

GROUND FISH ESSENTIAL FISH HABITAT (EFH) ENVIRONMENTAL IMPACT
STATEMENT (EIS) – FINAL PREFERRED ALTERNATIVE

At the November 2005 Council meeting, the Council identified a range of alternatives to be included in the Pacific Groundfish Fishery Management Plan (FMP) Essential Fish Habitat (EFH) Designation and Minimization of Adverse Impacts Draft Environmental Impact Statement (DEIS). They also identified preliminary preferred alternatives to be identified in the EFH DEIS. National Marine Fisheries Service (NMFS) prepared the EFH DEIS pursuant to a settlement agreement in *AOC v. Daley*, which established a timeline for completing the EIS process and finalizing any FMP amendment and regulations necessary to implement the preferred alternative. In accordance with this timeline NMFS released the DEIS on February 11, 2005, triggering a public comment period that ended on May 11, 2005.

Attachment 1 provides a summary of the alternatives included in the DEIS, noting by check mark those the Council preliminarily chose as preferred. The alternatives are grouped in four categories: alternatives to (1) designate EFH, (2) designate habitat areas of particular concern (HAPC), (3) mitigate fishing impacts to EFH, and (4) implement habitat-related research and monitoring initiatives.

At this meeting the Council needs to choose a comprehensive final preferred alternative. The final preferred alternative will be included in the final EIS, which according to the schedule referenced above, must be released by December 9, 2005. In order to select a final preferred alternative, the Council, at a minimum, needs to choose one alternative from each of the four categories just described. (Consistent with the National Environmental Policy Act [NEPA], a No Action Alternative is included in each of the four categories of alternatives. Choosing no action would keep the current definitions, designations, and mitigation measures in place.)

Selection of a Final Preferred Alternative

Under the first category, alternatives to designate EFH, the Council chose two preliminary preferred alternatives; it is noteworthy that these alternatives are mutually exclusive. In the second category, alternatives to designate HAPC, the Council chose four preliminary preferred alternatives. These alternatives are not mutually exclusive and any combination of alternatives could be chosen for the final preferred alternative. In the third category, measures to mitigate adverse impacts, the Council chose 15 preliminary preferred alternatives. Two of these are sub-options—C.4.1 and C.4.2—which are mutually exclusive because they apply the same measures to different gear categories. Furthermore, Alternatives C.12, C.13, and C.14 identify the same set of geographic areas, which would be closed to different gear categories. Taken in their entirety, these alternatives are mutually exclusive; however the Council could combine elements of these alternatives—for example, by identifying specific areas to be closed to different gear categories—in crafting their final preferred alternative. The other preliminary preferred alternatives are not mutually exclusive. In the fourth category, research and monitoring, the Council did not identify preliminary preferred alternatives.

In choosing final preferred alternatives in each category, the Council first may need to consider the relationship among the categories of alternatives. HAPC must occur within designated EFH, and mitigation measures are primarily directed at areas designated EFH. For example, if

the Council chose Alternative A.2, defining EFH as waters in depths $\leq 3,500$, this would preclude designating HAPC occurring at greater depths (see Habitat Table 4-4 in the DEIS). If necessary, a practical solution would be to modify the EFH designation component of the preferred alternative so that any HAPC areas not part of EFH are simultaneously designated EFH. By the same token, components of the impacts mitigation measures alternatives fall outside of the area that would be designated EFH under all the alternatives except for Alternative A.1, no action (see Habitat Table 4-5 in the DEIS). In formulating a final preferred alternative the Council may wish to request guidance on whether the EFH guidelines established by NMFS allow mitigation measures to be applied to the part of the Exclusive Economic Zone outside of the area designated EFH.

There are two other issues the Council should consider when formulating the final preferred alternative. The first issue is the latitude the Council has in choosing alternatives other than the preliminary preferred alternative as part of the final preferred alternatives. The preliminary preferred alternative concept is derived from the approach used by the North Pacific Fishery Management Council in their groundfish EFH EIS. It is clear the Pacific Council can reaffirm the preliminary preferred alternatives as the preferred alternatives or select different preferred alternatives. The second issue is the Council's ability to modify and/or combine alternatives found in the DEIS to develop their final preferred alternative. This may be done as long as the resulting alternative is reasonably similar to the alternatives in the DEIS such that the predicted impacts of the final preferred alternative falls within the range of impacts predicted for the alternatives found in the DEIS. One example would be to choose one of the preliminary preferred EFH designation alternatives but modify it to identify additional area as EFH. Another example, alluded to above, would be to combine elements in the impact mitigation alternatives, such as the number, configuration, and applicability of closed areas.

Agency Reports and Public Comment

The Washington Department of Fish and Wildlife also included a report for inclusion the briefing materials (Agenda Item C.3.b, WDFW Report), which summarizes their analysis of Alternative C.12 using trawl logbook set point data. It also proposes including Washington State waters, which are currently closed to bottom trawl and groundfish-directed fixed gear, as an HAPC designation under the final preferred alternative. The Environmental Protection Agency (EPA) also submitted comments on the DEIS, as mandated under NEPA and Section 309 of the Clean Air Act. These are included under Agenda Item C.3.b, USEPA Comments. A letter from the NOAA National Marine Sanctuary Program makes recommendations on the adoption of alternatives that would also further sanctuary program goals, noting the need for a modification of Alternative A.2, the EFH designation alternative they recommend the Council adopt.

NMFS and the Council received a large volume of public comment on the DEIS. The great majority of this, 39,637 messages, was emails or postcards sent to NMFS with substantively identical comments. Representative examples of these comments have been included in the briefing materials.

The public comments are divided into two sections. Public Comment 1 contains comments submitted by organizations. This includes a description of Revised Alternative C.12 submitted by Oceana. Alternative C.12 was originally submitted by Oceana for Council consideration under the terms of the settlement agreement referenced above. The Revised Alternative C.12 contains reconfigurations of the closed areas described in the DEIS for this alternative. The

Scientific and Statistical Committee was asked to review the methodology used by Oceana to identify areas of biogenic habitat included in Alternative C.12 and Revised Alternative C.12 and their report is attached (see Agenda Item C.3.c, SSC Report). Another public comment, submitted by the Fishermen's Marketing Association, contains a proposal that is a variation on the closed areas proposed under Alternative C.12. The Association terms this the Trawl Industry Proposal, based on consultations with industry representatives.

Public Comment 2 contains comments submitted by individuals. These comments represent a diversity of views ranging from general support or opposition to the implementation of EFH measures to specific recommendations on which alternatives to choose or modifications to those alternatives.

Council Action: Adopt a Final Preferred Alternative.

Reference Materials:

1. Agenda Item C.3.a, Attachment 1: Summary of the Alternatives in the Groundfish Essential Fish Habitat DEIS.
2. Agenda Item C.3.b, WDFW Report: Washington Department of Fish and Wildlife Summary Analysis of Trawler-Proposed and Oceana-Proposed Bottom Trawl Closed Areas Using 2003 West Coast Trawl Logbook Data.
3. Agenda Item C.3.b, USEPA Comments.
4. Agenda Item C.3.b, National Marine Sanctuary Letter.
5. Agenda Item C.3.c, SSC Report: Scientific and Statistical Committee Report on Groundfish Essential Fish Habitat Environmental Impact Statement – Final Preferred Alternative.
6. Agenda Item C.3.c, HC Report: Habitat Committee Report on the Groundfish Essential Fish Habitat Environmental Impact Statement.
7. Agenda Item C.3.d, Public Comment 1: Public Comment Received From Organizations.
8. Agenda Item C.3.d, Public Comment 2: Public Comment Received From Individuals.

Agenda Order:

- a. Agenda Item Overview
- b. Agency and Tribal Comments
- c. Reports and Comments of Advisory Bodies
- d. Public Comment
- e. **Council Action:** Adopt a Final Preferred Alternative

Kit Dahl

PFMC
05/26/05

Summary of the Alternatives in the Groundfish Essential Fish Habitat DEIS

List of the Alternatives

Alternatives to Identify and Describe EFH

Alternative 1: No Action

✓ Alternative A.2: Depths less than 3,500 m (Preliminary Preferred Alternative)

✓ Alternative A.3: 100% HSP Area (Preliminary Preferred Alternative)

Alternative A.4: HSP Based on Management Status

Alternative A.5: 70% HSP Area

Alternative A.6: 30% HSP Area

Alternatives to Designate HAPC

Alternative B.1: No Action

✓ Alternative B.2: Estuaries (Preliminary Preferred Alternative)

✓ Alternative B.3: Canopy Kelp (Preliminary Preferred Alternative)

✓ Alternative B.4: Seagrass (Preliminary Preferred Alternative)

Alternative B.5: Core Habitat

✓ Alternative B.6: Rocky Reefs (Preliminary Preferred Alternative)

Alternative B.7: Areas of Interest

Alternative B.8: Oil Production Platforms

Alternative B.9: Process for New HAPC Designations

Alternatives to Minimize Adverse Impacts to EFH

Alternative C.1: No Action

Alternative C.2: Depth-based Gear-specific Restrictions

Option C.2.1: Large footrope prohibited inside 200 fm, fixed gear inside 100/150 fm

Option C.2.2: Large footrope prohibited in EEZ, fixed gear inside 100/150 fm

Option C.2.3: Large footrope prohibited inside 200 fm, fixed gear inside 60 fm

Alternative C.3: Close Sensitive Habitat

Option C.3.1: Close areas where $S \geq 2$ and $R \geq 1$ with trawl effort adjustment

Option C.3.2: Close areas where $S \geq 0.5$ and $R \geq 0.5$ with trawl effort adjustment

Option C.3.3: Close areas where $S \geq 2$ and $R \geq 1$ without trawl effort adjustment

Option C.3.4: Close areas where $S \geq 0.5$ and $R \geq 0.5$ with trawl effort adjustment

- ✓ Alternative C.4: Prohibit the Geographic Expansion of Fishing (Preliminary Preferred Alternative)
 - ✓ Option C.4.1: Prohibit expansion of trawl fishing
 - ✓ Option C.4.2: Prohibit expansion of all bottom-tending gear
- Alternative C.5: Prohibit a Krill Fishery
- Alternative C.6: Close Hotspots
- Alternative C.7: Close Areas of Interest
 - Option C.7.1: Close areas of interest to bottom trawling.
 - Option C.7.2: Close areas of interest to all bottom-contacting fishing activities.
- Alternative C.8: Zoning Fishing Activities
 - Option C.8.1: Zoning for mobile bottom-contacting gear
 - Option C.8.2: Zoning for all bottom-contacting gear
- ✓ Alternative C.9: Gear Restrictions (Preliminary Preferred Alternative)
 - ✓ C.9.1: Prohibit roller gear larger than 15 inches on bottom trawls.
 - ✓ C.9.2: Prohibit the use of flat trawl doors (i.e., require cambered doors).
 - ✓ C.9.3: Limit the length of a single longline groundline to 3 nm.
 - ✓ C.9.4: Employ habitat-friendly anchoring system.
 - ✓ C.9.5: Prohibit dredge gear.
 - ✓ C.9.6: Prohibit beam-trawl gear.
 - ✓ C.9.7: Prohibit set-gillnets in waters deeper than 60 fm.
 - ✓ C.9.8: Prohibit dingle bar gear (troll groundfish gear).
- ✓ Alternative C.10: Central California No-trawl Zones (Preliminary Preferred Alternative)
- ✓ Alternative C.11: Relax Gear Endorsement Requirements (Preliminary Preferred Alternative)
- ✓ Alternative C.12: Close Ecologically Important Areas to Bottom Trawl (Preliminary Preferred Alternative)
- ✓ Alternative C.13: Close Ecologically Important Areas to Bottom-contacting Gear (Preliminary Preferred Alternative)
- ✓ Alternative C.14: Close Ecologically Important Areas to Fishing (Preliminary Preferred Alternative)

Research and Monitoring Alternatives

- Alternative D.1: No Action
- Alternative D.2: Expanded Logbook Program
 - Option D.2.1: All fishing vessels maintain a logbook
 - Option D.2.2: A sub-sample of fishing vessels maintain a logbook
- Alternative D.3: Expanded Vessel Monitoring System
- Alternative D.4: Research Reserve System

Description of the Alternatives

Alternatives to Identify and Describe EFH

Alternative 1: No Action

The no action alternative would maintain the current EFH identification and description, incorporated into the groundfish FMP by Amendment 11 in 1998. The more than 80 groundfish species in the management unit occupy diverse habitats at all stages in their life histories. As a consequence of the large number of groundfish fishery management unit (FMU) species and their diverse habitat associations, when all the individual EFHs are taken together, 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 become EFH.

The FMP groups the various EFH descriptions into seven units called composite EFHs. This approach focuses on ecological relationships among species and between the species and their habitat, reflecting an ecosystem approach in defining EFH. Seven major habitat types are proposed as the basis for such assemblages or composites. These major habitat types are readily recognizable by those who potentially may be required to consult about impacts to EFH, and their distributions are relatively stationary and measurable over time and space. The seven composite areas identified as EFH are as: Estuarine; Rocky Shelf; Nonrocky Shelf; Canyon; Continental Slope/Basin; Neritic Zone; and, Oceanic Zone. Because it designates the entire EEZ including areas shoreward to the mean higher high water line, this alternative encompasses the largest area, 317,690 square miles.

