

# **DRAFT**

## **Environmental Assessment/Regulatory Impact Review/Regulatory Flexibility Analysis**

**For**

### **Expanded Coverage of the Program to Monitor Time-Area Closures in the Pacific Coast Groundfish Fishery**

(Tiered from "The Program to Monitor Time-Area Closures in the  
Pacific Coast Groundfish Fishery" - July 2003)

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**August 2004**



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## **1.0 INTRODUCTION**

The groundfish fishery in the Exclusive Economic Zone (EEZ), 3 to 200 nautical miles off of the Washington-Oregon-California (WOC) coast is managed under the Pacific Coast Groundfish Fishery Management Plan (FMP). The Pacific Coast Groundfish FMP was prepared by the Pacific Fishery Management Council (Council) under the authority of the Magnuson Fishery Conservation and Management Act (subsequently amended and renamed the Magnuson-Stevens Fishery Conservation and Management Act). The Pacific Coast Groundfish FMP was approved by the Assistant Administrator for Fisheries, National Oceanic and Atmospheric Administration, on January 4, 1982 and became effective on September 30, 1982.

Actions taken to amend FMPs or to implement regulations to govern the groundfish fishery must meet the requirements of several federal laws, regulations, and executive orders. In addition to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), these federal laws, regulations, and executive orders include: National Environmental Policy Act (NEPA), Regulatory Flexibility Act (RFA), Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), Coastal Zone Management Act (CZMA), Paperwork Reduction Act (PRA), Executive Orders (E.O.) 12866, 12898, 13132, and 13175, and Migratory Bird Treaty Act.

The regulations that implement NEPA permit NEPA documents to be combined with other agency documents to reduce duplication and paperwork (40 CFR §§1506.4). NEPA, E.O. 12866 and the RFA require a description of the purpose and need for the proposed action as well as a description of alternative actions that may address the problem. The purpose and need for this action and general background materials are included in Section 1 of this document. Section 2 describes a reasonable range of alternative management actions that may be taken under the proposed action. In accordance with NEPA requirements, Section 3 contains a description of the physical, biological and socio-economic characteristics of the affected environment. Section 4 examines the physical, biological and socio-economic impacts of the management options as required by NEPA, E.O. 12866 and the RFA. Section 5 addresses the consistency of the proposed actions with the FMP, Magnuson-Stevens Act, ESA, MPA, CZMA, PRA, E.O. 12866, E.O. 13175 and the Migratory Bird Treaty Act. The Regulatory Impact Review required by E.O. 12866 to address the economic significance of the action, and the Regulatory Flexibility Analysis required by the RFA to address the impacts of the proposed actions on small businesses are found in Section 6. Section 7 presents a list of individuals who assisted in preparing the EA and Section 8 is the list of references. The NEPA conclusions are in a memorandum that accompanies this document.

### **1.1 Proposed Action**

The proposed action is to require vessels using specific open access gears fish pursuant to the harvest guidelines, quotas, and other management measures governing the open access fishery in federal waters to carry and use mobile Vessel Monitoring System (VMS) transceiver units while fishing in state and federal waters off the coasts of Washington, Oregon and California and to identify their intent to fish within a conservation area, in a manner that is consistent with federal conservation area requirements. This action will enhance monitoring of compliance with large-scale depth-based restrictions for fishing across much of the continental shelf and is intended to further the conservation goals and objectives of the Pacific Coast Groundfish Fishery Management Plan (FMP) by allowing fishing to continue in areas and with gears that can harvest healthy stocks with little incidental catch of low abundance species (overfished species).

## 1.2 Background

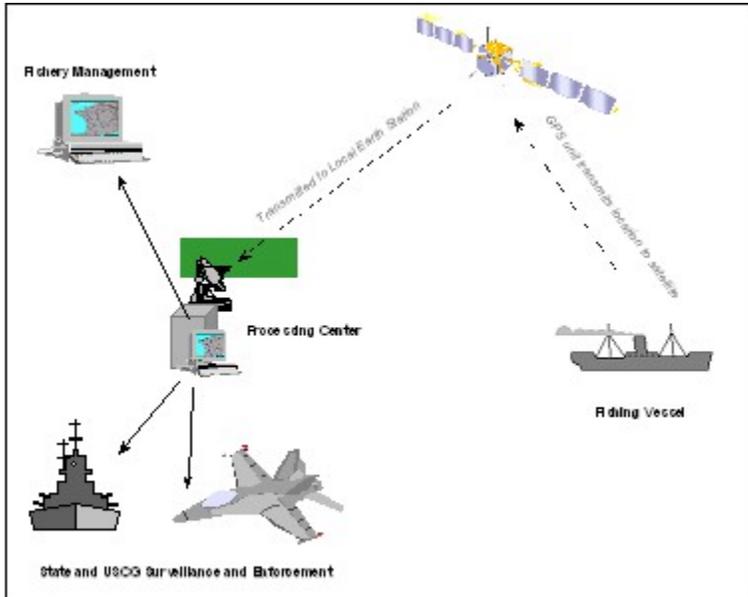


Figure 1.1 Example VMS Scenario

VMS is a tool that is commonly used to monitor vessel activity in relationship to geographically defined management areas where fishing activity is restricted. VMS transceivers installed aboard vessels automatically determine the vessel's location and transmit that position to a processing center via a communication satellite. At the processing center, the information is validated and analyzed before being disseminated for fisheries management, surveillance, and enforcement purposes. VMS transceivers document the vessel's position using Global Positioning System (GPS) satellites. Depending on the defined need, position transmissions can be made on a predetermined schedule or upon request from the processing center. VMS transceivers are designed to be tamper resistant. The vessel operator is unable to alter the signal or the time of transmission and in most cases the vessel operator is unaware of exactly when the unit is transmitting the vessel's position. Figure 1.1 illustrates the flow of information from a VMS system.

Amendment 13 to the Pacific Coast Groundfish FMP recognized the value of VMS in enforcing closed areas that are established to reduce bycatch of overfished species. Amendment 13 also identified VMS as a technological tool that could be used to improve bycatch management by providing fishing location [data that can be used in conjunction with observer data collections](#).

NMFS requires that VMS systems meet defined standards (September 23, 1993, 58 FR 49285; March 31, 1994, 59 FR 151180) to assure compatibility with the national monitoring center, while recognizing the need to promulgate regulations and approve systems on a fishery-by-fishery basis. All approved units must be consistent with the basic features identified and endorsed by NMFS; however, additional features may be added to better meet the specific needs of a particular fishery. VMS transceiver units approved by NMFS are referred to as type-approved models.

To monitor compliance with large-scale depth-based restrictions, the Council recommended at its November 2002 meeting that NMFS, in consultation with the ad hoc VMS Committee, prepare a rule for a pilot VMS program for implementation in 2003. The Council chose the alternative to require a basic VMS system with one-way communications and declaration reports. The recommendation was considered to be a pilot program because initial coverage would only be for vessels registered to limited entry permits. Based on the Council's recommendation, a proposed rule requiring vessels registered to Pacific Coast groundfish fishery limited entry permits to carry and use VMS transceiver units while fishing off the coasts of Washington, Oregon and California was published on May 22, 2003 (FR 86 27972), followed by a final rule on November 4, 2003 (68 FR 62374). In addition to the VMS requirements, the rule required operators of any vessel registered to a limited entry permit and any other commercial or tribal vessel using trawl gear, (including exempted gear used to take pink shrimp, spot and ridgeback prawns, California halibut and sea cucumber) to declare their intent to fish within a conservation area specific to their gear type and in a manner consistent with conservation area requirements. This program, which was intended to further the conservation goals and objectives of the FMP by allowing fishing to continue in areas and

with gears that can harvest healthy stocks with little incidental catch of low abundance species, became effective on January 1, 2004.

On November 17, 2003 (68 FR 64860,) NMFS published an additional notice identifying VMS transceiver units and providers that qualified as type approved for the Pacific Coast groundfish fishery.

### **1.3 Purpose and need for action**

Large-scale depth-based restricted areas, referred to as groundfish conservation areas (GCAs), have been used since 2002 to prohibit or restrict commercial and recreational fishing on much of the continental shelf. The GCAs are bounded by depth ranges where overfished rockfish species are commonly found and where certain fishing activities are restricted or prohibited. The boundaries used to define the conservation areas can be complex, involving hundreds of points of latitude and longitude to delineate fathom curves. The Rockfish Conservation Areas (RCAs), which were designed to protect overfished rockfish species, are gear specific areas that are vast and extend along the entire West Coast from Canada to Mexico.

Deep-water fisheries on the slope and nearshore fisheries have been permitted in areas seaward or shoreward of the RCAs. Vessels intending to fish in deep-water and slope fisheries seaward of the westernmost boundary of an RCA are allowed to transit through the areas providing the gear is properly stowed. In addition, some fishing, such as midwater trawling for pelagic species, shrimp trawling with finfish excluders and various state-managed fisheries, have been allowed to occur in the RCAs because of the relatively low catch rates of overfished species in these fisheries.

To ensure the integrity of the RCAs and other conservation areas, a pilot monitoring program was implemented on January 1, 2004 that requires vessels registered to Pacific Coast groundfish fishery limited entry permits to carry and use VMS transceiver units while fishing off the coasts of Washington, Oregon and California. Using traditional enforcement methods (such as aerial surveillance, boarding at sea via patrol boats, landing inspections and documentary investigation) are especially difficult when the closed areas are large-scale and the lines defining the areas are irregular. Furthermore, when management measures allow some gear types and target fishing in all or a portion of the conservation area, while other fishing activities are prohibited, it is difficult and costly to effectively enforce closures using traditional methods. Scarce state and Federal resources also limit the use of traditional enforcement methods.

This action is intended to expand the coverage of the initial VMS monitoring program to the open access fisheries to promote compliance with regulations that prohibit some fishing activities in RCAs and other groundfish conservation areas while allowing legal fishing activity that occurs within conservation areas to be effectively monitored. The purpose of this Environmental Assessment (EA) is to analyze a range of VMS program coverage levels for vessels using open access gear that catch (either directly or incidentally) and land groundfish in the open access sector.

### **1.4 Scoping Process**

The purpose of the scoping process is to determine the range of issues that the NEPA document (in this case the EA) needs to address. Scoping is intended to ensure that problems are identified early and properly reviewed, that issues of little significance do not consume time and effort and that the draft NEPA document is thorough and balanced. The scoping process should identify the public and agency concerns; clearly define the environmental issues and alternatives to be examined in the NEPA document including the elimination of nonsignificant issues; identify related issues; and identify state and local agency

requirements that must be addressed. An effective scoping process can help reduce unnecessary paperwork and time delays in preparing and processing the NEPA document.

This EA tiers off the original VMS EA, titled “The Program to Monitor Time-Area Closures in the Pacific Coast Groundfish Fishery” and therefore presents scoping activities that have occurred since November 2003.

The ad hoc VMS committee held a public meeting in October 2003 to consider expansion of the VMS program beyond the limited entry fisheries. The committee discussed criteria that would be used to prioritize the expansion of the VMS program into the open access and recreational sectors of the groundfish fishery. These criteria included: potential impacts to overfished species in the RCA; the ability to define the fleet if participants are directly fishing for groundfish (targeting); vessels using commercial gears that look like those used by the limited entry fleet that targets groundfish, such as fixed gear/longline (these vessels complicate enforcement of the RCAs because they look like LE vessels). Using this criteria, the committee determined that commercial vessels (non-charter) operating in the EEZ at any time during the year and that land groundfish should be considered for the next phase of the VMS program. The following open access gears were listed in order of priority: longline, groundfish pot, trawl (excluding shrimp), and line(excluding salmon). The committee also considered expansion to the charter and private sectors of the recreational fishery, but determined that an area-by-area evaluation of the groundfish impacts by these participants was necessary before a final recommendation could be made.

At the Council’s November 2003 meeting the ad hoc VMS committee presented its report to the Council (Exhibit D. 10b, Supplemental Attachment 2, November 2003). Following public testimony and consideration of the committee report, the Council indicated that they would like further information on the **success of the initial phase of the program in the limited entry fleet.**

### **1.5 Other NEPA documents this EA relies on.**

This is a tiered EA that expands on information presented in the July 2003 EA, titled “The Program to Monitor Time-Area Closures in the Pacific Coast Groundfish Fishery”. This original VMS EA considered three primary issues: the monitoring system, coverage levels, and the payment structure. This EA expands on the original VMS EA by considering alternatives with different coverage levels for the open access fisheries.

Since November 2003, environmental impact statements for the 2004 and the 2005-2006 fishery specifications and management measures have been prepared by the Pacific Fishery Management Council. These documents describe the affected environment, including: the geographical location in which the groundfish fisheries occur; various species that groundfish vessels harvest and interact with; the fish buyers and processors that are dependent on the fishery; the suppliers and services; and ultimately the fishing-dependent communities where vessels dock and fishing families live who are dependent on these fisheries. Relevant information in these NEPA documents is summarized within this document, but not presented in its entirety. Readers who are interested in more detailed descriptions are encouraged to read these earlier NEPA documents.

## 2.0 ALTERNATIVE MANAGEMENT ACTIONS

### 2.1 Alternatives considered for monitoring time-area closures in previous EA

Three primary issues relevant to the development of a program for monitoring the time-area closures and maintaining the integrity of the RCAs and other conservation areas were examined in the original EA for implementing a West Coast VMS program. These issues included: the monitoring system, coverage levels, and the payment structure. Alternative management actions were considered for each of the **issues**.

The alternative monitoring systems that were considered included: declaration reports from limited entry trawl and fixed gear vessels, and all other commercial and tribal trawl vessels including exempted trawl gears that intend to fish within a conservation area defined for their gear type; a basic VMS system with 1-way communications and declaration reports; an upgraded VMS system with 2-way communications and declaration reports; and fishery observers (1 per vessel) with declaration reports. The primary difference between the two approaches to VMS was that the upgraded system uses two-way communications between the vessel and shore such that full or compressed data messages could be transmitted and received by the vessel, while the basic VMS system only transmits positions to a shore station.

At its November 2002 meeting, the Council recommended that NMFS move forward with a rulemaking to implement a VMS program. The Council's preferred monitoring system was to require the basic VMS system for vessels registered to limited entry permits. The Council additionally recommended declaration reports for any vessel registered to a limited entry permit, and any commercial or tribal vessel using trawl gear, including exempted gear used to take pink shrimp, spot and ridgeback prawns, California halibut, and sea cucumber. With declaration reports, vessels are required to declare their intent to fish within a conservation area specific to their gear type, providing the activity is consistent with the RCA restrictions. The Council indicated that it considered a basic VMS system, which was more costly than declaration reports and less costly than the upgraded VMS system or observers, to be adequate for maintaining the integrity of the closed areas.

Five coverage alternatives were considered. Each of the coverage alternatives defined sectors of the commercial and recreational groundfish fleets that would be required to carry either VMS or an observer. The coverage alternatives included: all vessels registered to a limited entry permits; all limited entry vessels that fish in EEZ at any time during the year; all active limited entry, open access, and recreational charter vessels that fish in conservation areas; and all limited entry, open access, and recreational charter vessels regardless of where fishing occurs. The Council recommended that vessels registered to limited entry permits fishing in the EEZ off the Washington, Oregon, and California coasts be required to have and use VMS transceiver units whenever they fish. This coverage level would allow enforcement to effectively monitor limited entry trawl vessels for unlawful incursions into conservation areas while allowing legal incursions, such as midwater trawling, for Pacific whiting, yellowtail and widow rockfish and non-groundfish target fisheries, to occur. A notable number of limited entry vessels also participate in non-groundfish fisheries, such as shrimp and prawn trawl fisheries, troll albacore and troll salmon fisheries, and the pot fisheries for crab. These fisheries would continue to be allowed to occur in the conservation areas. However, vessels registered to limited entry permits would be required to have either an operable VMS unit on board whenever the vessel was fishing in state or federal waters off the states of Washington, Oregon or California. This level of coverage was intended to be a pilot program that began with the sector of the fishery that is allocated the majority of the groundfish resources.

Payment structure alternatives defined the cost responsibilities for purchasing, installing, and maintaining the VMS transceiver units, as well as the responsibilities for transmitting of reports and data. These alternatives included: the vessel pays all costs associated with purchasing, installing and maintaining the VMS transceiver unit, as well as the costs associated with the transmission of reports and data; the vessel pays only for the VMS transceiver and NMFS pays all other costs; NMFS pays for the

initial transceiver, but all other associated expenses including installation, maintenance and replacement would be paid for by the vessel; and NMFS pays for everything related to VMS. Although the Council recommended that NMFS fully fund a VMS monitoring program, to date it this has not been possible because neither state nor federal funding is available for purchasing, installing, or maintaining VMS transceiver units, nor is funding available for data transmission. Because of the critical need to monitor the integrity of conservation areas that protect overfished stocks while allowing for the harvest of healthy stocks, NMFS moved forward with the rulemaking. However, if funds are available in the future, NMFS is not precluded from reimbursing participants for all or a portion of the costs associated with the VMS monitoring program.

## **2.2 Alternatives being considered in this EA**

This EA tiers off of the original VMS EA, titled “The Program to Monitor Time-Area Closures in the Pacific Coast Groundfish Fishery”. The intent of the EA is to expand the coverage of the initial VMS monitoring program to the open access fisheries to promote compliance with regulations that prohibit some fishing activities in RCAs and other groundfish conservation areas while allowing legal fishing activity that occurs within conservation areas to be effectively monitored. The purpose of this EA is to analyze a range of VMS program coverage levels for vessels using open access gear that catch (either directly or incidentally) and land groundfish in the open access sector.

The monitoring mechanism and payment structure presented in the previous EA and implemented through the final rule published on November 4, 2003 (68 FR 62374) will not be affected by the proposed action. However, it must be noted that moving this rulemaking forward at this time will require open access fishery participants to bear the cost of purchasing, installing, and maintaining VMS transceiver units, VMS data transmissions, and reporting costs associated with declaration requirements, because neither state nor Federal funding is available at this time. If money becomes available in the future, fishery participants may be reimbursed for all or a portion of their VMS expenses.

### **Open access coverage alternatives**

The coverage alternatives for expanding VMS into the open access sectors of the groundfish fishery are based on the recommendations of the ad hoc VMS Committee. In October 2003, the committee discussed criteria that would be used to prioritize the expansion of the VMS program into the open access and recreational sectors. These criteria included: potential impacts to overfished species in the RCA; the ability to define the fleet if participants are directly fishing for groundfish (targeting); vessels using commercial gears that look like the limited entry fleet that targets groundfish, such as fixed gear/longline (these vessel complicate enforcement of the RCAs because they look like LE vessels). Using this criteria, the committee determined that commercial vessels (non-charter) operating in the EEZ at any time during the year that land groundfish in the open access fisheries should be considered for the next phase of the VMS program. For expansion of the VMS program, the committee identified the following open access gear groups in order of priority: longline, groundfish pot, trawl (excluding shrimp), and line (excluding salmon). Therefore, the coverage levels identified in following alternatives are based on different combinations of the open access gear groups .

