

CONSIDERATION OF INSEASON ADJUSTMENTS

Management measures for the 2008 groundfish season were set by the Council with the understanding these measures would likely need to be adjusted throughout the biennial period to attain, but not exceed, the optimum yields (OYs). This agenda item will consider inseason adjustments to ongoing 2008 fisheries.

Potential issues under this agenda item include adjustments to Pacific whiting fishery bycatch limits, adjustments to multi-species trawl fishery cumulative limits and Rockfish Conservation Area (RCA) boundaries, and updates and potential adjustments to groundfish recreational fisheries.

The Groundfish Management Team (GMT) and the Groundfish Advisory Subpanel (GAP) will meet prior to this agenda item to discuss and recommend inseason adjustments to ongoing 2008 groundfish fisheries. After hearing this advisory body advice and public comments, the Council will consider preliminary or final inseason adjustments. Agenda Item I.7 is scheduled for Friday, September 12, should further analysis or clarification be needed.

Council Action:

- 1. Consider information on the status of 2008 fisheries and adopt preliminary or final inseason adjustments as necessary.**

Reference Materials:

None.

Agenda Order:

- Agenda Item Overview
 - Report of the Groundfish Management Team (GMT)
 - Agency and Tribal Comments
 - Reports and Comments of Advisory Bodies
 - Public Comment
 - Council Action:** Adopt Preliminary or Final Recommendations for Adjustments to 2008 Groundfish Fisheries
- Merrick Burden
Robert Jones

GROUND FISH ESSENTIAL FISH HABITAT (EFH) REVIEW PROCESS

At its June 2008 meeting, the Council appointed members to the Ad Hoc Groundfish Essential Fish Habitat Review Committee (EFHRC) in preparation for reviewing proposed changes to groundfish EFH, including the five-year overall review, as outlined in Amendment 19 of the Groundfish Fishery Management Plan and in Council Operating Procedure (COP) 22 (Agenda Item I.2.a, Attachment 1).

The first meeting of the EFHRC is scheduled during the September Council meeting. At that time, the EFHRC will appoint a Chair and Vice Chair, and review and recommend a revised COP 22 as needed to clarify and establish:

- The EFHRC charge;
- A schedule and process for the five-year EFH review;
- An adjusted schedule, criteria, and process for submission and review of proposed EFH changes within the five-year period; and
- Any other recommendations deemed appropriate, including the EFHRC role in recommending additional or replacement members.

The Council should adopt a revised COP 22 at the September Council meeting, and consider the process to solicit proposals for potential EFH changes prior to the five-year review in accord with the approved schedule.

Council Action:

1. Adopt a final groundfish EFH review process.

Reference Materials:

1. Agenda Item I.2.a, Attachment 1: Council Operating Procedure 22.

Agenda Order:

- a. Agenda Item Overview
- b. Recommendations of the Essential Fish Habitat Review Committee (EFHRC)
- c. Reports and Comments of Advisory Bodies
- d. Public Comment
- e. **Council Action:** Adopt a Final Groundfish EFH Review Process

Chuck Tracy

PPMC
08/08/08

COUNCIL OPERATING PROCEDURE
Groundfish Essential Fish Habitat Review and Modification

22

Approved by Council: 6/13/07
Revised:

PURPOSE

To guide the Council's review and modification of groundfish essential fish habitat (EFH), especially the implementation of those portions of Amendment 19 to the Groundfish Fishery Management Plan (FMP) which identify requirements to:

1. Modify existing or designate new areas closed to bottom trawling for the protection of EFH (FMP Sections 6.2.4 and 6.8.5).
2. Modify existing or designate new Groundfish EFH and habitat areas of particular concern (HAPC) (FMP Sections 7.3.2 and 6.2.4).
3. Conduct an overall review of the EFH description, HAPC designations, and information on fishing and nonfishing impacts included in the FMP which is to be accomplished at least once every five years (Section 7.6).

OBJECTIVES

To assist in keeping the Council's identified EFH and HAPC responsive to and updated by changing knowledge of marine habitat and fishery and nonfishery activities that affect it by:

1. Establishing the membership and operating guidelines for an EFH Oversight Committee (OC) charged with reviewing and making recommendations to the Council for proposed changes to EFH and HAPC.
2. Establishing a process for efficiently reviewing proposed changes to Groundfish EFH and HAPC, including an overall review at least once every five years.

GROUND FISH ESSENTIAL FISH HABITAT OVERSIGHT COMMITTEE

Duties

When requested by the Council Chair or Executive Director, the Groundfish EFH OC shall review proposals or information with regard to modifying groundfish EFH and specifically:

1. Review groundfish EFH designations and areas currently closed to bottom contact fishing gear to protect groundfish habitat and recommend to the Council the elimination of existing areas, addition of new areas, or modification of existing areas. In making its recommendations, the OC should, as a minimum, consider the best scientific information regarding the items listed in Section 6.2.4 of the Groundfish FMP. The OC may also include recommendations for modifying HAPC consistent with the proposed modification of the location and extent of areas closed to bottom trawling or other benthic contact fishing gear.
2. Review proposals for modifying or designating new HAPC.
3. Conduct an overall review of the EFH description, HAPC designations, and information on fishing and nonfishing impacts included in the FMP at least every five years.

Composition

General

The Groundfish EFH OC will be an ad hoc committee following the administrative procedures of COP 8 (members appointed by the Council Chair with advice from Council members and advisors, etc.). The specific members of the EFH OC will vary, depending on the review assignment and geographic area of the proposals. The committee will include a representative from the Enforcement Consultants and may include appropriate representatives from the Groundfish Advisory Subpanel, Groundfish Management Team, Scientific and Statistical Committee, Habitat Committee, and other individuals with familiarity and expertise in the fisheries and marine habitats of the areas proposed for changes (e.g., commercial bottom trawl representatives, NMFS scientists, professors involved in marine habitat research and mapping, etc.). In selecting members to review a particular proposal(s), the Council Chair will also consider the need for some consistency in membership from ad hoc committee to ad hoc committee. If the appointed OC lacks expertise to adequately review a proposal or proposals, the OC may request additional assistance through the Council Chair.

Short Term EFH Reviews

To address new information received between the five year comprehensive reviews, the Council Chair will appoint an ad hoc EFH OC with a composition tailored to deal effectively with the unique new information at hand. This ad hoc EFH OC will meet in accordance with the schedule described in the short term review portion of this COP, and disband at the conclusion of that process.

Five Year Review and Extensive Modifications

To address the overall five year review or proposals for major modifications requiring special expertise, the Council Chair will appoint an ad hoc EFH OC with a composition similar to the original Groundfish Habitat Technical Review Committee that was a key review group for identifying the initial EFH and HAPC. That committee was composed of two NMFS scientists (NW and SW Science Centers) familiar with Pacific marine habitats, two bottom trawl

representatives knowledgeable about fisheries and trawling practices on the West Coast, two scientists representing conservation entities, and two professors intimately involved and expert in mapping of marine habitats off the Pacific Coast.

Member Terms, Alternates, and Officers

As described in COP 8, *Ad Hoc Committees*.

Meetings

As described in COP 8, *Ad Hoc Committees*.

Staff Responsibilities

As described in COP 8, *Ad Hoc Committees*.

EFH REVIEW PROCEDURES

Review procedures utilized by the Council will vary depending on the purpose or type of review.

Short Term EFH Reviews

Within a 5 year period, to allow for an orderly and efficient process for considering proposed changes to areas closed to fishing by various gear types (e.g., bottom trawl and bottom contact gear) to protect EFH, the review of proposals by the EFH OC and final determination by the Council will be coordinated with the groundfish biennial management specifications process to the degree possible. **[Some exceptions to the schedule may be necessary in the initial review]**
The normal process will be as follows:

Timing	Action
June Council Meeting of Odd Numbered Years	Final Deadline for Council to request the EFH OC to review a proposed modification to areas closed to bottom trawl or bottom contact gear for the next biennial groundfish season (complete proposals must be received at the Council office no later than three weeks prior to the Council meeting).
November Council Meeting of Odd Numbered Years	Council considers recommendations of EFH OC and makes recommendations for considering modifications in ongoing biennial management process (implementation in following odd year).
April Council Meeting of Even Numbered Years	Council may include proposed modifications among a range of alternatives prepared for the next biennial groundfish management period for public review.
June Council Meeting of Even Numbered Years	Council makes its final recommendations for implementation by NMFS in January of next odd year.