✓ **Alternative A.2: Depths less than 3,500 m (Preliminary 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). HSP refers to the probability that the habitat is suitable for a managed species. This alternative would designate 187,741 square miles in the EEZ, and to the mean higher high water line and upriver extent of salt water, as EFH. By including areas out to the 3500 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 species.

✓ **Alternative A.3: 100% HSP Area (Preliminary Preferred Alternative)**

Designate 100% of the area where HSP is greater than zero for all species. HSP refers to the probability that the habitat is suitable for a managed species. This alternative would designate 87,160 square miles as EFH, all of it within the area that would be designated by Alternative A.2.

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. HSP refers to the probability that the habitat is suitable for a managed species. The alternative would designate 79,481 square miles as EFH, most of which falls within the area described by the previous alternatives, with the addition of some deeper areas around seamounts

Alternative A.5: 70% HSP Area

Designate the upper 70% of the area where HSP is greater than zero. HSP refers to the probability that the habitat is suitable for a managed species. The alternative would designate 78,569 square miles as EFH, all of which falls within the area described by alternatives A.1, A.2, and A.3.

Alternative A.6: 30% HSP Area

Designate the upper 30% of the area where HSP is greater than zero for all species. HSP refers to the probability that the habitat is suitable for a managed species. The alternative would designate 66,589 square miles as EFH, all of which falls within the area described by the previous alternatives.

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 (Preliminary Preferred Alternative)

Estuaries are protected nearshore areas such as bays, sounds, inlets, and river mouths, influenced by ocean and freshwater. GIS data on West Coast estuaries were derived primarily from the USFWS' National Wetlands Inventory (NWI). Where digital data for the NWI were unavailable, data from NOAA's Coastal Assessment Framework were used.

✓ Alternative B.3: Canopy Kelp (Preliminary Preferred Alternative)

Areas where kelp has been documented and mapped would be designated as HAOC. GIS data for the floating kelp species, *Macrocystis* spp. and *Nereocystis* sp., are available from state agencies in Washington, Oregon, and California. These data have been compiled into a comprehensive data layer delineating kelp beds along the West Coast. Because kelp abundance and distribution is highly variable, these data do not necessarily represent current conditions. However, data from multiple years were compiled together with the assumption that these data would indicate areas where kelp has been known to occur.

✓ Alternative B.4: Seagrass (Preliminary Preferred Alternative)

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. 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.

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. HSP refers to the probability that the habitat is suitable for a managed species.

✓ **Alternative B.6: Rocky Reefs (Preliminary Preferred Alternative)**

This alternative designates all rocky reef areas. Rocky habitat may be composed of bedrock, boulders, or smaller rocks such as cobble and gravel.

Alternative B.7: Areas of Interest

This alternative would designate areas that are of special interest due to their unique geological and ecological characteristics. The areas are: the northern portion of the northwest Olympic Coast National Marine Sanctuary (NMS), Grays Canyon, Astoria Canyon, Thompson Seamount, Daisy Bank, Heceta Bank, President Jackson Seamount, Rogue Canyon, Eel River Canyon, Mendocino Canyon, Gorda Escarpment, Cordell Bank, Gumdrop Seamount, Pioneer Seamount, Guide Seamount, Monterey Canyon, Monterey Bay, Taney Seamount, Davidson Seamount, Morro Ridge, San Juan Seamount, and the Cowcod Conservation Area(s). The Council could choose any combination of these areas as part of a preferred alternative.

Alternative B.8: Oil Production Platforms

This alternative designates areas around oil production platforms in Southern California waters. According to a report submitted to the Council by the California Artificial Reef Enhancement Program (CARE 2004), currently there are 27 such platforms remaining out of the 34 constructed since the late 1950s. Twenty-three of these are in federal waters and four are in California state waters.

Alternative B.9: Process for New HAPC Designations

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, provided they submit a complete package as described below, that the Council will consider their proposal.

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 that may have a beneficial effect on EFH.

Alternative C.2: Depth-based Gear-specific Restrictions

This alternative contains three options closing waters shoreward of specific depth contours 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.

This alternative has three options:

Option C.2.1: Large footrope prohibited inside 200 fm, fixed gear inside 100/150 fm

Prohibit the use of large footrope trawl gear shoreward of 200 fm and prohibit all fixed gear shoreward of 100 fm north of 40°10' N latitude and 150 fm south of 40°10' N latitude.

Option C.2.2: Large footrope prohibited in EEZ, fixed gear inside 100/150 fm

Prohibit the use of large footrope trawl gear throughout the EEZ and prohibit all fixed gear shoreward of 100 fm north of 40°10' N latitude and 150 fm south of 40°10' N latitude.

Option C.2.3: Large footrope prohibited inside 200 fm, fixed gear inside 60 fm

Prohibit the use of large footrope trawl gear shoreward of 200 fm and prohibit all fixed gear shoreward of 60 fm coastwide.

Alternative C.3: Close Sensitive Habitat

Area closures are defined using these gear and habitat specific sensitivity and recovery index values. Habitat areas above index value thresholds for any gear type, as specified in the following options, are closed to all fishing. This alternative has four options:

Option C.3.1: Close areas where $S \geq 2$ and $R \geq 1$ with trawl effort adjustment

For each gear type, those areas where the sensitivity index value is greater than or equal to two and the recovery index value is greater than one are identified. The combined area is then screened to include only the area where the cumulative number of hours trawled from 2000 through 2002 is less than 100 hours. The resulting areas are closed to all fishing (i.e., to all gear types).

Option C.3.2: Close areas where $S \geq 0.5$ and $R \geq 0.5$ with trawl effort adjustment

For each gear type, those areas where both the sensitivity and recovery index values are greater than or equal to 0.5 are identified. The combined area is then screened to include only the area where the cumulative number of hours trawled from 2000 through 2002 is less than 100 hours. The resulting areas are closed to all fishing (i.e., to all gear types).

Option C.3.3: Close areas where $S \geq 2$ and $R \geq 1$ without trawl effort adjustment

The same as Option 1 except no adjustment is made for trawl effort.

Option C.3.4: Close areas where $S \geq 0.5$ and $R \geq 0.5$ with trawl effort adjustment

The same as Option 2 except no adjustment is made for trawl effort.

✓ Alternative C.4: Prohibit the Geographic Expansion of Fishing (Preliminary 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:

- ✓ Option C.4.1: Prohibit expansion of trawl fishing

Trawl fisheries would be prohibited from fishing in areas that were untrawled during 2000-2002.

- ✓ Option C.4.2: Prohibit expansion of all bottom-tending gear

Apply the expansion limit to all bottom-tending gear types. The closure would extend west from a line approximating the 2,000 m (1,094 fm) depth contour to the seaward margin of the EEZ.

Alternative C.5: Prohibit a Krill Fishery

This alternative would designate krill as a component of EFH as part of this EIS and prohibit fisheries that target it.

Alternative C.6: Close Hotspots

This alternative prohibits trawling in hotspot areas, where—in this case—hotspots are defined as habitat that has high probability of being EFH for a large number of groundfish. Areas that are associated with 50 or more species/lifestage combinations would be closed to bottom trawling.

Alternative C.7: Close Areas of Interest

This alternative closes any combination of 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.) Closures affect the following activities:

Option C.7.1: Close areas of interest to bottom trawling.

Option C.7.2: Close areas of interest to all bottom-contacting fishing activities.

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. First, all areas deeper than the 2,000 m (1,094 fm) contour along the continental slope extending to the maximum westward range of groundfish EFH are closed to certain bottom-tending fishing gear types, according to the options described below. Second, a five-year transition period to gear specific zones is established for the remaining area inside the 2,000 m contour, which remains open to these activities, subject to any other restrictions, for the five years from implementation (e.g., 2007-2011). Third, during this five-year period, NMFS conducts the research necessary to delineate zones where specified fishing activities would be permitted. At the end of the five-year transition period, the gear-specific zones come into effect and any remaining unzoned area is closed to affected gear types, according to the options described below. (Restrictions applied outside 2,000 m remain in effect.)

In identifying fishing zones, NMFS must demonstrate that any unavoidable adverse impacts would be minimal and temporary, based on the best scientific information available.

Option C.8.1: Zoning for mobile bottom-contacting gear

Fishing zones are established for bottom-contact trawls, dredges, and similar bottom-tending mobile fishing gear. Other bottom-contacting gear types are unaffected by the zoning system, including the prohibition outside 2,000 m.

Option C.8.2: Zoning for all bottom-contacting gear

Fishing zones are established for all bottom-contacting gear types, including bottom longlines, traps, and pots. The immediate closure outside of 2,000 m applies to all bottom-contacting gear types.

In addition to establishing the zoning system, NMFS will conduct a gear substitution and modification research program, intended to redesign bottom fishing gear to reduce damage to habitat. This program will have a significant cooperative research element by employing fishermen in the design and testing of new gear.

The zoning system will be regularly modified to incorporate new information about habitat sensitivity and recovery factors, gear impacts on habitat, and to accommodate use of newly developed or modified gear.

✓ **Alternative C.9: Gear Restrictions (Preliminary Preferred Alternative)**

This alternative includes specific gear modifications and prohibitions that are based on that interaction. Under this alternative the following gear restrictions would be implemented in areas identified as EFH for groundfish:

- ✓ C.9.1: Prohibit roller gear larger than 15 inches on bottom trawls.
- ✓ C.9.2: Prohibit the use of flat trawl doors (i.e., require cambered doors).
- ✓ C.9.3: Limit the length of a single longline groundline to 3 nm.
- ✓ C.9.4: Employ habitat-friendly anchoring system.
- ✓ C.9.5: Prohibit dredge gear.
- ✓ C.9.6: Prohibit beam-trawl gear.
- ✓ C.9.7: Prohibit set-gillnets in waters deeper than 60 fm.
- ✓ C.9.8: Prohibit dingle bar gear (troll groundfish gear).

✓ **Alternative C.10: Central California No-trawl Zones (Preliminary 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). and 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. The project area extends from Point Conception to Davenport, California, and includes adjacent offshore seamounts (Gumdrop, Guide, Pioneer, Davidson, and Rodriguez).

TNC/ED have identified 23 permit holders they believe regularly trawl inside the project area. Most home port in Morro Bay, Moss Landing, Monterey, or Half Moon Bay. TNC/EDF intend to purchase a significant majority of the bottom trawling permits and vessels in this region if the Council/NMFS designates a significant portion of the project area as no-bottom-trawl zones. TNC/ED will identify areas they think should be designated no-trawl zones using the GIS data developed as part of this EIS in combination with a participatory process involving trawl fishermen in the project area. If this alternative is adopted as an FMP and regulatory amendment, these areas will be closed to bottom trawling by NMFS once TNC/EDF have negotiated purchase contracts or options for at least half of the limited trawl permit holders they have identified as operating in the project area.

✓ **Alternative C.11: Relax Gear Endorsement Requirements (Preliminary Preferred Alternative)**

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. These endorsements identify three gear categories: trawl, longline, and pot. In addition, longline and pot gear permit holders may also have a sablefish endorsement. Permit holders with this species-specific endorsement may participate in the high-value primary sablefish fishery and are allocated vessel-specific catch quotas, known as tier limits because the endorsements fall into one of several categories, or tiers, with different catch quotas. 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 (Preliminary Preferred Alternative)**

This alternative was proposed by the environmental group Oceana and adopted by the Council. The 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 5 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 (Preliminary 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 (Preliminary Preferred Alternative)**

Under this alternative, the areas identified in Alternative C.12 are closed to all fishing.

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. Section 7.1 in the 2005-2006 groundfish harvest specifications FEIS (PFMC 2004) describes groundfish monitoring programs carried out by NMFS, the states, and tribes, and is hereby incorporated by reference. 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

Under this alternative vessels in all commercial sectors, including recreational charter (for hire) boats, will participate in an expanded logbook program.

Option D.2.1: All fishing vessels maintain a logbook

All fishing vessels maintain a logbook, recording information on fishing time, location, and catch composition similar to the current trawl logbook program.

Option D.2.2: A sub-sample of fishing vessels maintain a logbook

A representative, random sample of all fishing vessels is required to maintain logbooks, gathering the information described above.

Alternative D.3: Expanded Vessel Monitoring System

This alternative will identify expansion of the Vessel Monitoring Program to cover all West Coast groundfish commercial and recreational charter vessels as an important program objective to be implemented through tiered actions.

Alternative D.4: Research Reserve System

This alternative will establish a system of areas that are closed to fishing to foster habitat-related research and comparison of fished areas with unfished areas.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE SUMMARY ANALYSIS
OF TRAWLER-PROPOSED AND OCEANA-PROPOSED BOTTOM TRAWL
CLOSED AREAS USING 2003 WEST COAST TRAWL LOGBOOK DATA

The Washington Department of Fish and Wildlife has reviewed and analyzed the potential impacts to fishers by closing areas proposed by the trawl fishing industry and by Oceana to bottom trawling, based on trawl logbook data. Washington Department of Fish and Wildlife staff used West Coast groundfish trawl logbook data from 2003, extracted from PacFIN in March 2005, to plot the locations of trawl tows relative to the closed areas proposed by the trawl fishing industry and under the Oceana alternative (EFH EIS Alternative C.12), for the areas off Washington state (i.e., north of the Columbia River).

