconomic costs that would result from implementation of the alternative; and, e) implement areas closures for different gear types within different habitat types to foster comparative scientific research.

Since there may be adverse impacts on EFH from fishing, NMFS has made a determination that it is necessary to take precautionary action to protect EFH from the possible adverse impacts of fishing. NMFS has concluded that there is a potential for adverse impacts from fishing activities although the impacts cannot be specifically identified for EFH for groundfish. As a result, the preferred alternative minimizes to the extent practicable, these unidentified impacts in the event that the regulated fishing activities do have an adverse impact on EFH that is more than minimal and not temporary in nature. Additionally, these measures are practicable because they have minimal economic impact on the fishery. The gear closures are mainly in areas that are not currently being fished, and for areas that would require the industry to shift its location, the effect would be on roughly less than 10 percent of the fishery. That amount of effort is likely to be able to relocate so the net effect would result in little change in overall catch.

The central constraint for determining if adverse impacts have occurred or are occurring is insufficient data of the necessary resolution to model a relationship between the intensity of fishing effort and effects on habitat. Three variables are fundamental to assessing the status of habitat: The locations and intensity of fishing impacts, the sensitivity of specific habitat types to specific impacts at differing levels of intensity, and the potential for habitat to recover between impact events. Each of the habitat types on the West Coast is likely to react differently to different types and intensity of impact and have unique rates of recovery. The status of habitat is a balance between how the habitat was affected by an impact and how much recovery takes place between impacts. Although it is not possible at this time to quantify the status of habitat, several principles were utilized as the environmental basis for the management measures as follows: (1) habitat that has not been subject to impact is considered pristine; (2) the sensitivity of habitat to impact governs the rate at which adverse effects occur (e.g. highly sensitive habitat is subject to adverse effect with relatively little fishing effort); (3) there is a maximal level of impact for any

given habitat at which no further adverse effects would occur; (4) habitat has a limited capacity to recover from impact, and recovery is ongoing from some point in time after the impact ceases; (5) repeated contact with fishing gear will cause the status of habitats to become more impacted while recovery between contacts allows the habitat to become less impacted; (6) adverse impacts to habitat can impair the ability of fish to carry out basic biological functions such as spawning, feeding, breeding, and growth to maturity; and (7) large-scale modification to habitat may have long-lasting or permanent implications at the scale of the ecosystem.

Known effects of fishing on EFH are focused on physical alteration to habitat and changes in biodiversity that result from impact. It is not known if or to what extent such effects alter the dynamics of fish stocks. The relevance of this limitation is that management measures cannot be quantitatively constructed to increase production of groundfish or enhance ecosystem function. Even with this data limitation, NMFS is able to base the management measures on the potential adverse effects of fishing on EFH.

Fish, like all organisms, rely on habitat for their survival. The habitat requirements of many fish change depending on the life history stage. Pacific coast rockfish, for example, spend their early life history as eggs and larvae floating in the water column before settling as juveniles on the substrate, where they grow to maturity and reproduce. Although its value cannot be quantified, healthy functioning habitat is critical for populations of fish to sustain themselves and there is a level at which adverse impacts to habitat will impair the ability of fish to do so. Benthic and pelagic habitats are fundamental components of the ecosystems off the West Coast as are the fish and other organisms that rely on them. It follows that large-scale modification to habitat can result in fundamental change to the ecosystem. For example, if a complex habitat that supports reproduction of a species is modified to the point that the species can no longer reproduce successfully there, and the species is unable to adapt and reproduce elsewhere, the survival of the species and its role in the ecosystem would be threatened. The extent of the threat would depend on the extent of the modification (e.g., all of the habitat non-functional or just a portion), and the related ability of the habitat to recover and/or the species to adapt to alternative habitats. Some habitats may take a long time to recover or may reach an alternative stable state from which a return to its former state is highly unlikely, even following a complete removal of impacts, and thus evolve into a new role in the ecosystem.

NMFS and the Pacific Council considered fishing gear restrictions and area closures as the primary tools for minimizing adverse effects to EFH based on a report by the National Academy of Sciences, National Research Council. These measures directly control where impacts may occur and the type of impact, based on gear type, that would be allowed<sup>1</sup>. Gear types were ranked for their potential to have adverse effects in the following order: (1) bottom-tending mobile gear types (e.g. bottom trawl in which the otter boards or the footrope of the net are in contact with the seabed) and (2) other gears that contact the bottom. Gear types that do not

---

<sup>1</sup>NRC (National Research Council). 2002. Effects of Trawling and Dredging on Seafloor Habitat. National Academy Press, Washington, D.C.

contact the bottom were not prioritized. Pristine benthic habitat was prioritized with an emphasis on biogenic habitat (e.g. deep sea corals) as was hard bottom due to its potential ecological complexity and sensitivity to impact. NMFS also conducted a literature review of the best available information to determine impacts on EFH from fishing gear. This information is provided in the EIS. The EIS considers impacts from the gear types that are used off the West Coast. The information available on impacts from fishing gear is primarily from other areas of the world and not the West Coast. Although the information is from other areas of the world, it was considered in the context of West Coast habitat and gear types and provides a solid basis for determining there is a potential for adverse impacts on EFH.

NMFS and the Pacific Council, through the Council process, worked closely with environmental groups and the fishing industry to determine appropriate gear restrictions and area closures to minimize adverse effects on EFH and with minimal negative socioeconomic effects. The selection of the specific closed areas was an iterative process with many opportunities for public input through Pacific Council meetings, local outreach meetings, and comments on the DEIS. The closed areas proposed here are based on all the above input and a collaborative process involving Oceana; groundfish trawl fishermen, organized by the Fishermen's Marketing Association; the Fisheries Heritage Group, bringing together harbor managers, the Nature Conservancy, Environmental Defense, the Center for Future Oceans, and fisheries representatives; Pacific Council advisory bodies; and West Coast states. By combining the perspectives of these groups, the management measures are practicable because they implement the mandate to conserve EFH while taking into account the effects on fishing communities.

The gear restrictions are as follows: (1) bottom trawl gear with footropes larger than eight inches (20 cm) in diameter is prohibited shoreward of a line approximating the 100-fm (183 m) depth contour; (2) the use of bottom trawl footrope gear with a footrope diameter larger than 19 inches (48 cm) is prohibited; (3) the use of dredge gear is prohibited; and (4) the use of beam trawl gear is prohibited.

The Pacific Council has identified discrete areas that are closed to fishing with specified gear types. These ecologically important habitat closed areas are intended to minimize to the extent practicable the adverse effects of fishing on groundfish EFH. There are two types of closures. First are areas where bottom trawling would be prohibited. Second are areas where bottom-contacting gears would be prohibited. The extent and configuration of these areas do not vary seasonally and they are not usually modified through inseason or biennial management actions and may be considered Marine Managed Areas. The areas are listed below and described in the attached regulatory text by specific latitude and longitude coordinates.

Areas off the coast of Washington where bottom trawling would be prohibited are: Olympic 2; Biogenic 1; Biogenic 2; Grays Canyon; and, Biogenic 3. Areas off the coast of Oregon where bottom trawling would be prohibited are: Nehalem Bank/Shale Pile; Astoria Canyon; Siletz Deepwater; Daisy Bank /Nelson Island; Newport Rockpile /Stonewall Bank; Heceta Bank; Deepwater off Coos Bay; Bandon High Spot; Rogue Canyon.