**Table 2.0.1 Summary of Alternative Management Actions for Expanding Coverage of the Monitoring System for Time-area Closures in the Pacific Coast Groundfish Fishery for the Open Access Fisheries**

Coverage	<p><b>Alternative 1</b>                      Status quo: Declaration reports would continue to be required from all vessels using trawl gear including open access exempted trawl gears that intend to fish within a trawl RCA or conservation area defined for their gear type</p>	<p><b>Alternative 2</b>                      Vessels using <u>longline gear</u>: In addition to status quo, require all vessels that use longline gear to fish pursuant to the harvest guidelines, quotas, and other management measures governing the open access fishery in federal waters to carry and use VMS transceiver units and to provide declaration reports</p>	<p><b>Alternative 3</b>                      Vessels using <u>longline or pot gear</u>: In addition to Alternative 2, require all vessels that use longline or pot gear to fish pursuant to the harvest guidelines, quotas, and other management measures governing the open access fishery in federal waters to carry and use VMS transceiver units and to provide declaration reports</p>	<p><b>Alternative 4</b>                      Vessels using <u>longline, pot or trawl gear</u>: In addition to Alternatives 2 and 3, require all vessels that use longline, pot or trawl gear, excluding pink shrimp trawl gear, to fish pursuant to the harvest guidelines, quotas, and other management measures governing the open access fishery in federal waters to carry and use VMS transceiver units and to provide declaration reports</p>	<p><b>Alternative 5</b>                      Vessels using <u>longline, pot, trawl or line gear</u>: In addition, to Alternatives 2 - 4, require all vessels that use longline, pot, trawl, excluding pink shrimp, or line gear (hook &amp; line and mobile trawl), excluding salmon troll gear to fish pursuant to the harvest guidelines, quotas, and other management measures governing the open access fishery in federal waters to carry and use VMS transceiver units and to provide declaration reports</p>
<p>OA trawl continue to be required to send declaration reports before fishing in a trawl RCA</p>	<p>OA Groundfish vessels using longline gear - Between 2000-2003 an average of 114 vessels per year landed groundfish with an exvessel value &gt; \$2,500 taken with longline gear. Overfished species taken in the fishery include bocaccio, canary, cowcod, darkblotched, lingcod, pop and yelloweye. Gear specific overfished species catch projections were not available.</p> <p>Pacific halibut - On average, 275 directed fishery permits were issued 2000-2003, of these, an average of 10 vessels fished south of Point Chehalis and <u>did not</u> also land directed OA groundfish with a exvessel value &gt; \$2,500. Overfished species impacts whole fishery = yelloweye 0.5 mt.</p> <p><i>HMS longline using longline gear – No overfished species catch projected for 2005.</i></p>	<p>Longline gear - Same as Alt. 2</p> <p>Groundfish vessels using pot gear- Between 2000-2003 an average of 35 vessels per year landed groundfish with an exvessel value &gt; than 20% of all West Coast revenue. Overfished species taken in the fishery include bocaccio, canary, cowcod, darkblotched, lingcod, pop and yelloweye. Gear specific overfished species catch projections were not available.</p> <p><i>Dungeness crab vessels using pot gear - On average, 733 vessels fished between 2000-2003, of these, an average of 65 vessels land OA groundfish. No overfished species catch projected for 2005.</i></p> <p><i>Prawn vessels using pot gear - On average, 40 vessels between 2000-2003, of these, an average of 9 vessels land OA groundfish. No overfished species catch projected for 2005.</i></p> <p><i>California Sheephead vessels using pot gear - On average, 37 vessels between 2000-2003, of these, all 37 of the vessels landed OA groundfish annual. No overfished species catch projected for 2005.</i></p>	<p>Longline gear - Same as Alt. 2</p> <p>Pot gear- Same as Alt. 3</p> <p>Prawn vessels using trawl gear - of approximately 26 vessels, no vessels have landed groundfish land groundfish since 2000. 2005 projected overfished species catch - bocaccio 0.1 mt</p> <p><i>Sea cucumber vessels using trawl gear - On average, 14 vessels fished between 2000-2003, of these, an average of 7 vessels land OA groundfish. No overfished species catch projected for 2005.</i></p> <p>California halibut vessels using trawl gear - On average, 34 vessels fished between 2000-2003, of these, an average of 23 vessels land OA groundfish. Gear specific overfished species catch projections were not available.</p>	<p>Longline gear - Same as Alt. 2</p> <p>Pot gear- Same as Alt. 3</p> <p>Trawl gear - Same as Alt. 4</p> <p>Groundfish vessels using line gear - Between 2000-2003 an average of 969 vessels per year landed groundfish. Overfished species taken in the fishery include bocaccio, canary, cowcod, darkblotched, lingcod, pop and yelloweye. Gear specific overfished species catch projections were not available.</p> <p>California halibut vessels using line gear - On average, 71 vessels fished between 2000-2003, all of these vessels land OA groundfish. Gear specific overfished species catch projections were not available.</p> <p><i>HMS vessels using line gear (troll pole and line) - No overfished species catch projected for 2005.</i></p>	

**Alternative 1: Status quo.** Do not specify mandatory VMS program coverage requirements for vessels used to land fish in the open access sectors of the groundfish fishery.

Discussion: Vessels without limited entry permits that land groundfish are categorized as open access because no federal groundfish permit is required for their activities, although some may have non-groundfish state or federal permits. Under the existing regulations, open access vessels would not be required to carry and use VMS transceiver units. Vessels could elect to voluntarily carry a VMS transceiver unit and provide position reports to NMFS if they choose. Vessels registered to limited entry permits that land fish in the open access sector, would continue to be required to carry and use a VMS transceiver and provide declaration reports. Declaration reporting requirements for vessels using exempted trawl gear would continue.

**Alternative 2: Vessels using longline gear.** Beginning in 2005, require all vessels that use longline gear to fish pursuant to the harvest guidelines, quotas, and other management measures governing the open access fishery to carry and use VMS transceiver units and provide declaration reports. Prior to leaving port on a trip in which a vessel is used to take, retain, possess, or land groundfish taken in federal waters with open access longline gear, the vessel would be required to activate a VMS transceiver unit and to continuously operate the unit (24 hours a day) throughout the remainder of the calendar year, unless the vessel is exempted under the VMS exemption regulations at 660.312 (d)(4). A declaration report would be required prior to leaving port on a trip in which the vessel is used to fish in a groundfish conservation area in a manner that is consistent with the requirements of the conservation area. VMS requirements defined at 660.312 and prohibitions defined at 660.306 would apply to these vessels as would the reporting requirements defined at 660.303 for vessels fishing in conservation areas.

Discussion: Between 2000-2003, an average of 114 vessels per year use longline gear for directed harvest of groundfish in federal waters. Target species included sablefish, lingcod, and rockfish. For the purpose of this analysis, directed vessels were assumed to be those with an annual exvessel landings value of groundfish that exceeded \$2,500. The average annual groundfish exvessel revenue for these vessels for the 2000-2003 period was \$5,838. Overfished species interactions are projected to include bocaccio, canary rockfish, cowcod, darkblotched rockfish, lingcod, POP and yelloweye rockfish. However, gear specific overfished species catch projections were not available.

In addition to the directed groundfish vessels, an annual average of 275 directed Pacific halibut fishery permits were issued between 2000 and 2003. Out of the total number of permits issued, only 10 vessels (4% of those permitted) did not land groundfish with an exvessel value in excess of \$2,500. Overfished species impacts from the entire directed halibut fishery is projected to be 0.5 mt of yelloweye rockfish for 2005.

Longline gear is also used within federal waters by vessels harvesting Highly Migratory Species (HMS) species. No overfished species catch was projected for the HMS longline fishery for 2005.

This alternative would allow enforcement to monitor vessels using longline gear in the open access fisheries for unlawful incursions into conservation areas. Vessels would be required to operate their VMS units continuously from the point at which a vessel leaves port on a trip in which the vessel is used in the open access fishery in federal waters. VMS position data is thus expected to be available to enforcement and fishery managers on other state and federal fisheries that these vessels participate in as well as well when other open access gears are being used.

**Alternative 3: Vessels using longline or pot gear.** In addition to those vessels identified under Alternative 2, beginning in 2005, require all vessels that use longline or pot gear to fish pursuant to the harvest guidelines, quotas, and other management measures governing the open access fishery to carry and use VMS transceiver units and provide declaration reports. Prior to leaving port on a trip in which a vessel is used to take, retain, possess or land groundfish taken in federal waters with open access longline or pot gear, the vessel would be required to activate a VMS transceiver unit and to continuously operate the unit (24 hours a day) throughout the remainder of the calendar year, unless the vessel is exempted under the VMS exemption regulations at 660.312 (d)(4). A declaration report would be required prior to leaving port on a trip in which the vessel is used

to fish in a groundfish conservation area in a manner that is consistent with the requirements of the conservation area. VMS requirements defined at 660.312 and prohibitions defined at 660.306 would apply to these vessels as would the reporting requirements defined at 660.303 for vessels fishing in conservation areas.

Discussion: The vessels identified under this alternative are in addition to those vessels identified under Alternative 2. Between 2000-2003, an average of 35 vessels per year used pot gear for directed harvest of groundfish in federal waters. Target species included sablefish, lingcod, and rockfish. For the purpose of this analysis, directed vessels were assumed to be those with an exvessel value of groundfish that exceeded 20% of all West Coast fisheries revenue for the vessel. The average annual groundfish exvessel revenue for these vessels for the 2000-2003 period was \$21,498. Overfished species interactions are projected to include bocaccio, canary rockfish, cowcod, darkblotched rockfish, lingcod, POP and yelloweye rockfish. However, gear specific overfished species catch projections were not available.

Other fisheries in which pot gear is used and where incidentally caught groundfish were landed between 2000 and 2003, include: Dungeness crab, prawn, and California sheephead. On average, 733 vessels used pot gear to catch Dungeness crab fished between 2000-2003. Of these, an average of 65 vessels landed OA groundfish. The average annual groundfish exvessel revenue for these vessels for the 2000-2003 period was \$2,382. No overfished species catch was projected for the Dungeness crab pot fishery for 2005. On average, 40 used pot gear to catch prawns vessels between 2000-2003. Of these, an average of 9 vessels landed OA groundfish. The average annual groundfish exvessel revenue for these vessels for the 2000-2003 period was \$1,846. No overfished species catch was projected for the prawn pot vessels for 2005. On average, 37 vessels used pot gear to catch California sheephead between 2000-2003. All of these vessels landed OA groundfish. The average annual groundfish exvessel revenue for these vessels for the 2000-2003 period was \$989. No overfished species catch was projected for the California sheephead fishery for 2005.

This alternative would allow enforcement to monitor vessels using longline and pot gear in the open access fisheries for unlawful incursions into conservation areas. Vessels would be required to operate their VMS units continuously from the point at which a vessel leaves port on a trip in which the vessel is used to participate in the open access fishery in federal waters. VMS position data is thus expected to be available to enforcement and fishery managers on other state and federal fisheries that these vessels participate in as well as well when other open access gears are being used.

**Alternative 4: Vessels using longline gear, pot or trawl gear, excluding pink shrimp trawl gear.** In addition to those vessels identified under Alternatives 2 and 3, beginning in 2005, require all vessels that use longline gear, pot or trawl gear, excluding pink shrimp trawl gear to fish pursuant to the harvest guidelines, quotas, and other management measures governing the open access fishery, to carry and use VMS transceiver units and provide declaration reports. Prior to leaving port on a trip in which a vessel is used to take, retain, possess or land groundfish taken in federal waters with open access longline or pot gear, the vessel would be required to activate a VMS transceiver unit and to continuously operate the unit (24 hours a day) throughout the remainder of the calendar year, unless such vessel is exempted under the VMS exemption regulations at 660.312 (d)(4). A declaration report would be required prior to leaving port on a trip in which the vessel is used to fish in a groundfish conservation area in a manner that is consistent with the requirements of the conservation area. VMS requirements defined at 660.312 and prohibitions defined at 660.306 would apply to these vessels, as would the reporting requirements defined at 660.303 for vessels fishing in conservation areas.

Discussion: The vessels identified under this alternative are in addition to those vessels identified under Alternative 2 and 3. The only open access fisheries in which trawl gear is used are the exempted trawl fisheries for pink shrimp, prawns, sea cucumber and California halibut. Pink shrimp vessels are allowed to fish within the trawl RCA providing a declaration report is sent prior to leaving port on a trip in which the vessel is used to fish within the RCA with shrimp trawl gear. In addition, state requirements include the use of approved finfish excluders. On average, 26 vessels used trawl gear to catch prawns between 2000-2003. Of these, no vessels have landed OA groundfish after 2000. The 2005 projected overfished species catch was 0.1 mt of bocaccio. On average, 14 vessels used trawl gear to catch sea cucumbers between 2000-2003. Of these, an

average of 7 vessels landed OA groundfish. The average annual groundfish exvessel revenue for these vessels for the 2000-2003 period was \$177. No overfished species catch was projected for the sea cucumber trawl fishery for 2005. On average, 35 vessels used trawl gear to catch California halibut between 2000-2003, of these, an average of 23 vessels landed OA groundfish. The average annual groundfish exvessel revenue for these vessels for the 2000-2003 period was \$752. Gear specific overfished species catch projections were not available for the California halibut trawl fishery.

This alternative would allow enforcement to monitor vessels using longline, pot or trawl gear (excluding pink shrimp trawl gear), in the open access fisheries for unlawful incursions into conservation areas. Vessels would be required to operate the VMS unit continuously from the point at which a vessel leaves port on a trip in which the vessel is used to participate in the open access fishery in federal waters. VMS position data is thus expected to be available to enforcement and fishery managers on other state and federal fisheries that these vessels participate in as well as well when other open access gears are being used.

**Alternative 5: Vessels using longline gear, pot, trawl (excluding pink shrimp gear) or line gear (excluding salmon troll gear).** In addition to those vessels identified under Alternatives 2-4, beginning in 2005, require all vessels that use longline gear, pot, trawl (excluding pink shrimp trawl) or line gear (excluding salmon troll gear) to fish pursuant to the harvest guidelines, quotas, and other management measures governing the open access fishery, to carry and use VMS transceiver units and provide declaration reports. Prior to leaving port on a trip in which a vessel is used to take, retain, possess and groundfish taken in federal waters with open access longline or pot gear, the vessel would be required to activate a VMS transceiver unit and to continuously operate the unit (24 hours a day) throughout the remainder of the calendar year, unless such vessel is exempted under the VMS exemption regulations at 660.312 (d)(4). A declaration report would be required prior to leaving port on a trip in which the vessel is used to fish in a groundfish conservation area in a manner that is consistent with the requirements of the conservation area. VMS requirements defined at 660.312 and prohibitions defined at 660.306 would apply to these vessels as would the reporting requirements defined at 660.303 for vessels fishing in conservation areas.

Discussion: The vessels identified under this alternative are in addition to those vessels identified under Alternative 2, 3 and 4. Between 2000-2003, an average of 969 vessels per year used line gear (excluding salmon troll) to harvest groundfish in the open access fishery. The average annual groundfish exvessel revenue for these vessels for the 2000-2003 period was \$2,133. Overfished species projections include bocaccio, canary, cowcod, darkblotched rockfish, lingcod, POP and yelloweye rockfish. However, gear specific overfished species catch projections were not available.

Other fisheries in which line gear is used and where incidentally caught groundfish are landed include vessels California halibut, HMS and salmon troll vessels. The salmon troll fisheries are allowed to fish within the fixed gear RCA and are allowed to retain some groundfish. Because VMS cannot be used to determine where a particular species was caught, it is not considered to be an effective enforcement tool for monitoring open access trip limit compliance by salmon troll vessels. Between 2000-2003, an average of 263 vessels per year used line gear in the California halibut fishery and landed groundfish. All of these vessels landed open access groundfish. The average annual groundfish exvessel revenue for these vessels for the 2000-2003 period was \$129. Gear specific overfished species catch projections were not available .

Line gear is also used within federal waters by vessels harvesting HMS species. No overfished species catch was projected for the HMS line gear fisheries for 2005.

This alternative would allow enforcement to monitor vessels using longline, pot, trawl gear (excluding pink shrimp trawl gear), or line gear (excluding salmon troll gear) in the open access fisheries for unlawful incursions into conservation areas. Vessels would be required to operate their VMS units continuously from the point at which a vessel leaves port on a trip in which the vessel is used to participate in the open access fishery in federal waters. VMS position data is thus expected to be available to enforcement and fishery managers on other state and federal fisheries these vessels participate in as well as well when other open access gears are used.

### 2.3 Alternatives rejected for analysis in this EA

VMS coverage of the recreational fisheries is not being considered at this time. At its October 2003 meeting, the ad hoc VMS Committee considered expansion of the VMS program, including expansion into the charter and private sectors of the recreational fishery. After considerable discussion, the committee recommended that an area-by-area evaluation of the groundfish impacts by these participants was necessary before a final recommendation could be made.

The pink shrimp fisheries have not been included in the alternatives for VMS coverage. Pink shrimp vessels are allowed to fish within the trawl RCA providing a declaration report has been sent prior to leaving port on a trip in which the vessels is used to fish within the RCA.. Pink shrimp trawl vessels were excluded in the coverage alternatives because they are required to use finfish excluders, which dramatically reduce their catch of overfished species, primarily canary rockfish.

The salmon troll fisheries are allowed to fish within the fixed gear RCA and are allowed to retain some groundfish. Because VMS cannot be used to determine where a particular species was caught it is not considered to be an effective enforcement tool for monitoring open access trip limit compliance by salmon troll vessels.

State and federal fisheries in which groundfish are incidentally taken but not landed were not included in the analysis because fisheries where groundfish catch is not landed are not considered to be open access fishery. These vessels include: the those targeting Coastal Pelagic Species (CPS) with round haul gear; those targeting HMS with purse seine gear, and those targeting the gillnet complex (California halibut, white sea bass, sharks, and white croaker) with driftnet.

XXXXX Set net gear—should it get included in the alternatives or rejected- do they land groundfish in the open access fisheries XXXXX

### 3.0 AFFECTED ENVIRONMENT

The purpose of this EA is to analyze a range of alternatives for expanding the VMS program coverage into the OA commercial groundfish fisheries off the coasts of Washington, Oregon, and California. The affected environment includes: the geographical location in which these fisheries occur; the groundfish and other species these vessels harvest and interact with; the fish buyers and processors that are dependent on the fishery; the suppliers and services; and ultimately, the fishing-dependent communities where vessels dock and fishing families live are who are dependent on these fisheries. The following section of this document, section 3, describes the physical, biological, and socio-economic characteristics of the affected environment.