Set points and haul-out points were plotted when available; however, in some instances, only set points were available. Because haul-out data were incomplete, the resulting catch data analysis was based on set point locations only (i.e., if a tow began within the proposed closed area, then the catch data associated with that tow is described as coming from within that area; if a tow began outside of the closed area, then the catch data associated with that tow is excluded from the area). We realize that tows set outside the closed area may have traversed and/or ended within the proposed closed area, particularly tows set adjacent to or near the closed area; conversely, catches associated with tows set within the area may have occurred outside the area and, to some extent, these conditions could offset one another. As mentioned above, haul-out data are incomplete and we wanted to use the available data to evaluate potential fishing impacts.

The trawl tows were plotted on maps relative to the proposed closed areas, and the trawl rockfish conservation area (RCA) boundaries for 2005 are also overlaid, for reference purposes. As the RCA boundaries change between fishing periods, the boundaries for the majority of the fishing year (March-October) were plotted. It is important to note that the trawl RCA boundaries were first implemented in September 2002; however, trawl activity shown to occur within the RCA are likely the result of changes in the RCA boundaries and/or are associated with exempted fishing permits (EFPs). The RCA boundaries have also changed from year-to-year; however, the 2005 boundaries are relatively comparable to the 2003 boundaries.

Department staff produced a set of tables that summarizes the amount of area covered under the trawl proposal and the Oceana proposal, number of tows that occurred in each area, and the amount of catch by area, based on logbook data. Catch data were summarized for the following species categories—petrale, DTS (Dover sole/ thornyheads/sablefish), rockfish, arrowtooth flounder, spiny dogfish, and Pacific cod. A blank cell represents no trawl activity, and a value of 0.0% indicates a value of < 0.1%.

Based on our discussions with groundfish fishery representatives, the Department is willing to include the state waters off the Washington coast (i.e., the area from the shoreline to three miles) as a HAPC alternative. This area represents key habitat for juvenile rockfish and other groundfish species, and adult nearshore species (e.g., black rockfish). This area is currently closed under Washington State regulations to trawl (since 2001) and groundfish-directed fixed gear (since 1996) fisheries and we are proposing that this area be closed to these activities through federal essential fish habitat regulations as well. Inclusion of Washington's coastal state waters would add a significant amount of overall area, which would be closed to trawl and groundfish-directed fixed gear, without additional impact to fishing.

Percent Catch Within Areas off WA and Northern OR

Total Catch Area Name - Oceana (Industry)	Oceana			Industry	
	OR	WA	Total	OR	WA
Olympic 1	1.4%	9.7%	1.8%		
Olympic 2 (Olympic 2)	0.1%	12.3%	1.4%	0.0%	0.7%
Biogenic Area 1 (Deepwater 1)	1.1%	0.7%	0.6%	0.0%	
Biogenic Area 2	0.0%	0.8%	0.1%		
Grays Canyon	0.0%	0.1%	0.0%		
Biogenic Area 3 (Willapa)	0.0%		0.0%	0.0%	
Total	3%	24%	4%	0.0%	0.7%

DTS Area Name - Oceana (Industry)	Oceana			Industry	
	OR	WA	Total	OR	WA
Olympic 1	1.6%	20.3%	2.0%		
Olympic 2 (Olympic 2)	0.0%	12.7%	0.8%	0.0%	5.7%
Biogenic Area 1 (Deepwater 1)	1.4%	1.8%	0.8%	0.0%	
Biogenic Area 2	0.0%	1.9%	0.1%		
Grays Canyon	0.0%	0.2%	0.0%		
Biogenic Area 3 (Willapa)	0.0%		0.0%	0.0%	
Total	3%	37%	4%	0.0%	5.7%

Petrale Sole Area Name - Oceana (Industry)	Oceana			Industry	
	OR	WA	Total	OR	WA
Olympic 1	1.8%	48.4%	13.0%		
Olympic 2 (Olympic 2)	0.6%	4.1%	1.3%	0.0%	0.1%
Biogenic Area 1 (Deepwater 1)	0.4%	0.0%	0.2%	0.0%	
Biogenic Area 2	0.1%	0.0%	0.0%		
Grays Canyon	0.0%	0.0%	0.0%		
Biogenic Area 3 (Willapa)	0.0%		0.0%	0.0%	
Total	3%	53%	15%	0.0%	0.1%

Arrowtooth Flounder Area Name - Oceana (Industry)	Oceana			Industry	
	OR	WA	Total	OR	WA
Olympic 1	1.3%	15.0%	10.4%		
Olympic 2 (Olympic 2)	0.0%	9.4%	6.3%	0.0%	1.3%
Biogenic Area 1 (Deepwater 1)	1.4%	0.1%	0.5%	0.0%	
Biogenic Area 2	0.3%	0.0%	0.1%		
Grays Canyon	0.0%	0.0%	0.0%		
Biogenic Area 3 (Willapa)	0.0%		0.0%	0.0%	
Total	3%	25%	17%	0.0%	1.3%

Pacific Cod Area Name - Oceana (Industry)	Oceana			Industry	
	OR	WA	Total	OR	WA
Olympic 1	0.1%	3.1%	2.3%		
Olympic 2 (Olympic 2)	1.8%	4.4%	3.7%	0.0%	0.2%
Biogenic Area 1 (Deepwater 1)	0.0%	0.0%	0.0%	0.0%	
Biogenic Area 2	0.0%	0.0%	0.0%		
Grays Canyon	0.0%	0.0%	0.0%		

Biogenic Area 3 (Willapa)	0.0%	0.0%	0.0%		
Total	2%	7%	6%	0.0%	0.2%

Spiny Dogfish

Area Name - Oceana (Industry)	Oceana			Industry	
	OR	WA	Total	OR	WA
Olympic 1	0.0%	9.8%	7.1%		
Olympic 2 (Olympic 2)	0.0%	3.8%	2.7%	0.0%	0.6%
Biogenic Area 1 (Deepwater 1)	0.0%	0.0%	0.0%	0.0%	
Biogenic Area 2	0.0%	0.0%	0.0%		
Grays Canyon	0.0%	0.0%	0.0%		
Biogenic Area 3 (Willapa)	0.0%		0.0%	0.0%	
Total	0%	14%	10%	0.0%	0.6%

Rockfish

Area Name - Oceana (Industry)	Oceana			Industry	
	OR	WA	Total	OR	WA
Olympic 1	4.8%	23.5%	7.9%		
Olympic 2 (Olympic 2)	0.5%	5.0%	1.5%	0.0%	0.6%
Biogenic Area 1 (Deepwater 1)	1.8%	0.7%	0.9%	0.0%	
Biogenic Area 2	0.0%	0.9%	0.2%		
Grays Canyon	0.1%	0.0%	0.0%		
Biogenic Area 3 (Willapa)	0.0%		0.0%	0.0%	
Total	7%	30%	11%	0.0%	0.6%

Size Comparison of Areas off WA and Northern OR

(in hectares)

Area Name - Oceana (Industry)	Oceana	Industry	% Diff
Olympic 2 (Olympic 2)	76,005	43,516	-43%
Olympic 1	70,270	0	
Biogenic Area 1 (Deepwater 1)	75,105	168,384	224%
Biogenic Area 2	11,698	0	
Grays Canyon	20,626	0	
Biogenic Area 3 (Willapa)	9,124	12,041	132%
Total	262,828	223,941	-15%

Percent Tows Within Areas off WA and Northern OR

Area Name - Oceana (Industry)	OR	Oceana		Total	Industry	
		WA	Total		OR	WA
Olympic 1	1.2%	13.1%	2.8%			
Olympic 2 (Olympic 2)	0.2%	5.2%	1.0%	0.0%	1.4%	
Biogenic Area 1 (Deepwater 1)	0.8%	0.4%	0.4%	0.0%		
Biogenic Area 2	0.1%	0.6%	0.1%			
Grays Canyon	0.1%	0.1%	0.0%			
Biogenic Area 3 (Willapa)	0.0%		0.0%	0.0%		
Total	2%	19%	4%	0.3%	1.4%	

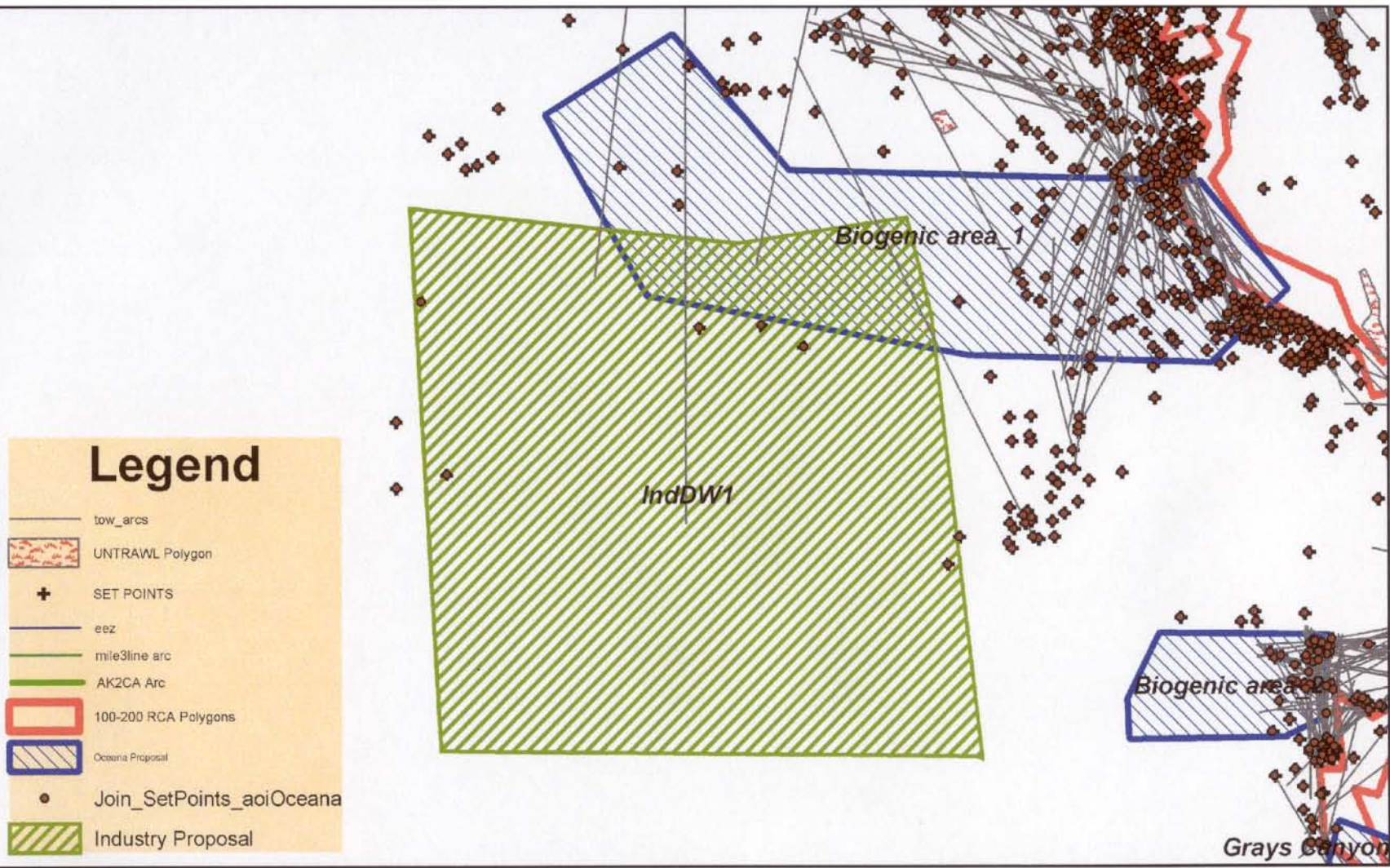
(Note: Blank cells represent no tows; 0.0% is < 0.1%)