Five-Year Review

The complete review every five years of the Council's EFH and HAPC designations is a major task that requires special expertise and planning. The review process, based on the initial five year review, is expected, to the extent practicable, to proceed as follows in the table below. The actual timing of some actions may vary, depending on Council workload and complexity of the modifications being considered. The table in this COP will be modified for the next five-year review to reflect the realities of the process and the updated Council workload.

Timing*	Action
June 2008 Council Meeting	Council Chair appoints adequate EFH OC to complete comprehensive five year review of EFH and HAPC. Any proposals for modifications to be included in the review from outside entities must be submitted to the Council office no later than three weeks prior to the September Council meeting. To help plan the September Council meeting agenda, the Council may request a notice of intent for any proposals to be provided in September no later than the June 2008 Council meeting.
July 2008 through May 15, 2009	EFH OC meets to review the FMP EFH and HAPC descriptions, and proposals for any extensive modifications; then develops recommendations for the Council.
June 2009 Council Meeting	Council considers recommendations of the EFH OC and adopts proposed changes for public review.
September 2009 Council Meeting	Council adopts final recommendations for changes to be incorporated in the FMP and become effective in the next biennial management specifications.

*This table describes the initial five year review beginning in 2008; subsequent second five year reviews would follow chronologically.

NATIONAL MARINE FISHERIES SERVICE (NMFS) REPORT

National Marine Fisheries Service (NMFS) Northwest Region will briefly report on recent regulatory developments relevant to groundfish fisheries and issues of interest to the Pacific Fishery Management Council (Council).

NMFS Northwest Fisheries Science Center (NWFSC) will also briefly report on groundfish-related science and research activities.

Council Task:

Discussion.

Reference Materials:

1. Agenda Item I.3.a, Attachment 1: *Federal Register* Notices Published Since the Last Council Meeting.
2. Agenda Item I.3.a, Attachment 2: Closure of the 2008 Pacific Whiting Fisheries.

Agenda Order:

- a. Regulatory Activities
- b. Science Center Activities
- c. Reports and Comments of Advisory Bodies
- d. Public Comment
- e. Council Discussion

Frank Lockhart
Elizabeth Clarke

PFMC
08/19/08

FEDERAL REGISTER NOTICES

**Groundfish and Halibut Notices
6/16/2008 through August 21, 2008**

Documents available at NMFS Sustainable Fisheries Groundfish Web Site

<http://www.nwr.noaa.gov/1sustfsh/gdfsh01.htm>

73 FR 39625. Pacific Coast Groundfish Fishery; Suspension of the Primary Pacific Whiting Season for the Shore-based Sector South of 42° North Latitude. NMFS announces the suspension of the primary season for Pacific Whiting - 7/10/08

73 FR 39930. Pacific Coast Groundfish Fishery; Amendment 15. NMFS issues this proposed rule to implement Amendment 15 to the Pacific Coast Groundfish Fishery Management Plan - 7/11/08

73 FR 43139. Pacific Coast Groundfish Fishery; Biennial Specifications and Management Measures; Inseason Adjustments. This final rule announces inseason changes to management measures in the commercial Pacific Coast groundfish fisheries - 7/24/08

PFMC
08/18/08

September 2008



UNITED STATES DEPARTMENT
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northwest Region
7600 Sand Point Way N.E., Building 1
Seattle, WA 98115-0070

DATE: August 18, 2008

MEMORANDUM FOR: DISTRIBUTION

FROM: ~~For~~ D. Robert Lohn
Regional Administrator

SUBJECT: CLOSURE OF THE 2008 PACIFIC WHITING FISHERIES

This communication serves as the official notice of the end of the primary seasons for the catcher/processor, mothership, and the shore-based sectors of the whiting fishery, because the best available information on August 18, 2008 indicated that the 4.7 metric tons (mt) canary rockfish bycatch limit for the non-tribal whiting fisheries will be reached. Catch estimates for at-sea processing sectors were based on NMFS observer data. Catch estimates for the shore-based vessels were derived from electronic fish ticket submissions plus the best estimates of catch that was discarded at sea.

For the reasons stated here and in accordance with the regulations at 50 CFR 660.370 (c)(1)(ii), NMFS herein announces that **effective noon local time August 19, 2008**: 1) further taking and retaining, receiving or at-sea processing of whiting by a catcher-processor is prohibited; 2) further taking and retaining, receiving or at-sea processing of whiting by a mothership processor is prohibited, and 3) no more than 10,000-lb (4,536 kg) of whiting may be taken and retained, possessed or landed by any vessel participating in the shore-based sector of the whiting fishery, unless otherwise announced in the Federal Register. Shore-based vessels fishing shoreward of the 100 fm (183 m) contour in the Eureka area (43° - 40°30' N. lat.) at any time during a fishing trip, the 10,000-lb (4,536 kg) trip limit applies, as announced in the management measures 660.373 (d).

For vessels in the at-sea processing sectors, no additional unprocessed whiting may be brought on board after at-sea processing is prohibited, but a catcher-processor or mothership may continue to process whiting that was on board before at-sea processing was prohibited. For vessels in the shore-based sector, fishing must cease at the time of the closure and the vessel must proceed to port. Offloading of primary season whiting must begin within 36 hours of the time that the fishery closes. Vessels must continue to have and use the Vessel Monitoring System with the whiting declaration during this time.

Official Closure Notice

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FISHERY MANAGEMENT PLAN AMENDMENT 22:
OPEN ACCESS LICENSE LIMITATION

The groundfish Federal limited entry program was established in 1994 and did not include all vessels and their catch histories that landed groundfish during the qualification period. Participation in the “open access” (OA) portion of the fishery was left unlimited to ensure that vessels active in state-managed fisheries and/or landing groundfish incidentally in federally-managed fisheries, would continue to have access to that resource. However, conversion of the current open access groundfish fishery to limited entry management has been discussed several times in Council meetings since April 1998 (71 FR 64216) and was established as a Council priority with the adoption of the Groundfish Strategic Plan in 2000.

Limitation of the groundfish OA fishery was last considered by the Council at their March 2008 meeting. At that time, the Council considered a preliminary Draft Environmental Assessment (EA) entitled: Preliminary Draft Environmental Assessment for Pacific Coast Groundfish Fishery Management Plan Amendment 22: Conversion of the Open Access Fishery to Federal Permit Management. The report analyzed six permitting alternatives and issues that the Council approved at its June 2007 meeting. At that meeting, the Council provided additional guidance for EA development as follows: (1) delete alternative six (permit consolidation process and vessel length and gear endorsements), (2) add several additional qualification criteria, (3) analyze impacts of the alternatives on Washington fishermen, and (4) address concerns raised by the Scientific and Statistical Committee and other Council advisory bodies regarding various economic and biological issues.

The Draft EA has been updated and includes the analyses requested at the March 2008 meeting (Agenda Item I.4.a, Attachment 1) and a simple overview of Amendment 22 has been prepared for public use on the Council’s website (Agenda Item I.4.a, Attachment 2). A presentation of preliminary results was presented to the Groundfish Advisory Committee at its July 9-10, 2008 meeting in Portland, Oregon. Possible action at the September 2008 meeting could include (1) final action or (2) adoption of a preferred alternative for final action in March 2009. A possible implementation timeline is attached for Council consideration (Agenda Item I.4.a, Attachment 3).

Council Action:

- 1. Take final action or adopt a preliminary preferred alternative from the Amendment 22: Open Access Limitation Draft Environmental Assessment.**
- 2. Based on that discussion, determine a schedule for public hearings on the preliminary preferred alternative, if appropriate.**
- 3. Designate hearing officers, hearing locations and approximate hearing dates, if appropriate**
- 4. Discuss the attached Amendment Development and Implementation Schedule (Agenda Item I.4.a, Attachment 3).**

Reference Materials:

1. Agenda Item I.4.a, Attachment 1: Errata and Draft Environmental Assessment (Updated) for Pacific Coast Groundfish Fishery Management Plan Amendment 22: Conversion of the Open Access Fishery to Federal Permit Management.
2. Agenda Item I.4.a, Attachment 2: Description of Amendment 22: Open Access (OA) from Pacific Fishery Management Council (Council) Website.
3. Agenda Item I.4.a, Attachment 3: Proposed Open Access Groundfish Fishery Conversion to Limited Entry and Permit Implementation Schedule.
4. Agenda Item I.4.c, Public Comments.