#### 3.1 Physical Environment

Essential Fish Habitat (EFH) for Pacific Coast groundfish is defined as the aquatic habitat necessary to allow for groundfish production to support long-term sustainable fisheries for groundfish and for groundfish contributions to a healthy ecosystem. When these EFHs for all groundfish species are taken together, the groundfish fishery EFH includes all waters from the mean higher high water line, and the upriver extent of saltwater intrusion in river mouths seaward to the boundary of the U.S. EEZ.

This is a tiered EA that expands on information presented in the July 2003 EA titled, "The Program to Monitor Time-Area Closures in the Pacific Coast Groundfish Fishery". Section 3.1 of the original EA, "Physical Environment" contained detailed information on the marine ecosystem where groundfish are found. Readers who are interested in further information on the physical environment are referred to Section 3.0 of the August 2004 Draft Environmental Impact Statement (DEIS), prepared by the Pacific Fishery Management Council, for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2005-2006 Pacific Coast Groundfish Fishery.

## 3.2 Biological Environment

### 3.2.1 Groundfish Resources

The Pacific Coast groundfish FMP manages over 80 species, which are divided into the following groups: roundfish, flatfish, rockfish, sharks, skates, rattfish, morids, and grenadiers. These species occur throughout the EEZ and occupy diverse habitats at all stages in their life history. Information on the interactions between the various groundfish species and between groundfish and non-groundfish species varies in completeness. While a few species have been intensely studied, there is relatively little information on most groundfish species.

Each fishing year, the Council uses the best available stock assessment data to evaluate the biological condition of the Pacific Coast groundfish fishery and to develop estimates of allowable biological catch (ABC) levels for major groundfish stocks. The ABCs are biologically based estimates of the amount of fish that may be harvested from the fishery each year without jeopardizing the resource. The ABC may be modified to incorporate biological safety factors and risk assessment due to uncertainty.

Harvest levels or optimum yields (OYs) are also established for the species or species groups that the Council proposes to manage. Groundfish species and species groups with OYs include bocaccio, black rockfish, cabezon, canary rockfish, chilipepper rockfish, cowcod, darkblotched rockfish, Dover sole, lingcod, longspine thornyhead, the minor rockfish complexes (the unassessed northern and southern nearshore, continental shelf, and continental slope rockfish species,) Pacific cod, POP, Pacific whiting, sablefish, shortbelly rockfish, shortspine thornyhead, splitnose rockfish, widow rockfish, yelloweye rockfish, and yellowtail rockfish. Numerical OYs are not set for every stock, such as for those where the harvest has been less than ABC.

The Magnuson-Stevens Act requires an FMP to prevent overfishing. Overfishing is defined in the National Standards Guidelines (63 FR 24212, May 1, 1998) as exceeding the fishing mortality rate needed to produce maximum sustainable yield. The OY harvest levels are set at levels that are expected to prevent overfishing, equal to or less than the ABCs. The term "overfished" describes a stock whose abundance is below its overfished/rebuilding threshold. Overfished/rebuilding thresholds are generally linked to the same productivity assumptions that determine the ABC levels. The default value of this threshold for the groundfish FMP is 25% of the estimated unfished biomass level. Eight groundfish species continue to be designated as overfished: bocaccio (south of Monterey) , canary rockfish, cowcod (south of Point Conception,) darkblotched rockfish, [lingcod](#), [Pacific ocean perch](#), [widow rockfish](#), and [yelloweye rockfish](#).

This is a tiered EA that expands on information presented in the July 2003 EA titled, "The Program to Monitor Time-Area Closures in the Pacific Coast Groundfish Fishery". Section 3.2 of the original EA , "Biological Environment" contained detailed biological information on the groundfish resources. Readers who are interested in further information on the status of the groundfish resources are referred to section 4.0 of the August 2004 Draft Environmental Impact Statement (DEIS), prepared by the Pacific Fishery Management Council, for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2005-2006 Pacific Coast Groundfish Fishery.

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### 3.2.2 Endangered Species

West Coast marine species listed as endangered or threatened under the Endangered Species Act (ESA) include marine mammals, seabirds, sea turtles, and salmon. Under the ESA, a species is listed as "endangered" if it is in danger of extinction throughout a significant portion of its range and "threatened" if it is likely to become an endangered species within the foreseeable future throughout all, or a significant portion, of its range. The following species are subject to the conservation and management requirements of the ESA:

**Table 3.2.2.1. West Coast Endangered Species**

Marine Mammals	Seabirds
<p><b>Threatened:</b></p> <ul style="list-style-type: none"> <li>• Steller sea lion (<i>Eumetopias jubatus</i>) Eastern Stock,</li> <li>• Guadalupe fur seal (<i>Arctocephalus townsendi</i>), and</li> <li>• Southern sea otter (<i>Enhydra lutris</i>) California Stock.</li> </ul>	<p><b>Endangered:</b></p> <ul style="list-style-type: none"> <li>• Short-tail albatross (<i>Phoebastria (=Diomedea) albatrus</i>),</li> <li>• California brown pelican (<i>Pelecanus occidentalis</i>), and</li> <li>• California least tern (<i>Sterna antillarum browni</i>).</li> </ul> <p><b>Threatened:</b></p> <ul style="list-style-type: none"> <li>• Marbled murrelet (<i>Brachyramphus marmoratus</i>).</li> </ul>
Sea Turtles	Salmon
<p><b>Endangered:</b></p> <ul style="list-style-type: none"> <li>• Green turtle (<i>Chelonia mydas</i>)</li> <li>• Leatherback turtle (<i>Dermochelys coriacea</i>)</li> <li>• Olive ridley turtle (<i>Lepidochelys olivacea</i>)</li> </ul> <p><b>Threatened:</b></p> <ul style="list-style-type: none"> <li>• Loggerhead turtle (<i>Caretta caretta</i>)</li> </ul>	<p><b>Endangered:</b></p> <ul style="list-style-type: none"> <li>• Chinook salmon (<i>Oncorhynchus tshawytscha</i>) Sacramento River Winter; Upper Columbia Spring</li> <li>• Sockeye salmon (<i>Oncorhynchus nerka</i>) Snake River</li> <li>• Steelhead trout (<i>Oncorhynchus mykiss</i>) Southern California; Upper Columbia</li> </ul> <p><b>Threatened:</b></p> <ul style="list-style-type: none"> <li>• Coho salmon (<i>Oncorhynchus kisutch</i>) Central California, Southern Oregon, and Northern California Coasts</li> <li>• Chinook salmon (<i>Oncorhynchus tshawytscha</i>) Snake River Fall, Spring, and Summer; Puget Sound; Lower Columbia; Upper Willamette; Central Valley Spring; California Coastal</li> <li>• Chum salmon (<i>Oncorhynchus keta</i>) Hood Canal Summer; Columbia River</li> <li>• Sockeye salmon (<i>Oncorhynchus nerka</i>) Ozette Lake</li> <li>• Steelhead trout (<i>Oncorhynchus mykiss</i>) South-Central California, Central California Coast, Snake River Basin, Lower Columbia, California Central Valley, Upper Willamette, Middle Columbia, Northern California</li> </ul>

**Marine Mammals:** Marine mammal communities by nearshore, shelf and slope depth categories for each of three coastal regions, including southern California, central to northern California, and Oregon to British Columbia, were identified in table 3.2.3.1 of the original VMS EA .

**Seabirds:** Over sixty species of seabirds occur in waters off the West Coast within the EEZ, including: loons, grebes, albatross, fulmars, petrels, shearwaters, storm-petrels, pelicans, cormorants, frigate birds, phalaropes, skuas, jaegers, gulls, kittiwakes, skimmers, terns, guillemots, murrelets, auklets, and puffins. The migratory range of these species includes commercial fishing areas; fishing also occurs near the breeding colonies of many of these species. Besides entanglement in fishing gear, seabirds may be indirectly affected by commercial fisheries in various ways. Change in prey availability may be linked to directed fishing and the discarding of fish and offal. Vessel traffic may affect seabirds when it occurs in and around important foraging and breeding habitat and increases the likelihood of bird storms. In addition, seabirds may be exposed to at-sea garbage dumping and the diesel and oil discharged into the water associated with commercial fisheries.

**Sea Turtles:** Sea turtles are highly migratory; four of the six species found in U.S. waters have been sighted off the West Coast. Little is known about the interactions between sea turtles and West Coast commercial fisheries. The directed fishing for sea turtles in West Coast groundfish fisheries is prohibited, because of their ESA listings, but the incidental take of sea turtles by longline or trawl gear may occur. Sea turtles are known to be taken incidentally by the California-based pelagic longline fleet and the California halibut gillnet fishery. Because of differences in gear and fishing strategies between those fisheries and the West Coast groundfish fisheries, the expected take of sea turtles by groundfish gear is minimal.

**Salmon:** Salmon caught in the U.S. West Coast fishery have life cycle ranges that include coastal streams and river systems from central California to Alaska and oceanic waters along the U.S. and Canada seaward into the north central Pacific Ocean, including Canadian territorial waters and the high seas. Some of the more critical portions of these ranges are the freshwater spawning grounds and migration routes.

This is a tiered EA that expands on information presented in the July 2003 EA titled, "The Program to Monitor Time-Area Closures in the Pacific Coast Groundfish Fishery" Section 3.2.2 of the original EA, "Endangered Species" contains more detailed information on these resources.

### 3.2.3 Nongroundfish Species Interactions

**Coastal Pelagic Species (CPS):** CPS are schooling fish not associated with the ocean bottom, that migrate in coastal waters. These species include: northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), Pacific (chub) mackerel (*Scomber japonicus*), jack mackerel (*Trachurus symmetricus*) and market squid (*Loligo opalescens*). These species are managed under the Coastal Pelagic Species Fishery Management Plan. Sardines inhabit coastal subtropical and temperate waters and at times have been the most abundant fish species in the California current. During times of high abundance, Pacific sardine range from the tip of Baja California to southeastern Alaska. When abundance is low, Pacific sardine do not occur in large quantities north of Point Conception, California. Pacific (chub) mackerel in the northeastern Pacific range from Banderas Bay, Mexico to southeastern Alaska. They are common from Monterey Bay, California to Cabo San Lucas, Baja California, and most abundant south of Point Conception, California. The central subpopulation of northern anchovy ranges from San Francisco, California to Punta Baja, Mexico. Jack mackerel are a pelagic schooling fish that range widely throughout the northeastern Pacific, however much of their range lies outside the U.S. EEZ. Adult and juvenile market squid are distributed throughout the Alaska and California current systems, but are most abundant between Punta Eugenio, Baja California and Monterey Bay, Central California.

**Dungeness Crab:** The Dungeness crab (*Cancer magister*) is distributed from the Aleutian Islands, Alaska, to Monterey Bay, California. They live in bays, inlets, around estuaries, and on the continental shelf. Dungeness crab are found to a depth of about 180 m. Although it is found at times on mud and gravel, this crab is most abundant on sand bottoms and occurs among eelgrass. The Dungeness crab, which are typically harvested using traps (crab pots), ring nets, by hand (scuba divers) or dip nets, are incidentally taken or harmed unintentionally by [groundfish gears](#).

**Pacific Pink Shrimp:** Pacific pink shrimp (*Pandalus jordani*) are found from Unalaska in the Aleutian Islands to San Diego, California, at depths of 25 to 200 fm (46 to 366 m). Off the U.S. West Coast, these shrimp are harvested with trawl gear from northern Washington to central California between 60 and 100 fm (110 to 180 m). The majority of the catch is taken off the coast of Oregon. Concentrations of pink shrimp are associated with well-defined areas of green mud and muddy-sand bottom. Shrimp trawl nets are usually constructed with net mesh sizes smaller than the net mesh sizes for legal groundfish trawl gear. Thus, it is shrimp trawlers that commonly take groundfish in association with shrimp, rather than the reverse.

**Pacific Halibut:** Pacific Halibut (*Hippoglossus stenolepis*) belong to a family of flounders called Pleuronectidae. Halibut are usually found in deep water (40 to 200 m). The International Pacific Halibut Commission (IPHC) report, "Incidental Catch and Mortality of Pacific Halibut, 1962-2000" contains estimates of the incidental catches of halibut in the coastal trawl fisheries (groundfish and shrimp trawls). Estimates of incidental catches of halibut, based on the at-sea observer data collected in the Enhanced Data Collection Program conducted from 1995 through 1998, results in an estimated mortality level of legal-sized halibut incidentally taken in shrimp and groundfish trawl fisheries of 254 mt (560,000 pounds) for 2002.

**Forage Fish:** Forage fish are small, schooling fish that serve as an important source of food for other fish species, birds and marine mammals. Examples of forage fish species are herring (*Clupea harengus pallasii*), smelt (*Osmeridae*), anchovies, and sardine. Many species of fish feed on forage fish. Major predators of herring include Pacific cod (42% of diet), whiting (32%), lingcod (71%), halibut (53%), coho (58%), and chinook salmon (58%) (Environment Canada 1994). Many species of seabirds depend heavily on forage fish for food as well. Marine mammals consuming forage fish include: harbor seals, California sea lions, Stellar sea lions, harbor porpoises, Dall's porpoises, and Minke whales (Calambokidis and Baird 1994). Forage fish are most commonly found in nearshore waters and within bays and estuaries, although some do spend of their lives in the open ocean where they may be incidentally taken by groundfish gears, particularly in trawls. Preliminary data from the 2001 at-sea whiting fishery indicates the fishery encounters very minor amounts of forage fish species (Pacific herring less than 5 mt and less than 1 mt of smelt and sardines combined). There is little information on the incidental take of forage fish by the other segments of the fishery, however given they are not associated with the ocean bottom, the interaction is expected to be minimal.

### 3.3 SOCIO-ECONOMIC ENVIRONMENT

#### 3.3.1 Conservation Areas and Depth-Based Management.

Since 1998, groundfish management measures have been shaped by the need to rebuild overfished groundfish stocks. The 80+ species in the West Coast groundfish complex mix with each other to varying degrees throughout the year and in different portions of the water column. Some species, like Pacific whiting, are strongly aggregated, making them easier to target with relatively little bycatch of other species. Conversely, other species like canary rockfish may occur in species-specific clusters, but are also found co-occurring with a wide variety of other groundfish species. Over the past several years, groundfish management measures have been more carefully crafted to recognize the tendencies of overfished species to co-occur with healthy stocks in certain times and areas.

Management measures have been designed to reduce incidental interception of overfished species taken in fisheries targeting more abundant groundfish stocks. In addition to setting trip limits for targeted species to reduce co-occurrence rates for overfished species, a set of large time/area closures known as Groundfish Conservation Areas have been used to manage the fishery.

The Council and NMFS began using closed areas to reduce fisheries impacts on overfished groundfish species in 2001. NMFS initially defined two Cowcod Conservation Areas (CCAs) in the Southern California Bight. These areas were closed to recreational and commercial fishing for groundfish. These closures were located in areas of known cowcod abundance and were intended to prevent fishing vessels from taking cowcod either directly or incidentally in fisheries targeting other species. The CCAs have remained in place since 2001 and continue to be part of the Council's long-term rebuilding strategy for cowcod.

In September 2002, NMFS introduced its first large-scale conservation area, a Darkblotched Rockfish Conservation Area (DBCA,) extending from the U.S./Canada border to Cape Mendocino, California. The DBCA extended between boundary lines approximating the 100 fm (183 m) and 250 fm (457 m) depth contours, with trawling prohibited within the conservation area. This closure was intended to reduce incidental darkblotched rockfish interception by fisheries targeting more abundant continental slope species.

Beginning in 2003, the Council recommended a greater suite of area closures intended to protect different overfished species from incidental harvest by vessels targeting other, more abundant species. Similar to Council efforts to craft landings limits and seasons to protect overfished species, the 2003 conservation areas were intended to protect overfished species at depths where they are most likely encountered and from gear that is most likely to encounter those species. For example, POP has historically been taken almost exclusively by trawl gear, while yelloweye rockfish is more susceptible to hook-and-line gear used in commercial and recreational fisheries. The 2003 and 2004 GCAs included the two CCAs, a similarly block-shaped Yelloweye Rockfish Conservation Area off the Washington coast that was closed to recreational fishing, and Rockfish Conservation Areas (RCA) along the entire length of the West Coast.

The 2003 and 2004 RCAs are gear specific, with different closed areas for trawl and nontrawl gear. These RCAs have been based on ocean bottom depths, and vary seasonally depending on when and where the overfished species targeted for protection were taken by historic fisheries. RCA boundary lines were designated by a series of latitude/longitude coordinates intended to approximate ocean bottom depth contours delineating overfished species habitats. A more in-depth discussion of the introduction of depth-based management to West Coast groundfish fisheries management is provided in the proposed rule to implement the 2003 and 2004 specifications and management measures (January 7, 2003, 68 FR 936 and January 8, 2004, 68 FR 1380.)

### **3.3.1 Commercial fisheries**

In 1994, NMFS implemented Amendment 6 to the groundfish FMP, a license limitation program intended to restrict vessel participation in the directed commercial groundfish fisheries off Washington, Oregon, and California. The limited entry permits that were created through that program specify the gear type a permitted vessel may use to participate in the limited entry fishery and the vessel length associated with the permit. Most of the Pacific Coast non-tribal commercial groundfish harvest is taken by the limited entry fleet. The groundfish limited entry program includes vessels using trawl, longline, and trap (or pot) gears. There are also several open access fisheries that take groundfish incidentally or in small amounts. Participants in those fisheries may use, among other gear types, longline, vertical hook-and-line, troll, pot, setnet, trammel net, shrimp and prawn trawl, California halibut trawl, and sea cucumber trawl. These vessels do not hold groundfish limited entry permits, yet may target groundfish or catch them incidentally. Although their groundfish landings are much smaller, they are part of the economic make-up of West Coast groundfish vessels

As of August 2004, there were 406 vessels with Pacific Coast groundfish limited entry permits, of which approximately 43% were trawl only vessels, 48% were longline only vessels, 7% were trap vessels, and the remaining 2% were combinations of 2 or more gears. The number of vessels registered for use with limited entry permits has decreased since the implementation of the permit stacking program for sablefish-endorsed limited entry fixed gear permits in 2001 and the limited entry trawl vessel buyback program in late 2003.

This is a tiered EA that expands on information presented in the July 2003 VMS EA titled, "The Program to Monitor Time-Area Closures in the Pacific Coast Groundfish Fishery". Section 3.3 of the original EA, "Socio-economic Environment" contained information and detailed statistics on historical groundfish landings in the commercial fisheries. This EA will update and expand on information relevant to the open access sector of the commercial fishery. Readers who are interested in further information on the status of the commercial fisheries are referred to section 8.1 of the August 2004 Draft Environmental Impact Statement (DEIS), prepared by the Pacific Fishery Management Council, for the proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2005-2006 Pacific Coast Groundfish Fishery.