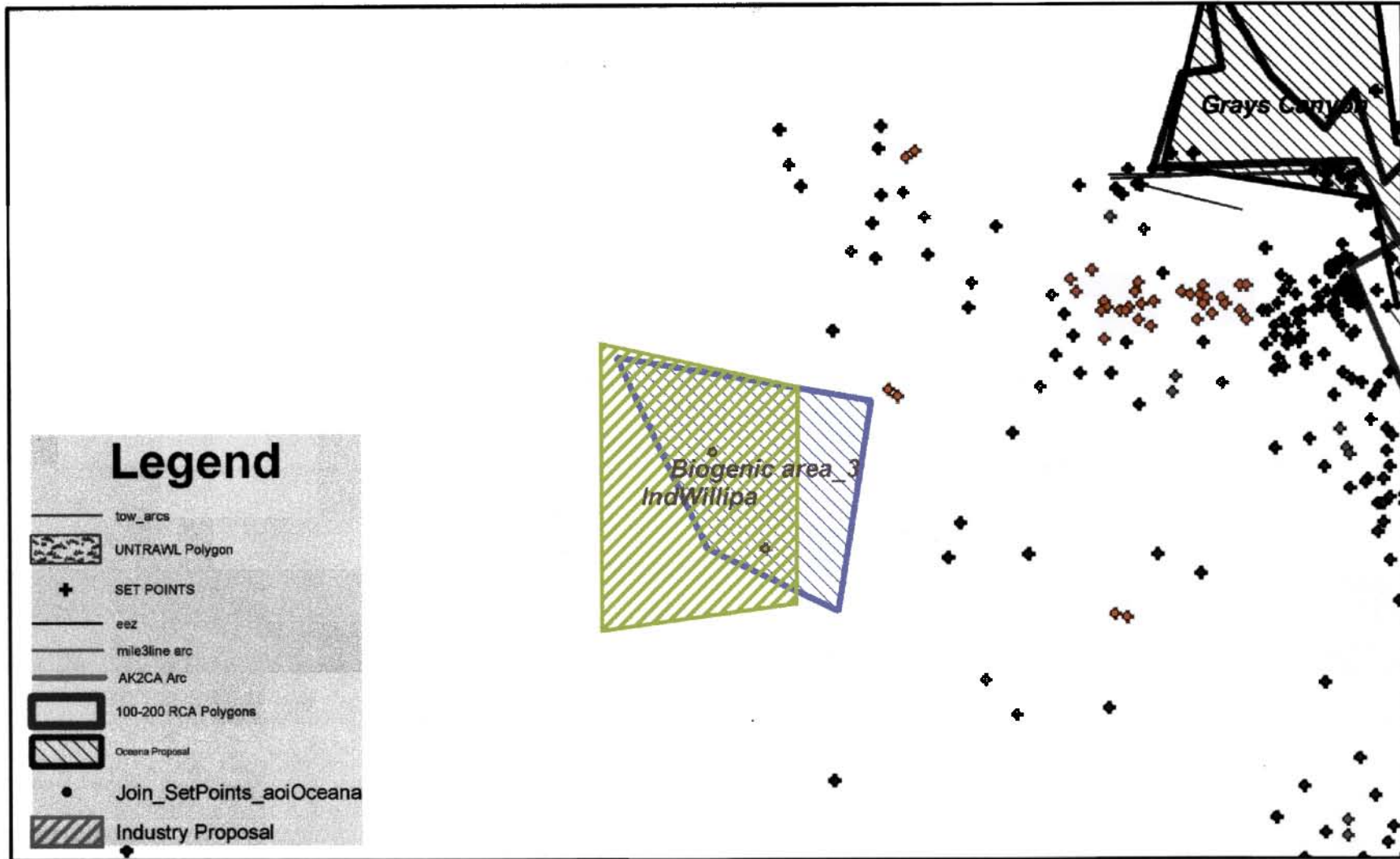
Number of Tows Within Areas off WA and Northern OR

Area Name - Oceana (Industry)	OR	Oceana		Total	Industry	
		WA	Total		OR	WA
Olympic 1	111	548	659			
Olympic 2 (Olympic 2)	21	217	238	2	60	
Biogenic Area 1 (Deepwater 1)	76	17	93	3		
Biogenic Area 2	6	24	30			
Grays Canyon	6	3	9			
Biogenic Area 3 (Willapa)	2		2	2		
Total	222	809	1,031	7	60	

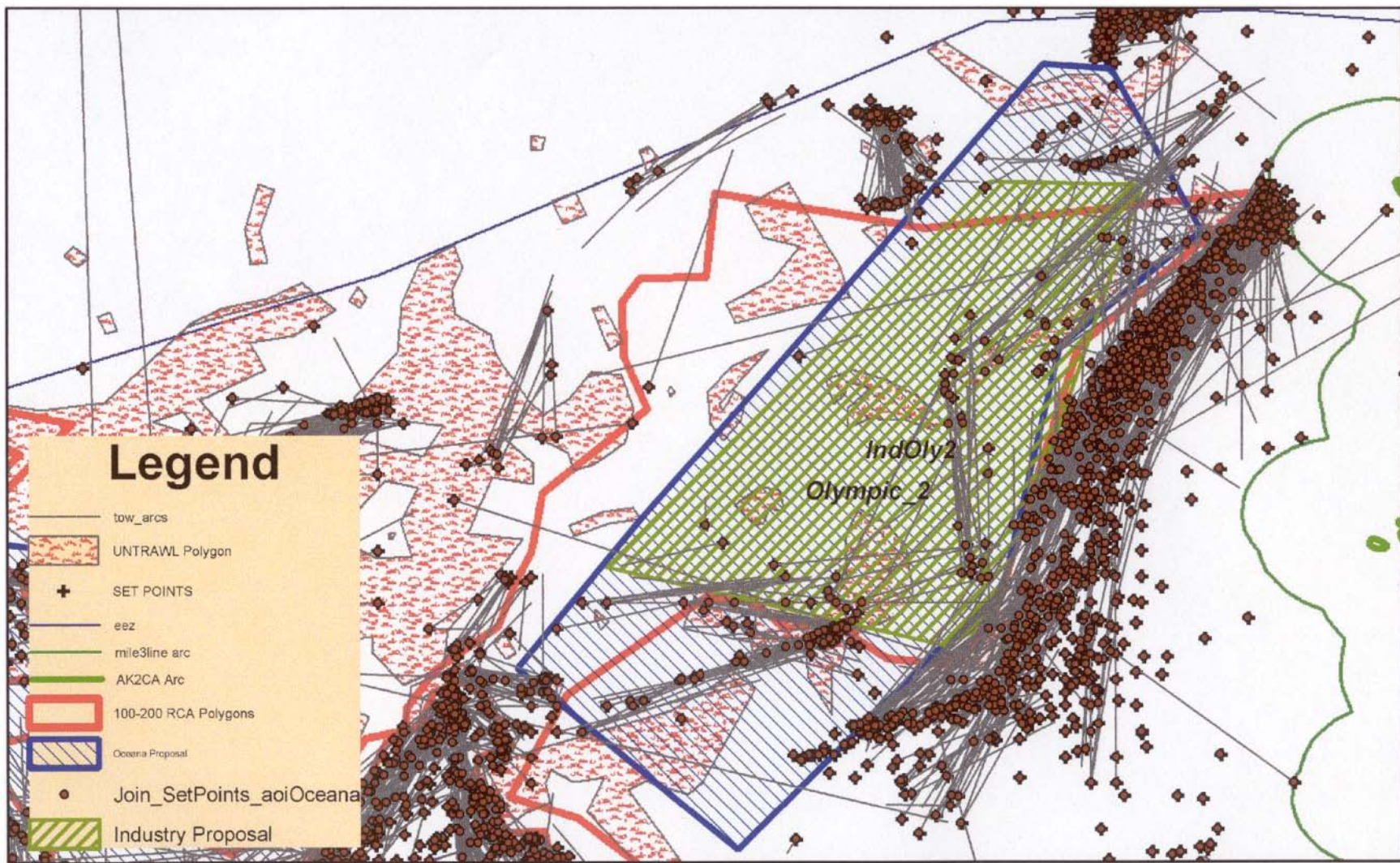
(Note: Blank cells represent no tows; 0.0 is < 0.1)

Trawl Closures Biogenic Areas 1 & 2





Trawl Closures Olympic Area 2



WDFW 04/12/05

Washington, Oregon and California Trawl Logbook Data from 2003



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10
1200 Sixth Avenue
Seattle, WA 98101

Agenda Item C.3.b
US EPA Comments
June 2005

May 11, 2005

Reply To

Attn Of: ETPA-088

Ref: 05-008-NOA

D. Robert Lohn, Regional Administrator
NMFS/NOAA - Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115-0070

Dear Mr. Lohn:

The U.S. Environmental Protection Agency (EPA) has reviewed the draft Environmental Impact Statement (EIS) for **Essential Fish Habitat Designation and Minimization of Adverse Impacts** (CEQ No. 20050049) in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. Section 309, independent of NEPA, specifically directs EPA to review and comment in writing on the environmental impacts associated with all major federal actions and the document's adequacy in meeting NEPA requirements.

The draft EIS evaluates the effects of a strategy to conserve and enhance essential fish habitat (EFH) for fish managed under the Pacific Coast Groundfish Fishery Management Plan (FMP). The EIS includes alternatives for identification of EFH and Habitat Areas of Particular Concern (HAPC), measures to minimize adverse impacts to EFH from fishing activities, and research and monitoring actions to encourage the conservation and enhancement of EFH. The proposed action is to ensure compliance with section 303(a)(7) of the Magnuson-Stevens Act and will amend the Pacific Coast Groundfish FMP.

The EIS provides six alternatives for identifying and designating EFH, nine alternatives for designating HAPC, fourteen alternatives with various options for minimizing adverse fishing impacts to EFH and four alternatives with two expanded logbook program options for research and monitoring. The following tables provide ratings for each of the alternatives and options provided in the EIS.

An overall rating of EC-2 (Environmental Concerns - Insufficient Information) along with a summary of our comments will be published in the *Federal Register*. A copy of the rating system used in conducting our review is enclosed for your reference.

Pacific Coast Groundfish Fishery Management Plan Essential Fish Habitat Designation and Minimization of Adverse Impacts Draft Environmental Impact Statement			
Alternative Designation	Alternative Name	Preliminary Preferred Alt. (Yes/No)	*Rating
Category: Essential Fish Habitat			
A.1	No Action	No	LO
A.2	Depths less than 3,500 m	Yes	EC-2
A.3	100% Habitat Suitability Probability Area	Yes	EC-2
A.4	Habitat Suitability Probability Based on Management Status	No	EC-2
A.5	70% Habitat Suitability Probability Area	No	EC-2
A.6	30% Habitat Suitability Probability Area	No	EC-2
Category: Habitat Areas of Particular Concern			
B.1	No Action	No	EC-2
B.2	Estuaries	Yes	LO
B.3	Canopy Kelp	Yes	LO
B.4	Seagrass	Yes	LO
B.5	Core Habitat	No	EC-2
B.6	Rocky Reefs	Yes	LO
B.7	Areas of Interest	No	LO
B.8	Oil Production Platforms	No	EC-2
B.9	Process for new Habitat Areas of Particular Concern	No	LO

*LO – Lack of Objection

EC-2 Environmental Concerns – Insufficient Information

Pacific Coast Groundfish Fishery Management Plan Essential Fish Habitat Designation and Minimization of Adverse Impacts Draft Environmental Impact Statement			
Alternative Designation	Alternative Name	Preliminary Preferred Alt. (Yes/No)	*Rating
Category: Minimize Adverse Fishing Impacts to Essential Fish Habitat			
C.1	No Action	No	EC-2
C.2.1	Depth-based Gear Restrictions – Option 1	No	EC-2
C.2.2	Depth-based Gear Restrictions – Option 2	No	LO
C.2.3	Depth-based Gear Restrictions – Option 3	No	EC-2
C.3.1	Close Sensitive Habitat – Option 1	No	EC-2
C.3.2	Close Sensitive Habitat – Option 2	No	EC-2
C.3.3	Close Sensitive Habitat – Option 3	No	EC-2
C.3.4	Close Sensitive Habitat – Option 4	No	EC-2
C.4.1	Prohibit Geographic Expansion of Fishing – Option 1	Yes	EC-2
C.4.2	Prohibit Geographic Expansion of Fishing – Option 2	Yes	LO
C.5	Prohibit a Krill Fishery	No	LO
C.6	Close Hotspots	No	EC-2
C.7.1	Close Areas of Interest – Option 1	No	EC-2
C.7.2	Close Areas of Interest – Option 2	No	EC-2
C.8.1	Zoning Fishing Activities – Option 1	No	EC-2
C.8.2	Zoning Fishing Activities – Option 2	No	EC-2
C.9.1	Gear Restrictions: Prohibit Roller Gear Larger than 15 inches	Yes	LO
C.9.2	Gear Restrictions: Prohibit Flat Trawl Doors	Yes	LO
C.9.3	Gear Restrictions: Limit Longline Groundline Length to 3 nm	Yes	LO
C.9.4	Gear Restrictions: Employ Habitat-Friendly Anchoring Systems	Yes	LO
C.9.5	Gear Restrictions: Prohibit Dredge Gear	Yes	LO
C.9.6	Gear Restrictions: Prohibit Beam-Trawl Gear	Yes	LO
C.9.7	Gear Restrictions: Prohibit Set-Gillnets in Waters Deeper than 60 fm	Yes	LO
C.9.8	Gear Restriction: Prohibit Dingle Bar Gear (Troll Groundfish Gear)	Yes	LO
C.10	Central California No-Trawl Zones	Yes	LO
C.11	Relax Gear Endorsement Requirements	Yes	LO
C.12	Close Ecologically Important Areas to Bottom Trawl	Yes	EC-2
C.13	Close Ecologically Important Areas to Bottom-Contacting Gear	Yes	EC-2
C.14	Close Ecologically Important Areas to Fishing	Yes	LO

*LO – Lack of Objection

EC-2 Environmental Concerns – Insufficient Information

Pacific Coast Groundfish Fishery Management Plan Essential Fish Habitat Designation and Minimization of Adverse Impacts Draft Environmental Impact Statement			
Alternative Designation	Alternative Name	Preliminary Preferred Alt. (Yes/No)	*Rating
Category: Research and Monitoring			
D.1	No Action	No	EC-2
D.2.1	Expanded Logbook Program – All Fishing Vessels	No	LO
D.2.2	Expanded Logbook Program – Random Sample	No	EC-2
D.3	Expanded Vessel Monitoring System Program	No	LO
D.4	Research Reserve System	No	LO

*LO – Lack of Objection

EC-2 Environmental Concerns – Insufficient Information

Our concerns with the EIS focus on data limitations and inaccuracies, the roles of NOAA-Fisheries and the Pacific Fisheries Management Council in the development and selection of alternatives, and the need for additional information on the Fisheries Economic Assessment Model and the Environmental Justice analysis. Detailed comments discussing our concerns and the alternatives are provided in the enclosure. EPA recognizes it might not be possible to address all data limitations prior to completion of the final EIS. Consequently, our ratings of the alternatives presented in the EIS reflect our concerns and recommend a protective approach to identifying and minimizing impacts to EFH in light of the stated uncertainties.