Areas off the coast of California where bottom trawling would be prohibited include: Eel River Canyon; Blunts Reef; Mendocino Ridge; Delgada Canyon; Tolo Bank; Pt Arena South Biogenic Area; Biogenic Area; Pt Arena South Biogenic Area; Farallon Islands/Fanny Shoal; Half Moon Bay; Monterey Bay/Canyon; Point Sur Deep; Big Sur Coast/Port San Luis; East Santa Lucia Bank; Point Conception; Potato Bank; Cherry Bank; Hidden Reef/Kidney Bank; Catalina Island; and, Cowcod Conservation Area East.

Areas off Oregon where bottom contact gear would be prohibited include: Thompson Seamount; and, President Jackson Seamount.

Areas off California where bottom contact gear would be prohibited include: Cordell Bank (50 fm (91 m) isobath); Anacapa Island MCA; Anacapa Island MR; Carrington Point; Footprint; Gull Island; Harris Point; Judith Rock; Painted Cove; Richardson Rock; Santa Barbara; Scorpion; Skunk Point; and, South Point. Bottom contact gear at Davidson seamount would also be prohibited with all fishing prohibited below 500 fm (914 m) as a precautionary adjustment to protect the seamount.

Areas coastwide where bottom trawling would be prohibited would include all areas within the EEZ seaward of a line that approximates 700 fathoms north of Point Conception and 300 fathoms south of Point Conception in order to protect areas that have not historically been trawled and are potentially pristine. The environmentally preferred alternative extends the closure to the margin of the EEZ and includes areas outside EFH.

The management measures in the environmentally preferred alternative were designed to meet the requirements of section 303(a)(7) of the Magnuson-Stevens Act that requires FMPs minimize to the extent practicable the adverse effects of fishing on EFH. EFH regulations at 50 CFR 600.815(a)(2)(iii) state that: “In determining whether it is practicable to minimize an adverse effect from fishing, Councils should consider (1) the nature and extent of the adverse effects on EFH and (2) the long and short-term costs and benefits of potential management measures to EFH, associated fisheries, and the nation, consistent with National Standard 7. In determining whether management measures are practicable, Councils are not required to perform a formal cost/benefit analysis.”

This suite of impact minimization measures protects a diverse set of habitat types and is most heavily focused on the bottom trawl sector by excluding areas from bottom trawling. Other fishing gears are also excluded or limited depending on the habitat, the geographic area, opportunities for research in those areas in order to further the science and management of habitat, and the amount of information known about areas and gear/habitat interaction.

Although the management measures close certain areas to bottom trawling and other bottom tending gear types, these measures do not reduce catch quotas. Harvest put at risk by closed areas may be made up elsewhere within the EEZ. If closing certain areas to certain gear types appears to impact catch, then as a regular part of inseason management, the Pacific Council is likely to increase vessel catch limits and recreational opportunities elsewhere so that the fisheries

may achieve, but not exceed allowable harvest levels. However, the more effort and revenue is displaced, the more likely it is that displaced revenues and effort will also translate into lost revenue and effort

In addition to the management measures, the environmentally preferred alternative addresses reduction in fishing effort as a means to minimize fishing impact by incorporation of C.10. Under this provision, the Council may facilitate and encourage private purchases of groundfish limited entry permits and vessels in order to reduce fishing effort and associated impacts to EFH. The alternative is described fully in the FMP amendment and FEIS.

### **3.4 Research and Monitoring**

NMFS and the Council undertook process to identify and document scientific uncertainty and data gaps related to EFH for groundfish and addressed those issues through the identification of research and monitoring alternatives in the EIS. Each of the alternatives, including the maintenance of ongoing research programs (D.1, status quo) would improve the scientific underpinnings for EFH conservation and management and are included in the environmentally preferred alternative.

## **4 Public Comment**

NMFS received 3 comments on the FEIS which are discussed briefly in the following paragraphs.

Oceana commented that: (1) the final preferred alternative should prohibit the expansion of bottom trawling based on the 700 fathom contour north of Point Conception and 300 fathoms to the south; (2) the ecologically important areas in the final preferred alternative were selected because they contain sensitive habitat features or are otherwise known to be productive habitats and are not of high value to the fishery; (3) the conclusion in the FEIS that management and enforcement will be negatively impacted by the preferred alternative is irresponsible and ignores the long-term benefits of sustainability and habitat protection. Regarding the first comment, the environmentally preferred alternative is consistent with comment (1) by prohibiting bottom trawling seaward of 300 fathoms south of Point Conception. Basing the closure on 300 fathoms however would have an impracticable economic consequence as discussed in Chapter 4 of the FEIS and section 5.3 below. The final preferred alternative (amendment 19 to the FMP) would therefore prohibit bottom trawling within EFH seaward of 700 fathoms coastwide. NMFS concurs with comments 2. Regarding comment 3, NMFS concurs that the FEIS incorrectly states that enforcement will be negatively impacted. A more appropriate characterization is that implementation of the preferred alternative presents an unprecedented challenge to enforcement of west coast fisheries. To that end, the Council is considering an expansion of available enforcement tools such as Vessel Monitoring Systems.

The Environmental Protection Agency commented that all of the 27 oil production platforms should be included in the final preferred alternative based on the precautionary approach rather than only the 13 surveyed platforms. NMFS is responding to this comment by including all 27 platforms in the environmentally preferred alternative based on the precautionary approach. For reasons described in section 5.2 however, NMFS is not approving the Council's recommendation to designate the oil platforms as HAPC.

The California Reef Enhancement Program commented to express support for the analysis in the FEIS that oil production platforms are utilized by overfished rockfish species and provide scientific references that have become available since the publication of the DEIS. NMFS has considered the additional information and concluded that although there is a demonstrated association of groundfish with oil platforms, legitimate scientific debate remains over the ecological value of platforms to the groundfish fishery particularly in comparison to natural reefs. The record shows very different and possibly contradictory information about the effect on groundfish. For instance, it is unclear if rigs have a negative effect when compared to natural reefs. NMFS is including the designation of oil platforms in the environmentally preferred alternative (see section 3.2) but has chosen not to implement it at this time. A full discussion for disapproving the Council's recommendation to designate 13 oil platforms as HAPC is provided in section 5.2.

NMFS received 5 comments on the FMP Amendment which are discussed briefly in the following paragraphs.

In separate letters, Hubbs-SeaWorld Research Institute, United Anglers, American Fishing Tackle Company, and Project Aware commented in support of the FMP amendment in general and noted specific support for designating 13 oil and gas platforms as HAPC. NMFS has considered the additional information and concluded that although there is a demonstrated association of groundfish with oil platforms, legitimate scientific debate remains over the ecological value of platforms particularly in comparison to natural reefs. NMFS is including the designation of oil platforms in the environmentally preferred alternative (see section 3.2) but has chosen not to implement it at this time. A full discussion for disapproving the Council's recommendation to designate 13 oil platforms as HAPC is provided in section 5.2.

In a jointly signed letter, Oceana, the Ocean Conservancy, the Natural Resources Defense Council, and the Pacific Marine Conservation Council commented in support of the FMP amendment generally and noted specific support for applying certain measures seaward of areas identified and described as EFH. Those measures include gear restrictions and bottom trawl prohibition seaward of 700 fathoms. The measures were highlighted by NMFS in the Notice of Availability for the FMP Amendment with a specific request for information that may be used to justify the final decision to apply or not apply the measure outside EFH (70 FR 72777, December 12, 2005). In their letter, Oceana et. al. commented that the Magnuson-Stevens Act provides sufficient authority to take action outside EFH based on demonstrated impacts of bottom trawling to sensitive deep-water habitat and the ecosystem and the potential for the trawl fishery to expand into deeper waters. NMFS has considered the comments and disagrees that

there is authority to manage outside EFH in this particular situation. There is not the necessary link between applying the management measures outside EFH and the conservation of the fishery or minimization of adverse effects on EFH. NMFS agrees that there is clear scientific evidence that bottom trawling outside 3500 m (the extent of EFH) is likely to have long-lasting environmental consequences; however, there is no evidence the area has a nexus to managed species or that the fishery is likely to expand into such deep water. A full discussion of this is provided in section 5.3.