Agenda Order:

- a. Agenda Item Overview
- b. Reports and Comments of Advisory Bodies
- c. Public Comment
- d. **Council Action:** Take Final Action or Adopt a Preliminary Preferred Alternative for Public Review

LB Boydston

PFMC

08/21/08

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Notes to readers of Updated Open Access Permit Program Preliminary Draft
Environmental Assessment (EA)

1. Appendix E of the EA has been re-written with new information on species targeted by individual vessels and community (personal income) impacts (as request by the SSC) for selected qualification criteria. There is also an analysis of the five qualification frameworks that are used in the 31 qualification criteria contained in A-3, A-4 and A-5.
2. Appendix B has been expanded with an analysis of selected qualification criteria comparing the weight-based and revenue-based approaches for defining directed fishing trips (as requested by the SSC).
3. The major additions or changes to the EA are underlined and appear in red type (to those that receive the computer file).
4. New data are provided in Section 3 of the EA regarding discards and vessel target species strategy.
5. There is a new section on timeline and responsible entities (**Section 1.3.3**) that was requested by the Groundfish Advisory Committee at its July 2008 meeting. NMFS-NWR helped prepare this section.

The document changes have not been reviewed by all of the writing team members. Their input will be incorporated into the next document update following the September 2008 Council meeting. Public, agency, and tribal comments will also be welcome for use in the next document update.

LB Boydstun
August 19, 2008

**PRELIMINARY DRAFT ENVIRONMENTAL ASSESSMENT
FOR
PACIFIC COAST GROUND FISH FISHERY MANAGEMENT PLAN
AMENDMENT 22:
CONVERSION OF THE OPEN ACCESS FISHERY TO FEDERAL PERMIT
MANAGEMENT**

**INCORPORATING THE REGULATORY IMPACT REVIEW
AND
INITIAL REGULATORY FLEXIBILITY ANALYSIS**

**PREPARED BY
PACIFIC FISHERY MANAGEMENT COUNCIL
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AND THE

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SEPTEMBER 2008

Preliminary Draft EA: Open Access Limitation
September 2008

This document may be cited in the following manner:

Preliminary Draft Environmental Assessment for Pacific Coast Groundfish Fishery Management Plan Amendment 22: Conversion of the Open Access Fishery to Federal Permit Management. (Document prepared by the Pacific Fishery Management Council and National Marine Fisheries Service.) Pacific Fishery Management Council, 7700 NE Ambassador Place, Suite 101, Portland, Oregon 97220-1384.



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COVER SHEET
SEPTEMBER 2008

Title of Environmental Review: Environmental Assessment of a Program to Limit Entry into the Open Access Sector of the Pacific Coast Groundfish Fishery (Amendment 22 to the Pacific Coast Groundfish Fishery Management Plan)

Responsible Agency and Official: D. Robert Lohn
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Contacts: Frank Lockhart
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7600 Sand Point Way NE,
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Phone: (206) 526- 6142

Legal Mandate: Magnuson-Stevens Fishery Conservation and Management Act,
50 CFR Part 660

Location of Proposed Activities: The Exclusive Economic Zone (3-200 nautical miles offshore)
off the states of Washington, Oregon, and California

Abstract: This Environmental Assessment examines a program to limit participation in the open access sector of the Pacific Coast groundfish fishery. Since implementation of a limited entry program in 1994, participation in the open access sector has been unlimited to ensure that vessels participating in state-managed fisheries and landing groundfish incidentally to other fisheries would continue to have access to the groundfish resource. The fishery was also left unlimited to allow vessels that did not qualify for the limited entry program in 1994 to directly target groundfish at lower landings rates than in the limited entry fishery. Allowable groundfish landings have been constrained in recent years to protect overfished groundfish species. Despite these overall harvest restrictions, participation in the open access sector of the groundfish fishery remains unrestricted. A limited entry program is being considered because of the overcapitalization that exists in the directed (targeted) component of the open access fishery and because of fishery informational needs associated with other important groundfish management issues, bycatch reduction and overfished species management. The purpose of this Environmental Assessment is to provide decision makers and the public with an evaluation of the environmental and economic impacts of the regulations that would be implemented under the proposed limited entry program.

EXECUTIVE SUMMARY

This document analyzes the environmental and socioeconomic impacts of proposed Amendment 22 to the Pacific Coast Groundfish Fishery Management Plan (Groundfish Fishery Management Plan; FMP), which is proposed to convert the open access sector of the groundfish fishery to limited entry management. Participation in the open access fishery has been unlimited since it began in 1994 to ensure that vessels participating in state-managed fisheries and landing groundfish incidentally to other fisheries would continue to have access to the groundfish resource and to allow vessels that did not qualify for the limited entry program to directly target groundfish at a rate lower than in the limited entry fishery.

DOCUMENT ORGANIZATION

The National Environmental Policy Act (NEPA) and the Regulatory Flexibility Act (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. These issues are covered in Chapters One through Eleven. Chapter Twelve contains appendices that provide information in support of comments made or conclusions reached in the text.

PROPOSED ACTION

Conversion of the open access fishery to limited entry management has been under discussion since April 1998 and was listed in 2000 as a management priority under the Council's Groundfish Strategic Plan. The proposed program is intended to compliment the existing limited entry or A permit program. The proposed action has two parts:

- 1) Conversion of the directed (target) fishery component to limited entry management wherein vessels with valid registrations or permits would be allowed to directly fish for and land specified groundfish species. This is called the B permit program.
- 2) Conversion of the incidental (non-target) fishery component of the open access groundfish fishery to a license registration program for all state-registered open access vessels that do not receive a B permit and that seek to retain incidental amounts of specified groundfish. This is called the C permit program.

NEED FOR LIMITED ENTRY

The majority of groundfish stocks are now fully harvested by domestic fishermen in the Pacific coast groundfish fishery (PFMC 2008a) and expectations of future productivity of most groundfish have been lowered (PFMC 2008a) along with estimated OYs since the mid 1990s, particularly for rockfish stocks (PFMC 2006). The proposed action is needed because:

1. Fishing capacity needs to be carefully managed to ensure that capacity and/or effort is maintained consistent with resource availability and limited entry is an important step in the process.
2. Restrictive landing limits have been necessary for some species because of high fishing capacity, which has reduced the economic potential of the fishery and increased fishery discards and limited entry has the potential to provide for less restrictive regulations and reduced fishery discards.
3. Restrictive salmon fishing regulations combined with the states' nearshore management programs have likely pushed vessels into federal waters, increasing fishing pressure there¹.

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¹ The history of PFMC salmon fishing regulations has been document by the PFMC (2008); descriptions of the states' nearshore management program are summarized in **Appendix D**.

4. Registration of all vessels is important to meeting fishery management goals and efficiently allocating sampling resources among coastal ports.

HISTORY OF OPEN ACCESS FISHERY

The history of the open access fishery, including information on the major reductions in rockfish harvest opportunity during the 1990s, is tracked in **Section 1.4.1**.

GROUNDFISH STRATEGIC PLAN

The 2000 Strategic Plan noted that the groundfish resource could not support the number of vessels catching and landing groundfish. Fishing fleet overcapitalization had been a major factor in fish stock depletions and led to economic and social crises in the industry and in coastal communities. The Plan reported that "...allowing an open access fishery with a total absence of limits on capacity is a serious management problem." The number of open access vessels that would be needed to harvest the 2000 open access groundfish OY of 2,207 mt was estimated to be in the range from 47 to 105 boats which yielded an open access capital utilization rate of 6%-13%. The Plan recommended that the Council consider deferring management of nearshore rockfish, and other species such as cabezon, kelp greenling and California scorpionfish to the states, and that all commercial fisheries should eventually be limited through federal or state license or permit limitation programs.

STRATEGIC PLAN IMPLEMENTATION OVERSIGHT COMMITTEE (SPOC)

The SPOC developed a list of 15 groundfish action priorities, which included two "critical" elements (science and Council process action items) for Council consideration. The open access permitting issue was ranked seven below the two critical operational elements, A permit buyback, trawl permit stacking, observers, groundfish process, and fixed gear stacking, most of which have been completed or are being addressed.

PUBLIC SCOPING

Public scoping of the open access permitting issue has taken place in Council and state meeting since April 1998. Public comments and Council discussion were generally in favor of consideration of open access fishery conversion to federal permit management. Public and Council discussions are summarized in **Section 1.5**. The decision to move forward with the open access permitting analysis was made at the Council's September 2006 meeting.