### **3.3.2 Open Access Groundfish Fisheries.**

Unlike the limited entry sector, the open access fishery has unrestricted participation and is comprised of vessels targeting or incidentally catching groundfish with a variety of gears, excluding groundfish trawl gear. Open access vessels must comply with cumulative trip limits established for this sector and are subject to the other operational restrictions imposed in the regulations, including general exclusion from the RCAs. While the open access groundfish fishery is under federal management and does not have participation restrictions, some state and federally managed fisheries that land groundfish in the open access fishery have implemented their own limited

entry (restricted access) fisheries or enacted management provisions that have affected participation in groundfish fisheries. Fisheries are generally distributed along the coast in patterns governed by factors such as location of target species and ports with supporting marine supplies and services, and restrictions or regulations imposed by state and federal governments.

The commercial open access groundfish fishery consists of vessels that do not necessarily depend on revenue from the fishery as a major source of income and is split between vessels targeting groundfish (*directed fishery*) and vessels targeting other species (*incidental fishery*). The majority of landings by the directed groundfish fishery, by weight, occur off California, while Oregon shows the next highest landings, followed by Washington. In the incidental groundfish fisheries, Washington also has the lowest groundfish landings by the incidental fishery, by weight of incidental groundfish (Hastie 2001).

Open access landings and estimated exvessel values by major species groups north and south of 40° 10' N latitude are shown in Table Tables 3.3.2.1 and 3.3.2.2 . The open access fishery is most important in the south, when landings and landings revenue are measured. Open access fishers in the south earned more per pound of landed fish, reflecting more lucrative markets—for live fish among others—in that region. Overall, open access groundfish landings in 2002 (472 mt) were down 59% compared to 1998 (1,162 mt). The fall in landings during this period in the south—a 70% decline—is much steeper than in north. The net result is that the landings differential between the two regions is now less dramatic. In 1999, vessels in the south landed almost three times as much total groundfish as those in the north. By 2003, it was divided almost equally between both regions. Rockfish were an important component of open access groundfish landings in the south—75% of landings by weight in 1998. Limits imposed because of overfishing declarations for certain rockfish species, bocaccio and cowcod in particular, partly explain the steep drop in landings in the south. In 2003, substantial increases in sablefish were observed in both regions

**Table 3.3.2.1 Historical harvest of groundfish by species group in the open access fishery north and south of Cape Mendocino, 1999-2003**

North of 40° 10' N. Lat.							
Year	Lingcod	Whiting	Flatfish	Sablefish	Rockfish	Other groundfish	Total Groundfish
1999	19.0	0.2	3.9	4.1	116.1	16.4	159
2000	14.8	0.0	0.7	8.5	90.9	7.1	122
2001	17.0	0.0	1.3	21.7	125.0	15.5	180
2002	28.1	0.0	1.2	13.2	109.3	45.9	198
2003	43.8	0.1	3.7	291.3	188.2	88.5	616
South of 40° 10' N. Lat.							
	Lingcod	Whiting	Flatfish	Sablefish	Rockfish	Other groundfish	Total Groundfish
1999	15.0	0.0	19.2	2.8	276.2	168.8	482
2000	7.4	0.0	17.1	6.3	159.9	142.0	333
2001	11.5	0.2	23.1	6.3	154.7	107.9	304
2002	17.0	0.0	17.5	28.2	136.1	75.2	274
2003	27.5	0.1	14.7	315.2	166.1	139.6	663

Based on Table 8-6 in DEIS, Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2005-2006 Pacific Coast Groundfish fishery

**Table 3.3.2.2 Exvessel revenues from historical harvest of groundfish by species group in the open access fishery north and south of Cape Mendocino, 1999-2003 (revenue in thousands of current dollars)**

North of 40° 10' N. Lat.							
Year	Lingcod	Whiting	Flatfish	Sablefish	Rockfish	Other groundfish	Total Groundfish
1999	42	0	3	12	216	54	327
2000	28	0	0	29	176	32	266
2001	50	0	1	75	312	99	537
2002	82	0	1	45	321	324	772
2003	141	0	3	1,082	613	359	2,199
South of 40° 10' N. Lat.							
	Lingcod	Whiting	Flatfish	Sablefish	Rockfish	Other groundfish	Total Groundfish
1999	46	0	49	10	1,272	835	2,212
2000	17	0	54	39	1,307	1,003	2,420
2001	38	1	69	34	1,249	628	2,018
2002	63	0	64	132	1,033	399	1,692
2003	109	0	39	937	1,072	530	2,686

Extracted from Table 8-6 in DEIS, Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2005-2006 Pacific Coast Groundfish fishery

Many vessels predominately fish for other species and inadvertently catch and land groundfish. In times and areas when fisheries for other species are not as profitable, some vessels will transition into the groundfish open access fishery for short periods. Table 3.3.2.3 shows the historical landings of groundfish and non-groundfish by open access vessels. In 2003, the first complete year in which coastwide RCAs were implemented, the round weight of groundfish landed by the open access fishery increased substantially over previous years while landings of non-groundfish species decreased. This change was primarily due to increased sablefish landings (Table 3.3.2.1) over recent years.

**Table 3.3.3. Historical harvests for the open access fishery, 1999-2003 (landed round weight in mt and exvessel revenue in thousands of current dollars)**

Year	Groundfish round weight (mt)	Groundfish exvessel value (\$)	Non-groundfish round weight (mt)	Non-groundfish exvessel value (\$)	Total round weight (mt)	Total exvessel value (\$)
1999	642	2,539	225,410	189,886	226,052	192,425
2000	455	2,686	277,349	191,658	277,804	194,344
2001	484	2,555	247,790	159,985	248,274	162,541
2002	472	2,463	250,954	166,343	251,426	168,807
2003	1,279	4,885	198,583	227,072	199,862	231,957

Extracted from table 8-3 DEIS, Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2005-2006 Pacific Coast Groundfish fishery

Because the open access groundfish fishery consists of vessels that do not necessarily depend on revenue from the fishery as a major source of income and predominately fish for other species where they inadvertently catch and land groundfish, understanding the level of dependency that participants in this fishery have on groundfish should be considered in light of their overall fisheries revenues. Table 3.3.2.4 shows the number of open access vessels by vessel length and level of dependency (proportion of annual revenue) on the groundfish fishery and Table 3.3.2.5 shows the number of open access vessels by gross income levels of dependency for all West Coast landings. Between November 2000 and October 2001, 1,287 vessels landed groundfish in the open access sector of the groundfish fishery. Of these vessels, 771 vessels (60%) had a greater than 5% dependency on the groundfish fishery with 345 of these vessels having a 95-100% level of dependency of groundfish. The open access fishery is dominated by vessels under 40 feet in length, with 675 (88%) of the vessels with a greater than 5% dependency on groundfish being less than 40 feet and 741 (96%) of the vessels less than 50 feet in length. Fifty eight percent of the vessels (200) with a greater than 95 percent dependency on groundfish had less than \$5,000 of gross income from West Coast landings. A greater proportion of vessels with lower levels of dependency on groundfish fell within income categories greater than \$5,000. However, increases in higher valued groundfish catch in 2003 (primarily sablefish) may reduce the proportion of open access vessels in the lowest (<\$5,000) income category.

**Table 3.3.2.4 Number of open access vessels by level of dependency and vessel length (based on data from November 2000 - October 2001) a/**

	<40'	40'-50'	50'-60'	60'-70'	70'-150'	Unspecified	Total
<5%	324	109	29	28	25	1	516
>5% &<35%	154	32	6	4	1	0	197
>35% &<65%	96	8	1	0	0	0	105
>65% &<95%	115	5	0	0	1	3	124
>95% &<100%	310	21	5	2	0	7	345

Extracted from table 6-18a DEIS, Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2005-2006 Pacific Coast Groundfish fishery

a/ open access vessels with more than half of their total landings value coming from groundfish are considered to be in the directed fishery

**Table 3.3.2.5 Number of open access vessels by gross income levels of dependency for all West Coast landings (based on data from November 2000 - October 2001) a/**

	Exvessel revenue from West Coast landings				Total
	<\$5,000	\$5,000-\$50,000	\$50,000-\$200,000	>\$200,000	
<5%	45	268	169	34	516
>5% &<35%	52	1001	44	0	197
>35% &<65%	47	50	8	0	105
>65% &<95%	63	55	6	0	124
>95% &<100%	200	138	7	0	345

Extracted from table 6-17a DEIS, Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2005-2006 Pacific Coast Groundfish fishery

a/ open access vessels with more than half of their total landings value coming from groundfish are considered to be in the directed fishery

Table 3.3.2.6 shows historical landings of overfished species in the open access fishery prior to implementation of RCAs and state requirements for regarding the use of finfish excluders on vessels targeting pink shrimp. Historically, most of the open access fishing activity occurs in the nearshore and shelf areas. As a result, bocaccio, canary rockfish, lingcod, yelloweye rockfish, and cowcod have been encountered more frequently than the other overfished species. Deeper slope species such as darkblotched rockfish and POP, and widow rockfish, which is more vulnerable to trawl gear, have been taken in smaller proportions relative to the entire commercial open access fishery. Projected catches of overfished species in the open access sectors of the 2005 groundfish fishery are presented in Table 3.3.2.7.

**Table 3.3.2.6 Historical landings of overfished species by commercial fishers prior to the implementation of RCAs and state requirements for finfish excluders on pink shrimp vessels, 1999-2001** (Extracted from table 6-14 DEIS, Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2005-2006 Pacific Coast Groundfish fishery)

	1999		2000		2001	
	OA landed catch (mt)	OA & LE landed catch (mt)	OA landed catch (mt)	OA & LE landed catch (mt)	OA landed catch (mt)	OA & LE landed catch (mt)
Bocaccio	Non-shrimp-22.8 Shrimp-0.2 Total-23.0	58.5 (40% OA)	Non-shrimp-5.9 Shrimp-0.0 Total- 5.9	24.6 (24% OA)	Non-shrimp-6.4 Shrimp-0.1 Total- 6.5	22.8 (3.5% OA)
Canary rockfish	Non-shrimp-56.6 Shrimp-21.3 Total- 77.9	642.2 (12% OA)	Non-shrimp-5.0 Shrimp-7.2 Total-12.2	55.8 (22% OA)	Non-shrimp-2.8 Shrimp-2.0 Total- 4.8	36.2 (13% OA)
Cowcod	Non-shrimp-2.2 Shrimp-0.2 Total- 2.4	6.5 (37% OA)	Non-shrimp-0.4 Shrimp-0.1 Total- 0.5	2.4 (21% OA)	Non-shrimp-0.0 Shrimp-0.0 Total- 0.0	0.8 (0% OA)
Darkblotched rockfish	Non-shrimp-0.1 Shrimp-2.0 Total- 2.1	284.3 (0.7% OA)	Non-shrimp-0.5 Shrimp-0.0 Total- 0.5	218.8 (0.2% OA)	Non-shrimp-0.2 Shrimp-0.0 Total- 0.2	143.1 (0.1% OA)
Lingcod	Non-shrimp-84.7 Shrimp-17.5 Total- 102.2	354.5 (29% OA)	Non-shrimp-49.0 Shrimp-9.1 Total- 58.1	143.5 (40% OA)	Non-shrimp-63.5 Shrimp-5.5 Total- 69	147.8 (47% OA)
POP	Non-shrimp-0.2 Shrimp-0.1 Total- 0.3	481.8 (0% OA)	Non-shrimp-0.0 Shrimp-0.1 Total- 0.1	140.6 (0% OA)	Non-shrimp-0.0 Shrimp-0.0 Total- 0.0	187.6 (0% OA)
Widow rockfish	Non-shrimp-41.4 Shrimp-4.6 Total- 46	3,903.5 (1% OA)	Non-shrimp-17.7 Shrimp-1.7 Total- 19.4	3,787.5 (0.5% OA)	Non-shrimp-13.0 Shrimp-0.6 Total- 13.6	1,765 (0.8% OA)
Yelloweye rockfish	Total-15.4	83.5 (18% OA)	Total- 2.9	8.95 (32% OA)	Total- 2.9	12.0 (24% OA)

**Table 3.3.2.7 Total catch projections of overfished species in the 2005 open access fisheries.** (Extracted from table2-13a DEIS, Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2005-2006 Pacific Coast Groundfish fishery)

	2005 bycatch projections (mt)							
	Bocaccio	Canary rockfish	Cowcod	Darkblotched rockfish	Lingcod	POP	Widow	Yelloweye
Groundfish directed	10.6	1.0	0.1	0.2	70.0	0.1		0.6
California Halibut	0.1			0.0	2.0	0.0		
California Gillnet	0.5			0.0		0.0	0.0	
California Sheephead				0.0		0.0	0.0	0.0
CPS wetfish	0.3							
CPS squid								
Dungeness crab	0.0		0.0	0.0		0.0		
HMS		0.0	0.0	0.0				
Pacific Halibut	0.0		0.0	0.0		0.0	0.0	0.5
Pink Shrimp	0.1	0.5	0.0	0.0	0.0	0.0	0.1	0.1
Ridgeback prawn	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Salmon troll	0.2	1.6	0.0	0.0	0.0	0.0	0.0	0.2
Sea cucumber	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spot prawn (trap)								
Total OA Projected catch	11.9	3.1	0.1	0.2	72.0	0.1	0.1	1.4

Fishery managers divide the open access sector into directed and incidental categories. The directed fishery comprises vessels targeting groundfish while the incidental fishery category applies to vessels targeting other groundfish but landing some groundfish in the process. It is difficult to segregate vessels into these two categories because the choice depends on the intention of the fisher. Over the course of a year—or even during a single trip—a fisher may engage in several different strategies, switching between the directed and incidental categories. Such changes in strategy are likely the result of a variety of factors, but especially the potential economic return from landing a particular mix of species.

In the directed open access fishery, fishers target groundfish in the “dead” and/or “live” fish fishery using a variety of gears. The terms dead and live fish fisheries refers to the state of the fish when they are landed. The dead fish fishery has historically been the most common way to land fish. The dead fish fishery made up 80% of the directed open access landings by weight coastwide in 2001. More recently, the market value for live fish has increased landings of live groundfish. The other component of the open access fishery is the incidental catch of groundfish in fisheries targeting other species (e.g., shrimp, salmon, highly migratory species, squid). Combining both the directed and incidental fisheries, the commercial groundfish open access fishery is potentially very large and includes a variety of gear types.

**Table 3.3.2.5. Open access groundfish landings by gear group, 2000 - 2003 (based on 8/24/04 PacFin data)**

Open access gear group	Number of vessels landing groundfish	Landed weight of groundfish (mt)	Exvessel revenue of groundfish (\$)	Exvessel revenue per vessel (\$)
Longline - all groundfish a\				
2000	399	435	1,847,800	4,627
2001	392	408	1,656,395	4,221
2002	287	349	1,268,537	4,422
2003	307	507	1,728,038	5,625
4-year average	346	425	1,625,193	4,724
Longline - groundfish directed b\				
2000	133	399	1,679,851	12,619
2001	115	367	1,466,101	12,765
2002	96	318	1,129,437	11,733
2003	113	469	1,541,727	13,610
4-year average	114	388	1,454,279	12,682
Longline - CA Halibut				
2000	4	3	24,226	6,057
2001	2	3	29,774	14,887
2002	2	1	5,352	2,676
2003	0	0	0	0
4-year average	2	2	19,784	7,873
Pot - groundfish directed c\				
2000	28	164	834,087	29,789
2001	34	145	720,680	21,196
2002	35	124	573,289	16,380
2003	41	194	763,732	18,628
4-year average	35	157	722,947	21,498
Pot - Dungeness crab				
2000	71	45	165,638	2,333
2001	63	29	124,674	1,979
2002	63	34	149,311	2,370
2003	61	39	173,518	2,845
4-year average	65	37	153,285	2,382
Pot - prawn/shrimp				
2000	12	1	3,973	331
2001	10	5	21,569	2,157
2002	8	1	9,869	1,234
2003	7	6	25,635	3,662
4-year average	9	3	15,262	1,846
Pot - sheephead				
2000	49	4	43,446	887
2001	40	3	30,770	769
2002	36	9	58,951	1,638
2003	22	1	14,542	661
4-year average	37	5	36,927	989
Trawl - sea cucumber				
2000	3	0.1	189	63
2001	10	0.8	1,649	165
2002	8	0.8	2,962	370
2003	6	0.3	650	108
4-year average	7	1	1,363	177
Trawl - CA halibut				
2000	24	22	38,697	1,612
2001	30	7	12,324	411
2002	21	6	12,961	617
2003	15	2	5,513	368
4-year average	23	9	17,374	752

Trawl -Ridgeback Prawn				
2000	28	11	28,468	1,017
2001	0	0	0	0
2002	0	0	0	0
2003	0	0	0	0
4-year average	--	--	--	--
Line gear - all groundfish a/				
2000	1,180	391	2,029,516	1,720
2001	1,175	418	2,136,846	1,818
2002	881	406	2,178,544	2,474
2003	641	326	1,614,643	2,521
4-year average	969	385	1,989,887	2,133
Line gear - CA halibut				
2000	< 285	10	32,419	114
2001	< 270	7	31,471	117
2002	< 250	5	31,333	125
2003	< 245	6	40,284	164
4-year average	< 263	7	33,877	129

a/ multiple records exist for landings with HKL gear that do not have an associated vessel id. The vessel count in this case is an estimate

b/ annual revenue of \$2,500 is used as a proxy for vessels that had efforts directed at groundfish

c\ if  $\geq 20\%$  of revenue was from groundfish, a vessel was assumed to have target groundfish at some point during the year

### **Open Access Directed Fisheries :**

Participation in the directed open access fishery segment varies between years. Participants may be moving into other, more profitable fisheries, or may have quit fishing altogether. Fishers use various gear types to target particular groundfish species. Hook-and-line gear, the most common open access gear type used by vessels directly targeting groundfish, is generally used to target sablefish, rockfish, and lingcod. Pot gear generally is used when targeting sablefish and some thornyheads and rockfish. Though largely restricted from use under current regulations, in the past in Southern and Central California setnet gear was used to target rockfish, including chilipepper, widow rockfish, bocaccio, yellowtail rockfish, and olive rockfish, and to a lesser extent vermilion rockfish.

Another important distinction in the directed segment is between fishers landing fish alive and dead. Although groundfish targeted by open access fishers are typically landed and sold dead, higher prices for live fish have stimulated landings in this category. Live fish harvests are a recent but growing component of the directed fishery: in 2001, 20% of fish landed (by weight, coastwide) by directed open access fishers was alive, compared to only 6% in 1996 (05-06 DEIS). In the live-fish fishery the fish are caught using pots, stick gear, and rod-and-reel, and kept aboard the vessel in a seawater tank, to be delivered to foodfish markets—such as the large immigrant Asian communities in California—that pay a premium for live fish. Currently, Oregon and California are drafting nearshore fishery management plans that would transition some species of groundfish landed in the live fish fishery from federal to state management.