NMFS received 10 comments on the Proposed Rule that are relevant to the ROD/FMP amendment and are summarized here. NMFS will also respond to these specific comments in the final rule.

Oceana commented: (a) NMFS, in the preamble to the proposed rule, mischaracterized the lack of evidence for adverse impacts from fishing; and, (b) designation of oil production platforms as HAPC, and/or allowing oil platforms to be left in place, sets a dangerous precedent for leaving industrial infrastructure in the ocean although such precedent could be mitigated through financial investment in ocean conservation. Oceana additionally reinforced their comments described above relative to prohibition of bottom trawling seaward of 700 fathoms and implementation of management measures outside EFH. NMFS disagrees that evidence for adverse impacts from fishing were mischaracterized and will provide additional discussion in the response to comments section of the final rule. NMFS agrees that designation of oil platforms may have unforeseen consequences and is disapproving that element of the FMP amendment for reasons discussed in section 5.2.

Louis Capps, Member, House of Representatives, 23<sup>rd</sup> District, California, commented that NMFS should withdraw (disapprove) the designation of oil production platforms as HAPC based on insufficient information regarding the ecological function of platforms. Representative Capps additionally requested that NMFS extend the comment period on the FMP amendment. NMFS agrees that there is a lack of science regarding the ecological function of oil platforms and further agrees the proposal should be disapproved for reasons discussed in section 5.2. NMFS respectfully rejects the request to extend the deadline for public comment for the following reason: the comment period on FMP amendments is established by the Magnuson Stevens Act to be 90 days from the date of transmittal of an FMP amendment from the Council (16 U.S.C. 1854 (a)). The Notice of Availability for Amendment 19 was published on December 7, 2005 to establish the comment period for this action (70 FR 72777).

The Pacific Coast Federation of Fishermen's Associations commented that the designation of oil production platforms as HAPC should be disapproved. NMFS agrees that the structures should not be designated as HAPC for reasons discussed in section 5.2.

The Alaska Trollers Association commented that NMFS should disapprove the designation of oil production platforms as HAPC and also requested an extension of the comment period. NMFS agrees that oil production platforms should not be designated as HAPC for reasons discussed in

section 5.2. NMFS respectfully rejects the request to extend the comment period (see response to Capps above).

The Nature Conservancy commented in support of approving Amendment 19 to the FMP. NMFS agrees with the exception of the designation of oil platforms as HAPC for reasons discussed in section 5.2.

Food and Water Watch commented that NMFS should disapprove the designation of oil production platforms as HAPC and to request an extension of the comment period. NMFS agrees that the designation of oil production platforms should be disapproved for reasons discussed in section 5.2. NMFS respectfully rejects the request to extend the comment period (see response to Capps above).

In a joint letter, the Sierra Club, Environment California, Planning and Conservation League, Clean Water Action California, California Coastal Protection Network, Farallones Marine Sanctuary Association, and National OCS Coalition commented that NMFS should disapprove the designation of oil production platforms as HAPC and to request an extension of the comment period. NMFS agrees that the designation of oil production platforms should be disapproved for reasons discussed in section 5.2. NMFS respectfully rejects the request to extend the comment period (see response to Capps above).

The Environmental Defense Center commented that NMFS should disapprove the designation of oil production platforms as HAPC and to request an extension of the comment period. NMFS agrees that the designation of oil production platforms should be disapproved for reasons discussed in section 5.2. NMFS respectfully rejects the request to extend the comment period (see response to Capps above).

The Ocean Conservancy commented that NMFS should disapprove the designation of oil production platforms as HAPC and to request an extension of the comment period. NMFS agrees that the designation of oil production platforms should be disapproved for reasons discussed in section 5.2. NMFS respectfully rejects the request to extend the comment period (see response to Capps above).

Rob Hatfield commented that NMFS should disapprove the designation of oil production platforms as HAPC. NMFS agrees that the designation of oil production platforms should be disapproved for reasons discussed in section 5.2.

## **5 Final Decision and Related Factors**

NMFS' decision is to partially approve Amendment 19 to the FMP. Amendment 19 is equivalent to the final preferred alternative described in the FEIS. Because NMFS is partially

approving Amendment 19, this decision is different than the final preferred alternative described in the FEIS. The decision and rationale is provided here according to the four categories of alternatives: EFH Identification and Description; HAPC; Minimization of Adverse Impacts from Fishing; and, Research and Monitoring. The final preferred alternative is a comprehensive strategy that incorporates alternatives in each of the four categories. Because of the comprehensive nature of the action, implementation will involve a range of procedural strategies in addition to this approval of Amendment 19, including amendment of the regulations, ongoing policy development, and other planning. The implementation strategy for each component of the final decision is discussed in turn.

## **5.1 EFH Identification and Description**

The final preferred alternative to identify and describe EFH is consistent with Amendment 19 to the FMP and the environmentally preferred alternative. Specifically, the final preferred alternative is A.2 as modified and described in section III above and shown in Figure 1. The rationale for selecting the environmentally preferred alternative as the final Identification and Description of EFH is provided in the FEIS and in section III above. In summary, the preferred EFH description alternative encompasses all known areas of suitable habitat for groundfish, and adds a geographic buffer to account for known scientific uncertainty. Areas of scientific uncertainty, either in underlying data or within the supporting statistical model, were identified through the assessment process. The EIS includes text descriptions and maps and complete descriptions of all the available data and underlying models.

The approach NMFS employed to describe and identify EFH is as follows. NMFS gathered all available information on location of groundfish species, and then used a model to determine the relationship between the location of the fish and information including substrate, estuaries, kelp, seagrass, invertebrates, depth, latitude, pelagic habitat, and available literature on functional relationships between fish and habitat. This approach is a more sophisticated method of analysis than the one suggested in the EFH regulations and allows NMFS to consider a huge amount of information regarding where groundfish are found and their habitat associations. Additionally, NMFS considered the fact that a number of these species are overfished. Even though NMFS considered a huge amount of available information, there still are data gaps and we were not able to quantify the relationship between habitat and numbers of fish. Therefore, NMFS chose an EFH description that encompasses all known areas of suitable habitat for groundfish, and added a buffer as a precaution to make sure that we did not miss anything and to account for any possible errors in the model. Due to the large number of species and life stages, NMFS provided the text descriptions of EFH in the body of the EIS, and a much more detailed textual description of EFH in EIS Appendix B.3. Maps are also included in the EIS. In addition, EFH is described as any area that would be designated as an HAPC but would not otherwise be included in the identification and description of EFH.

## 5.2 HAPC Designation

The decision for HAPC is to partially approve the HAPC provisions of Amendment 19 to the FMP. NMFS is partially approving Amendment 19 as follows: B.2 (estuaries), B.3 (canopy kelp), B.4 (seagrass), B.6 (rocky reefs), and modified versions of B.7 (areas of interest), and B.9 (process). NMFS is not approving B.8 (oil production platforms). The final decision for HAPC designation is consistent with the environmentally preferred alternative with the following exception: B.7 was incorporated in modified form as shown in Table 1 and described below. A map of the FMP amendment for HAPC designation is shown in Figure 2. Except where discussed below, the rationale for the final decision is consistent with that of the environmentally preferred alternative and is discussed in section III above.