Thank you for the opportunity to review this draft EIS. If you would like to discuss these comments in detail, please contact Mike Letourneau at (206) 553-6382.

Sincerely,

/S/ Peter Contreras for

Christine Reichgott, Manager
NEPA Review Unit

cc: J. DeVore, PFMC
K. Dahl, PFMC

Enclosure

**Pacific Coast Groundfish Fishery Management Plan
Essential Fish Habitat Designation and Minimization of Adverse Impacts
Draft Environmental Impact Statement**

General Comments

We support the Habitat Suitability Probability (HSP) approach utilized in the EIS for identifying Essential Fish Habitat (EFH) and the associated sensitivity index approach used for identifying habitat for closure under Alternative C.3. However, due to the current data limitations and reported inaccuracies in some of the data used in the HSP and sensitivity indices, we have concerns about selecting alternatives that utilize these approaches.

We support your efforts to obtain additional high quality data and correct inaccuracies. In addition to expanding the logbook, vessel monitoring system (VMS) and research reserve programs, we support increasing observer coverage and manned and remote sensing devices that are nondestructive to marine habitats. We agree that combining VMS, logbook and observer data would result in a more complete picture of fishing activities and that VMS data with a higher resolution track line of trawl and fixed gear sets would be a significant benefit. We also support efforts to develop new fishing gear that is less destructive of EFH.

We appreciate the discussion on the non-fisheries related activities in the EIS. These activities described in the upland, riverine, estuarine, coastal and marine sections provide good information for evaluating cumulative impacts to EFH. While the suite of groundfish does not include anadromous species, like krill, they are prey species of groundfish and are impacted by the groundfish fishing activities. Consequently, the EIS would benefit from evaluating the extent to which freshwater habitats should be considered essential groundfish habitat and techniques and opportunities for identifying freshwater HAPC.

The EIS states that EFH recommendations from the National Marine Fisheries Service (NMFS) or a Fisheries Management Council (Council) to federal or state agencies are non-binding. The EIS needs to clarify that only the NMFS, not the Council, can provide EFH recommendations to federal or state agencies. In addition, the EIS should discuss how EFH recommendations from NMFS will impact the Council and its processes.

Alternatives for Identification and Description of Essential Fish Habitat (EFH)

As discussed above, we support the HSP approach utilized for identifying EFH, however, the limitations and inaccuracies of the data utilized in this approach could leave some essential habitat for groundfish species unprotected. Therefore, we support the No Action alternative that designates all waters from the mean higher high water line, and upriver extent of saltwater intrusion in river mouths, along the coasts of Washington, Oregon and California to the seaward boundary to the U.S. Exclusive Economic Zone (EEZ) as EFH.

The EIS states that some of the essential fish habitat maps generated from the information collected on the managed species and utilized in some of the Identification and Description EFH alternatives were incorrect. The final EIS should discuss if the essential fish habitat maps generated from the information collected on the managed species inaccuracies have been corrected and if so, the results of those corrections.

The EIS states that the Council and NMFS will attempt to have the methodology for calculating “biogenic areas” peer-reviewed by the Council’s Scientific and Statistical Committee (SSC) during the

draft EIS review period, and that the methodology may be incorporated into the formal adoption of a Fisheries Management Plan (FMP) amendment and regulatory action. The EIS should clarify if such an action would require the development of a supplemental EIS.

The EIS discusses how the Scientific and Statistical Committee (SSC) approved the methodology for developing the indices used in the HSP model, but did not approve the impact function component of the model used for developing the alternatives. The EIS needs to explain why the SSC did not approve the impact function component of the model and if there are plans to obtain their approval prior to the selection of preferred alternatives by the NMFS.

Alternatives for Habitat Areas of Particular Concern (HAPC)

The EIS states that the HAPC alternatives are not mutually exclusive and that all of the action alternatives could be included in a final preferred alternative, even if some of the designated areas were to overlap. While the EIS is clear that HAPC must be a subset of EFH, it must also be clear that if all of the HAPC action alternatives (Alternatives B.2 through B.9) were selected, selection of a preferred EFH alternative would be limited. While the discussion and figures in Chapter 4 of the EIS provide information on what HAPC areas would be excluded under each EFH alternative, it is not clear which EFH alternatives would be excluded by selecting all of the HAPC alternatives. This needs to be clarified in the EIS.

While we support the approach of combining alternatives into a final preferred alternative, we have concerns with Alternatives B.5 (Core Habitat) and B.8 (Oil Production Platforms). The Core Habitat under Alternative B.5 is defined as the upper 10% area of an HSP greater than 0%, for the juvenile and adult life history stages of overfished and precautionary zone groundfish species. Because of the limitations and inaccuracies of the data utilized in the HSP analyses, there is a potential that some HAPC for some of the overfished and precautionary zone groundfish might not be protected under this alternative. Consequently, we have environmental concerns with this proposed alternative.

While there have been high concentrations of groundfish observed in association with many of the oil platforms off the coast of California, including overfished species, it is uncertain if this is a net benefit to the ecosystem. These unnatural structures may be attracting fish populations away from natural reefs, exposing fish to mercury contamination, attracting predators resulting in a net loss to the fish populations, and increasing fishing effort in the area. We recommend that Alternative B.8 be modified to address these concerns. Once it is determined that decommissioned platforms scheduled for removal do not pose a mercury contamination threat, we recommend that the platforms remain in place until such time that it is demonstrated that adequate natural habitat exists and overfished species meet maximum sustainable yield (MSY). Such an alternative would include the benefits these platforms provide to the groundfish species, address the mercury contamination and the potential attraction of fish from natural reefs, and protect the species from increased effort by fishers.

We support a process for new HAPC designations such as the one proposed in Alternative B.9. As additional information is obtained there is the potential for identifying new areas that are important to the survival and sustainability of a species. This information should undergo a technical and public review for consideration as HAPC. Alternative B.9 provides for such reviews in a streamlined process for designating new HAPC.

Alternatives to Minimize Adverse Fishing Impacts to EFH

The proposed alternatives for minimizing adverse fishing impacts on EFH include gear modifications, area closures and fishing effort reductions. Alternative C.2 includes three options for

Depth-based Gear Restrictions. Alternative C.2.2 would prohibit the use of large footrope trawl gear throughout the EEZ and prohibit all fixed gear shoreward of 100 fm north of 40°10' N latitude and 150 fm south of 40°10' N and consequently would be the most protective of EFH. We recommend that Alternative C.2.2 be selected as the preferred alternative.

Alternative C.3 (Close Sensitive Habitat) includes four options all based on sensitivity and recovery indices developed as part of the fishing impact model component of the comprehensive risk assessment. Of the four options, Alternative C.3.4 would provide the most protection, however, because of the limitations and inaccuracies of the data utilized in this modeling effort, there is a potential that some sensitive habitats might not be protected under this alternative. Therefore, we have concerns with these proposed alternatives.

Alternative C.4 (Prohibit Geographic Expansion of Fishing) has two options which generally cover the same geographic area. However, Alternative C.4.1 prohibits fishing in areas that were not trawled between 2000 and 2002, leaving some 10 minute blocks westward of the 2000m contour vulnerable to fisheries impacts. In addition, Alternative C.4.2 accounts for all bottom-tending gear and addresses the lack of geo-referenced fishing effort data for fixed-gear fisheries. Therefore, we recommend that that Alternative C.4.2 be selected as the preferred alternative.

Despite the prohibition of krill fishing in Washington, Oregon and California waters and the lack of a krill fishery in Council managed waters, we believe Alternative C.5 (Prohibit a Krill Fishery) would be a good preventative measure to protect this important prey species and its habitat. We understand that the Council has elected to address this issue by incorporating krill as a management unit species in the Coastal Pelagic Species FMP, potentially eliminating the need for Alternative C.5. The EIS should discuss if incorporating krill as a Coastal Pelagic Species in the FMP would be as effective as Alternative C.5 and which process could be implemented in the shortest amount of time. If both processes are equally protective of krill, the least time consuming process should be implemented.

Alternative C.6 (Close Hotspots) would prohibit trawling in habitat that has a high probability of being EFH for a large number of groundfish based on the HSP modeling analyses. Because of the limitations and inaccuracies of the data utilized in the HSP modeling, there is a potential that some EFH might not be protected under this alternative. Alternative C.2.2 would prohibit trawling and all fixed gear over a larger geographic area including the area that would be protected by Alternative C.6. Therefore, we recommend selecting Alternative C.2.2 as the preferred alternative instead of Alternative C.6.

Alternative C.7 (Close Areas of Interest) calls for closing the areas of interest designated under Alternative B.7 to fishing either to bottom trawling (Alternative C.7.1) or to all bottom-contacting activities (Alternative C.7.2). These areas of interest would be based on various HSP sensitivity values depending on gear types. While we recommend that Alternative C.7.2 be given preference above C.7.1 as it would protect more EFH from impacts by fishing gear, we have concerns that some areas might not be protected due to the limitations and inaccuracies in the data utilized in the HSP analyses.

Alternative C.8 (Zoning Fishing Activities) would limit the use of bottom-tending gear to specified zones where the agency determines that such activities can be conducted without altering or destroying a significant amount of habitat. Bottom tending fishing gear would be prohibited in all areas deeper than the 2,000 m contour along the continental slope extending to the maximum westward range of groundfish EFH. There would be a five-year transition period to gear specific zones for the remaining area inside the 2,000 m contour, which would remain open to bottom-tending fishing gear.

During the five-year transition period, NMFS would conduct research to delineate zones where specified fishing activities would be permitted. Alternative Option C.8.1 would establish fishing zones for bottom-contact trawls, dredges, and similar bottom-tending mobile fishing gear. Other bottom-contacting gear including bottom longlines, traps, and pots would not be restricted. Alternative Option C.8.2 would establish fishing zones for all bottom-contacting gear types including bottom longlines, traps, and pots. This alternative would include a gear modification and substitution program that cooperatively involves fishers in the design and testing of new gear. The western boundary of the geographic area covered by Alternative C.8 would be dependent on the Identification and Description EFH alternative selected. If the Alternative A.1 (No Action) Identification and Description EFH were selected, the western boundary of Alternative C.8 would be the boundary of the EEZ.

Alternative C.8 in combination with Alternative A.1 would provide a protective approach westward of the 2000 m contour and control fishing activities within the 2000 m through the establishment of fishing zones that would not be significantly impacted by various bottom contact gear types. While we support the adaptive management approach and the inclusion of fishers in the gear research aspects of the program, the EIS does not provide information on how the NMFS will define 'significant' when determining the amount of habitat that can be altered or destroyed under this alternative. The EIS states that the best scientific information available will be utilized for determining whether unavoidable adverse impacts would be minimal and temporary, however, it does not discuss if the HSP model inputs or other information will be used to make these determinations. It is recommended that the EIS provide additional information on potential approaches for determining the significance of habitat impacts under this alternative.

We support the selection of Gear Restriction Alternative C.9 (all options) as a preferred alternative and believe that all the options should be combined into a single alternative. We also support Alternatives C.10 (Central California No-Trawl Zones), and C.11 (Relax Gear Endorsement Requirements). Alternatives C.12 (Close Ecological Important Areas to Bottom Trawl), C.13 (Close Ecological Important Areas to Bottom-Contacting Gear), and C.14 (Close Ecologically Important Areas to Fishing) are variations of the Comprehensive Collaborative Mitigation Alternative. While Alternatives C.12 and C.13 would restrict trawl fishing and bottom contact gear fishing in these ecologically important areas, they would be left vulnerable to some fisheries impacts. Therefore, we recommend that Alternative C.14 be selected as the preferred alternative.

Research and Monitoring Alternatives

Currently, there is limited data on the distribution of groundfish species and their associated habitats, and habitat-specific productivity. In addition, habitat-specific densities are only available for a few species. We agree that there is a critical need for comprehensive, detailed and accurate information on benthic habitats and associated groundfish assemblages on spatial scales relevant to fisheries management and habitat production. Core nursery grounds and spawning areas need to be identified and protected and there is a need to better understand the relationship between climatic events and abundance, growth, spawning success and survival of groundfish species.

We support the Research and Monitoring alternatives that will obtain information that will better define and minimize impacts to EFH. Including all fishing vessels in the Expanded Logbook Program Alternative (Alternative D.2.1) would provide the largest amount of data for updating and increasing the precision and accuracy of the model inputs used for identifying and minimizing EFH. We acknowledge the added economic impacts expanding the Vessel Monitoring System (VMS) Program (Alternative D.3) would have on fishers. However, the EIS is clear that minimizing impacts to EFH will increase enforcement needs and the VMS program could be utilized to address some of these needs. In addition,

combining VMS, logbook and observer data would result in a more complete picture of fishing activities and VMS data with a higher resolution track line of trawl and fixed gear sets would be a significant benefit. Finally, we support the Research Reserve System (Alternative D.4) as a means of better understanding the effects of fishing on habitat. The EIS is clear that additional information is needed regarding the length of time needed for habitat features and functions to cover from fisheries impacts. Alternative D.4 provides a mechanism to obtain such information.