**Open Access Incidental Fisheries:** Many fishers catch groundfish incidentally when targeting other species, because of the kind of gear they use and the co-occurrence of target and groundfish species in a given area. Managers classify vessels in the open access incidental fishery if groundfish comprise 50% or less of their landings, measured by dollar value. Fisheries targeting pink shrimp, spot prawn, ridgeback prawn, California and Pacific halibut, Dungeness crab, salmon, sea cucumber, coastal pelagic species, California sheephead, highly migratory species, and the mix of species caught in the gillnet complex comprise this incidental segment of the open access sector. These fisheries and associated target species are described below.

These incidental open access fisheries may also account for substantial amounts of bycatch, especially for overfished groundfish species. A range of fisheries, identified by the target species, comprise this sector. These include ocean (pink) shrimp, spot prawn, ridgeback prawn, California and Pacific halibut, Dungeness crab, salmon, sea cucumber, coastal pelagic species, highly migratory species, and the gillnet complex. A summary description of these fisheries follows.

**California Halibut:** The commercial California halibut fishery extends from Bodega Bay in northern California to San Diego in Southern California, and across the international border into Mexico. California halibut, a state-managed species, is targeted with hook-and-line, setnets and trawl gear, all of which intercept groundfish. Trawling for California halibut is permitted in federal waters (3-200 nm from shore) using trawl nets with a minimum mesh size of 4.5 inches. Trawling is prohibited within state waters (0-3 nm) except in the designated "California halibut trawl grounds," which encompass the area between Point Arguello (Santa Barbara County) and Point Mugu (Ventura County) in waters beyond 1 nm from shore. Bottom trawls used in this area must have a minimum mesh size of 7.5 inches and trawling is closed here from March 15 to June 15 to protect spawning adults. Also, California requires a nearshore trawl bycatch permit to land shallow nearshore rockfish, California scorpionfish, California sheephead, cabezon and greenlings. An open access trawler with a bycatch permit has been allowed to land a maximum of 50 pounds per landing of these species in recent years. Historically, commercial halibut fishers have preferred setnets because of these restrictions. Setnets with 8.5-inch mesh and maximum length of 9,000 feet are the main gear type used in Southern California. Setnets are prohibited in certain designated areas, including a Marine Resources Protection Zone, covering state waters (to 3 nm) south of Point Conception and waters around the Channel Islands to 70 fm, but extending seaward no more than 1 mile. In comparison to trawl and setnet landings, commercial hook-and-line catches are historically insignificant. Over the last decade, they have ranged from 11% to 23% of total California halibut landings. Most of those landings were made in the San Francisco Bay area by salmon fishers mooching or trolling slowly over the ocean bottom.

**Dungeness Crab** The Dungeness crab fishery is divided between treaty sectors, covering catches by Indian Tribes, and a non-treaty sector. The crab fishery is managed by the states of Washington, Oregon, and California with inter-state coordination through the Pacific States Marine Fisheries Commission. This fishery is managed by season, sex and size of crab. In Washington, the Dungeness crab fishery is managed under a limited entry system with two tiers of pot limits and a December 1 through September 15 season. In Oregon, 306 vessels made landings in 1999 during a season that generally starts on December 1. In California, distinct fisheries occur in Northern and Central California, with the northern fishery covering a larger area. California implemented a limited entry program in 1995 and as of March 2000, about 600 California residents and 70 non-residents had limited entry permits. Nonetheless, effort has increased with the entry of larger multipurpose vessels from other fisheries. Landings have not declined, but this effort increase has resulted in a "race for fish" with more than 80% of total landings made during the month of December.

**Pink shrimp:** The pink (ocean) shrimp fishery is managed with uniform coastwide regulations by the states of Washington, Oregon, and California. The Council has no direct management authority. The season runs from April 1 through October 31. Pink shrimp may be taken for commercial purposes only by trawl nets or pots. Most of the pink shrimp catch is taken with trawl gear with minimum mesh size of 3/8 inch to one inch between knots. In some years, the pink shrimp trawl fishery has accounted for a significant share of canary rockfish incidental catch. Since canary rockfish was designated as overfished, all canary rockfish harvests have been greatly restricted. To reduce bycatch of canary rockfish in the shrimp trawl fishery, the states have mandated the use of finfish excluders in trawl nets.

**Spot Prawn:** Spot prawn, which are targeted with both trawl and pot gear, are state-managed. Until late 2003, the prawn trawl fishery was categorized in the groundfish open access (exempted trawl) sector. California had the largest trawl prawn fishery, with about 54 vessels operating from Bodega Bay south to the U.S./Mexico border. All three states have banned the use of trawl gear for this species due to concerns over bycatch of overfished groundfish and other species. Standard gear was a single-rig shrimp trawl with roller gear, varying in size from eight-inch disks to 28-inch tires. In California, area and season closures for the trawl fleet were previously implemented to protect spot prawns in the Southern California Bight during their peak egg-bearing months of November through January. These closures, along with the development of ridgeback prawn, sea cucumber, and other fisheries, and also greater demand for fresh fish, kept spot prawn trawl landings low and facilitated growth of the trap fishery with a live prawn segment. The fleet operates from Monterey Bay - where 6 boats are based - to Southern California, where a 30 to 40 boat fleet results in higher production. In both fishing areas, traps are set at depths of 600 feet to 1,000 feet along submarine canyons or along shelf breaks. Between 1985 and 1991, trapping accounted for 75% of statewide landings; trawling accounted for the remaining 25% (Larson and Wilson-Vandenberg 2001). Landings continued to increase through 1998, when they reached a historic high of 780,000

pounds. Growth in participation and a subsequent drop in landings led to the development of a limited entry program.

**Pacific Halibut:** Pacific halibut harvest levels and gear restrictions are set by the International Pacific Halibut Commission (IPHC), with implementing regulations set by Canada and the U.S. in their own waters. A license from the IPHC is required to participate in the commercial Pacific halibut fishery. Commercial halibut fishers use bottom longline gear; any halibut caught in trawls or traps must be released. The commercial sector off the West Coast, (IPHC Area 2A) has both a treaty and non-treaty sector. The directed commercial fishery in Area 2A is confined to south of Point Chehalis, Washington, Oregon, and California. In the non-treaty commercial sector, 85% of the harvest is allocated to the directed halibut fishery and 15% to the salmon troll fishery to allow incidental catch. When the Area 2A total allowable catch (TAC) is above 900,000 pounds, halibut may be retained in the limited entry primary sablefish fishery north of Point Chehalis, Washington (46°53'18" N latitude). Since 2001, the TAC has been above this threshold and permits have been issued for vessels in the primary sablefish fishery that land incidentally caught halibut. Area 2A licenses, issued for the directed commercial fishery were as follows: in 2000 268 permits were issued; in 2001, 320 permits were issued; in 2002, 252 permits were issued; and in 2003, 260 permits were issued.

**Salmon Troll:** The ocean commercial salmon fishery, both non-treaty and treaty, is under federal management with a suite of seasons and total allowable harvest. The Council manages fisheries in the EEZ, while the states manage fisheries in their waters (within 3 nm). All ocean commercial salmon fisheries off the West Coast states use troll gear. Chinook and coho are the principal target species with limited pink salmon landings in odd-years. However, commercial coho landings fell precipitously in the early 1990s and remain very low. Reductions in landings are mainly due to diminished opportunity as salmon populations declined. Many natural salmon runs on the West Coast have been listed under the ESA. Ocean fisheries are managed based on zones that reflect the distribution of salmon stocks and are structured to allow and encourage capture of hatchery-produced stocks while depressed natural stocks are avoided.

**Ridgeback Prawn:** The ridgeback prawn fishery is managed by the State of California. In 2003, California has also prohibited trawling for this species due to concerns about bycatch of overfished groundfish and other species in this fishery. Ridgeback prawns occur from Monterey, California to Cedros Island, Baja, California, at depths ranging from less than 145 feet to 525 feet. According to Sunada *et al.* (2001) this fishery occurs exclusively in California, centered in the Santa Barbara Channel and off Santa Monica Bay. In 1999, 32 boats participated in the ridgeback prawn fishery. Traditionally, a number of boats fish year-round for both ridgeback and spot prawns, targeting ridgeback prawns during the closed season for spot prawns and vice versa. Most boats typically used single rig trawl gear. Prior to the trawl prohibition, the fishery was closed during June through September to protect spawning female and juvenile ridgeback prawns. An incidental take of 50 pounds of prawns or 15% by weight was allowed during the closed period. During the season, a maximum of 1,000 pounds of other finfish could be landed with ridgeback prawns, of which no more than 300 pounds per trip could be groundfish, per federal regulation. Other regulations included a prohibition on trawling within state waters, a minimum fishing depth of 25 fm, a minimum mesh size of 1.5 inches for single-walled codends or 3 inches for double-walled codends and a logbook requirement.

**Sea Cucumber:** Along the West Coast, sea cucumbers are harvested by diving or trawling. Only the trawl fishery for sea cucumbers, which is also classified as an open access (exempted trawl) fishery, is allowed an incidental catch of groundfish. Sea cucumbers are managed by the states. In Washington, the sea cucumber fishery only occurs inside Puget Sound and the Strait of Juan de Fuca. Most of the Washington harvest is taken by diving, although the tribes can also trawl for sea cucumbers in these waters. Two species of sea cucumbers are fished in California: the California sea cucumber, also known as the giant red sea cucumber, and the warty sea cucumber. The warty sea cucumber is fished almost exclusively by divers. The California sea cucumber is caught principally by trawling in southern California, but is targeted by divers in northern California. In 1997, the state established separate, limited entry permits for the dive and trawl sectors. Permit rules encourage transfer to the dive sector, which now accounts for 80% of landings. There are currently 113 sea cucumber dive permittees and 36 sea cucumber trawl permittees. Many commercial sea urchin and/or abalone divers also hold sea cucumber permits and began targeting sea cucumbers more heavily beginning in 1997. At up to \$20 per pound wholesale for processed sea cucumbers, there is a strong incentive to participate in this fishery.

**Coastal Pelagic Species (CPS):** CPS include northern anchovy, Pacific sardine, Pacific (chub) mackerel, jack mackerel and market squid. They are largely landed with round haul gear (purse seines and lampara nets). Vessels using round haul gear are responsible for 99% of total CPS landings and revenues per year. The southern California round haul fleet is the most important sector of the CPS fishery in terms of landings. This fleet is primarily based in Los Angeles Harbor, along with fewer vessels in the Monterey and Ventura areas. The fishery harvests Pacific bonito and tunas as well as CPS. The fleet consists of about 40 active purse seiners averaging 20 m in length. Although these fisheries are concentrated in California, CPS fishing also occurs in Washington and Oregon. In Washington, the sardine fishery is managed under the Emerging Commercial Fishery provisions as a trial commercial fishery. The target of the trial fishery is sardines; however, anchovy, mackerel, and squid are also landed. The fishery is limited to vessels using purse seine gear. It is also prohibited inside of three miles and logbooks are required. Eleven of the 45 permits holders participated in the fishery in 2000, landing 4,791 mt of sardines. Three vessels accounted for 88% of the landings. Of these, two fished out of Ilwaco and one out of Westport. In Oregon, the sardine fishery is managed under the Developmental Fishery Program with annually-issued permits, which have ranged from 15 in 1999 and 2000 to 20 in 2001. Landings, almost all by purse seine vessels, have rapidly increased in Oregon: from 776 mt in 1999 to 12,798 mt in 2001. The number of vessels increased from three to 18 during this period.

The Council manages these fisheries under its CPS FMP. Because stock sizes of these species can radically change in response to ocean conditions, the CPS FMP takes a flexible management approach. Pacific mackerel and Pacific sardine are actively managed through annual harvest guidelines based on periodic assessments. In 2003, the Council established an interim management line for allocation of the annual Pacific sardine harvest guideline. The management line splitting the northern and southern components of the fishery occurs now at Point Arena (~39° N latitude). Northern anchovy, jack mackerel, and market squid are monitored through commercial catch data. If appropriate, one third of the harvest guideline is allocated to Washington, Oregon, and northern California (north of 35°40' N latitude) and two-thirds is allocated to southern California (south of 35°40' N latitude). An open access CPS fishery is in place north of 39° N latitude and a limited entry fishery is in place south of 39° N latitude. The Council does not set harvest guidelines for anchovy, jack mackerel, or market squid.

**Highly Migratory Species Fisheries:** HMS include tunas, billfishes, dorado and sharks. Management of HMS is complex due to the multiple management jurisdictions, users, and gear types targeting these species. Adding to this complexity are oceanic regimes that play a major role in determining species availability and which species will be harvested off the U.S. West Coast in a given year. The states currently regulate the harvest of HMS but the Council is in the process of implementing an FMP for fisheries prosecuted in the West Coast EEZ or by vessels originating from West Coast ports fishing beyond the EEZ. There are five distinctive gear types used to harvest HMS commercially, with hook-and-line gear being most common. Other gear types used to target HMS are driftnet, pelagic longline, purse seine, and harpoon. While hook-and-line can be used to take any HMS species, traditionally it has been used to harvest tunas. Drift gillnet for swordfish, tunas and sharks off California and Oregon is most likely to intercept groundfish, including spiny dogfish and yellowtail rockfish. Albacore is commonly caught with troll gear. The majority of albacore are taken by troll and jig-and-bait gear (92% in 1999), with a small portion of fish landed by gillnet, drift longline, and other gear. These gears vary in the incidence of groundfish interception depending on the area fished, time of year, as well as gear type. Overall, nearly half of the total landings of albacore (millions of pounds coastwide) were landed in California. Other gear includes pelagic longline, used to target swordfish, shark and tunas; and harpoon for swordfish off California and Oregon. Some vessels, especially longliners and purse seiners, fish outside of the U.S. EEZ, but may deliver to West Coast ports.

**California Gillnet Complex:** The gillnet complex is managed by the State of California and comprises two gear types. Fishers use setnets to target California halibut (discussed above), white seabass, white croaker, and sharks. Drift nets are used for California halibut, white croaker, and angel shark. Most of the commercial catch is sold in the fresh fish market, although a small amount is used for live bait. Currently, the only restriction on catches of white croaker off California is a small no-take zone off Palos Verdes peninsula. In the early 1990s, California's set gillnet fishery was subject to increasingly restrictive state regulations addressing high marine bird and mammal bycatch mortality. This forced the fleet into deeper water where shelf rockfish became their primary target. However, as open access rockfish limits became smaller, there was a shift from targeting shelf rockfish with setnets to the use of line gear in the more lucrative nearshore live-fish fishery. Thus, many fishers that were

historically setnet fishers have changed their target strategy in response to increasing restrictions and changing market value.

**Shorebased Processing Sector** [Section to be complete by November]

**Fishing Communities** [Section to be complete by November]

### **Enforcement**

Scarce State and Federal resources also limit the use of traditional enforcement methods. Traditional fishery monitoring techniques include air and surface craft surveillance, declaration requirements, landing inspections, and analysis of catch records and logbooks. Current assets for patrolling offshore areas include helicopter and fixed wing aircraft deployed by the U.S. Coast Guard and state enforcement entities, one large 210 foot Coast Guard cutter, and smaller Coast Guard and state enforcement vessels. Only the aircraft and large cutter are suitable for patrolling the more distant offshore closed areas. The availability of Coast Guard assets may be challenged by other missions such as Homeland Security and search and rescue

Shoreside enforcement activities complement at-sea monitoring and declaration requirements by inspecting recreational and commercial vessels for compliance with landing limits, gear restrictions, and seasonal fishery closures. State agencies are increasingly using dockside sampling as a means of assessing groundfish catch in recreational fisheries, which when combined with state and federal enforcement patrols at boat launches and marinas, provides a means of ensuring compliance with bag limits and fishery closures. Commercial landings are routinely investigated upon landing or delivering to buying stations or processing plants and can be tracked through fish ticket and logbook records.

#### 4.0 IMPACTS OF THE ALTERNATIVES

**Table 4.0.1 Summary of Biological and Socio-economic Impacts of the Monitoring System Alternatives from Sections 4.1 - 4.3.5**

	<b>Alternative 1</b> Status quo:	<b>Alternative 2</b> Vessels using longline gear	<b>Alternative 3</b> Vessels using longline or pot gear	<b>Alternative 4</b> Vessels using longline, pot or trawl (except shrimp trawl) gear	<b>Alternative 5</b> Vessels using longline, pot, trawl (except shrimp trawl) or line gear (except salmon troll)
<b>Biological indicators</b>					
<u>Fishing mortality</u> -- Incidental catch of overfished species in the conservation areas		<p>* <u>Fishing effort</u>: may be better understood for OA vessels using longline gear to target groundfish approx. 114 vessels, and 275 vessels that land Pac. halibut taken with longline gear. May also be available for HMS OA vessels using longline gear.</p> <p>* <u>Overfished species bycatch estimates</u> may be refined if position and effort data can be joined with OA longline bycatch data. No Overfished species catch is projected in 2005 for HMS vessels using longline gear.</p> <p>* <u>Integrity of closed areas</u>: Because it improves the ability to maintain the integrity of fixed gear RCAs in relation to longline activities, it reduces the risk of exceeding an OY for the higher risk species such as bocaccio, lingcod, yelloweye rockfish and canary rockfish. However, there is no change over alt 1 for HMS longline vessels that are not projected to catch overfished species</p>	<p>* <u>Fishing effort</u>: may be better understood for approx. 35 vessels using pot gear to target groundfish; and 65 dungeness crab, 9 prawn, and 37 sheephead OA vessels using pot gear, plus those identified in alt.2</p> <p>* <u>Overfished species bycatch estimates</u> Same as alt 2, but adds pot vessels. Increased data from groundfish pot vessels only. No overfished species catch is projected in 2005 for Dungeness crab, prawn or sheephead vessels using pot gear.</p> <p>* <u>Integrity of closed areas</u>: Same as alt 2, but adds pot vessels. No change over alt 1 for Dungeness crab, prawn or sheephead pot vessels that are not projected to catch overfished species</p>	<p><u>Fishing effort</u>: may be better understood for approx. 7 sea cucumber and 23 CA halibut. Groundfish have been landed by prawn trawlers since 2000. OA vessels using exempted trawl gear, plus those identified in alt. 2 &amp; 3.</p> <p>* <u>Overfished species bycatch estimates</u> Same as alt 2, but adds pot and trawl (except shrimp trawl) vessels. Increased data from CA halibut. No overfished species catch is projected in 2005 for OA sea cucumber vessels using trawl gear.</p> <p>* <u>Integrity of closed areas</u>: Same as alt 2, but adds pot and trawl (except shrimp trawl) vessels. No change over alt 1 for sea cucumber trawl vessels that are not projected to catch overfished species</p>	<p><u>Fishing effort</u>: may be better understood for approx 969 vessels using line gear to target groundfish, and 263 CA halibut OA vessels using line gear, plus those identified in alt. 2, 3 &amp; 4. May also be available for HMS OA vessels using line gear.</p> <p>* <u>Overfished Species bycatch estimates</u> Same as alt 2, but adds pot, trawl (except shrimp trawl) or line gear (except salmon troll) vessels. Increased data from vessels targeting groundfish with line gear and OA CA halibut vessels using line gear. No Overfished species catch is projected in 2005 for HMS vessels using line gear.</p> <p>* <u>Integrity of closed areas</u>: Same as alt 2, but adds pot, trawl (except shrimp trawl) and line gear (except salmon troll) vessels. No change over alt 1 for HMS line vessels that are not projected to catch overfished species</p>
<u>Ability to understand effort shifts</u> --To project impacts on juveniles, other fishery resources, or habitat	* Declaration reports may be used to estimate the number of vessels/trips in conservation areas by exempted trawl vessels	<p>* <u>Accurate harvest location data</u> needed to understand impacts on juveniles and other fishery resources would be available for OA longline gear.</p> <p>* Declaration reports may be used to estimate the number of vessels/trips in conservation areas by exempted trawl vessels and OA longline vessels</p>	<p>* <u>Accurate harvest location data</u> may be better understood for approx. 35 vessels using pot gear to target groundfish; and 65 Dungeness crab, 9 prawn, and 37 sheephead OA vessels using pot gear, plus those identified in alt.2</p> <p>* <u>Declaration reports</u> Same as alt 2, but adds pot vessels</p>	<p>* <u>Accurate harvest location data</u> may be better understood for approx X prawn, 7 sea cucumber and 23 CA halibut OA vessels using exempted trawl gear, plus those identified in alt.2 &amp; 3.</p> <p>* <u>Declaration reports</u> Same as alt 2, but adds pot and trawl (except shrimp trawl) vessels.</p>	<p>* <u>Accurate harvest location data</u> may be better understood for approx 969 vessels using line gear to target groundfish, and 263 CA halibut OA vessels using line gear, plus those identified in alt. 2, 3 &amp; 4. May also be available for HMS OA vessels using line gear.</p> <p>* <u>Declaration reports</u> Same as alt 2, but adds pot, trawl (except shrimp trawl) or line gear (except salmon troll) vessels.</p>