As compared with alternative B.7, Thompson Seamount, Daisy Bank, President Jackson Seamount, Cordell Bank, Gumdrop Seamount, Pioneer Seamount, Guide Seamount, Monterey Canyon, Taney Seamount, Davidson Seamount, San Juan Seamount, selected areas in the Channel Islands National Marine Sanctuary, and the Cowcod Conservation Area East were incorporated into the final decision without modification. The Cowcod Conservation Area West was incorporated into the final decision by including the following sub areas: Potato Bank, Cherry Bank, and Hidden Reef/Kidney Bank. The Council added one area, all waters and sea bottom in Washington State waters (0-3 nm from shore), to the FMP amendment that was not considered in B.7. Based on discussions with the Council and other interested parties, the FMP amendment would exclude 9 areas considered under B.7 and included in the environmentally preferred alternative. Those areas are the Northwest Olympic Coast National Marine Sanctuary, Grays Canyon, Astoria Canyon, Heceta Bank, Rouge Canyon, Eel River Canyon, Mendocino Canyon, Morro Ridge, and Monterey Bay.

NMFS' approach to determining HAPCs is as follows. HAPCs were developed by the Council and NMFS as areas that meet the considerations listed in the EFH regulations and areas that the Council would like NMFS to focus on during the EFH consultation process. HAPCs based on habitat type may vary in location and extent over time, and are determined by the defining characteristics that are described in detail in Amendment 19. For these reasons, maps are only an approximation of the location of these HAPCs. The areas of interest HAPC are defined by discrete boundaries. Overall, the decision for HAPC designation includes a diverse array of habitat types distributed over the full range of the project area and is within the scope of the environmentally preferred alternative. For each HAPC, there is a clear link to the considerations listed in the EFH regulations that is described in the FEIS. Additional rationale is provided here for the designation of Washington state waters as follows: Washington State waters are recognized for the importance of their ecological function as demonstrated by the designation of the Olympic Coast National Marine Sanctuary and the prohibition of bottom trawling by the Washington Department of Fish and Game within state waters. The creation of the sanctuary was based, in part, on the ecological importance of the marine habitat. Moreover, the State has prohibited bottom trawling in its waters since 2001. The habitat within Washington State waters is now recovering and is therefore distinct and rare due to the protection afforded by the state's prohibition of bottom trawling.

NMFS is disapproving the designation of 13 oil production platforms as EFH and HAPC. NMFS has reviewed the available science and weighed public comment described in section 4 of this document and determined there is insufficient evidence that a strong enough link exists to the HAPC considerations articulated in the EFH regulatory guidelines at 50 CFR 600.815(a)(8) for the creation of these specific HAPCs. Similarly, the available information is insufficient for determining whether the structures are necessary to support a sustainable fishery or contribute to a healthy ecosystem, which are two basic tenets of EFH. The record shows different and possibly contradictory information about the effect of oil platforms on groundfish. For example, rigs may provide additional and high quality habitat in comparison to natural reefs, or, rigs may concentrate fish at the expense of populations on natural reefs. Although these structures are not explicitly designated as EFH, they do occur within EFH. Therefore, NMFS will continue to consult with Federal and state agencies on actions that may adversely affect EFH within the vicinity of the oil platforms. In addition, NMFS will continue to gather information regarding the relative importance of these structures to the groundfish fishery and may work with the Council to take action to designate such structures as EFH or HAPCs in the future, if deemed appropriate.

### **5.3 Impacts Minimization**

The decision for impacts minimization measures is to partially approve the impacts minimization measures in Amendment 19 to the FMP. NMFS is approving all of the impacts minimization measures in Amendment 19 but limiting the application of the measures to be within EFH. As discussed below, the seaward extent of specific management measures (with the exception of specified areas) will be the 3500 m depth contour consistent with the description of EFH in section 5.1. This decision is consistent with the environmentally preferred alternative except where noted below. The rationale for the environmentally preferred alternative is provided in section III above with additional information provided in this section as appropriate. A proposed rule to implement these measures was published on January 12, 2006 (71 FR 1998).

In developing these management measures, NMFS and the Council evaluated the potential adverse effects of fishing on EFH. NMFS first did a literature review of each fishing activity, as provided in Appendix 10 of the Risk Assessment, Attachment A to the EIS. NMFS also evaluated each type of habitat that might be adversely affected, and its sensitivity to fishing gear impacts. Because the best available information is from literature that is not specific to groundfish EFH, NMFS could not make quantitative conclusions regarding the adverse impacts of fishing on EFH. NMFS also could not definitively quantify the effects to show that these possible impacts are more than minimal and not temporary. However, NMFS was able to make certain assumptions about the impact of fishing on EFH. These assumptions are: 1. Habitat that has not been impacted is pristine; 2. Severity of impact is related to sensitivity of habitat ; 3. After a certain amount of fishing, additional fishing has no additional effect; 4. Habitat has a limited ability to recover, and recovery is ongoing from the time of impact; 5. Repeated fishing makes habitat less sensitive to future effects; 6. Adverse impacts to EFH can impair fish from carrying out basic biological functions such as spawning, feeding, breeding and growth to maturity; and 7. Large scale changes to habitat can have effects on the ecosystem off the west

coast and on the fish and other organisms that rely on them. Additionally, geographical distribution of the proposed closed areas was a consideration in their development.

Therefore, since NMFS does know whether adverse fishing impacts on EFH may be occurring, it has made determination that it is necessary and appropriate to take precautionary action to protect EFH from the possible adverse impacts of fishing. NMFS has concluded that there is a potential for adverse impacts from fishing activities, based on the TRC report, and other literature used in the appendices to the EIS, although these impacts cannot be specifically identified for EFH for groundfish. As a result, NMFS is approving measures to minimize to the extent practicable, these unidentified impacts in the event that the regulated fishing activities do have an adverse impact on EFH that is more than minimal and not temporary in nature. These measures are practicable because they have minimal economic impact on the fishery. The gear closures are mainly in areas that are not currently being fished, and for areas that would require the industry to shift its location, the effect would be on roughly less than 10% of the fishery. That amount of effort is likely to be able to relocate so the net effect would result in little change in overall catch.

NMFS' use of precautionary action is the basis for the management measures has a solid basis in the best available information. It is based on the concept of acting to conserve the resource in the face of a lack of specific information. NMFS has information showing adverse impacts from fishing on habitat, but does not have information to allow specific determinations regarding the effect on groundfish EFH. The available information does give NMFS reason to conclude that there may be adverse impacts on EFH, and the management measures are necessary and appropriate to minimize these potential adverse impacts. The measures are practicable because they do not cause a significant burden on the fishing industry since they close areas not currently fished and other measures would limit gear usage in certain areas, displacing less than 10% of the fleet.

NMFS is approving the gear restrictions described in Amendment 19. Those restrictions are as follows: (1) bottom trawl gear with footropes larger than eight inches (20 cm) in diameter is prohibited shoreward of a line approximating the 100-fm (183 m) depth contour; (2) the use of bottom trawl footrope gear with a footrope diameter larger than 19 inches (48 cm) is prohibited; (3) the use of dredge gear is prohibited; and (4) the use of beam trawl gear is prohibited.

NMFS is approving the discrete areas identified in Amendment 19 to be closed to fishing with specified gear types. These ecologically important habitat closed areas are intended to minimize to the extent practicable the adverse effects of fishing on groundfish EFH. There are two types of closures. First are areas where bottom trawling would be prohibited. Second are areas where bottom-contacting gears would be prohibited. The extent and configuration of these areas do not vary seasonally and they are not usually modified through inseason or biennial management actions and may be considered Marine Managed Areas. The areas are listed below and described in the attached regulatory text by specific latitude and longitude coordinates.