DESCRIPTION OF THE ALTERNATIVES

The Council has approved five alternatives for EA analysis. Note: *while each alternative reads as a complete program option, the components of each alternative could potentially be mixed and matched to create an open access licensing program.*

Alternative 1 (No action)

Alternative 1 would continue to allow commercial fishing vessels to prosecute federal groundfish species allocated to open access fisheries without federal registration, except as required under the VMS program. The No-action alternative does not limit participation in the open access fishery.

Alternative 2

This alternative establishes an annual federal license requirement for vessel owners that intend to participate in the open access groundfish fishery. The purpose of this alternative is to identify all vessels and vessel owners that participate in the open access fishery and to aid managers in estimating fishery

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impacts to target and non-target species. This alternative would not limit fishery participation and the license would be valid for directed or incidental fishing operations.

B and C Permit Alternatives

Alternatives 3-5 are the open access fishery permitting alternatives each of which have provisions for issuance of B (directed fishery) and C (incidental fishery) permits. There are various conditions and assumptions associated with the adoption of any alternative that calls for the issuance of B and C permits. These are presented in **Table ES-1**. Some issues that Alternatives 3-5 have in common are as follow:

1. Alternatives 3 and 4 allow one permit transfer per calendar year, while permits are non-transferable under Alternative 5.
2. Alternative 3 has a state landing endorsement provision with each B permit, which is based on the single state in which the most directed fishery deliveries were made to qualify for the permit.
3. Alternative 5 has a previous year landing requirement, which would have to be completed by November 30 for the permit to be renewed by December 31.
4. Alternatives 3 and 4 allow for A and B permit registration to a single vessel and allow for alternate use of the two permit types during the year (but not in the same cumulative landing period) after notification is made to NMFS of permit type that will be in use before leaving port.
5. Alternative 5 prohibits B permit registration to any vessel with an A permit in the same year.
6. C permits may be registered to state-registered commercial fishing vessels and Oregon and California nearshore permits may be used in lieu of obtaining a C permit. There is no limit on the issuance of C permits, which could be available for issuance by the state management agencies.

Alternative 3

This is one of two alternatives that have a specific initial fleet size goal for issuance of B permits. There are two goal options under Alternative 3: A-3 (a) is based on the average number of vessels that made directed B species landings in the WOC area during the recent years of 2004-September 2006, which computes to be 680 vessels after rounding; A-3 (b) is the number of B species directed fishing vessels that made a landing in the WOC area in 2006, which is 713. The long-term fleet size goal is the same as the initial fleet size goal under each vessel goal option.

Alternative 4

This alternative was developed to analyze the fishery impacts of a wide range of B permit qualification criteria. There would be no initial fleet size or long-term goal under this alternative, but no new permits would be issued after the first year. There are 22 qualification criteria under this alternative, which range from 11lb landed during 2004-2006 to 47,900 lbs landed during 1998-2006 with at least one landing during 2004-2006.

Alternative 5

The initial fleet size goal under Alternative 5 is 390 vessels, which is 91% of the average number of vessels (after rounding) that fished at least three years for federal groundfish species, including nearshore species, during 1994-1999. The 91% adjustment factor is an extrapolation of fishery data for 2000-2006 used to estimate the proportion of vessels that fished for nearshore species only during 1994-1999 when nearshore rockfish were often recorded as "rockfish unspecified." The long-term fleet size goal in this alternative is, 170 vessels, which is based on the Groundfish Strategic Plan.

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September 2008

Table ES-1: Basic Conditions and Assumptions

- 1) The B permit program is intended to better match fleet capacity with resource availability.
 - 2) B permits would be issued to current owners of qualifying vessels and permits would be registered to single vessels.
 - 3) B permits would apply to the directed taking and landing of all federal groundfish not including, nearshore rockfish, cabezon, kelp greenling and California scorpionfish (nearshore groundfish, which are protected under state regulations).
 - 4) A directed open access fishery landing is one in which >50% of the total revenue was of B species groundfish, and directed fishery gear was used. Only landings of B species of groundfish during April 1998 - September 2006 would be considered. 1/
 - 5) State nearshore permits may not be used in lieu of obtaining a B permit to take B species groundfish.
 - 6) A C permit must be registered to a vessel to land incidental amounts of federal groundfish excluding nearshore species. A state-issued nearshore permit registered to the vessel or in possession of a fisherman on board the vessel may be used in lieu of obtaining a federal C permit.
 - 7) Valid B and C permits or state-issued nearshore permits would be required when fishing for, possessing and landing permitted species in U.S. waters off the coasts of Washington, Oregon and California (0-200 miles).
 - 8) B permit landing limits would be set based upon open access fishery allocations. C permit landing limits would take into account target species landings (nearshore and non-groundfish landings).
 - 9) State regulations would continue to be in compliance with federal regulations.
 - 10) B permits would be renewed annually; expired permits would not be renewed. Timing of annual B permit application would align with current A permit renewals (fall of year prior).
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- 1/ April 1998-September 2006 is inclusive of the two OA permit program control dates.

Alternatives Considered but Rejected for Further Analysis

The rejected alternatives included permit stacking (to increase trip limits), sablefish tiering, permit transferability conditions, allocations between B and C permit vessels, sub-area endorsements for sablefish or for other species, gear and/or vessel length endorsements, permit consolidation requirement (to accelerate fishery attrition), and market-based management (e.g., individual fishing quotas). These issues were considered outside the scope of the proposed action, could lead to increased fishery discards, or were not considered a management concern at this time.

PHYSICAL AND BIOLOGICAL CHARACTERISTICS OF THE AFFECTED ENVIRONMENT

Information is provided in **Section 3.1** on ocean currents, physical and biological conditions, and essential fish habitat within the Pacific Coast groundfish area. In the Biological Characteristics section (**Section 3.2**) information is provided on federal groundfish species including 1) overfished and precautionary zone groundfish and 2) non-overfished and unassessed groundfish species that are impacted by federal groundfish regulations. Information is also provided of non-groundfish species and of prohibited and protected species that may be caught or impacted when targeting groundfish.

MANAGEMENT STRUCTURE OF THE OPEN ACCESS FISHERY

The management structure of the Open Access Fishery is described in **Section 3.3.1**.

CATCH CHARACTERISTICS—AMOUNTS AND FISHERY VALUES

The B species groundfish fishery is very small compared to other Pacific Coast commercial fisheries. B species landings expressed as a proportion of total WOC commercial fishery landings in 2004-2006 window period years² showed a negligible (<0.3%) contribution based on tonnage landed and about 1% based on ex-vessel value of fish landed. For individual ports, B species landings exceeded 3% of total commercial fishery landings either in terms of weight or value of fish landed at six port groups (tonnage and ex-vessel values, respectively, shown in parentheses): Fort Bragg (7% and 9%), Brookings (3% and 4%), Morro Bay (3% and 3%), South Puget Sound (2% and 3%) and Monterey (1% and 3%).

A total of 809 different fish buyers, distributed among 70 ports, purchased B species groundfish during window period years. In 2006, the comparative figures were 214 buyers among 55 ports. A large majority of buyers (79%) operated from California ports, particularly between the San Francisco and San Diego port groups (471). Fishermen landing and selling their own catches likely contributed to the large number of California fish buyers.

The open access groundfish fishery has been small when compared to the A permit and recreational groundfish fisheries averaging 5% of total groundfish landings during the window period. A large majority (88%) of the open access harvest was in the directed fishery. The number of vessels that participated in the open access fishery declined from 1,483 in 1999 to 905 in 2006. The number of directed fishery vessels declined from 1,004 in 1998 to 677 in 2004 then increased to 744 (inclusive of nearshore species) in 2006.

The incidental fisheries were projected to take 1%-2% of bocaccio, canary and yelloweye rockfish optimum yield specifications and negligible impact to the other overfished groundfish species in 2007. The impact of B species directed fishing vessels to overfished groundfish species in 2007 was estimated to be negligible (<0.5% of optimum yield specifications) for canary, darkblotched and widow rockfish and Pacific Ocean perch and 3% or 5% for overfished bocaccio, cowcod and yelloweye rockfish based on 2007 optimum yield specifications. Most of the directed fishery impact was in the sablefish daily trip limit fishery, except for bocaccio, which was estimated to be caught primarily in “other” fisheries (such as those for lingcod and shelf rockfish).

The most valuable directed fishery species or species groups annually to the fishermen (ex-vessel value) were nearshore species, \$2.8 million (55%); and sablefish, \$1.5 million (29%) annually. All other species (shelf and slope rockfish, lingcod, sharks and others) averaged \$800,000 annually (16%). In 2005-2006 revenues from sablefish surpassed those from nearshore species.