Socio-economic indicators					
Availability of information for enforcement -- for efficiency in the use of enforcement resources	* <u>Declaration reports</u> may aid in identifying vessels legally fishing in conservation areas by exempted trawl vessels	* <u>Deterrence</u> : May deter illegal longline fishing in GCAs by OA vessels  * <u>Inspections</u> : May be used to target landing and at-sea inspections of vessels using longline gear in the OA fishery  * <u>Surveillance</u> : May be used to increase efficiency of surveillance patrols for OA vessels using longline gear  * <u>Homeland security</u> : May benefit homeland security activities  * <u>Enforcement Action</u> : May be used as basis for enforcement action	* <u>Deterrence</u> May deter illegal longline & pot fishing in GCAs by OA vessels  * <u>Inspections</u> : May be used to target landing and at-sea inspections of vessels using longline & pot gear in the OA fishery  * <u>Surveillance</u> : Same as alt 2, but adds pot vessels  * <u>Homeland security</u> Same as alt 2  * <u>Enforcement Action</u> Same as alt 2	* <u>Deterrence</u> May deter illegal longline, pot and exempted trawl fishing in GCAs by OA vessels  * <u>Inspections</u> : May be used to target landing and at-sea inspections of vessels using longline, pot and exempted trawl gear in the OA fishery  * <u>Surveillance</u> : Same as alt 2, but adds pot and trawl (except shrimp trawl) vessels.  * <u>Homeland security</u> Same as alt 2  * <u>Enforcement Action</u> Same as alt 2	* <u>Deterrence</u> May deter illegal longline, pot, exempted trawl and line fishing in GCAs by OA vessels  * <u>Inspections</u> : May be used to target landing and at-sea inspections of vessels using longline, pot, exempted trawl and line gear in the OA fishery  * <u>Surveillance</u> : Same as alt 2, but adds pot, trawl (except shrimp trawl) or line gear (except salmon troll) vessels.  * <u>Homeland security</u> Same as alt 2  * <u>Enforcement Action</u> Same as alt 2
Availability of information for management -- for measuring the effectiveness of management measures		* Can be used to improve understanding of depth ranges in which fisheries occur			
<u>The effects on harvesters, processors, and communities</u> from depth-based management regime for OA fisheries	[to be completed by November]	[to be completed by November]	[to be completed by November]	[to be completed by November]	[to be completed by November]
Cost burden -- initial and long-term	\$0	* <u>Per vessel costs</u> : Includes installation, unit purchase, transmission costs, maintenance, replacement costs, exemption and declaration reports. Year 1 - \$1,983- \$5,603 (\$783-\$1,800 if an acceptable unit already on vessel for other fishery). Subsequent years - \$780-\$2,870	* <u>Per vessel costs</u> : Same as alt 2	* <u>Per vessel costs</u> : Same as alt 2	* <u>Per vessel costs</u> : Same as alt 2
Safety of human life -- search and rescue efficiency		* Distress signal may reduce response time in emergency for OA vessels using longline gear	* Same as alt 2, but adds pot vessels	* Same as alt 2, but adds pot and trawl (except shrimp trawl) vessels.	* Same as alt 2, but adds pot, trawl (except shrimp trawl) or line gear (except salmon troll) vessels.

#### 4.1 Physical Impacts

Physical impacts associated with fishery management actions generally result from changes to the physical structure of the benthic environment as a result of fishing practices. This action pertains to a program that is expected to provide information needed to monitor fishing locations in relation to time/area closures. There are no distinguishable differences in physical impacts between the alternatives. The physical impact of the proposed actions are not expected to be different from the status quo alternative because the alternatives are for the expended coverage of a monitoring program which is intended to monitor fishing activities are already occurring under status quo. The DEIS prepared for the 2005 -2006 annual specifications and management measures addresses the physical impacts on the environment **under the status quo alternative.**

#### 4.2 Biological Impacts [Section to be completed by November]

This section forms the analytic basis for comparing possible direct and indirect biological impacts across the alternatives. Direct effects are caused by the action and occur at the same time and place, while indirect effects occur later in time and are further removed in distance from the direct effects (40 CFR 1508.27). The impacts of each alternative on one or more components of the biological environment are discussed in sections 4.2.1 through 4.2.3 below.

##### 4.2.1 Fishing mortality - incidental catch of overfished species

Direct effects on fishing mortality include the removal of target and non-target species (incidental catch) from the environment. Because this action would expand the VMS program to the open access gear sectors to monitor fishing location in relation to time-area closures, no direct biological impacts are expected to result from any of the alternatives. However, if the integrity of the closed areas is not adequately maintained, harvest assumptions could be inaccurate which could result in indirect effects such as unaccounted for removals. This is especially a concern for overfished species with low OYs.

At the beginning of 2003, the Council sought a management strategy that would allowed fishing to continue in areas and with gears that could harvest healthy stocks with little incidental catch of the low abundance or overfished species. Management measures since 2003 have been intended to keep harvests of overfished species within the OYs established for rebuilding. Large scale depth related areas, referred to as rockfish conservation areas, are being used to prohibit both commercial and recreational fishing across large portions of the continental shelf. Depth-based management lines have been used to define the conservation areas.

Depth-based management measures are gear-specific. Gear-specific measures are necessary, because the various overfished species are not encountered at the same rate by the different gear types. Prohibiting or restricting the use of a gear type that a particular overfished species is vulnerable reduces the incidental catch and keeps the total catch of that species from exceeding the OY, while providing fishing opportunity for more abundant stocks in times and areas where incidental catch and discard of the depleted stocks is lowest.

The fishing mortality level (total catch level) for each species is the sum of retained catch and discarded catch (incidental or targeted catch that is not retained and landed by the vessel). To monitor the attainment of an OYs, the total catch level must be estimated for each species or species group. There is no exact measure of discard amounts in most fisheries. For all species except lingcod, sablefish, and nearshore rockfish species, it is assumed that discarded fish are dead or die soon after being returned to the sea. Since 2003, depth-related discard assumptions have been made (detailed in the preamble of the proposed rule for the 2003 Annual Specifications and Management Measures; January 7, 2003, 68 FR 936). The revised discard assumptions reflect the areas where vessel activity is expected to occur rather than where they historically operated. Data provided by VMS could provide information regarding the distribution of fishing effort in the open access fisheries that could be used in combination with bycatch data from other sources, such as observer or survey data, to improve the estimates of total catch.

If the integrity of the closed areas cannot be maintained, the risk of exceeding an OY is increased, with the risk being greatest for species most frequently encountered by the open access gears (bocaccio, lingcod, yelloweye rockfish and canary rockfish), which the closed areas are intended to protect. Incursions into the conservation areas and the use of prohibited gear types could result in higher catch of the protected species than had been estimated in discard assumptions. If the true discard rates are higher than the discard assumptions used to estimate total catch, the OYs could unknowingly be exceeded. If the OYs are substantially exceeded, a stock's ability to rebuild could be impaired. If a "rebuilding deficit" is created for an overfished stock because the OY is exceeded, the stock may not be able to recover within the specified rebuilding time. For stocks in the precautionary zone (B25%-B40%), the stock biomass could be further reduced, possibly leading to an overfished status.

Coverage refers to that portion of the overall fishing fleet that would be required to have VMS or observers on board in order to participate in the fishery. Alternative 2 would require the smallest proportion (longline) of the open access fishery to have and use VMS while Alternative 5 would require the largest proportion (longline, pot, trawl, and line gear). Alternative 5 would be the most beneficial for estimating total catch and monitoring the attainment of OYs in the long-term. This is because Alternative 5 would provide the most amount of information on fishing locations for the greatest number participants. However, at this time there is very little data (observer or otherwise) from open access vessels on the amounts and types of bycatch in their fisheries. In the short-term, using effort data obtained from a VMS system to estimate total catch and to monitor the attainment of OYs will be limited until more data becomes available. [Therefore, in the short-term there would be little differences between the alternatives 2-5.](#)

#### 4.2.2 Ability to understand effort shifts to project impacts on groundfish, other resources, or habitat

Very little is known about fishing patterns by location or how effort has shifted from closed areas to the remaining open fishing areas. Because logbook data is only available for the limited entry trawl fleet, this lack of understanding is especially true for commercial vessels that are not part of that fleet. Little specific information on fishing locations is available for open access vessels.

The depth-based conservation areas have restricted particular gears from fishing on large portions of the continental shelf. This was expected to result in effort shifts to open areas that are shoreward and seaward of the conservation areas. Smaller vessels are generally not able to withstand rough seas as well as larger vessels. Much of the open access groundfish fleet is comprised of small vessels, which means that most of the effort tends to be in waters that are shoreward of the conservation areas. Because juveniles that have settled tend to be found in shallower water than adults who tend to occupy different communities, the juvenile rockfish could be affected by increased effort shifts into nearshore areas. Rockfish that may benefit from data on fishing effort shoreward of the conservation area include: chilipepper rockfish and several minor rockfish species (bank, black, blue, brown, calico, china, copper, flag, freckled, halfbanded, honeycomb, Mexican, olive, pink, pinkrose, pygmy, quillback, rosy, speckled, squarespot, starry, whitespeckled, and vermilion). Juvenile rockfish that may benefit from data on fishing effort shoreward of the conservation area include: copper, cowcod, greenspotted, greenstriped, splitnose, widow, vermilion, and stripedtail. Effort data for fishing seaward of the conservation area would also likely be beneficial for projecting fishing impacts on the thornyhead rockfishes. Information collected under a monitoring system would also likely be beneficial to cabezon, lingcod, and sablefish (seaward and shoreward of the conservation area).

Knowing the amount of fishing effort that shifts into shallower depths is critical to understanding the direct effects on the adult and juveniles of the various groundfish species from conservation area management. The amount of information available for managers to understand where fishing effort is taking place and to [evaluate possible impacts on the adult and juvenile groundfish species varies between the alternatives.](#)

The VMS systems provide accurate harvest location data that could be used to estimate the distribution of fishing effort throughout the WOC. Because the VMS would be required to be operated continuously after a vessel fishes in the open access fishery in federal waters data from additional non-groundfish fisheries of the West Coast may also be available. When VMS position information is combined with data collected by at-sea observers, the impacts of the effort shift on adult and juvenile population could be better understood. The response time for management to address unintended impacts resulting from effort shifts could be improved with VMS. However, ability to understand the extent of the impacts resulting from effort

shifts on groundfish and other resources would depend on the amount, availability and applicability of at-sea observer data for the different gears and sectors of the fishery.

Coverage refers to that portion of the overall fishing fleet that would be required to have VMS to participate in the fishery. Alternative 5 would require all open access vessels using longline, pot, trawl (except shrimp trawl) or line gear (except salmon troll) to carry and use VMS to fish in the EEZ. This alternative would be most beneficial to understanding effort shifts and projecting impacts related to fishing effort in the long-term because it would provide the most amount of information on fishing location and effort by the largest number of open access participants. However, at this time there is very little data (observer or otherwise) on catch composition and discard levels from open access vessels. In the short-term, using effort data obtained from a VMS system to estimate changes in effort and impacts on groundfish from the open access fisheries, will be limited until more data becomes available. Alternative 2, which applies only to longline vessels, would provide more data than is available under status quo but less than the other [alternatives that require VMS](#).

#### **4.2.3 Other Resources**

##### Nongroundfish species interactions

The action is to expand the VMS program to monitor the integrity of closed areas in relation to open access fishing activities. None of the management alternatives is expected to have an adverse effect on the incidental mortality levels of CPS, dungeness crab, Pacific pink shrimp, Pacific halibut, forage fish or miscellaneous species over what has been considered in previous NEPA analyses. Information on where fishing effort is occurring (Alternatives 3- 5) may be positive because it may allow NMFS observer data and data from other sources to be joined together to derive a better understand of potential fishing related impacts on these species.

##### Salmonids

The action is to expand the VMS program to monitor the integrity of closed areas in relation to open access fishing activities. None of the management alternatives is expected to have an adverse effect on the incidental mortality levels of listed salmon species over what has been considered in previous NEPA analyses. Information on where fishing effort is occurring (Alternatives 3- 5) may be positive because it may allow NMFS observer data and data from other sources to be joined together to derive a better understand of potential fishing related impacts on these species.

##### Marine Mammals

The action is to expand the VMS program to monitor the integrity of closed areas in relation to open access fishing activities. The West Coast groundfish fisheries are considered a Category III fisheries where the annual mortality and serious injury of a stock by the fishery is less than or equal to 1% of the PBR level (potential biological removal). Information on where fishing effort is occurring (Alternatives 3- 5) may be positive because it may allow NMFS observer data and data from other sources to be joined together to derive a better understand of potential fishing related impacts on these species.

##### Seabirds

The action is to expand the VMS program to monitor the integrity of closed areas in relation to open access fishing activities. None of the proposed management alternatives are likely to affect the incidental mortality levels of seabirds over what has been considered in previous NEPA analyses. Information on where fishing effort is occurring (Alternatives 3- 5) may be positive because it may allow NMFS observer data and data from other sources to be joined together to derive a better understand of potential fishing related impacts on these species.

##### Sea Turtles

The action is to expand the VMS program to monitor the integrity of closed areas in relation to open access fishing activities. None of the proposed management alternatives are likely to affect the incidental mortality levels of sea turtles over what has been considered in previous NEPA analyses. Information on where fishing effort is occurring (Alternatives 3- 5) may be positive because it may allow NMFS observer

data and data from other sources to be joined together to derive a better understand of potential fishing related impacts on these species.

#### Endangered Species

Species listed under the ESA are identified in section 3.2 of this EA. Specific discussion of species listed under the ESA can be found above in the sections titled salmonids, marine mammals, sea birds and sea turtles.

### **4.3 Socio-economic Impacts**

**[Section to be completed by November]**

### **4.3 Socio-economic Impacts**

This section of the EA looks at impacts, positive and negative, on the socio-economic environment. To the extent possible, these impacts include: changes in harvest availability to the different sectors of the fishery; changes in income and revenue; costs to participants; the effectiveness and costs of enforcing the management measures, affect on fishing and low income communities; and how the actions effect safety of human life at sea

#### 4.3.1 Availability of information needed to maintain the integrity of conservation areas and the efficiency in using enforcement resources to maintain the integrity of conservation areas

Implementing depth-based management measures over large geographic areas, such as from the U.S./Canada border to the US/Mexico border, marked the transition to a much greater dependence upon at-sea enforcement. Maintaining the integrity of the conservation areas is largely dependent upon the ability to enforce such management measures. In the past, fishery management measures, such as landing limits, size limits, and species landing restrictions were largely enforced by the relatively easy and inexpensive method of dockside enforcement. Enforcing depth-based closed areas represents a more costly and difficult challenge. To effectively enforce conservation areas, enforcement must be capable of patrolling the shoreward and seaward boundaries of the conservation areas.

At the present time there are 5 NMFS agents (3 additional job positions are currently vacant) covering the Pacific Coast groundfish fishery. These officers and agents are responsible for enforcing all conservation regulations in the Pacific Coast groundfish fishery (e.g. size limits, trip limits, gear restrictions, etc). They are also responsible for monitoring all other fisheries in those areas that are regulated by NMFS. In addition, there are XX state enforcement officers (XX [with an additional XX job vacancies] in California, X Oregon, and XX for Washington with X stationed on the coast) that cover the groundfish fishery as well as other state fisheries. At this time, state enforcement resources (personnel and budgets) are extremely limited.

Under status quo alternative, traditional enforcement methods would continue to be used to monitor the open access fleet activities in relation to the conservation areas. Of the alternatives, Alternative 1 would be the least efficient in using limited state and federal enforcement resources and likely the least effective in monitoring the integrity of conservation areas. Alternatives 2-5, which requires VMS and declaration reports for various gear groups in the open access fishery, would not replace or eliminate traditional enforcement measures, but would provide information that could aid enforcement in identifying vessels that are legally operating in the conservation areas from those that are fishing illegally. Alternative 5 would require all open access vessels using longline, pot, trawl (except shrimp trawl) or line gear (except salmon troll) to carry and use VMS to fish in the EEZ. This alternative would be most beneficial to enforcement because it would provide the most amount of information on fishing location. Alternative 2, which applies only to longline vessels, would provide more data than is available under status quo but less than the other alternatives that require VMS.

VMS would not replace or eliminate traditional enforcement measures such as aerial surveillance, boarding at-sea via patrol boats, landing inspections and documentary investigation. Traditional enforcement measures may need to be activated in response to information received via the VMS. VMS positions can be efficient in identifying possible illegal fishing activity and can provide a basis for further investigation by one or more of the traditional enforcement measures. VMS positions in themselves can also be used as the basis for an enforcement action. Vessel positions provided by observers would likely not be received in real time and would therefore be less efficient than those received from a VMS transceiver.

*Deterrent* - One of the major benefits of VMS is its deterrent effect. This has been observed and reported on through practical experience in Australia, New Zealand and the USA. It has been demonstrated that if fishing vessel operators know that they are being monitored and that a credible enforcement action will result from illegal activity, then the likelihood of that illegal activity occurring is significantly diminished. In this context, VMS is a preventive measure rather than a cure.