Fisheries Economic Assessment Model

The EIS needs to provide additional information on the Fisheries Economic Assessment Model. Specifically, the EIS should include a detailed description of the model, the assumptions used in the model and the process that was utilized to rectify the model with groundfish fishery economic data. While the EIS discusses potential economic impacts to fishers, processors and fishing communities based on this model, it also needs to discuss the uncertainty of these predicted economic impacts and how the model, originally developed for the limited entry trawl sector, has been adapted to project economic impacts in all groundfish fisheries.

Environmental Justice

While we agree that the geographic scope of the EIS results in some difficulties in identifying and determining if low income or minority populations will be disproportionately impacted by the proposed actions, we believe that the EIS would benefit from additional discussion on how it obtained meaningful public participation from low income and minority populations that may be impacted by the proposed action. The information presented in Appendix E demonstrates that some areas have higher minority and low income populations than others. For example, The Hispanic Population by State, Port Group, County and Port data presented in Appendix E shows that the percentage of the population in Santa Barbara that is Hispanic (54.28%) is higher than any other area. The EIS should discuss what measures were taken to assure that the Hispanic population in the Santa Barbara area was afforded the opportunity for meaningful participation in the process for the proposed action. In particular, the EIS should describe what was done to target the Hispanic communities of Santa Barbara, whether materials regarding the proposed action were translated into Spanish, and if there were translators present during public meetings held in the Santa Barbara area. In addition, the EIS should describe what feedback was received from the Santa Barbara Hispanic communities and how that was incorporated into the decisions for the proposed action.

The EIS should describe what was done to inform all low income and minority communities about the proposed action and the potential impacts it will have on their communities (notices, mailings, fact sheets, briefings, presentations, exhibits, tours, news releases, translations, newsletters, reports, community interviews, surveys, canvassing, telephone hotlines, question and answer sessions, stakeholder meetings, and on scene information), what input was received from the communities, and how that input was utilized in the decisions that were made regarding the proposed action.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Silver Spring, Maryland 20910

May 25, 2005

Donald K. Hansen, Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 200
Portland, Oregon 97220

Dear Chairman Hansen:

We appreciate the recent efforts of the Pacific Fishery Management Council (PFMC) to consider the request from the National Oceanic and Atmospheric Administration (NOAA) that the PFMC draft fishing regulations under the National Marine Sanctuaries Act to protect the Cordell Bank National Marine Sanctuary and for the proposed addition of the Davidson Seamount to the Monterey Bay National Marine Sanctuary. Your efforts reflect a positive level of partnership between the PFMC and the national marine sanctuaries on the west coast. I thank you and your colleagues for their leadership.

Your April 22, 2005 letter to the National Marine Sanctuary Program (NMSP) suggests that the fishing regulations proposed to protect these sanctuaries are more properly adopted under the Magnuson-Stevens Fisheries Conservation and Management Act. We understand that the June 2005 meeting of the PFMC will consider the Draft Environmental Impact Statement (EIS) for the Pacific Groundfish Essential Fish Habitat (EFH) program, and later meetings will address the regulatory strategies necessary to implement the selected alternatives.

Staff of the NMSP and NOAA Fisheries Service are actively discussing the proposal to adopt fishing regulations under the Magnuson-Stevens Act to protect the Cordell Bank and Davidson Seamount. Should NOAA adopt this approach, it will be important that your actions on EFH allow for adoption of fishing regulations that can meet the goals and objectives established for the Cordell Bank and Davidson Seamount. The purpose of this letter is to provide technical advice on the combination of EFH alternatives presently under consideration.

Based on an initial review, Alternative A.2, and management Alternatives C.13 and C.14, in the Draft EIS for EFH appear to accomplish the regulatory solution described in your April 22, 2005 letter for the protection of Cordell Bank and Davidson Seamount. We note, however, that portions of the Davidson Seamount area for which the NMSP proposes protection extend to 3,875 m water depth, beyond the 3,500 m water depth described in Alternative A.2. We suggest you consider adding this extra depth for the Davidson Seamount area to Alternative A.2.

Please note that this represents our preliminary assessment of what can be done under this particular pending Council action to promulgate fishing regulations for Cordell Bank and Davidson Seamount. However, this does not preclude the need for possible further action under



the Magnuson-Stevens Act to achieve the goals and objectives of the Sanctuaries with respect to fishing regulations. Thank you for your consideration of this technical advice.

DON,

As I've conveyed to the "other" Don. We sincerely appreciate the Council's perspective and willingness to find the "common ground."

Sincerely,



Daniel J. Basta, Director
National Marine Sanctuary Program

cc: Rebecca Lent, Deputy Assistant Administrator, NOAA Fisheries
Rod McInnis, Southwest Regional Administrator
Robert Lohn, Northwest Regional Administrator
Donald McIsaac, Executive Director, PFMC
Dan Howard, Manager, Cordell Bank National Marine Sanctuary
William J. Douros, Superintendent, Monterey Bay National Marine Sanctuary

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON GROUND FISH ESSENTIAL
FISH HABITAT ENVIRONMENTAL IMPACT
STATEMENT – FINAL PREFERRED ALTERNATIVE

At the March 2005 meeting, the SSC heard an update from Mr. Steve Copps (NMFS) on recent progress in preparing the groundfish EIS for EFH. The updated draft EIS document was distributed in March for further consideration at the April Council meeting. He noted that the present draft of the EIS is substantially changed and addresses many of the concerns expressed previously by the SSC.

Also at the March 2005 meeting, the SSC reviewed the Oceana Methodology for identifying areas of EFH that would be closed to bottom trawling and listened to presentations by Jim Ayers and Jon Warrenchuck (Oceana), and Geoff Shester (Stanford). Oceana's stated objective for EFH is to protect habitat while maintaining vibrant fisheries. The Oceana alternative is included as one of the alternatives in the draft EIS. The Council included the Oceana alternative as preliminary preferred Alternative number 12.

The Oceana approach considers coral and sponge habitats to be of particular importance to groundfish and referred to the EFH final rule, which states that it is not appropriate to require definitive proof of a link between fishing impacts to EFH and reduced stock productivity before Councils can take action to minimize adverse fishing impacts to EFH to the extent practicable.

The Oceana alternative seeks to establish an open trawling area by subtracting the area to be protected from the total fishing area, effectively freezing the bottom trawl footprint. Trawl logbook data from 2000-2003 were used to establish the proposed bottom trawl footprint. Areas within the proposed bottom trawl footprint were identified as areas of EFH that would be closed to bottom trawling based on 5 criteria. Observer data were not explicitly used to identify biogenic habitat, rather they were used to corroborate determinations from other sources. Approximately 14,000 km² of 90,000 km² within the bottom trawl footprint were identified as areas of EFH that would be closed to bottom trawling.

Oceana used multiple criteria to evaluate areas for closure, not just records of structure-forming invertebrates from trawl and submersible surveys. These additional criteria included; 1) a database of areas considered untrawlable during the shelf survey, 2) substrate characteristics (hard bottom habitat, including rocky ridges and rocky slopes), 3) bathymetric features (canyons, gullies and seamounts), and 4) areas with high habitat suitability from the EFH analysis. Areas labeled biogenic in the Ocean alternative were identified primarily from records of structure-forming invertebrates.

At the March meeting a considerable amount of SSC discussion focused on what criteria were used to define areas to be closed to fishing. The SSC noted that trawl survey data are not adequate to formulate a comprehensive model of coral and sponge distribution. An analysis of the density of positive trawl samples (for invertebrates) was used as a basis for drawing polygons enclosing discrete areas. The SSC noted that the analysis, because it is an analysis of positive tows only, is probably not the best metric of habitat forming invertebrate distribution; a presence/absence analysis may be more robust. It is clear that groundfish trawl surveys are not the ideal tool for sampling invertebrate distribution and abundance.

Observer data from bottom trawl fishing vessels, aggregated in blocks, were also analyzed as a secondary data source. Oceana reported that these data corroborated the trawl survey analysis and recommended increased observer coverage to document invertebrate distribution. The SSC noted that increased observer coverage may not be the solution. Special studies are essential to further understand the biogenic structure and its linkage to groundfish production.

Oceana indicated to the SSC its expectation that the Council would provide an analysis of long-term economic benefits of their alternative in the Draft EFH EIS. The SSC notes that such analysis is not feasible without more definitive information on long-term effects of habitat protection on fishery yield.

At the April meeting of the SSC, discussion on EFH again focused on the Oceana methodology. The SSC noted that, while Oceana's work is a good start in beginning the process to identify locations where biogenic habitats may exist, much work is needed to produce reliable and detailed maps showing the spatial distribution of biogenic habitats.

The SSC recommends new, scientifically designed surveys be developed to explicitly assess EFH. Such surveys could employ new technologies utilizing undersea quantitative video deployed on Autonomous Underwater Vehicles (AUV's), Remote Operated Vehicles (ROV's), and manned submersibles.

The SSC recommends that the Council explore an adaptive approach as it enters into the realm of spatial fisheries management. If planned carefully, incremental gains in knowledge could follow from studies designed to evaluate the effects of fishing (and not fishing) on a habitat-specific basis.

In conclusion:

1. There remains scientific uncertainty as to whether or not sponge and corals are essential fish habitat for the species in the groundfish FMP, but they are longlived and undoubtedly easily damaged by bottom trawling.
2. Trawls were not designed to sample sponge and coral organisms.
3. The NMFS groundfish trawl survey was not designed to identify or sample sponge and coral habitat.
4. Trawl fishery data may not adequately identify biogenic habitat.
5. Given these caveats and data limitations, the SSC considers the Oceana methodology to be a reasonable first attempt at identifying invertebrate distributions. However, the SSC cautions that if this approach is used to designate EFH these designations should be reviewed and modified, if necessary, as data from more appropriate surveys become available.
6. The SSC will incorporate research and data needs with regard to groundfish EFH into the next update of the Council's Research and Data Needs document.

HABITAT COMMITTEE REPORT ON THE GROUND FISH ESSENTIAL FISH HABITAT ENVIRONMENTAL IMPACT STATEMENT

The Habitat Committee (HC) developed this statement on the Groundfish Essential Fish Habitat Draft Environmental Impact Statement (DEIS) through email communication. We reiterate some of the HC's earlier statements, particularly on description of Essential Fish Habitat (EFH), designation of habitat areas of particular concern (HAPC), and research and monitoring, but also have refined our thinking on measures to minimize adverse impacts to EFH due to fishing, after review of the DEIS (February 11, 2005).

Summary of Recommendations of Habitat Committee

- A. Designation of EFH: Adopt Alternative A2**
- B. Designation of HAPC: Adopt B2, B3, B4, B6, B7 and B.9.**
- C. Measures to Minimize Impacts of Fishing:
Adopt elements of C4.2, C7.2, C9.5, C9.6, C.10, and C.12, 13 and 14.**
- D. Research and Monitoring: Adopt a combination of D.2. and D.4.**

The HC believes that the designation, description and protection of EFH, as mandated by the 1996 Sustainable Fisheries Act, is a helpful tool for the Pacific Fishery Management Council. It helps moves fishery management into a broader ecological context and is a step forward in the incorporation of the principles of ecosystem-based management as called for by the U.S. Commission on Ocean Policy (2004), the Pew Ocean Commission (2003) and the U.S. Department of Commerce report to Congress on Ecosystem-based Management (1999).

The preparation of the DEIS to support the Council's upcoming decisions on EFH has focused a great deal of effort and has brought information together that would not otherwise have been available to managers in a usable format. While there are significant gaps and uncertainties in our understanding of marine habitat and the specifics of how changes in habitat condition lead to changes in fishery resource productivity, the process of compiling the available information has been integral in bringing these gaps and uncertainties to light. This, in turn, suggests priority areas for future monitoring and research efforts. The authors of the DEIS have done a remarkable job assembling and depicting alternatives and supporting information with very limited time and resources; they cannot be faulted for the data gaps and uncertainties that remain. Consequently, the DEIS represents a comprehensive compilation of the best information currently available, and is an adequate basis for decision-making by the Council.

The HC understands that industry and environmental groups are likely to come forward with new alternative formulations as refinements to those already presented in the draft DEIS for fishing impact minimization. While we are unable to comment on these hypothetical and unseen alternatives, we offer recommendations on the four decision areas based on the existing published alternatives. We provide a rationale for these recommendations and have prepared a matrix (attached) showing how the existing alternatives help to meet some of these principles.

We hope this is a useful tool that the Council can use to review new alternatives against. In arriving at our recommendations, we considered how each alternative would help achieve the following six principles or objectives:

General Principles

1. Understand impacts of fishing

All habitats, whether marine or terrestrial, experience natural disturbances. Fishing can also represent a disturbance to habitat, and management and conservation attention should be most concerned with disturbances that are quantitatively and/or qualitatively unlike the natural disturbances that marine habitats and constituent organisms experience and are presumably better able to withstand.

We must act with precaution as we seek improved understanding of fishing impacts to habitat of various types and under differing energy regimes. Study of impacts and recovery require areas where specific fishing disturbances can be studied experimentally as well as two types of control areas that are not impacted by any fishing and areas that are open to fishing impacts of all kinds.