The trend in vessels making a directed sablefish landing steadily increased during 1998-2006 except for 2004. The trend in sablefish fishery resource impact (based on landings expressed as a proportion of annual harvest guidelines) followed the vessel participation trend very closely, which contributed to the fishery in the Monterey-Vancouver management area exceeding its sablefish allocation by over 40% in 2005 and being closed during October-December 2006 (**Figure ES-1**).

A total of 2,587 different vessels made a B species directed open access fishery landing during the window period, and 69% (1,484) that made a landing during 1998-2003 (2,157) did not make a landing during 2004-2006. A total of 1,103 vessels that made a B species landing during 2004-2006 also made a landing during 1998-2003. A total of 71 (2.7%) vessels made a landing every year of the window period.

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² Window period means April 1998-September 2006 as approved by the Council in June 2007; January 2004-September 2006 is used to represent “recent years.”

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Total revenue frequencies for vessels that made B species landing during the window period showed that 50% of vessels (1,283) landed < \$1,000 worth of B species groundfish and 4% (105) landed over \$100,000 worth of fish during the window period. The remaining 1,199 vessels (46%), landed between \$1,000 and \$100,000 in B species groundfish for the nine-year window period (**Figure ES-2**).

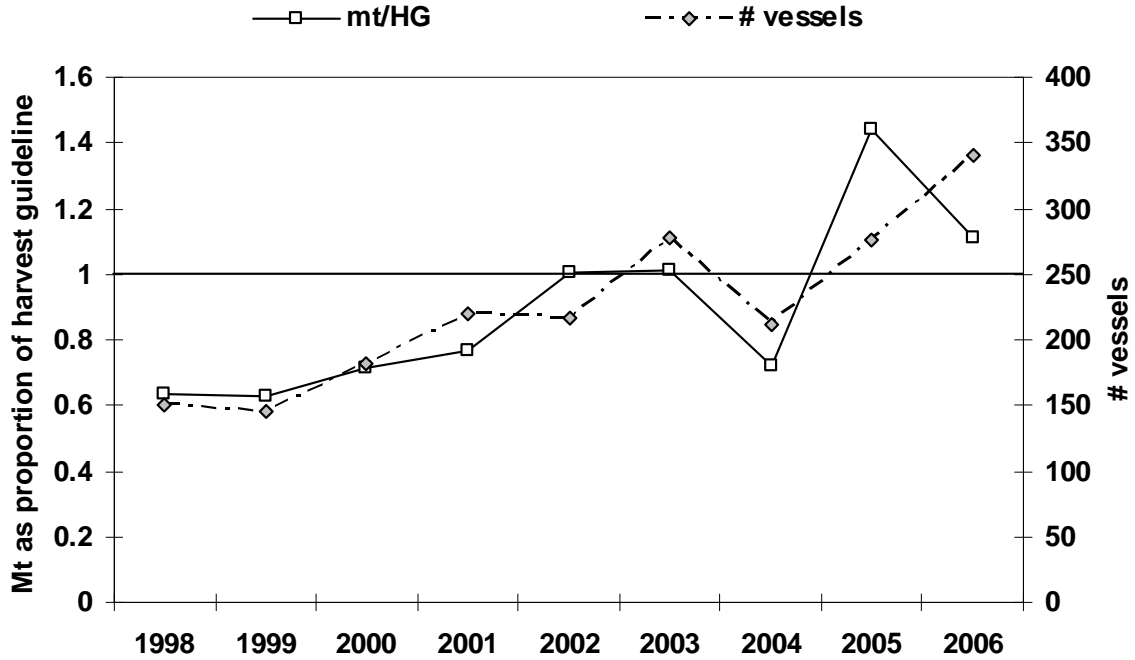


Figure ES-1. Directed open access sablefish fishery trends: number of directed fishery vessels and landings shown as a proportion of annual harvest guideline, Monterey-Vancouver area, 1998-2006 seasons

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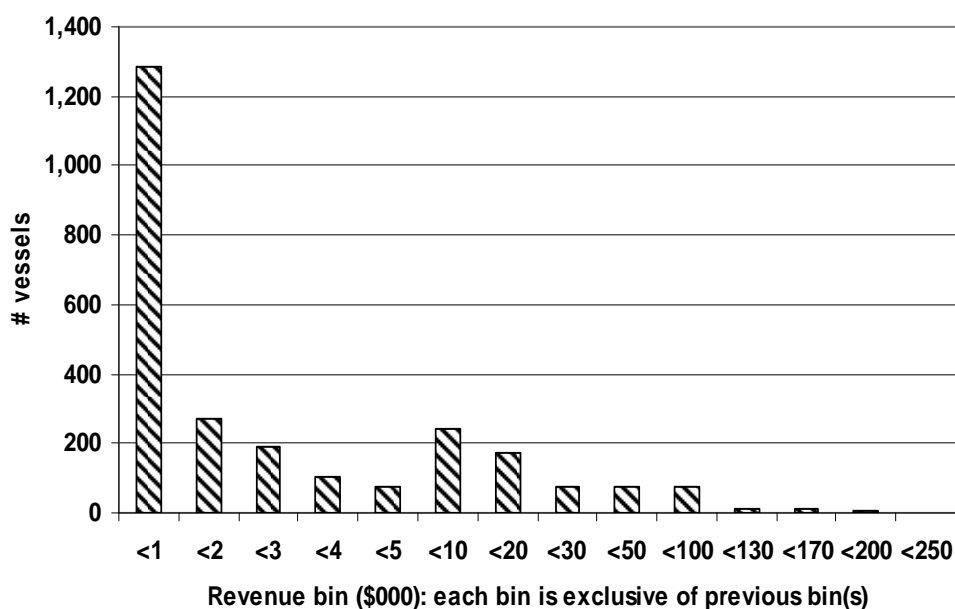


Figure ES-2. Revenue frequencies for WOC vessels that made B species landings during the window period (2,587 vessels)

A total of 2,587 vessels had directed B species groundfish landings during the window period and 66% primarily delivered to California ports and 26% and 8% made landings at Oregon and Washington ports, respectively. The top three port groups for numbers of vessels making landings were Morro Bay (11%), Monterey (10%), and Brookings (9%). The San Francisco port group was very close to the Brookings port group at slightly less than 9%. The large majority (87%) of vessels used hook-and-line gear, followed by pot gear (10%).

California, Oregon and Washington B species vessels averaged 28 ft, 32 ft, and 39 ft in length, respectively. The modal length of Washington vessels was 40-49 ft while the modal length in California and Oregon vessels was 21-24 ft, although there was a second modal length for Oregon vessels at 35-39 ft.

B species directed fishery vessels in Washington and California derived similar proportions of total commercial fishery revenues from B species directed fishery groundfish landings (7.8% and 7.9%, respectively) during 2004-2006. Oregon vessels had a slightly lower dependence at 5.2% of total revenues. Crabpot landings were the major source of commercial fishing revenues to B species directed fishery vessels in all three states, followed by salmon in California and Oregon and HMS in Washington (**Figure ES-3**). Note: this analysis is based on vessels that made directed fishery landings, thus does not include vessels that did not make directed fishery landings, which, if included, would show lower proportions of B species revenues compared to total commercial fishery revenues.