To be effective as a deterrent, the VMS program must maintain its credibility in the eyes of the vessel operators and its use must be kept at the forefront of their minds if the deterrent effect is to be maintained. The credibility of the system can only be maintained if all operational issues are followed up, particularly those that affect a vessel, such as failure of the vessel to report on schedule. The presence of the VMS equipment on the vessel will be a reminder to operators of its monitoring operation.

*Probable Cause and Targeted Investigations*: In an active sense, VMS will potentially show enforcement officers breaches of time/area restrictions. VMS can show officers those vessels that are following the rules as well those which are not. In doing so, it makes the activities of investigating officers much more cost effective because less time will be spent pursuing false trails and fishing operators who are following the rules. It may also be used to establish "probable cause" before pursuing some types of investigations, for example, in obtaining a search warrant. VMS may be of assistance in this situation because while not being evidence of sufficient significance by itself, it could provide sufficient evidence to lead an officer to believe that an illegal act had occurred.

*Landing and at-sea inspections* - In some cases, enforcement officers will have particular vessels or particular situations for which they may wish to conduct an at-sea or landing inspection, sometimes without warning to the vessel operator. Without VMS, it is extremely difficult to determine where a vessel is located at-sea or where and at what time it might enter port. VMS provides a good and reliable means of achieving this with potential savings in time and other expense in moving officers and aircraft or patrol vessels to the correct location at the appropriate time.

*Increasing efficiency of surveillance patrols* - Patrols by both sea and air will still be necessary for fully effective monitoring and management even with an effective VMS program. A patrolling aircraft or vessel can spend considerable time and fuel investigating legitimate fishing vessels that will appear on their radar. Providing access to VMS data for patrol craft can minimize the effort spent confirming radar contacts of vessels fishing legitimately. Further, identifying legitimate fishing vessels to patrol craft via VMS may help them choose particular contacts for more productive investigation when several contacts are made by radar.

*Homeland security*: Expansion of the VMS program clearly supports an enforcement mission and has indirect benefits to Homeland Security activities. NOAA believes that increased border security correlates directly with increased risk within our EEZ and along our coast line for illegal entry. In March 2002, the "Citizen Corps" initiative was announced, which includes the expansion of "Neighborhood Watch" to include the participation of ordinary citizens in detecting and preventing terrorism. Under "Coastal Watch", the Coast Guard requests fishers to report suspicious activities for investigation and intelligence purposes. Furthermore, critical decisions on the deployment of enforcement assets can be based on VMS surveillance reports. Satellite communication can also update essential information during a law enforcement response. Investigative methodologies would be enhanced via surveillance data maintained within VMS, such as easily identifying potential witnesses to incidents, locating U.S. vessels in areas of

suspicious activity for assistance and support and increased intelligence gathering capabilities. By expanding the number of U.S. fishing vessels operating with VMS, NOAA and fishers are expanding the capability to detect and prevent terrorism and other criminal activity in one of our most vulnerable areas, the U.S. Exclusive Economic Zone. VMS also supports the Coast Guard's "Coastal Watch" initiative, which was developed in response to their homeland defense activities.

#### 4.3.2 Availability of information needed to measure the effectiveness of management measures

Data gathered from commercial and recreational fisheries are essential for assessing the effectiveness of management regulations. Logbooks, landing surveys, VMS, and observers are different fishery dependent methods used to collect data on harvest location. Interception at sea by an independent vessel can also be used to obtain harvest location data. The cost of collecting data from the fishery participants tends to be lower than collecting the data from an independent source. This is because it is a byproduct of the fishing activity. Some forms of fishery dependent data, particularly unverified logbooks and landing surveys, are more subject to bias than other methods and their collection and use in measuring the effectiveness of management measures requires added care.

Alternative 2 -5 provide for expanded VMS coverage that has the potential of producing reliable and useful information for assessing the effectiveness of open access fishery management measures. At a minimum, the data can be used to efficiently monitor fishing location and to verify times and dates in observer data as well as assist in the interpretation of fishery data. It can also be used to provide information on days at sea and location data for the open access fleet where logbook data is generally not available.

Understanding where fishing effort is occurring in realtime may provide insight into understanding information reported on fish tickets and be useful in understanding how management measures affect fishing behavior. Knowing where a vessel is fishing as compared to where the catch is being landed, may be valuable in assessing the effectiveness of trip limit management lines and differential trip limits. The data provided by VMS are cost effective and accurate over large geographical areas. Accurate and timely data on fishing locations are necessary to assess effectiveness of closed areas and the overall results of the management scheme.

VMS data can be combined with observer data to assess the effectiveness of management measures. However, the value in combining observer data with VMS data for non-enforcement purposes depends on the amount of observer data on catch and discards that is available from the different gears and fishing strategies. At the current time there is little data on the open access fisheries. In the long term, when observer data becomes available, VMS may provide information that results in a better understanding of [fishery location and a spacial understanding of fish stocks](#).

Electronic logbooks that can be integrated with VMS transceivers with two-way communications have been developed. If electronic logbooks could be combined with a VMS system for all or a portion of the open access fisheries, there would be several benefits to management. First, there is only a single data entry function and this can be performed very soon after each fishing operation is completed (at-sea or shoreside depending on the individual fishery). Paper logbooks must first be filled out by the fisher and then submitted to a government agency for data entry before logbook data can be used. In performing the data entry function, the fisher will interact directly with the editing checks for the data and a more complete and accurate data record can be required before the data record is accepted by the computer system. Having electronically recorded the data, the operator may produce a hard copy and also transmit the data to the fisheries agency or other recipients such as the fishing company, and may be easily incorporated into appropriate databases. As a result, improvements in timeliness, accuracy and reduced costs are possible. When the data is in the database and available to be analyzed, it can be used to improve the [ability of managers to measure the effectiveness and economic impacts of management measures](#).

### 4.3.3 The effects on harvesters (tribal and non-tribal), processors, and communities

[Section to be completed by November]

### 4.3.4 Cost burden

[Section to be completed by November]

Table 4.3.4.1 shows the estimated burden per vessel for VMS. These include the costs for installation, VMS transceiver unit, annual maintenance, replacement cost, cost to transmit hourly positions and declaration reports.

**Table 4.3.4.1. Estimated burden, per vessel, for the VMS monitoring systems**

	<u>Alternative 1</u> Status quo	<u>Alternatives 2-5</u> Cost per vessel for VMS and declaration reports
Installation - start up cost	\$0	* Minimal - not to exceed 4 hours or \$120 * Most are do-it yourself installation * 5 min to complete installation report, \$3 to send fax to NMFS
VMS transceiver/transponder unit - start up cost	\$0	* \$1,200 - \$3,800
Annual maintenance	\$0	* 4 hours or \$120 per year
Annual replacement costs (unit cost/years of service - estimate based on 4 years of service)	\$0	* \$300-\$950 per year
Annual cost to transmit 24 hourly position reports	\$0	* \$360-\$1,800 (\$2-\$5/day)
Annual cost to transmit exemption reports (4 min/rpt 2 per year)	\$0	* \$0 (toll free call)
Annual cost to transmit declaration report (4 min/rpt- 12 time per year)	\$0	* \$0 (toll free call)

#### Declaration reports

Declaration reports are used to assist enforcement in identifying vessels that are legally fishing in conservation areas. Under status quo, vessels registered to limited entry permits with trawl endorsements; any vessel using trawl gear, including exempted gear used to take pink shrimp, spot and ridgeback prawns, California halibut and sea cucumber, and any tribal vessel using trawl gear, are required to send a declaration report before the vessel is used to fish in any trawl RCA or the CCA in a manner that is consistent with the requirements of the conservation areas (e.g. pelagic trawl during when permitted for yellowtail and widow rockfish or Pacific whiting or pink shrimp gear with a finfish excluder during the pink shrimp season). In addition, declaration reports would be required from vessels registered to limited entry permits with longline and pot endorsements before the vessel can be used to fish in any Non-trawl RCA or the CCA in a manner that is consistent with the requirements of those conservation areas.

Each declaration report is valid until cancelled or revised by the vessel operator. After a declaration report has been sent, the vessel cannot engage in any activity with gear that is inconsistent with that which can be used in the conservation area unless another declaration report is sent to cancel or change the previous declaration. Declaration reports are sent to NMFS and vessel operators receive confirmation that could be used to verify that the reporting requirement was met. It is necessary for a vessel owner, operator or representative to submit these reports because only they can make statements about where they intend to fish.

Vessels will call in declaration reports by using an Interactive Voice Response (IVR) system. The IVR system, which is accessed by dialing a toll-free number, asks the caller to use the touch-tone telephone to respond to a series of questions. An IVR system allows vessels to quickly and easily submit their report 24 hours a day and will reduce the paperwork burden on both the fisherman and the NMFS, as it makes it easier to collate the information submitted in the reports and monitor fishing activity.

Aside from the cost in time to summarize and call in an IVR report, there will be no additional cost burden for respondents. All respondents are assumed to have access to a telephone. The telephone call will be placed through a toll-free number so the respondent will not pay for the call.

Installation - The time burden for installation of the units is estimated at 4 hours per vessel, or \$120. Personnel costs are estimated to be \$30 per hour. The actual installation time for a VMS unit is estimated to be less than two hours, but a higher estimate of 4 hours/vessel is based on a worst case scenario where the power source (such as a 12 volt DC outlet) is not convenient to a location where the VMS unit can be installed. Most of the systems are do-it-yourself installations.

The ArgoNet MAR GE uses a single mobile transmitting unit mounted atop the vessel. The unit contains an Argos transceiver, an integrated global positioning system (GPS) receiver, a battery, and an antenna. The mobile transceiver unit is connected to a power junction box in the wheelhouse, which can be installed in less than 1 hour. The installation of the Inmarsat-C Thrane units are do-it-yourself while the Trimble units must be installed by Trimble-trained and Trimble-authorized support dealers. This is expected to result in an installation charge of \$400. The installation of software and attachment of a personal computer to an Inmarsat-C unit may also require dealer assistance. Satamatics and Orbcomm units can be self installed. However, vendor experience indicates that professional installations provide the best results for optimal unit performance.

Installation/Activation Report - Given that the VMS hardware and satellite communications services are provided by third parties as approved by NMFS, there is a need for NMFS to collect information on the individual vessel's installation in order to ensure that automated position reports will be received. This information collection would not increase the time burden for installation of VMS, but does require that a certification and checklist be returned to NMFS prior to using the VMS transceiver to meet regulatory requirements.

The checklist indicates the procedures to be followed by the installers. The VMS installer completes the NMFS issued checklist and signs the certification before returning it to NMFS. Signing the completed checklist shows that the installation was done according to the instructions and provides the Office of Law Enforcement with information about the hardware installed and the communication service provider that will be used by the vessel operator. Specific information that links a permitted vessel with a certain transmitting unit and communications service is necessary to ensure that automatic position reports will be received properly by NMFS. In the event that there are problems, NMFS will have ready access to a database that links owner information with installation information. NMFS can then apply troubleshooting techniques to contact the vessel operator and discern whether the problem is associated with the transmitting hardware or the service provider.

The time and cost burden of preparing and submitting installation information to NMFS is minor. Submission of a checklist would be required only for the initial installation or when the hardware or communications service provider changes. NMFS estimates a time burden of 5 minutes (\$2.50 at \$30 per hour) for completing the checklist and additional \$3 for mailing/faxing to NMFS, for a total of \$5.50 per occurrence.

The ability for NMFS to ensure proper operation of the VMS unit prior to the vessel's departure will save time and money. The installation checklist and activation report will be made available over the internet. These reports would be faxed or mailed to NMFS.

VMS transceiver unit On September 23, 1993, NMFS published proposed VMS standards at 58 FR 49285. On March 31, 1994, NMFS published final VMS standards at 59 FR 15180. These notices stated that NMFS endorses the use of VMS and defined specifications and criteria for VMS use. On September 8, 1998, NOAA published a request for information (RFI) in the Commerce Business Daily in which it stated the minimum VMS specifications necessary for NOAA's approval. The information was used as the basis for approving the mobile transceiver units and communications service providers.

Units currently type approved for the Pacific Coast Groundfish Fishery are: TT 3022D and 3026, Satamatics SAT101, and Stellar ST2500G-NMFS (Table 4.3.4.2.) Type approved units are tested and approved by NMFS OLE. A list of VMS mobile transponder units and communications service providers approved by NOAA for the Pacific Coast groundfish fishery were published in the *Federal Register* on November 17, 2003 (68 FR 64860). Each time the list is revised, it will be published in the *Federal Register*. Inmarsat C transponders, TT 3022D and 3026, range from \$1,550 to \$3,800, not including a personal computer which would be approximately \$1,200 more. The Satamatics SAT101 Inmarsat D+ with a transponder costs about \$1,200 and the Stellar ST2500G-NMFS also costs about \$1,200.

The North American Collection and Location by Satellite, Inc. (NACLS) is the sole service provider of the ArgoNet systems. The Argos Mar-GE and MAR-YX mobile transponder units costs \$2,000. The ArgoNet MAR GE uses NOAA polar-orbiting satellites, and, as such, it is considered a NOAA Data Collection and Location System. The use of any NOAA Data Collection and Location System is governed by 15 CFR part 911. Under these regulations, the use of a NOAA Data Collection and Location System can be authorized only if it is determined that there are no commercial services available that are adequate. In addition, special provisions have been made because of cost effectiveness to the Government, resulting in a temporary approval (3 year approval was granted for the Atlantic pelagic longline fishery).

On June 10, 2002, 50 CFR 679.7(a)(18), required all vessels fishing in the Bering sea and Gulf of Alaska using pot, hook-and-line or trawl gear that are permitted to directly fish for Pacific cod, Atka mackerel or pollock to have an operable VMS transceiver. Approximately 49 vessels that had limited entry permits or participated in the WOC open access fishery in 2001 qualify for reimbursements to the Argos MAR-GE as a result of their participation in the Alaska groundfish fishery. Allowing the use of Argos MAR-GE by WOC operating vessels that have purchased these units for participation in the Alaska groundfish fisheries would eliminate the cost of purchasing, installing and maintaining a second unit for these vessels. On April 15, 2004( 69 FR 19985) new provisions for the Alaska fisheries prohibit the installation of new Argos units. Replacement units will need to be compatible with the requirements of both fisheries or vessels will need to purchase separate units. Similarly, allowing vessels to use units they have already purchased for other business purposes, providing they are a type-approved model with the required software and hardware, would also eliminate the cost of purchasing, installing and maintaining a second unit for these vessels. The number of open access vessels that currently have VMS transceivers is unknown.

Most of the VMS transceiver units can be operated for extended periods from the same DC power source used to run other on board electronic equipment and so should increase power consumption only marginally.

**Table 4.3.4.2. VMS Equipment Currently in Type-approved for use in the Pacific Coast Groundfish Fisheries**

<b>Communication Service</b>	<b>Orbcomm</b>	<b>Inmarsat D+</b>	<b>Argos a/</b>	<b>Inmarsat-C</b>
<b>Transceiver/transponder name</b>	<b>SST2500G-NMFS</b>	<b>Satamatics SAT101</b>	<b>MAR GE</b>	<b>Trimble Galaxy TNL 7001 and 7005, Thrane and Thrane TT3022D</b>
Number of boats using				
Geographic coverage, when in line of sight of satellite or cell	Global	Global	Global	Global to 78°N/S
Communication between ship – shore	Two-way	Two-way	One-way, (ship-to-shore)	Two-way
Satellite type	Low earth orbit, Orbcomm Network	Geo-stationary, INMARSAT	Polar-orbiting, 5 NOAA meteorological	Geo-Stationary, INMARSAT
Time between the vessel position fix and receipt at NMFS	Within 5-10 minutes	Within 5-10 minutes	Varies per latitude, Alaska – 10-30min. avg. wait. HMS – 60-90min. wait	Within 5-10 minutes
Ability to poll/query the transceiver	Yes	Yes	No	Yes
Interval between position reports	Configurabel	Configurabel	30 - 60 minutes depending upon latitudes	Configurable for 5 minutes to 24 hours
Ability to change the interval between position reports	Remote from OLE	Remote from OLE	Factory reprogramming	Remotely from OLE
Position calculation (accuracy)	Integrated GPS (20 m)	Integrated GPS (20 m)	Integrated GPS (20m), reverts to Doppler when GPS blocked (350 or 1000m)	Integrated GPS (20m)
Automatic anti-tampering and unit status messages	Yes	Yes	Yes	Yes
Distress signal	Yes ??	Yes	Yes	Yes
Reduces power when stationary	Yes	Yes	Yes	Yes
Installation	Di-it-yourself	Do-it-yourself	Do-it-yourself	Dealer or electrician (costs not included), or do-it-yourself
Internal battery back-up	Yes	Yes	Yes, 48-hour	No
Log or memory buffer storing positions / number of positions	Yes	Yes	Yes, must download manually/?	Yes, auto, remote or manual download/ Trimble – 5000 Thrane – 100
Can send logbook/catch report data	Yes	Yes, limited	Yes, with computer	Yes, with computer
Transceiver/transponder cost	\$1,200	\$1,200	\$2000 (\$400 keypad optional)	Thrane TT3022D \$2650, TT3026M \$1,550; Trimble \$3800, optional computer for email not included
Daily communications cost for hourly positions	\$2	\$2	\$5	\$2

a/ The Argos MAR GE is only allowed for vessels that have been required to have this model for other fisheries such as the Alaska groundfish fishery

Maintenance of transponder unit Once a vessel is used for fishing in the open access fishery in federal waters, the vessel operator is required to operate the VMS unit continuously for the remainder of the year. This means that the vessel operator will need to maintain the transponder unit, antennas and the electrical sources that power the system.

When an operator is aware that transmission of automatic position reports has been interrupted, or when notified by NMFS that automatic position reports are not being received, they must contact NMFS and follow the instructions provided. Such instructions may include, but are not limited to, manually communicating to a location designated by NMFS the vessel's position or returning to port until the VMS is operable. There is a reporting burden associated with this requirement, but it is not expected to be substantial. The annual burden of these communications and the time required to maintain the antennas and electrical systems on the vessel operator is estimated to be approximately 4 hours per year or \$120. In addition, some systems may require software to be updated. Many of the transponders can have their set of features upgraded by being reloaded/flushed with updated versions.

If a unit needs to be repaired there may be fishing opportunity lost unless the unit can be quickly replaced.

Replacement cost The various VMS transceivers have similar life spans of about 4- 5 years before the units need to be replaced. Because of advancements in VMS systems or service providers that may no longer provide services, some models may become obsolete in less than 5 years. The purchase of these units may be considered as a tax deductible business expense during the first year of use. For depreciation purposes, VMS devices using satellite technology may qualify as "five-year property", although devices using cell phone technology probably will be treated similar to other cell phone equipment, as "seven-year property." For the purposes of this analysis, 4 years was used to estimate unit replacement costs.