As noted in the DEIS, most studies of fishing gear impacts on habitat have been conducted outside of the West Coast region. The HC supports the concept that ecological principles can be applied to data collected during studies of fishing gear impacts on marine habitats in other areas. However, specific studies conducted in this region will strengthen our understanding, particularly in the context of the unique and complex assemblage of species managed under the Council's groundfish FMP.

Areas chosen for study should be broadly representative of all habitat types in which PFMC managed groundfish occur. In particular, they should represent this diversity based on depth, substrate type, latitude and ecoregion (e.g. both above and below Pt. Conception). Many areas in the West Coast Exclusive Economic Zone (EEZ) are not currently fished. We recommend that unfished study areas be selected in collaboration with fishermen from all gear sectors in order to take advantage of these unfished areas and to minimize additional areas closed by regulation (see #6, below).

2. Focus on Priority Habitats

The HC feels that priority habitats that are vulnerable to disturbance by fishing gear, and that warrant protective measures include canopy kelp, seagrasses, seapens, and biogenic structure forming organisms such as corals and sponges that are associated with high relief rocky habitats, canyons, and seamounts.

As noted in the Scientific and Statistical Committee report to the Council in March 2005, the distribution and abundance of priority habitats is poorly understood and warrants further investigation.

3. Protect undisturbed areas

There may be other areas that hold unique habitats that are as yet undiscovered or poorly understood and potentially fragile. These areas should be candidates for future protection. As a precautionary step, the HC recommends that areas that are presently undisturbed should remain that way until better mapping information is available. A number of recent discoveries along the West Coast of unique and poorly studied habitats with associated species support this principle, including: a common, conspicuous, and previously undescribed species of black coral living in the Southern California Bight; multispecies aggregations of a deep-dwelling sculpin and a deep-sea octopod brooding eggs in a fluid seep area on the Gorda Escarpment off California; and methane seeps with associated carbonate rock structures and chemosynthetic communities along the shelf break off Oregon. These recent observations suggest that there are undiscovered unique areas scattered along the West Coast that warrant protection by limiting the expansion of existing fisheries.

4. Protect the forage base

The HC understands that prohibiting a directed krill fishery will take place through another management approach by the Council. The HC is very supportive of this action and encourages the Council to expand protection to all of the currently non-managed forage species as well. Preservation of a healthy forage base that is relied upon by managed groundfish species is an important element in the broader context of habitat protection and ecosystem-based management.

5. Timely implementation of protection measures

While there is substantial learning to be done on this topic, the HC feels that action on EFH protection proceed with a plan for effectiveness monitoring. This would be a precautionary approach with adjustments expected during each 5-year review period.

6. Utilize existing restricted areas to also achieve habitat objectives.

In working to select areas for habitat protection, we encourage the consideration of areas that have already received some protection for other purposes (e.g., bycatch reduction and stock rebuilding) so as to both realize the benefits that are already accruing to habitat from these measures, and to minimize the imposition of new regulatory restrictions on the fishing industry.

The HC understands that the Council has the flexibility to adopt any alternative, or blend of alternatives, provided that it is within the scope of the analyses contained in the draft DEIS. We note how helpful the GIS tool has been in dealing with the habitat-based management options in the DEIS and encourage the Council to use this tool during deliberations considering the various new and existing options. Our recommendations are explained below and accompanied by an attached table.

HC Recommendations on the Alternatives

A. Designation of EFH: Adopt Alternative A.2

The HC recommends adopting EFH Alternative A.2 (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 or 1914 fathoms) as its final Preferred Alternative. This recommendation reflects our belief that the maximum probabilistic approach to determining EFH, as is represented in this alternative, is reasonable given data uncertainties, and that the added precaution of including some areas beyond depths where data become particularly uncertain is also wise. It is our understanding that the proposed EFH designation includes not only substrate, but also the water column above that substrate, including surface waters.

B. Designation of HAPC: Adopt B.2, B.3, B.4, B.6, B.7. and B.9

The purpose of HAPC is to identify areas that 1) possess important ecological functions for groundfish, 2) are sensitive to human-induced environmental degradation, 3) are at risk of stress due to development actions, and/or 4) are rare habitat types for groundfish. We are aware that designating HAPC serves to concentrate attention on potential threats to these habitats, but provides no explicit protection.

The HC recommends that the Council adopt as its final alternative an amalgamation of Alternatives B.2, B.3, B.4, and B.6 (estuaries, canopy kelp, seagrass beds, and rocky reef areas). We also note that areas identified under Alternative B.7.(areas of interest) that are not already encompassed in the previous four draft alternatives have unique geological and ecological features of special value to fisheries and accordingly, many of these are also currently being used as research areas. As such, the HC believes that these areas merit the special attention afforded HAPC designation and deserve incorporation into the Council's final alternative. In addition, the HC recommends that the Council include Alternative 9 in its final alternatives as a mechanism to streamline future HAPC designations based on new information.

C. Measures to Minimize Impacts of Fishing to EFH: Adopt elements of C4.2, C7.2, C9.5, C.10, and C.12, 13 and 14.

The HC notes that while the importance of habitat to marine fishery resources is increasingly recognized, detailed understanding of the relationship of habitat condition to fishery resource productivity on the one hand, and to the individual and cumulative impacts of fishing activities on the other, is still being developed.

In light of the principles and considerations outlined above, the HC recommends adopting some elements of:

Alternative C.4.2 limits expansion of fisheries for all bottom tending gear

Alternative C.7.2 protects areas of interest as identified by HAPC alternative B.7 from all bottom tending gear. We note that this alternative specifically takes advantage of the cowcod closure

area and we recommend identification of a subset of the RCAs also to be identified for closure to encompass all habitat types, depths, and latitudes.

Alternative C.9.5 prohibits the use of dredge gear. Dredge gear is little used, has been or is being phased out, and is known to be destructive to habitat.

Alternative C.10 (Central California buyout and closure) has merit and is very progressive in its approach, but is limited in geographic scope. However, if the private parties involved (fishermen and the Nature Conservancy) jointly agree that this is a productive proposal, we believe that there are habitat benefits that deserve support.

Alternative C.12 is the Oceana alternative relating only to bottom trawl gear, while Alternatives C.13 contains the same areas but closes them to all bottom contacting gear and C.14 closes these areas to all fishing. (The HC thinks that all three approaches should be used in various combinations to meet its principles of allowing protection and research).

Discussion

It is clear that the Council, the scientific community, and the public are developing an increasing awareness that complex habitats of relief, including biogenic habitats such as seagrasses, kelp, corals, sponges and sea-pens are important to the growth and survival of managed species. Consequently, we recommend that the Council's Final Alternative include measures that will afford protection to these priority habitat types. The most direct method to protect these habitat types would be to identify measures that would prohibit fishing with mobile bottom tending gear in these areas. Because many of these features are associated with rocky substrate, the Council may prefer to focus its primary attention on this substrate type.

A comprehensive alternative that addresses specific habitat protection goals and criteria would be useful. One of the Council's most difficult decisions will be whether and how to apply habitat protection measures to only trawl gear or to other bottom-contacting fisheries as well. Our base of information on the spatial distribution and intensity of fixed gear commercial and recreational fisheries, as well as of the habitat impacts of these fisheries, is much less robust than it is for mobile, bottom-tending gear.

The HC recognizes that the Council has been placed in an extraordinarily difficult position of balancing the benefits of habitat protection against the costs of displaced fisheries, in the face of this uncertainty. Fixed gear and recreational fisheries target different species occupying different habitats than many trawl fisheries. However, we understand that fixed gear can impact habitat features through contact of gear, and shearing of lines as gear is retrieved. The HC recommends that the Council take initial measures in a precautionary fashion to protect priority habitat types. The Council should also assure that there is some full and on-going protection of areas that represent a full suite of habitat types, depth and latitude ranges to reflect uncertainty. However, all-encompassing depth-based measures that may have negative consequences to fisheries may be overly broad.

While we think Alternative C.8 to zone fishing activities is an interesting idea, it requires NOAA to do extensive research to demonstrate that any unavoidable adverse impacts would be minimal and temporary. Lack of available funds makes this option impractical. Further, it is silent on criteria to be employed to determine whether an area should be open or closed and much of its protective force would be deferred to the future.

The HC believes that habitat protection through new gear restrictions (Alternative C.9) can be appropriate, particularly if they are readily enforceable and accepted by the fishing industry. The HC recognizes that the Council's action to reduce catch of overfished species, using restrictions on large footrope trawl gear, has also seemed to have had the added benefit of protecting habitat by moving trawl effort off of high relief habitat.

In general, the HC cannot speak to the habitat benefits of the several options under this alternative. Much depends on where the gear is fished, and how it is fished. For example, in high relief areas with abundant emergent invertebrates (e.g. sponges or corals), or low energy environments with little disturbance, infrequent bottom contact by any gear may have a significant habitat impact.

We note that fishing gear is constantly evolving; development of habitat friendly fishing gear should be encouraged. While gear restrictions may act to protect habitat under present conditions and configurations, there are no assurances that the habitat protections envisioned will be maintained through time as gear configurations change. Much will depend on how legal and prohibited gear is defined in future regulations.

D. Research and Monitoring : Adopt a combination of D.2. and D.4.

The HC recommends that the Council adopt a combination of Alternative D.2, option 1 (mandatory logbooks for all groundfish operations) and Alternative D.4 (a system of research closures to provide areas for experimentation and observation of habitat condition in open and closed areas) as its final alternative for research and monitoring.

The HC believes that it is essential that the mandatory five year review of the Council's measures to identify and protect EFH be conducted with a much better understanding of the spatial distribution of habitat types and functions, the spatial distribution fishing activities, and the relationship of habitat condition to fishing activities and the productivity of fishery resources.

Collection of accurate spatial information on non-trawl fisheries is a significant need for the next EFH update. This information needs to provide a comprehensive picture of activity showing seasonal and interannual variability, effort and catch across a wide representation of the fleet. We believe a logbook program provides the best vehicle to collect the needed comprehensive information linking effort, harvest and location. Additionally we suggest the Council retain the option of requiring vessel monitoring systems (VMS) for circumstances where automated collection of precise locational information addresses management or enforcement questions. As the technology becomes available and affordable, adoption of an electronic logbook format should be encouraged to facilitate more broad and rapid use of logbook data.

Evaluation of the Council's measures to protect habitat from adverse effects of fishing, and of fishing impacts to habitat are essential to understanding whether any restrictions to fishing activities are warranted and justified. Developing these evaluations through carefully structured comparisons of open, closed and experimental areas that are matched for habitat type (substrate, depth and latitude) is necessary in order to clearly differentiate changes that are the result of Council management and conservation actions, as opposed to changes that may result from broader changes in oceanographic conditions and recruitment events. Clearly, implementation of research or conservation closures requires that goals and objectives be identified, as well as mechanisms for siting and monitoring. This is a topic the Council has endorsed in its MPA policy white paper. The HC encourages the Council to actively support funding to the participating agencies and universities for the necessary research to meet this goal.

Additionally, a specific plan for monitoring the effectiveness of the adopted EFH measures should be identified and funded so we can evaluate their effectiveness during the mandatory 5 year EFH review.

**Habitat Committee Analysis of
Groundfish EFH DEIS Fishing Impact Minimization Alternatives**

(alternatives shown in **bold outline** are Council preliminary preferred Alternatives)

Principles → Fishing Impact Minimization Alternatives↓	Provides on-going protection of sensitive or special habitats from gear with bottom contact		Areas with little disturbance remain undisturbed		Utilizes existing closed or unfished areas		Considers prey base (other food chain interactions?)	Implementation to begin near-term
	all bottom contacting gear	all bottom trawl gear	all bottom contacting gear	all bottom trawl gear	all bottom contacting gear	all bottom trawl gear		
C.1 No action								X
Depth Based								X
C.2. 1. No large footrope trawl shoreward of 200 fm and no fixed gear shoreward of 100 fm								X
C.2.2. no large footrope trawl throughout the EEZ and no fixed gear shoreward of 100 fm								X
C.2.3. no large footrope trawl gear shoreward of 200 fm and no fixed gear shoreward of 60 fm								X
Close Sensitive Habitat								X
C.3.1. sensitive areas with low existing trawling efforts (higher threshold) closed to all fishing (all gear types)	X	X	X	X				X
C.3.2. sensitive areas (lower threshold) with low existing trawl effort closed to all fishing (all gear types)	X	X	X	X				X
C.3.3.same as .1 except no adjustment made for trawl effort	X	X	X	X				X
C.3.4. same as .2 except no adjustment made for trawl effort	X	X	X	X				X

Principles → Fishing Impact Minimization Alternatives ↓	Provides on-going protection of sensitive or special habitats from gear with bottom contact		Areas with little disturbance remain undisturbed		Utilizes existing closed or unfished areas		Considers prey base (other food chain interactions?)	Implementation to begin near-term
	all bottom contacting gear	all bottom trawl gear	all bottom contacting gear	all bottom trawl gear	all bottom contacting gear	all bottom trawl gear		
Prohibit Geographic Expansion of Fishing								
C.4.1. Trawl fisheries would be prohibited from fishing in areas that were untrawled during 2000-2002		X		X		X		X
C.4.2. All bottom tending gear types prohibited from fishing west from the 1094 fm contour	X	X	X	X	X	X		X
Prohibit a Krill Fishery								
C.5. Designate krill as a component of EFH and prohibit fisheries that target it.							X	X
Close Hotspots								
C.6. Prohibit bottom trawling in areas that have high habitat suitability (greater than 20%) for more than 50 species or life stages (results in most waters shallower than 200 m being closed to bottom trawling)		X						X
Close Areas of Interest								
C.7.1 close certain HAPC areas (Alt. B.7 areas) to bottom trawling		X				X (cowcod closure area)		X
C.7.2. close certain HAPC areas (Alt. B.7) to all bottom contacting fisheries	X	X			X (cowcod closure)	X (cowcod closure)		X