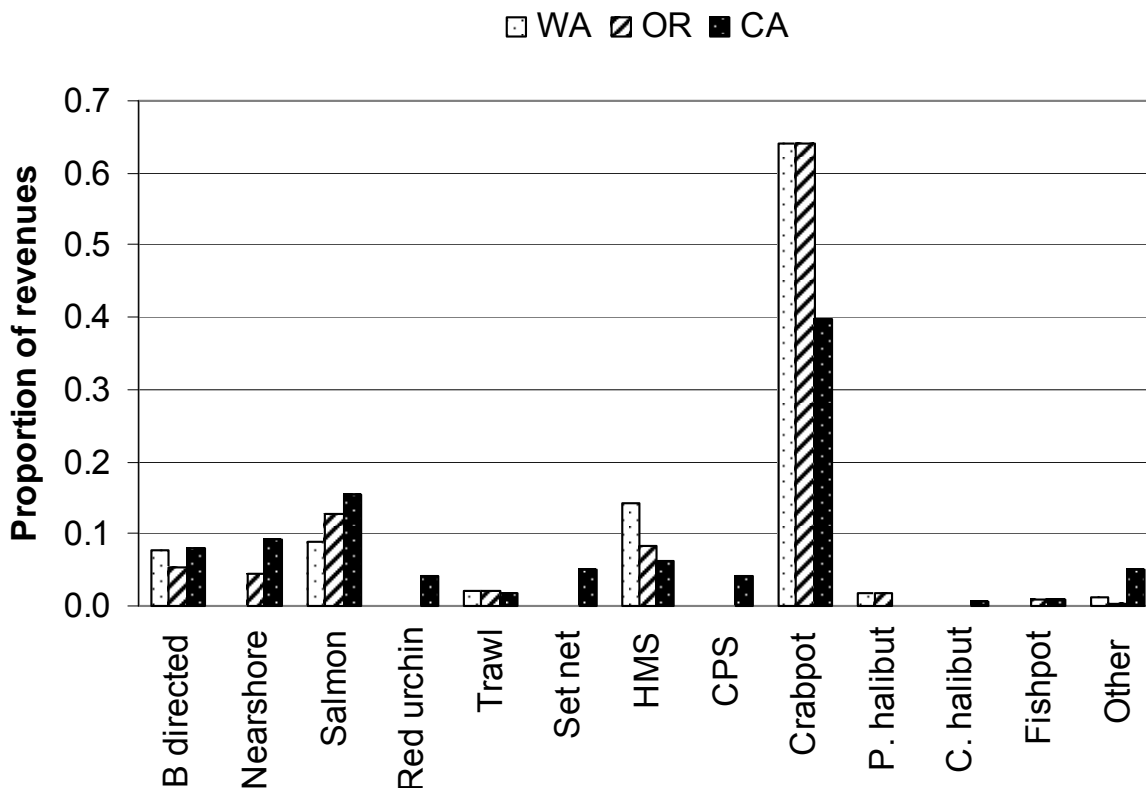


Figure ES-3 Proportion of commercial fishery revenues received by vessels that made B species directed fishery landings by fishery and state during 2004-2006

Vessels were assigned to target species groups based on B species landing revenues. Vessels that received >50% of B species from a single species or species group for landings during 2004-2006 were assigned to that species or species group as follows: sablefish, shelf rockfish, slope rockfish, lingcod, sharks and rays (sharks), and other species. Vessels that could not be assigned to a target species group were assigned to a non-target species vessel group. All except 25 vessels (98%) were assigned to a target species group.

The sablefish target species vessel group landed 98% of the sablefish landed by directed fishery vessels and 78% of the B species groundfish landed by directed fishery vessels (**Figure ES-4**).

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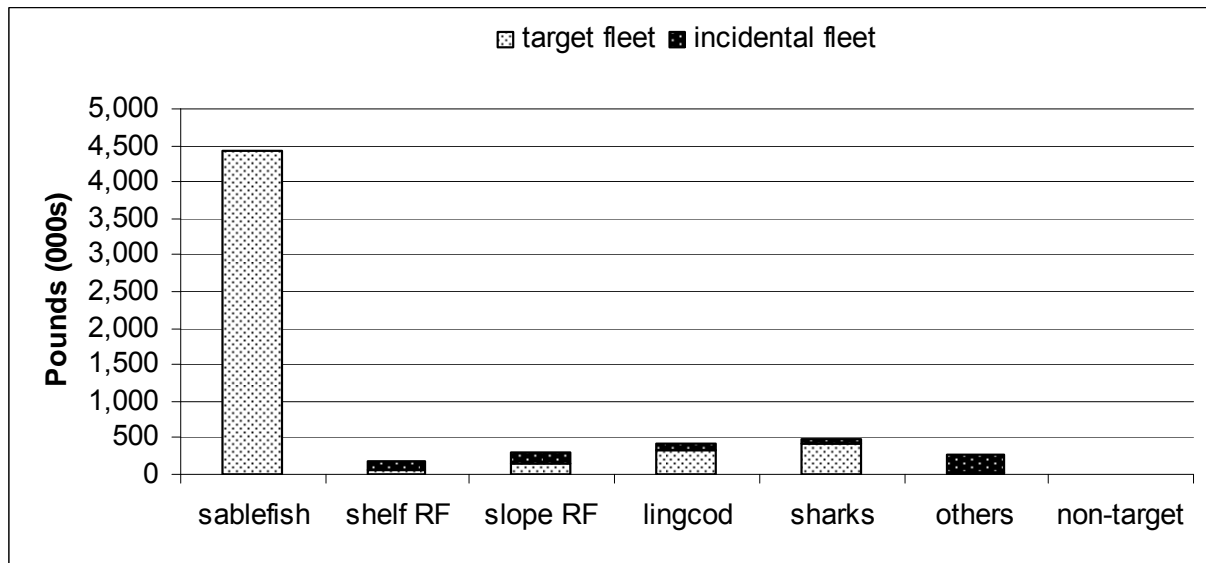


Figure ES-4. Pounds of B species groundfish landed by vessels that derived their primary (>50%) B species fishery revenues from specified species or species groups (target fleet) and those that derived secondary (≤50%) revenues from those same groups (incidental fleet) during 2004-2006

There were major differences in the median catch histories of vessels within state- and species-specific target species vessel groups. These ranged from over 30,000 lbs for Washington shark vessels to 37 lbs for Oregon shelf rockfish vessels (**Figure ES-5**). These data showed that vessels that targeted lingcod and shelf rockfish in Oregon and California and other species and sharks in California would be less likely to qualify for B permits than vessels that targeted sharks and lingcod in Washington, slope rockfish in California, and sablefish in all three states if B permit qualification were based on pounds of B species groundfish landed during 2004-2006.

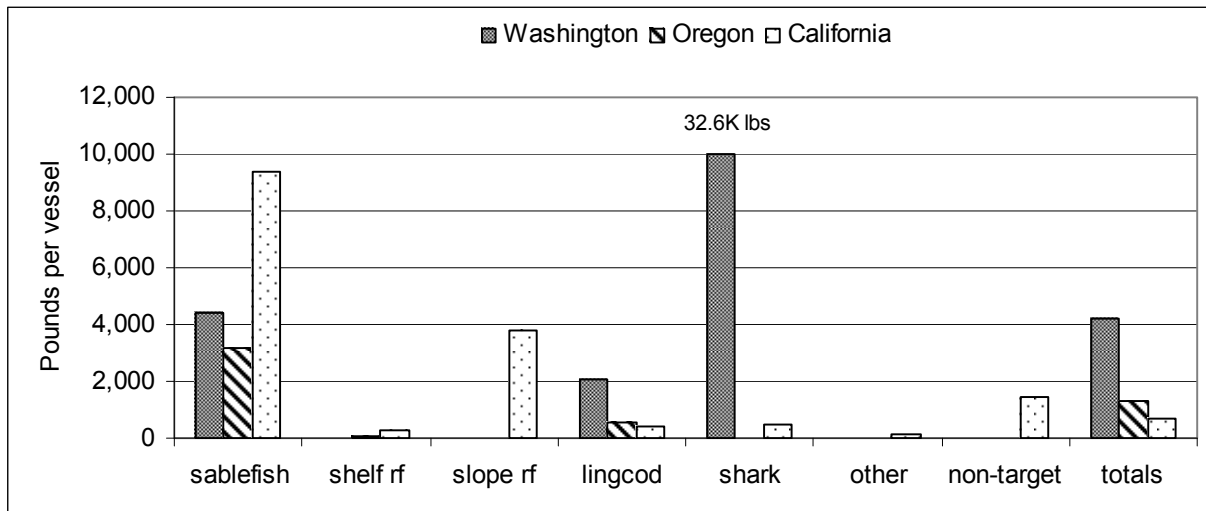


Figure ES-5. Median pounds per vessel by target-species vessel group and state during 2004-2006

REVENUE/COSTS TO THE PARTICIPANTS AND TO STATE AND FEDERAL GOVERNMENTS

Current license renewal and registration costs or web sites where they can be found are presented in **Section 3.3.6.**

ANALYSIS OF ALTERNATIVES--ENVIRONMENTAL CONSEQUENCES

Commercial fishery catch history data were available from the PacFIN data base for all vessels that made B species directed fishery landings during the window period. Those data were used in analyzing impacts of the 31 qualification criteria contained in Alternatives 3-5 on 2004-2006 WOC fishery landings (B species directed and other commercial species landings) by vessels that would have qualified and not qualified for B permits in those years (Hindcast analysis). The analysis was limited to the window period years of 2004-2006 primarily because of regulation differences in earlier years compared to 2004-2006 and regulations that can be expected in near term future years.