Cost to transmit hourly positions The primary costs after purchase and installation of a VMS is the charge for the messages that communicate the vessel's position. Once installed and activated, position reports are transmitted automatically to NMFS via satellite. Once a vessel is used for fishing in the open access fishery in federal waters the vessel operator is required to operate the VMS unit continuously for the remainder of the year. The total costs for these messages depend on the system chosen for operation and the number of fishing days for units with a sleep function. Many of the systems have a sleep function. Position transmissions are automatically reduced when the vessel is in port. This allows for port stays without significant power drain or power shutdown. When the unit restarts, normal position transmissions automatically resume before the vessel goes to sea.

The estimated time per response varies with type of equipment and requirement. Upon installation, vessel monitoring or transponder systems automatically transmit data, which takes about 5 seconds, except when issued a VMS exemption or when the vessel is inactive in port and the VMS goes into sleep mode. Transmission costs vary between units, with some having daily rates or monthly rates. The daily rate for the Inmarsat D+ , Inmarsat C, and Orbcom units is \$2, while the Argos daily transmission rate is \$5.

Exemption reports Exemption Reports would be sent by the vessel owner or operator whenever their vessel qualified for being excused from the requirement to operate the mobile transceiver unit continuously 24 hours a day throughout the calendar year (e.g. when the vessel will be operating outside of the EEZ for more than 7 consecutive days or the vessel will be continuously out of the water for more than 7 consecutive days). A vessel may be exempted from the requirement to operate the mobile transceiver unit continuously 24 hours a day throughout the calendar year if a valid exemption report, is received by NMFS OLE and the vessel is in compliance with all conditions and requirements of the exemption. An exemption report would be valid until a second report was sent canceling the exemption.

Improved technology would be used to reduce the reporting burden on NMFS and the fishery participants. Vessels will call in exemption reports by using an Interactive Voice Response (IVR) system . The IVR system, which is accessed by dialing a toll-free number, asks the caller to use the touch-tone telephone to respond to a series of questions. An IVR system allows vessels to quickly and easily submit their report 24

hours a day and will reduce the paperwork burden on both the fisherman and NMFS, as it makes it easier to collate the information submitted in the reports and to monitor fishing activity.

Aside from the cost in time to summarize and call in an IVR report, there will be no additional cost burden for respondents. All respondents are assumed to have access to a telephone. The telephone call will be placed through a toll-free number, so the respondent will not pay for the call. Two exemption reports are estimated to be submitted per vessel annually. Each report would require approximately 4 minutes to submit, for an average cost of \$4 per vessel per year (at \$30 per hour).

#### 4.3.5 Safety of Human Life at Sea-- Search and Rescue Efficiency

There is a certain degree of danger associated with groundfish fishing, however, little is known about the connection between fisheries management measures and incident, injury, or fatality rates in the fishery. Moreover, little is known about risk aversion among fishers or the values placed on increases or decreases in different risks. Decreased harvest may lead to less investment in fishing vessels safety and less care by skippers. If this were to occur, the rate of safety related incidents, injury, or fatality rates could increase. However, if the number of harvesters decreases, and the time at sea decreases, the rates of safety related incidents, injury, or fatality could decrease.

Should the USCG need to assist a fishing vessel in distress, search and rescue missions are more dangerous during winter months. It usually takes USCG surface vessels longer to respond during harsh weather and if the weather is really bad, fishing vessels cannot afford to wait for assistance very long. VMS may provide information that can reduce the time needed for the USCG to arrive at the vessel's location. Alternatives 2-5 require a VMS system that could provide for a distress signal that may reduce response time in an emergency. However, VMS cannot be used at this time as replacements for EPIRBS, but can be of assistance during an emergency. Some systems have distress buttons and allow for two-way communications. All the systems can show where a vessel is located. However, they become ineffective should power be lost or a vessel sink. EPIRBS have their own power source and are designed to release from the vessel should it go down. Alternative 5 will have the greatest safety benefits because the greatest number of vessels will be required to carry VMS transceivers. As noted above, when fishing opportunity is reduced and profits are marginal, vessels may display more risk prone behavior and may not adequately maintain equipment and vessels.

#### **4.4 Cumulative Impacts**

Cumulative effects must be considered when evaluating the alternatives to the issues considered in the EA. Cumulative impacts are those combined effects on quality of human environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what federal or non-federal agency undertake such actions (40 CFR 1508.7, 1508.25 (a), and 1508.25 (c))

**[Section to be completed by November]**

## **5.0 CONSISTENCY WITH THE FMP AND OTHER APPLICABLE LAWS**

### **5.1 Consistency with the FMP**

The socio-economic framework in the Pacific Coast Groundfish FMP requires that proposed management measures and viable alternatives be reviewed and consideration given to the following criteria: a) how the action is expected to promote achievement of the goals and objectives of the FMP; b) likely impacts on other management measures; c) biological impacts; d) and economic impacts, particularly the cost to the fishing industry; and e) accomplishment of one of a list of factors.

#### GOALS AND OBJECTIVES OF THE FMP

The Council is committed to developing long-range plans for managing the Pacific Coast groundfish fisheries that prevent overfishing and loss of habitat, yet provide the maximum net value of the resource, and achieve maximum biological yield. Alternatives 2- 5 are consistent with FMP goal 1-objective 1, and goal 3-objective 10.

Goal 1- Conservation: Objective 1 -- maintain an information flow on the status of the fishery and the fishery resource which allows for informed management decisions as the fishery occurs.

Goal 3- Utilization: Objective 10 -- strive to reduce the economic incentives and regulatory measures that lead to wastage of fish. Also, develop management measures that minimize bycatch to the extent practicable and, to the extent that bycatch cannot be avoided, minimize the mortality of such bycatch. In addition, promote and support monitoring programs to improve estimates of total fishing-related mortality and bycatch, as well as those to improve information necessary to determine the extent to which it is practicable to reduce bycatch and bycatch mortality.

#### ACCOMPLISHMENT OF ONE OF THE FACTORS LISTED IN FMP SECTION 6.2.3.

Under the socio-economic framework, the proposed action must accomplish at least 1 of the criteria defined in section 6.2.3 of the FMP. Alternatives 2-5 are likely to accomplish objective 2 by providing information to avoid exceeding a quota, harvest guideline or allocation, and objective 13 by maintaining a data collection and means for verification.

### **5.2 Magnuson-Stevens Conservation and Management Act**

The Magnuson-Stevens Act provides parameters and guidance for federal fisheries management, requiring that the Councils and NMFS adhere to a broad array of policy ideals. Overarching principles for fisheries management are found in the Act's National Standards. In crafting fisheries management regimes, the Councils and NMFS must balance their recommendations to meet these different national standards.

National Standard 1 requires that conservation and management measures shall prevent overfishing while achieving on a continuing basis, the optimum yield from each fishery for the United States fishing industry. The proposed action is to expand a monitoring program to monitor the integrity of closed areas that were established to protect overfished species. Information provided under Alternatives 2- 5 reduce the risk of overfishing because they would provide information that could be used to reduce the likelihood of overfishing while allowing for the harvests of healthy stocks. Because Alternative 5 provides the most information, it would have the least risk, while Alternative 1 has the greatest risk.

National Standard 2 requires the use of the best available scientific information. The proposed action is to expand a VMS program to monitor the integrity of closed areas that were established to protect overfished species. Data collected under Alternatives 2-5 would be used to understand the level of fishing effort and how it was distributed. When combined with data from the existing federal observer program, it could be used to more accurately estimate total catch.

National Standard 3 requires, to the extent practicable, that an individual stock of fish be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination. This standard is not affected by the proposed action to expand a monitoring program to monitor the integrity of closed areas.

National Standard 4 requires that conservation and management measures not discriminate between residents of different States. None of the alternatives would discriminate between residents of different States.

National Standard 5 is not affected by the proposed actions because it does not affect efficiency in the utilization of fishery resources.

National Standard 6 requires that Conservation and management measures take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches." All alternatives meet [this standard](#).

National Standard 7 requires that conservation and management measures minimize costs and avoid [unnecessary duplication](#). [Measures that were taken to minimize the costs of a monitoring program by](#) reducing the time burden and cost of declaration reports, they would only be required when vessel changes gears rather than on every trip.

National Standard 8 provides protection to fishing communities by requiring that conservation and management measures be consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities. The proposed alternatives are consistent with this standard.

National Standard 9 requires that conservation and management measures minimize bycatch and minimize the mortality of bycatch. NMFS is required to "promote and support monitoring programs to improve estimates of total fishing-related mortality and bycatch, as well as those to improve information necessary to determine the extent to which it is practicable to reduce bycatch and bycatch mortality. The proposed action is consistent with this standard.

National Standard 10 Conservation and Management measures shall, to the extent practicable, promote the safety of human life at sea. Alternatives 2-5 have safety benefits because the VMS system provide for a Distress signal that may reduce response time in an emergency. Alternative 5 has the greatest safety benefits because requires VMS for the largest portion of the open access fleet.

Essential Fish Habitat This action will affect fishing in areas designated as essential fish habitat (EFH) by Amendment 11 to the FMP. The proposed action is to expand a program to monitor the integrity of closed areas that were established to protect overfished species. The potential effects of the proposed actions are not expected to have either no adverse effect on EFH, or to have a positive effect resulting from reduced fishing effort in critical areas. No EFH consultation is warranted for this action.

### **5.3 Endangered Species Act**

NMFS issued Biological Opinions (B.O.) under the ESA on August 10, 1990, November 26, 1991, August 28, 1992, September 27, 1993, May 14, 1996, and December 15, 1999 pertaining to the effects of the groundfish fishery on chinook salmon (Puget Sound, Snake River spring/summer, Snake River fall, upper Columbia River spring, lower Columbia River, upper Willamette River, Sacramento River winter, Central Valley spring, California coastal), coho salmon (Central California coastal, southern Oregon/northern

California coastal), chum salmon (Hood Canal summer, Columbia River), sockeye salmon (Snake River, Ozette Lake), and steelhead (upper, middle and lower Columbia River, Snake River Basin, upper Willamette River, central California coast, California Central Valley, south-central California, northern California, southern California). During the 2000 Pacific whiting season, the whiting fisheries exceeded the 11,000 fish chinook bycatch amount specified in the Pacific whiting fishery B.O. (December 19, 1999) incidental take statement, by approximately 500 fish. In the 2001 whiting season, however, the whiting fishery's chinook bycatch was about 7,000 fish, which approximates the long-term average. After reviewing data from, and management of, the 2000 and 2001 whiting fisheries (including industry bycatch minimization measures), the status of the affected listed chinook, environmental baseline information, and the incidental take statement from the 1999 whiting B.O., NMFS determined that a re-initiation of the 1999 whiting BO was not required. NMFS has concluded that implementation of the FMP for the Pacific Coast groundfish fishery is not expected to jeopardize the continued existence of any endangered or threatened species under the jurisdiction of NMFS, or result in the destruction or adverse modification of critical habitat. This proposed rule implements a data collection program and is within the scope of these consultations. Because the impacts of this action fall within the scope of the impacts considered in these B.O.s, additional consultations on these species are not required for this action.

#### **5.4 Marine Mammal Protection Act**

Under the MMPA, marine mammals whose abundance falls below the optimum sustainable population level (usually regarded as 60% of carrying capacity or maximum population size) can be listed as "depleted". Populations listed as threatened or endangered under the ESA are automatically depleted under the terms of the MMPA. Currently the Stellar sea lion population off the West Coast is listed as threatened under the ESA and the fur seal population is listed as depleted under the MMPA. Incidental takes of these species in the Pacific Coast fisheries are well under their annual PBRs. None of the proposed management alternatives are likely to affect the incidental mortality levels of species protected under the MMPA. The West Coast groundfish fisheries are considered Category III fisheries, where the annual mortality and serious injury of a stock by the fishery is less than or equal to 1% of the PBR level. Implementation of Alternatives 3,4, or 5 are expected to benefit MMPA species because they would allow observer data and data from other sources to be joined to the VMS data to better understand the extent of potential fishing related impacts on various marine mammal species.

#### **5.5 Coastal Zone Management Act**

The proposed alternatives would be implemented in a manner that is consistent to the maximum extent practicable with the enforceable policies of the approved coastal zone management programs of Washington, Oregon, and California. This determination has been submitted to the responsible state agencies for review under section 307(c)(1) of the Coastal Zone Management Act (CZMA). The relationship of the groundfish FMP with the CZMA is discussed in Section 11.7.3 of the groundfish FMP. The groundfish FMP has been found to be consistent with the Washington, Oregon, and California coastal zone management programs. The recommended action is consistent and within the scope of the actions contemplated under the framework FMP. Under the CZMA, each state develops its own coastal zone management program which is then submitted for federal approval. This has resulted in programs that vary widely from one state to the next.

#### **5.6 Paperwork Reduction Act**

**[Section to be completed for November]**

### **5.7 Executive Order 12866**

This action is not significant under E.O. 12866. This action will not have a cumulative effect on the economy of \$100 million or more nor will it result in a major increase in costs to consumers, industries, government agencies, or geographical regions. No significant adverse impacts are anticipated on competition, employment, investments, productivity, innovation, or competitiveness of U.S.-based enterprises.

### **5.8 Executive Order 13175**

Executive Order 13175 is intended to ensure regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes.

The Secretary of Commerce recognizes the sovereign status and co-manager role of Indian tribes over shared Federal and tribal fishery resources. At Section 302(b)(5), the Magnuson-Stevens Act reserves a seat on the Council for a representative of an Indian tribe with Federally recognized fishing rights from California, Oregon, Washington, or Idaho.

The U.S. government formally recognizes that the four Washington Coastal Tribes (Makah, Quileute, Hoh, and Quinault) have treaty rights to fish for groundfish. In general terms, the quantification of those rights is 50% of the harvestable surplus of groundfish available in the tribes' usual and accustomed (U and A) fishing areas (described at 50 CFR 660.324). Each of the treaty tribes has the discretion to administer their fisheries and to establish their own policies to achieve program objectives. The proposed action is being developed in consultation with the affected tribe(s) and, insofar as possible, with tribal consensus.

### **5.9 Migratory Bird Treaty Act and Executive Order 13186**

The Migratory Bird Treaty Act of 1918 was designed to end the commercial trade of migratory birds and their feathers that, by the early years of the 20th century, had diminished populations of many native bird species. The Act states that it is unlawful to take, kill, or possess migratory birds and their parts (including eggs, nests, and feathers) and is a shared agreement between the United States, Canada, Japan, Mexico, and Russia to protect a common migratory bird resource. The Migratory Bird Treaty Act prohibits the directed take of seabirds, but the incidental take of seabirds does occur. None of the proposed management alternatives, or the Council recommended action are likely to affect the incidental take of seabirds protected by the Migratory Bird Treaty Act. Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) is intended to ensure that each Federal agency taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations develop and implement a Memorandum of Understanding (MOU) with the U.S. Fish and Wildlife Service that shall promote the conservation of migratory bird populations. Currently, NMFS is developing an MOU with the U.S. Fish and Wildlife Service. None of the proposed management alternatives are likely to have a measurable effect on migratory bird populations.

### **5.10 Executive Order 12898 (Environmental Justice) and 13132 (Federalism)**

There is no specific guidance on application of EO 12898 to fishery management actions. The EO states that environmental justice should be part of an agency's mission "by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority or low-income populations."

These recommendations would not have federalism implications subject to E.O. 13132. State representatives on the Council have been fully consulted in the development of this policy recommendation.



## 6.0 REGULATORY IMPACT REVIEW AND REGULATORY FLEXIBILITY ANALYSIS

The RIR and IRFA analyses have many aspects in common with each other and with EAs. Much of the information required for the RIR and IRFA analysis has been provided above in the EA.. Table 6.0.1 identifies where previous discussions relevant to the EA and IRFA can be found in this document. In addition to the information provided in the EA, above, a basic economic profile of the fishery is provided annually in the Council's SAFE document.

Table 6.0 1 Regulatory Impact Review and Regulatory Flexibility Analysis

RIR Elements of Analysis	Corresponding Sections in EA	IRFA Elements of Analysis	Corresponding Sections in EA
Description of management objectives		Description of why actions are being considered	
Description of the Fishery		Statement of the objectives of, and legal basis for actions	
Statement of the Problem		Description of projected reporting, recordkeeping and other compliance requirements of the proposed action	
Description of each selected alternative		Identification of all relevant Federal rules	
An economic analysis of the expected effects of each selected alternative relative to status quo			

## 6.1 Regulatory Impact Review

### [Section to be completed by November]

The RIR is designed to determine whether the proposed action could be considered a “significant regulatory actions” according to E.O. 12866. E.O. 12866 test requirements used to assess whether or not an action would be a “significant regulatory action”, and identifies the expected outcomes of the proposed management alternatives. 1) Have a annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; 2) Create a serious inconsistency or otherwise interfere with action taken or planned by another agency; 3) Materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or 4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this executive Order. Based on results of the economic analysis contained in section 4.3, this action is not expected to be significant under E.O. 12866.

## 6.2 Initial Regulatory Flexibility Analysis

When an agency proposes regulations, the RFA requires the agency to prepare and make available for public comment an Initial Regulatory Flexibility Analysis (IRFA) that describes the impact on small businesses, non-profit enterprises, local governments, and other small entities. The IRFA is to aid the agency in considering all reasonable regulatory alternatives that would minimize the economic impact on affected small entities (attachment 1). To ensure a broad consideration of impacts on small entities, NMFS has prepared this IRFA without first making the threshold determination whether this proposed action could be certified as not having a significant economic impact on a substantial number of small entities. NMFS, must determine such certification to be appropriate if established by information received in the public comment period.

### Requirements of an IRFA

The Regulatory Flexibility Act (5 U.S.C. 603) states that:

(b) Each initial regulatory flexibility analysis required under this section shall contain--

- (1) a description of the reasons why action by the agency is being considered;
- (2) a succinct statement of the objectives of, and legal basis for, the proposed rule;
- (3) a description of and, where feasible, and estimate of the number of small entities to which the proposed rule will apply;
- (4) a description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
- (5) an identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule.

(c) Each initial regulatory flexibility analysis shall also contain a description of any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives such as--

- (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
- (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
- (3) the use of performance rather than design standards; and
- (4) an exemption from coverage of the rule, or any part thereof, for such small entities.

- 1) A description of the reasons why the action by the agency is being considered.
  
- 2) A succinct statement of the objectives of, and legal basis for, the proposed rule.
  
- 3) A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply;  
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- 4) A description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record.
  
- 5) An identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule.
  
- 6) A summary of economic impacts.
  
- 7) A description of any alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimizes and significant economic impacts of the proposed rule on small entities.

## **7.0 List of Preparers**

This document was prepared by the Northwest Regional Office of the NMFS.

## **8.0 References**

**[Section to be completed by November]**