Areas off the coast of Washington where bottom trawling would be prohibited are:

Olympic 2; Biogenic 1; Biogenic 2; Grays Canyon; and, Biogenic 3. Areas off the coast of Oregon where bottom trawling would be prohibited are: Nehalem Bank/Shale Pile; Astoria Canyon; Siletz Deepwater; Daisy Bank /Nelson Island; Newport Rockpile /Stonewall Bank; Heceta Bank; Deepwater off Coos Bay; Bandon High Spot; Rogue Canyon.

Areas off the coast of California where bottom trawling would be prohibited include: Eel River Canyon; Blunts Reef; Mendocino Ridge; Delgada Canyon; Tolo Bank; Pt Arena South Biogenic Area; Biogenic Area; Pt Arena South Biogenic Area; Farallon Islands/Fanny Shoal; Half Moon Bay; Monterey Bay/Canyon; Point Sur Deep; Big Sur Coast/Port San Luis; East Santa Lucia Bank; Point Conception; Potato Bank; Cherry Bank; Hidden Reef/Kidney Bank; Catalina Island; and, Cowcod Conservation Area East.

Areas off Oregon where bottom contact gear would be prohibited include: Thompson Seamount; and, President Jackson Seamount.

Areas off California where bottom contact gear would be prohibited include: Cordell Bank (50 fm (91 m) isobath); Anacapa Island MCA; Anacapa Island MR; Carrington Point; Footprint; Gull Island; Harris Point; Judith Rock; Painted Cove; Richardson Rock; Santa Barbara; Scorpion; Skunk Point; and, South Point. Bottom contact gear at Davidson seamount would also be prohibited with all fishing prohibited below 500 fm (914 m) as a precautionary adjustment to protect the seamount.

As described in section 3.3, the environmentally preferred alternative would prohibit bottom trawling in all areas within the EEZ seaward of a line that approximates 700 fathoms north of Point Conception and 300 fathoms south of Point Conception in order to protect areas that have not historically been trawled and are potentially pristine. NMFS is approving Amendment 19 which differs from the environmentally preferred alternative in that the line is standardized to 700 fathoms coastwide in order to minimize socioeconomic dislocation associated with the environmentally preferred alternative. The socioeconomic impacts of the environmentally preferred alternative for this particular measure would likely be in excess of the 10% displaced revenue targeted for implementation and considered too severe and therefore it was not incorporated into this decision. A full discussion of the socioeconomic consequences of the measure is contained in the FEIS.

NMFS is disapproving the coastwide prohibition on bottom trawling and other gear restrictions in areas of the EEZ that are not described as EFH because the it is not consistent with the Magnuson-Stevens Act. . The stated purposes of the Magnuson-Stevens Act include: to take immediate action to conserve and manage the fishery resources off the coasts of the United States; to promote domestic, commercial, and recreational fishing under sound conservation and management principles, including the promotion of catch and release programs in recreational fishing; to promote the protection of essential fish habitat; and to provide for the preparation and implementation, in accordance with national standards, of fishery management plans which achieve and maintain, on a continuing basis, the optimum yield from each fishery. *See* 16 U.S.C. § 1801(b). Any management measures implemented must be “necessary and appropriate for the

conservation and management of the fishery to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the long-term health and stability of the fishery,” as well as consistent with the national standards, and other provisions of the Act. 16 U.S.C. §1853(a)(1). There are a variety of reasons areas may be closed to certain fishing activities under the Magnuson-Stevens Act, including: to ensure that OY is achieved; to minimize bycatch; and to minimize to the extent practicable adverse effects of fishing on EFH. NMFS may (and has) close an area for any combination of these or other reasons based on conservation and management of the fishery. The legal basis for any particular closure is based on the authority in the Magnuson-Stevens Act, as applied to the record in the case. In addition, the Council has the authority and discretion to recommend, and NMFS may approve, other measures, including closures, that are necessary and appropriate for the conservation and management of the fishery. *See* 16 U.S.C. § 1853(b)(12).

At this time, NMFS does not have enough information to support closing areas beyond the limits of EFH to bottom trawling. EFH is described based on the contour determined by the deepest ever observation of groundfish, which occurred at 3400m, plus 100m as a precautionary adjustment to account for the paucity of data on groundfish distributions and habitat types in deep water. There is very little data available for groundfish EFH in general, but particularly for areas deeper than 2000m. Detailed mapping of groundfish habitat has been accomplished in relatively few important areas, such as offshore banks of the Southern California Bight (Goldfinger et al. 2005), Monterey Bay, California, and Heceta Bank, Oregon (Wakefield et al. 2005), and is slowly being extended to other areas of the coast. Groundfish distributions are primarily informed by trawl surveys out to 1280 m with other sporadic information from deeper waters available from university funded trawls.

Features that occur beyond 3500m include hydrothermal vents, soft-bottom sediments, and hard bottom areas with biogenic habitats such as deep sea corals. All or most of the deep sea environments are likely to be highly sensitive to impact, including very low levels of fishing effort (e.g. a single trawl), and have extended recovery times (over 7 years). Thus, they can be very sensitive to bottom trawling and would take a long time to recover from this impact.

The bottom trawl fishery is not prosecuted deeper than 1280m, nor is it likely to be with the rare exception of speculative trawling. At that depth, the cost of fishing is higher than in shallower waters due to increased fuel consumption and gear specifications. Such costs are likely to outweigh the benefits of fishing. However, current trends in fishing activity show that the industry continues to move farther offshore as NMFS restricts fishing opportunities to rebuild groundfish stocks and minimize bycatch nearer to shore. However, 3500 m is an extreme depth that is probably out of reach, in practical sense, to commercial fisheries. The “deeper waters” at issue are much more likely to be similar to the 1280 m discussed above but not close to the 3500 m depth contour that describes EFH.

Currently, NMFS has little to no information regarding the value of the area beyond the 3500m contour to the groundfish fishery. However, the best scientific data currently available does not support the presence of species managed under this plan at those depths, there is no indication

that the area provides habitat for managed species, and the fishery is not prosecuted in the area. Therefore, NMFS has not identified a link between potential adverse impacts to features beyond EFH from bottom fishing activities and adverse impacts on EFH. Nor has NMFS identified a link between impacts to areas deeper than 3500 meters and conservation and management of the fishery. Because NMFS has identified no link between impacts to this deep habitat and the groundfish fishery, it may not exercise its authorities under the Magnuson-Stevens Act to close these areas to fishing at this time.

NMFS may have cause in the future to be concerned if bottom trawlers engage in speculative trawling in these deeper waters as more areas nearer shore become more restricted to fishing. Recognizing current limits to protect such areas, the Administration offered an ecosystem approach to management in its proposal to reauthorize the Magnuson-Stevens Act. Among the ecosystem related provisions, section 4(f) of the proposal would allow the regional councils to develop fishery ecosystem plans that "may contain conservation and management measures applicable to fishery resources throughout the fishery ecosystem, including measures that the Council or the Secretary deems appropriate to ... (B) establish marine managed areas in the Exclusive Economic Zone ...." Inclusion of such a provision in the reauthorized Magnuson-Stevens Act would authorize the type of action recommended by the Council in Amendment 19. In addition, S. 2012, the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2005, includes a provision that would allow the Councils to "designate such zones ... to protect deep sea corals from physical damage from fishing gear or to prevent loss or damage to such fishing gear from interactions with deep sea corals, after considering long-term sustainable uses of fishery resources in such areas" (section 105).