Each of the 31 qualification criteria contained in Alternatives 3-5 was composed of a qualification standard (QS) and a qualification framework (QF). There are 21 QSs and 5 QFs among the criteria. Any alternative that seeks to implement a B permit program will require the adoption of a qualification criterion for use by NMFS in determining which vessels qualify for a B permit.

An analysis was done to show the number of vessels that landed specified proportions of B species directed fishery groundfish under each QF during 2004-2006 window period years. The vessels were ranked in descending order of their landings consistent with the metric used for vessel qualification (Table ES-2). The harvest retention proportions used for the analysis were 50%, 80%, 90% and 95%.

Table ES-2 Qualification frameworks used in Alternatives 3-5

Framework	Years	Metric
QF-1	2004-2006	Pounds landed
QF-2	1998-2006	Pounds landed
QF-3	1998-2006 w/ 2004-2006 landing	Pounds landed
QF-4	2004-2006	Landing in 2 yrs
QF-5	2004-2006	Maximum lbs landed in any one year

Results follow:

- QF-4 did not qualify enough vessels to retain 95% of landings during 2004-2006 and required more vessels at the 90% level than any other QF (Figure ES-6). This was because many vessels that qualified for permits under this criterion had relatively low catch histories.
- QF-2 required substantially more (44%-71%) vessels than the remaining three criteria in order to retain 95% of landings during 2004-2006 (Figure ES-6). This was because many vessels that qualified for permits did not make landings during 2004-2006.
- QF-3 required 10%-12% more vessels to retain 95% of landings during 2004-2005 compared to the remaining two criteria (Figure ES-6). This was because some of the vessels that qualified for permits had relatively low catch histories during 2004-2006 compared to their previous (1998-2003) catch histories.
- QF-1 and QF-5 were within 3% of each other in terms of number of vessels required to retain 95% of landings during 2004-2006 (Figure ES-6).

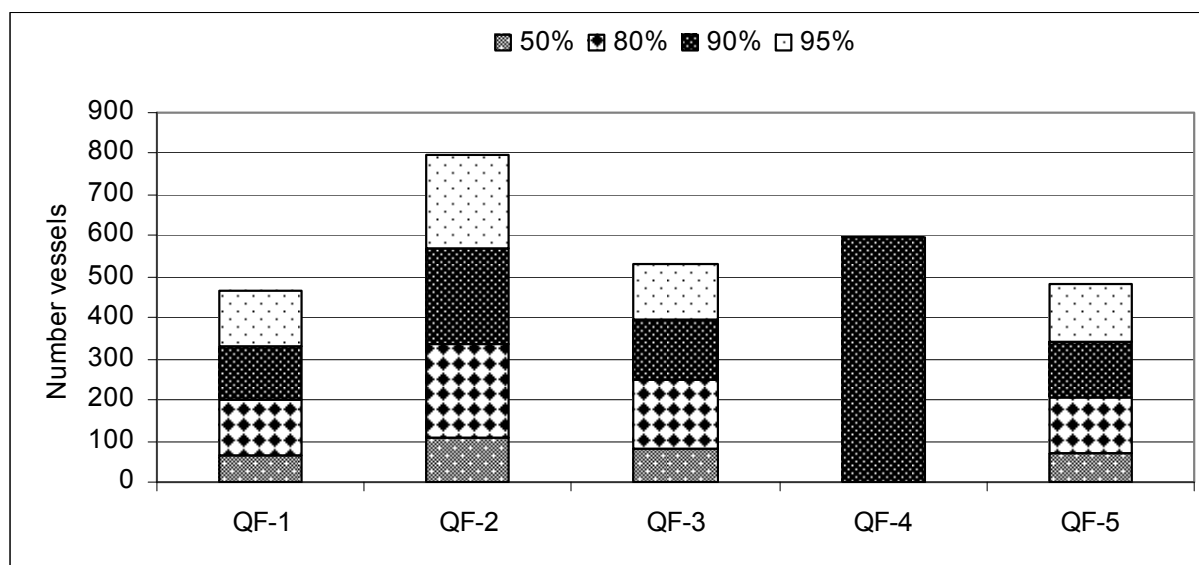


Figure ES-6: Number of vessels that landed specified proportions of B species landings in the WOC area during 2004-2006 that would qualify for B permits under QF-1, 2, 3, 4 and 5. Vessels were ranked from high to low based on framework parameters except for QF-4, which is explained in the text.

The commercial fishery impact analysis (**Appendix E**) facilitated projection of quantitative impact of the alternatives on (1) the groundfish and non-groundfish biological environments; and (2) the groundfish, non-groundfish, vessel, processor and community socioeconomic environments. Data sets were not available for quantitative evaluation of the alternatives with regard to the following issues: Fishery Management, Prohibited Species, Protected Species, Participation Requirements, and Government Cost. For these issues, a general or qualitative assessment was made using comparative information or through deductive reasoning. These assessments are shown in **Table ES-3**.

The factors to be considered in the application of the principals of Environmental Justice are explained in **Section 3.3.9**. It is concluded that all of the alternatives have low potential for significant impact as none of them target low income or minority communities, thus they would affect all population segments equally.

Alternative 1

There would no significant impact to the environment stemming from the No-action alternative because no change in management is proposed under this alternative. This alternative would not affect the increased demand for directed fishery sablefish and the more restrictive landing and trip limits that are associated with providing for year-round sablefish fishing opportunity. Continued use of restrictive landing and cumulative limits, compared to previous recent years, will lead to further depressed fisherman revenues and community impacts and increased fishery discards due to trip limit overages and high grading to keep the more valuable fish. The no-action alternative does not provide for identification of fishery participants.

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Table ES-3 Summary of registration requirements, fleet size goals, fleet size expectations, and environmental consequences associated with permit program alternatives

Issue	Reference	A-1	A-2	A-3	A-4	A-5
Registration requirement?	§ 2.0	No	Yes	Yes	Yes	Yes
Fleet size goal						
Initial	§ 2.0	none	none	680 or 713	none	390.00
Long-term	§ 2.0	none	none	none	none	170.00
Initial fleet size expectation ^{1/}	Tab 4-1b	<713	<713	468-680	65-<713	286-390
Long-term fleet size expectation	Tab 4-1b	<713	<713	468-680	65-<713	170
Consistent with "Needs Statement"?	Tab 4-1b	no	partially	partially	yes & no	yes
Environmental impact						
Physical environment	§ 3.1, and § 4.0	N/C	N/C	N/C	N/C	N/C
Biological environment						
Groundfish	§ 3.2.1	N/C	N/C	N/C	N/C	N/C
Non-groundfish	§ 3.2.2	N/C	N/C	N/C	N/C	N/C
Prohibited species	§ 3.2.3	N/C	N/C	N/C	N/C	N/C
Protected species	§ 3.2.4	N/C	N/C	N/C	N/C	N/C
Socioeconomic environment						
Fishery mgmt ^{2/}	§ 2.0	N/C	+	+	N/C to >	>
Catch comp.						
Groundfish ^{3/}	Tab E-4a	N/C	N/C	WC: '+1% to +9% rev	WC: N/C to +75% rev	WC: '+9% to +20% rev
Non-groundfish ^{4/}	Tab E-4b	N/C	N/C	N/C to -2% rev	N/C to -5% rev	-1% to -2% rev
Vessels char.	§ 3.3.3.4, § 3.3.3.5	N/C	N/C	larger size	larger size	N/C
Processors ^{5/}	Tab E-12a & E-12b	N/C	N/C	N/C to -39% lbs	N/C to >-69% lbs	N/C to -73% lbs
Licensing, etc.	§ 3.3.5, § 3.3.6	N/C	new requirement	new requirement	new requirement	new requirement
Costs	§ 2.0	N/C	~\$125/yr	~\$125/yr	~\$125/yr	~\$125/yr
Communities ^{6/}	Tab 4-1b, Col F	N/C	N/C	-1% to -8% \$\$	N/C to -75% \$\$	-9% to -19% \$\$
Environmental Justice	§ 1.5, § 3.3.8	N/C	N/C	N/C	N/C	N/C

1/ The A-1 and A-2 value is the number of vessels that made a B species landing in 2006. Fewer vessels can be expected in the near term because of VMS requirement and elevated fuel price starting in 2008; A-3, A-4 and A-5 values are numbers of vessels eligible for permits and that were active during 2004-2006.