Principles → Fishing Impact Minimization Alternatives ↓	Provides on-going protection of sensitive or special habitats from gear with bottom contact		Areas with little disturbance remain undisturbed (limits expansion of fisheries)		Utilizes existing closed or unfished areas		Considers prey base (other food chain interactions?)	Implementation to begin near-term
	all bottom contacting gear	all bottom trawl gear	all bottom contacting gear	all bottom trawl gear	all bottom contacting gear	all bottom trawl gear		
Zoning Fishing Activities								
C.8.1. Fishing zones established for bottom tending mobile gear within 5 years where research shows unavoidable impacts would be minimal and temporary; no fishing outside 2000 m contour immediately		?		X (outside of 2000 m only)		?		outside of 2000 m only
C.8.2 Fishing zones established for all bottom contacting gears within 5 years where research shows unavoidable impacts would be minimal and temporary; no fishing outside 2000 m for all bottom contacting gear immediately	?	?	X (outside of 2000 m only)	X (outside of 2000 m only)	?	?		outside of 2000 m only
Gear Restrictions in areas identified as EFH for groundfish								
C.9.1. prohibit roller gear larger than 15 inches								X
C.9.2. prohibit the use of flat trawl doors								X
C.9.3. Limit the length of a single longline groundline to 3 nm								X
C.9.4. employ habitat friendly anchoring								X
C.9.5. prohibit dredge gear	dredge gear only							X
C.9.6. prohibit beam trawl gear	beam trawl gear only							X
C.9.7. prohibit set gillnets beyond 60 fm	set net gear only							X
C.9.8. prohibit dingle bar gear	dingle bar							X

(troll groundfish gear)	gear only							
Principles → Fishing Impact Minimization Alternatives ↓	Provides on-going protection of sensitive or special habitats from gear with bottom contact		Areas with little disturbance remain undisturbed (limits expansion of fisheries)		Utilizes existing closed or unfished areas		Considers prey base	Implementation to begin near-term
	All bottom contacting gear	all bottom trawl gear	all bottom contacting gear	all bottom trawl gear	all bottom contacting gear	all bottom trawl gear		
Central California No Trawl Zones								
C.10. buyout of 50% of groundfish trawl permits with corresponding bottom trawling closure		X		X		X		?
Relax Gear Endorsement Requirements								
C.11. allows permit holders to switch gear types; may benefit habitat if trawl gear fishermen switch to pot or trap gear								X
Close Ecologically Important Areas to Bottom Trawl Gear								
C.12. Alternative restricts bottom trawling to existing open areas, closes sensitive habitat areas and areas closed to trawling 2000-2003 (existing management closures), limits roller gear size, requires ongoing research and monitoring (Oceana alternative)		X		X		X		X
C.13. Same as C.12 but areas closed to all bottom-contacting gear	X	X	X	X	X	X		X
C.14 Same as C.12 but areas closed to all fishing	X	X	X	X	X	X		X

GROUND FISH MANAGEMENT TEAM REPORT ON ESSENTIAL FISH HABITAT ENVIRONMENTAL IMPACT STATEMENT

At the May Groundfish Management Team (GMT) meeting, the GMT had conversations with Eileen Cooney and Steve Copps from NOAA Fisheries regarding the timeline for Essential Fish Habitat (EFH) implementation and clarification of joint state/federal management; and received presentations from the trawl industry and Oceana regarding their new and revised alternatives to C.12. The GMT believes the current Draft Environmental Impact Statement (DEIS) contains sufficient information for the Council to take final action at this meeting. This is a preliminary GMT report on the EFH EIS. The GMT anticipates having further discussions and presenting a supplemental report at the June Council meeting.

To facilitate the development of regulations for implementing EFH, the GMT believes Council action in June should be as specific as possible relative to the action that will be taken, provided there is flexibility to address overlaps and gaps with existing regulations (e.g., Rockfish Conservation Areas [RCAs]) for management and the ease of enforcement. The GMT cautions the Council against selecting alternatives that are difficult to translate into regulations, such as selecting depth contours instead of coordinates to define areas.

The GMT recommends the results of Council action in June (i.e., the impacts of the preferred alternative) be presented at the September Council meeting to facilitate Council action on the draft plan amendment and implementing regulations. The GMT requests that the resulting habitat protection, trawl impact, and economic impacts of the preferred action be included. Additionally, the GMT recommends NMFS dedicate resources to conduct Geographic Information System (GIS) analyses of the preferred alternative and implementing regulations and that development and review of implementing regulations would be jointly developed by the GMT, Groundfish Advisory Subpanel, and Enforcement Consultants at the September and November Council meetings.

The GMT also recommends that EFH and Habitat Areas of Particular Concern (HAPC) designations be included in the Groundfish Fishery Management Plan (FMP) and then be specified in regulations.

Alternatives for Designation of EFH

The GMT understands that designating EFH results in a definition of the area in which consultation requirements would apply (i.e., consultation on fishing and non-fishing activities which may adversely affect EFH). The GMT notes that, while the DEIS is a thorough compilation of existing groundfish habitat data, the quantity of data in many instances is sparse and the level of resolution is coarse. The GMT believes that habitat for all groundfish species in the FMP needs to be protected, regardless of status (i.e., overfished and non-overfished stocks); therefore the GMT supports the Council's preferred alternatives (Alt. A.2 and Alt. A.3) for the designation of EFH.

Alternatives to Designate Habitat Areas of Particular Concern

The GMT supports the Council's preferred alternatives (Alts. B.2, B.3, B.4, and B.6) for designation of HAPC (estuaries, canopy kelp, seagrass, and rocky reefs). The habitat areas which have been determined to need the most protection at this time are covered within the current suite of preferred alternatives. The GMT understands the need for the Council to have maximum flexibility in regards to HAPC designation, as habitat and stock information becomes available that may guide future designations as well as adjustments to current HAPC areas.

The GMT recommends that the Council consider selecting a combination of HAPC alternatives, even if the resulting maps of the areas overlap one another. This is because, as more stock information becomes available and species move in and out of the overfished and/or precautionary categories, the additional designation of nearshore rocky reef areas would still afford protection to the current area of overlap.

As stated previously in November 2004, the GMT also recommends that a consistent approach be applied to HAPC alternatives. Specifically, with regard to HAPC alternative B.7 (designating certain areas of interest as HAPCs), the criteria for these areas is not apparent, and their selection appears random. It appears these areas were not selected by a pre-determined set of criteria, but were chosen and then justified based on the results.

The GMT understands that the process to adjust EFH designations and components such as HAPCs would require an amendment to the Groundfish FMP. The GMT recommends a four-year review period that aligns with the biennial management and specifications process. This gives the Council flexibility to adjust EFH and HAPC designations as new and improved habitat data become available. However, it is unclear as to whether the maps depicting the areas designated as HAPCs would automatically be updated as more habitat data become available. If the maps are automatically revised with new data, then the GMT does not believe that alternative B.9 (a process to consider proposals for HAPC designation outside the review period) would be necessary.

Alternatives to Minimize Adverse Impacts to EFH

In November 2004, the GMT clarified that the commercial and most of the recreational area closures that are currently in place are for the purposes of protecting overfished species. In recommending those area closures, the GMT did not consciously propose them as habitat protection measures. The depth contours chosen for RCA boundaries—both trawl and non-trawl—are proxies for the areas in which specific rockfish species occur and are most abundant in their adult life stage (based on fishing and survey data), and are used in conjunction with available NMFS observer data (stratified by depth of fishing activity) to assist the Council in estimating impacts to overfished species. As new stock status information becomes available and/or as more information becomes available to further refine the closed area (e.g., through the use of "hotspots" or "coldspots"), areas which were previously closed may become accessible in the future. Therefore, the GMT does not believe the RCA boundaries should form the bases for habitat protection measures, such as those specified in C.2.

However, the GMT does note that, until sufficient information is collected to manage the groundfish fisheries through the use of hotspots, the current RCAs (or some form of them) will

likely remain in place to achieve rebuilding strategies for overfished rockfish. In order to adequately manage fisheries by strictly using hotspots (as a replacement for RCAs), the GMT would need spatial data on habitat types and information on the relationship between different habitat types and groundfish stocks. It is anticipated that, given the long-lived nature of most of the overfished species and the length of time needed for those stocks to rebuild, and the lack of data needed for hotspot management, the RCAs will likely remain in place for an extended period of time, and the cumulative economic impact of these trawl closures should be considered in conjunction with any additional measures related to habitat protection.

In reviewing the draft EIS, there was little to no discussion about how proposed measures to mitigate fishing impacts on EFH would be implemented in conjunction with current management. The GMT recommends that a discussion of how the proposed closed areas would mesh with current closed areas, such as RCAs, from a management (and enforcement) perspective be included in the final EIS.

Also, the GMT does not support alternative C.3 (close 25% of representative habitat to all fishing) as the GMT does not believe that sufficient data are available to demonstrate that areas need to be closed to all fishing for the purposes of habitat protection; this alternative would be better addressed in the Council's discussions on marine reserves.

With regard to "hotspots" (alternative C.6), as described above, the GMT believes this management tool should be used to address species-and-gear-specific areas based on fishing and/or research data (such as those data collected through exempted fishing permits). The use of "hotspots" is currently available to the Council and should be considered as part of the broader biennial management process. However, the GMT notes that the use of the term "hotspots" in alternative C.6, and in the EFH EIS in general, is different because it refers to areas of high biodiversity.

The GMT does not support alternative C.7 as it is linked with HAPC alternative B.7 for the reasons described above.

With regard to alternative C.8 (zoning), the GMT recommends that fishing restriction alternatives be limited to the area within the HAPC-designated area (i.e., not be broader than the HAPC area). This alternative would require zoning to be considered within the entire EFH-designated area. Secondly, the zoning and evaluation criteria are undefined making it difficult to predict (and subsequently analyze) the possible outcomes of this effort. As with alternative C.3, this alternative may be better addressed as part of the Council's consideration of marine reserve initiatives.

The GMT understands that legally the Council does have the ability to take mitigation measures outside of whatever is designated as EFH and that re-evaluation is for designation of EFH as well as the management measures associated.

The GMT anticipates having further discussions in June on alternatives to minimize adverse impacts to EFH and may include further recommendations in a supplemental statement.

The GMT believes that the preferred alternatives to minimize adverse impacts to EFH all have merit from a habitat perspective; however, the GMT does not support alternative C.11 (relax gear

endorsements) in its present form, but we would support a modification to alternative C.11 which only permits fishers with a trawl gear endorsement to switch to fixed gear. The GMT believes alternative C.14 (close ecologically important areas to all fishing) is better addressed through the Council's marine reserves initiatives.

Alternatives for Research and Monitoring

The GMT believes that alternatives D.2 (expanded logbook program), D.3 (expanded Vessel Monitoring System [VMS]), and D.4 (research reserve system) all have merit and would enhance the understanding of spatial fishing effort, habitat condition, and the relationship of habitat to stock productivity.

Spatial data on fisheries other than Limited Entry (LE) trawl are currently not collected or are not made available in a database to managers. Given that non-trawl fisheries occur in locations that often differ from trawl fisheries and given a lack of information on the location of other fisheries, it is difficult to identify the non-trawl footprint, and to identify areas that are economically critical to the continued survival of fisheries other than LE trawl. While systems like VMS are necessary for enforcement and would certainly enhance the understanding of spatial effort, the GMT believes that spatial data systems linking catch to fishing location – such as logbooks – would prove more useful for research as these systems could be used to a) establish the current footprint for those fisheries, b) enhance knowledge regarding fishing within certain areas by collecting information such as catch per unit of effort, and c) identify areas that are economically critical for those fisheries to better address practicability considerations under EFH management. However, it is the GMT's understanding that current agency resources may not be adequate to expand logbook systems. Therefore, the GMT recommends that logbook systems be expanded to the extent feasible as resources become available. In addition, in order to adequately analyze existing and future spatial information, the GMT requests that NMFS increase its GIS capabilities for use in groundfish management.

The current understanding of habitat recovery and habitat's relationship to groundfish management is not well understood. A system of research reserves would prove valuable in furthering this understanding. The GMT believes that a well designed research reserve system would take into account existing reserves, encompass a variety of habitat types across depths and latitudes, and would exclude certain bottom impacting gear types from those areas—to varying degrees—in order to assess the impact specific gears have on habitat. Some of those reserves may prohibit all gears that interact with groundfish, others may exclude all bottom-tending gear, and some may exclude or include individual gear types. In addition, any research system should correspond to fishing impact mitigation measures in order to assess the success of those measures.

Finally, the GMT believes that existing programs would prove valuable in increasing the understanding of habitat and location of fishing effort. The GMT believes that VMS and observer data should be made readily available so that managers are better able to assess issues such as coral catch and location of fishing effort to assist in meeting the multiple mandates of the groundfish FMP and Magnuson-Stevens Act.