The management measures were designed to be compliant with section 303(a)(7) of the Magnuson-Stevens Act that requires FMPs minimize to the extent practicable the adverse effects of fishing on EFH. EFH regulations at 50 CFR 600.815(a)(2)(iii) state that: In determining whether it is practicable to minimize an adverse effect from fishing, Councils should consider (1) the nature and extent of the adverse effects on EFH and (2) the long and short-term costs and benefits of potential management measures to EFH, associated fisheries, and the nation, consistent with National Standard 7. In determining whether management measures are practicable, Councils are not required to perform a formal cost/benefit analysis.

The management measures in this decision provide a balance of socioeconomic costs and benefits to the fishing industry and communities, impacts to management and enforcement agencies, and protection of EFH. This suite of impact minimization measures protects a diverse set of habitat types and is most heavily focused on the bottom trawl sector by excluding areas from bottom trawling. Other fishing gears are also excluded or limited depending on the habitat, the geographic area, opportunities for research in those areas in order to further the science and management of habitat, and the amount of information known about areas and gear/habitat interaction.

Although the management measures close certain areas to bottom trawling and other bottom tending gear types, these measures do not reduce catch quotas. Harvest put at risk by closed areas may be made up elsewhere within the EEZ. If closing certain areas to certain gear types appears to impact catch, then as a regular part of inseason management, the Pacific Council could be reasonably expected to increase vessel catch limits and recreational opportunities so that the fisheries may achieve, but not exceed allowable harvest levels. However, the more effort and revenue is displaced, the more likely it is that displaced revenues and effort will also translate into lost revenue and effort.

In addition to the management measures, this decision addresses reduction in fishing effort as a means to reduce fishing impact by incorporation of C.10. Under this provision, the Council may facilitate and encourage private purchases of groundfish limited entry permits and vessels in order to reduce fishing effort and associated impacts to EFH. The provision is described fully in the FMP amendment and FEIS.

#### 5.4 Research and Monitoring

NMFS will consider an FMP amendment and other appropriate means to implement the environmentally preferred alternative for Research and Monitoring as described in section III above. NMFS and the Council undertook a process to identify and document scientific uncertainty and data gaps related to EFH for groundfish and addressed those issues through the identification of research and monitoring alternatives in the EIS. The data gaps are described in section 5.3 to Appendix A of the FEIS. Each of the alternatives, including the maintenance of ongoing research programs (D.1, status quo) would improve the scientific underpinnings for EFH conservation and management and are included in the environmentally preferred alternative.

## 6 Contact Person

Additional information concerning this Record of Decision may be obtained by contacting Steve Copps, NMFS Northwest Region, 7600 Sand Point Way, NE, Seattle WA, 98115; 206-526-4490.

Signed:   
For William T. Hogarth, Ph.D.  
Assistant Administrator for Fisheries  
National Oceanic and Atmospheric Administration

Date: 3.08.06

**Table 1: Summary of preferred alternative.**

Alternative Name	Environmentally Preferred	Council Final Preferred (Amendment 19 to the FMP)	NMFS Final Preferred (Partial Approval of Amendment 19)	Modification
<b>EFH Alternatives</b>				
A.1 (No Action)				
A.2 (Depths less than 3,500 m)	✓	✓	✓	Preferred alternative was modified from A.2 to include areas designated as HAPC but not otherwise qualifying as EFH under this alternative.
A.3 (100% HSP Area)				
A.4 (HSP Based on Management Status)				
A.5 (70% HSP Area)				
A.6 (30% HSP Area)				
<b>HAPC Alternatives</b>				
B.1 (No Action)				
B.2 (Estuaries)	✓	✓	✓	None
B.3 (Canopy Kelp)	✓	✓	✓	None
B.4 (Seagrass)	✓	✓	✓	None
B.5 (Core Habitat)				
B.6 (Rocky Reefs)	✓	✓	✓	None
B.7 (Areas of Interest)	-	-		See below
Thompson Seamount, Daisy Bank, President Jackson Seamount, Cordell Bank, Gumdrop Seamount, Pioneer Seamount, Guide Seamount, Monterey Canyon, Taney Seamount, Davidson Seamount, San Juan Seamount, Cowcod Conservation Area East	✓	✓	✓	None

Potato Bank, Cherry Bank, Hidden Reef/Kidney Bank in the Cowcod Conservation Area West	✓	✓	✓	Preferred alternative modified from B.7 to adjust geographic boundaries for these specific areas to better reflect geologic features.
All waters and sea bottom in Washington state waters (0-3 nm); selected areas in the Channel Islands National Marine Sanctuary (Anacapa Island SMCA, Anacapa Island SMR, Carrington Point, Footprint, Gull Island, Harris Point, Judith Rock, Painted Cove, Richardson Rock, Santa Barbara, Scorpion, Skunk Point, South Point); any seamounts off the coast of California not already included in Alternative B.7	✓	✓	✓	Preferred alternative modified from B.7 to include listed areas.
The northern portion of the northwest Olympic Coast National Marine Sanctuary, Grays Canyon, Astoria Canyon, Heceta Bank, Rogue Canyon, Eel River Canyon, Mendocino Canyon, Morro Ridge, and Monterey Bay.	✓			
B.8 (Oil Production Platforms)	✓	✓		The Council's preferred alternative designates only the 13 surveyed oil platforms as HAPC versus 27 considered in B.8. Designation of oil production platforms is not included in NMFS' final preferred alternative.
B.9 (Process for new HAPC designations)	✓	✓	✓	The preferred alternative would establish a new standing committee versus the petition process described in the DEIS.

**Impacts Minimization**

Alternatives				
C.1 (No Action)				
C.2 (Depth-based gear restrictions)				
C.2.1 (Option 1)	✓	✓	✓	The preferred alternative prohibits trawl roller gear with footrope greater than 8" seaward of 100 fathoms versus 200 fathoms considered by C.2.1.
C.2.2 (Option 2)				
C.2.3 (Option 3)				
C.3 (Close sensitive habitat)				
C.3.1 (Option 1)				
C.3.2 (Option 2)				
C.3.3 (Option 3)				
C.3.4 (Option 4)				
C.4.1 (Option 1)	✓	✓	✓	Preferred alternative would prohibit bottom trawling seaward of 700 fathom line coast wide within EFH. Also note that environmentally preferred alternative would use 300 fathom line south of Point Conception, California.
C.4.2 (Option 2)				
C.5 (Prohibit a krill fishery)				
C.6 (Close hotspots)				
C.7 (Close areas of interest)	-	-	-	See below
Areas closed to bottom trawl gear: Biogenic_1, Biogenic_2, Biogenic_3, Grays Canyon, Olympic_2, Astoria Canyon, Bandon High Spot, Daisy Bank/Nelson Island, Deepwater off Coos Bay, Heceta Bank, Nehalem Bank/Shale Pile, Newport Rockpile/Stonewall Bank, Rouge Canyon, Siletz Deepwater, Biogenic Area 12, Blunts Reef, Catalina Island, Cherry Bank, Cordell Bank, Cowcod	✓	✓	✓	Ecologically Important Closed Areas under the final preferred alternative is a modification of Alternative C.7 as well as Alternative C.10, C.12, and C.13.

Conservation Area East, Delgada Canyon, Eel River Canyon, Farallon Islands/Fanny Shoal, Half Moon Bay, Hidden Reef/Kidney Bank, Mendocino Ridge, Monterey Bay/Canyon, Point Arena Offshore, Point Sur Deep, Potato Bank, TNC/ED Area 1, TNC/ED Area 2, TNC/ED Area 3, Tolo Bank					
Areas closed to bottom contact gear: President Jackson Seamount, Thompson Seamount, Anacapa Island SMCA, Anacapa Island SMR, Carrington Point, Cordell Bank (within 50 fm isobath), Davidson Seamount, Footprint, Gull Island, Harris Point, Judith Rock, Painted Cove, Richardson Rock, Santa Barbara, Scorpion, Skunk Point, South Point	✓	✓	✓		Ecologically Important Closed Areas under the final preferred alternative is a modification of Alternative C.7 as well as Alternative C.10, C.12, and C.13.
C.8 (Zoning fishing activities)					
C.8.1 (Option 1)					
C.8.2 (Option 2)					
C.9 (Gear Restrictions)					
C.9.1 (Prohibit roller gear larger than 15")	✓	✓	✓		Preferred alternative restricts roller gear to 19" versus 15" considered by C.9.1.
C.9.2 (Prohibit the use of flat trawl doors)					
C.9.3 (Limit the length of a single longline groundline to 3 nm)					
C.9.4 (Employ habitat- friendly anchoring systems)					
C.9.5 (Prohibit dredge gear)	✓	✓	✓		None
C.9.6 (Prohibit beam- trawl gear)	✓	✓	✓		None

C.9.7 (Prohibit set-gillnets in waters deeper than 60 fm)				
C.9.8 (Prohibit dingle bar gear)				
C.10 (Central California)	✓	✓	✓	None
C.11 (Relax gear endorsement requirements)				
C.12 (Close ecologically important areas to bottom trawl)	-	-		See below
<p>Areas closed to bottom trawl gear: West of a line approximating the 700 fathom isobath, Biogenic_1, Biogenic_2, Biogenic_3, Grays Canyon, Olympic_2, Astoria Canyon, Bandon High Spot, Daisy Bank/Nelson Island, Deepwater off Coos Bay, Heceta Bank, Nehalem Bank/Shale Pile, Newport Rockpile/Stonewall Bank, Rouge Canyon, Siletz Deepwater, Biogenic Area 12, Blunts Reef, Catalina Island, Cherry Bank, Cordell Bank, Cowcod Conservation Area East, Delgada Canyon, Eel River Canyon, Farallon Islands/Fanny Shoal, Half Moon Bay, Hidden Reef/Kidney Bank, Mendocino Ridge, Monterey Bay/Canyon, Point Arena Offshore, Point Sur Deep, Potato Bank, TNC/ED Area 1, TNC/ED Area 2, TNC/ED Area 3, Tolo Bank</p>	✓	✓	✓	<p>Areas and specific boundaries modified from C.12 to create preferred alternative. See FEIS 2.7.3.2.2 for additional detail.</p>
C.13 (Close ecologically important areas to bottom-contacting gear)	-	-		See below
<p>Areas closed to bottom contact gear: President Jackson Seamount,</p>	✓	✓	✓	<p>Areas and specific boundaries modified from C.13 to create preferred</p>

Thompson Seamount, Anacapa Island SMCA, Anacapa Island SMR, Carrington Point, Cordell Bank (within 50 fm isobath), Davidson Seamount, Footprint, Gull Island, Harris Point, Judith Rock, Painted Cove, Richardson Rock, Santa Barbara, Scorpion, Skunk Point, South Point	alternative. See FEIS 2.7.3.2.2 for additional detail.
---	--

C.14 (Close ecologically  
important areas to fishing)

<b>Research and Monitoring</b>				
D.1 (No Action)				
D.2 (Expanded logbook program)	✓	✓	✓	None
D.3 (Expanded VMS program)	✓	✓	✓	None
D.4 (Research reserve system)	✓	✓	✓	None

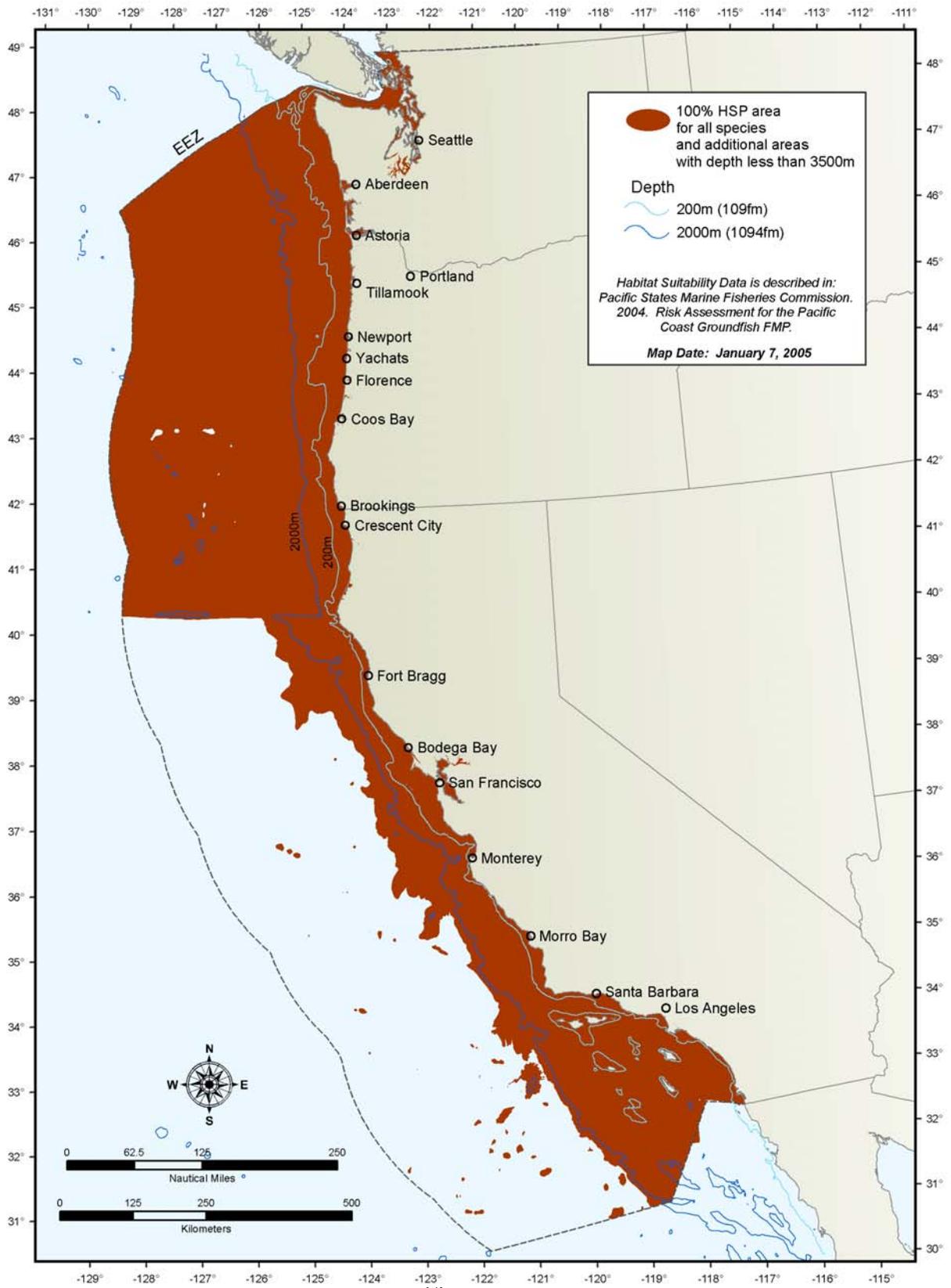
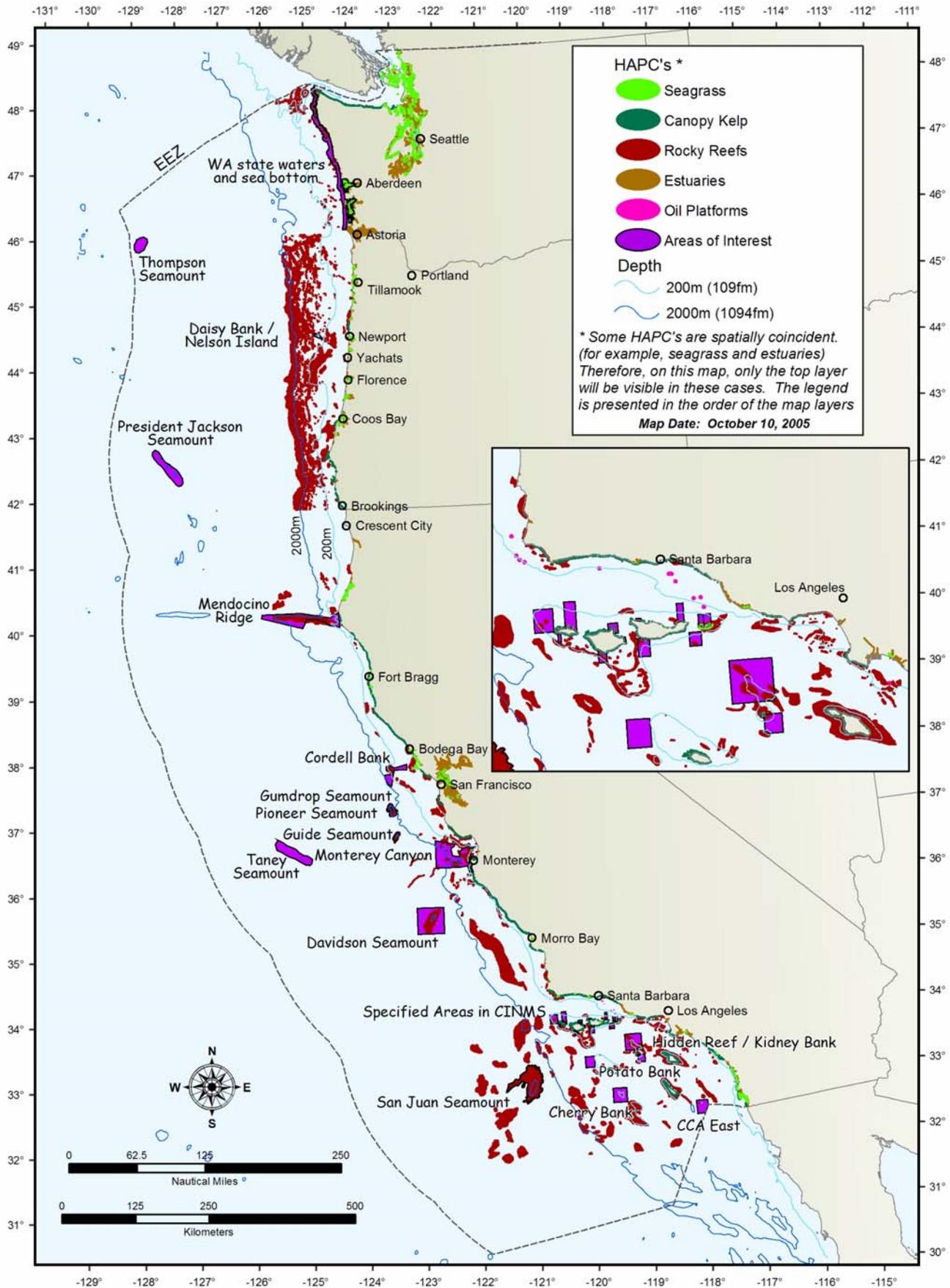


Figure 1: NMFS and Council preferred EFH identification and description alternative.



**Figure 2: Council preferred HAPC designation alternative. NMFS preferred alternative removes oil platforms.**

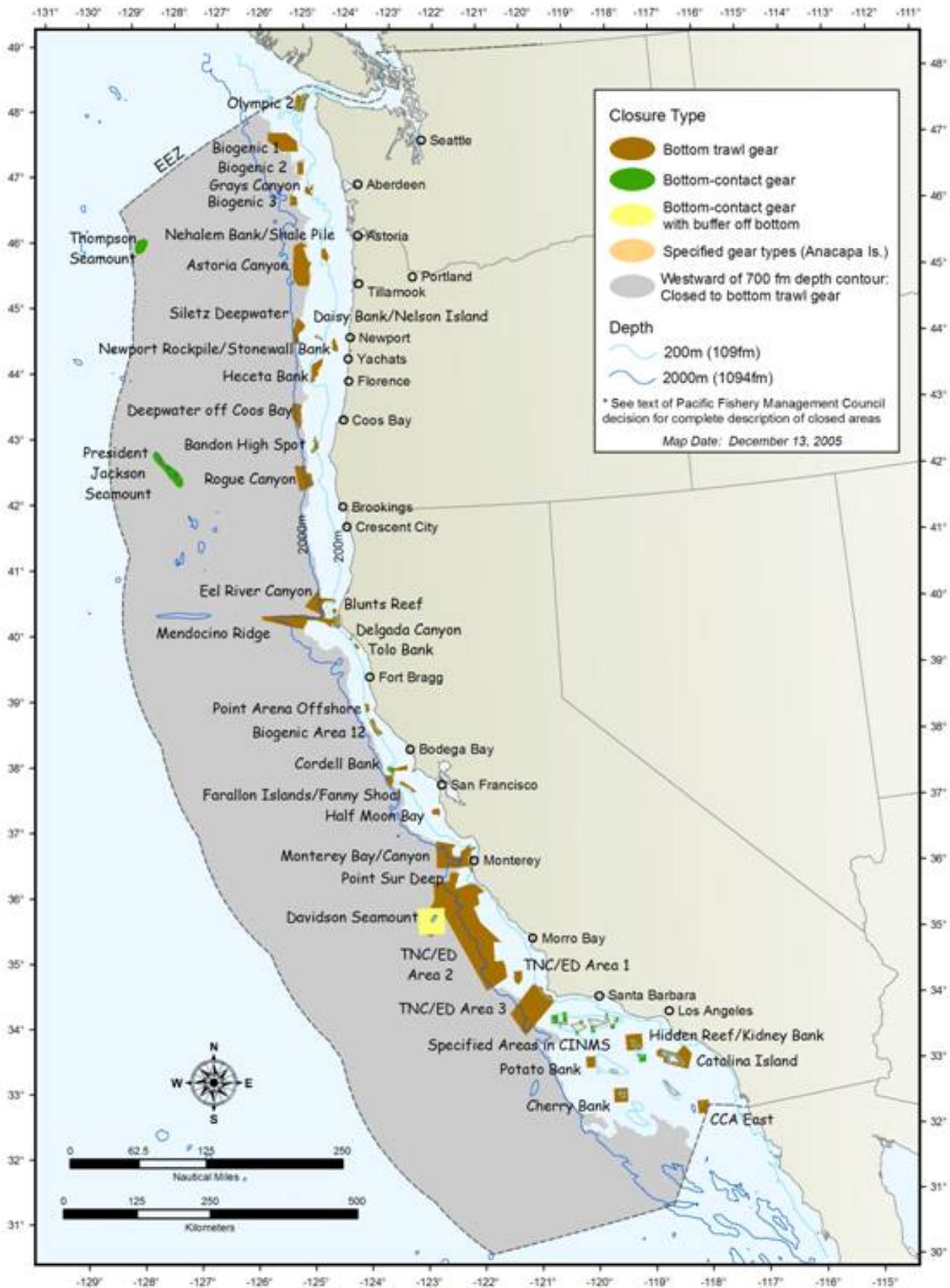


Figure 3: Council preferred areas based management measures to minimize adverse impacts. The NMFS preferred alternative limits management measures to EFH.