2/ + means improved management; > means substantially improved management, the degree to which cannot be quantified.

3/ Impacts are for B species groundfish revenues. Ranges show proportion of B species harvest made by non-qualifying vessels during 2004-2006. Some of these fish would have been made available for harvest by qualifying vessels and as incidental fishery landings by non-qualifying vessels under C permits or state nearshore permits.

4/ Ranges show amount of total fishery revenues comprised of B species groundfish by non-qualifying vessels during 2004-2006. These values indicate the amount of increase in revenues that would be needed to make up for lost B species groundfish landings by non-qualifying vessels. These are worst-case estimates because some fish would have been allowed in landings by non-qualifying vessels under incidental landing allowances for C permit and nearshore permit holders.

5/ Proportions show the range in poundages by port group for vessels that did not meet qualifying criteria during 2004-2006. These are worst-case estimates because some fish would have been shifted to qualifying vessels and landed by non-qualifying vessels under incidental landing allowances for C permit and nearshore permit holders.

6/ Values shown are personal income impact estimates for vessels that would not have met qualifying criteria during 2004-2006. These are worst-case estimates because some fish would have been shifted to qualifying vessels and landed by non-qualifying vessels under incidental landing allowances for C permit and nearshore permit holders.

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Alternative 2

This alternative would have the same environmental impact as Alternative 1, but provides for licensing of all open access fishery participants, which would provide for identification of fishery participants and improve the ability of managers to project fishery impacts.

Alternative 3

Alternative 3 would provide for the issuance of B and C permits and has an initial fleet size goal of either 680 vessels, which is the average number of directed fishery vessels during 2004-2006 window period years, or 713 vessels, which is the number of vessels in the fishery in 2006. B permit vessels could have 1% to 8% more B species groundfish (depending on qualification criterion) to harvest due to exclusion of previous fishery participants that had lower catch histories (**Table ES-3**). Fishery revenue and personal income impacts were similar under this alternative to B species groundfish landing impacts (**Table ES-4**). This small increase in fish to permitted vessels would have no impact on B species trip or cumulative landing limits. Moreover, non-qualifying vessels would be allowed to land small amounts of fish caught incidental to fishing for other species, which would offset some of the potential gains to permitted vessels.

An average of 276 vessels prosecuted sablefish during 2004-2006, thus the issuance of 680 or 713 permits would not preclude significant effort shift of permitted vessels to the sablefish fishery. The distribution of permits between states would change by between +6 percentage points (Washington) to -8 percentage points (California) compared to the distribution of vessels making B permit landings during the 2004-2006 window period. The excluded vessels under this alternative would have to increase revenues from other commercial fisheries or revenue sources by 1% to 2%, on average, to make up for lost B species harvest opportunity. The environmental consequences of this alternative would be similar to Alternative 1 (No-action), but would provide for identification of fishery participants and improve the ability of managers to project fishery impacts.

Alternative 4

Alternative 4 would provide for the issuance of B and C permits. A wide range of minimum landing criteria was developed to analyze potential fishery and personal income impacts under this alternative (Table ES-3). The criteria contained in this alternative would have permitted between 65 and 1,103 vessels during 2004-2006 (Table ES-3). Criterion 47.9K-3 would have eliminated vessels that accounted for 75% of the B species directed fishery revenues received during 2004-2006 (Table ES-3). This amount of fish would have substantially increased the amount of fish available for harvest by permitted vessels with associated decrease in target species discards and reduced impacts to over fished groundfish and protected species. The criteria contained in Alternative 4 would have increased revenues to permitted vessels ranging from over 40% under four criteria, over 20% under six criteria and over 10%, under nine criteria. The other 13 criteria would have resulted in redistribution to permitted vessels during 2004-2006 of <10% of B species revenues. Fishery revenue and personal income impacts were similar under this alternative to B species groundfish landing impacts for the nine criteria analyzed by the two approaches (Table ES-4).

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Table ES-4: Assessment of qualification criteria impacts relative to permit program needs statement

Alternative	Criterion	Fleet size 3/ vsls)	Better match between fleet and fish? (<680 vsls)	Regulation and effort shift relief (+) 2/)	Personal income economic impact (-) 4/)	Improved monitoring program?
1	n/a	<713	1/	0%	0%	
2	n/a	<713		0%	0%	Y
3 (a)	680v-1	680	Y	2%	2%	Y
	680v-2	468	Y	9%	8%	Y
	680v-3	680	Y	3%	3%	Y
3 (b)	713v-1	713		1%	1%	Y
	713v-2	486	Y	8%	8%	Y
	713v-3	713		2%	2%	Y
	47.9K-3	65	Y	75%	no est.	Y
	36.1K-3	95	Y	68%	no est.	Y
	21.8K-3	139	Y	44%	no est.	Y
	14.4K-3	211	Y	44%	no est.	Y
	6.1K-3	343	Y	22%	no est.	Y
	3.5K-3	474	Y	8%	8%	Y
	1.6K-3	629	Y	4%	4%	Y
	1lb-1	1,103		0%	no est.	Y
4	1 trip-1	1,103		0%	no est.	Y
	2 in 3 yrs-4	595	Y	12%	12%	Y
	100 max-5	939		0%	no est.	Y
	500 max-5	655	Y	2%	2%	Y
	1000 max-5	499	Y	6%	no est.	Y
	2000 max-5	343	Y	13%	no est.	Y
	100 lbs-1	950		0%	no est.	Y
	500 lbs-1	701		2%	1%	Y
	1000 lbs-1	577	Y	3%	3%	Y
	2000 lbs-1	420	Y	8%	8%	Y
	100 lbs-3	1,003		0%	no est.	Y
	500 lbs-3	827		1%	no est.	Y
	1000 lbs-3	727		2%	2%	Y
	2000 lbs-3	581	Y	5%	5%	Y
5	390v-1	390	Y	9%	9%	Y
	390v-2	286	Y	20%	19%	Y
	390v-3	390	Y	13%	12%	Y

1/ blank means "no"

588

2/ values shown are proportions of B species revenues received during 2004-2006 by non-qualifying vessels (Table E-4b). This is the ex-vessel value of fish that potentially would have been available to qualifying vessels (through in-season regulation adjustment) if the non-qualifying vessels did not land any B species groundfish during 2004-2006. In reality, non-qualifying vessels would have been allowed to land "incidental" amounts of B species groundfish under a C permit or a nearshore permit, thus the values shown reflect a "best-case" scenario for the qualifying vessels.

3/ these values are near-term fleet size expectations or number of potentially qualifying vessels.

4/ This is the same analysis described in footnote 2/ but adjusted using the economic impact factors shown in the methods section. The economic analysis was limited to criteria that qualified between 390 and 713 vessels (see Tables E-20 and E-22). However, the missing values in column F can be reasonably inferred based on revenue impacts shown in column E. These values represent worst-case scenarios in terms of negative economic impacts of the criteria.

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An average of 276 vessels prosecuted sablefish during 2004-2006, thus the issuance of about 400 or more permits under this alternative would not preclude significant effort shift of permitted vessels to the sablefish fishery. The distribution of permits between states would change under this alternative by between +14 percentage points (Washington and California) to -17 percentage points (Oregon) compared to the distribution of all vessels that made B permit directed fishery landings during the 2004-2006 window period. The non-permitted vessels under this alternative would have to increase revenues from other commercial fisheries or revenue sources by up to 5% (worst case), on average, to make up for lost B species harvest opportunity. The environmental consequences of this alternative are highly variable between the criteria contained in this alternative. However, all of them would provide for identification of fishery participants and improve the ability of managers to project fishery impacts.

Alternative 5

Alternative 5 provides for the issuance of B and C permits and has an initial fleet size goal of 390 vessels and a long term goals of 170 vessels. There is a previous year landing requirement under this alternative that would accelerate permit attrition. In the first program year, permitted vessels would have 9% to 20% more fish to harvest due to exclusion of previous fishery participants that had lower catch histories based on 2004-2006 directed fishery landings (**Appendix E**). Fishery revenue and personal income impacts were similar under this alternative to B species groundfish landing impacts (**Table ES-4**). The small increase in fish available to permitted vessels under this alternative would likely have minimal impact on B species trip or cumulative landing limits. Moreover, non-qualifying vessels would be allowed to land small amounts of fish caught incidental to fishing for other species, which would offset some of the potential gains to permitted vessels.

An average of 276 vessels prosecuted sablefish during 2004-2006, thus the issuance of 390 permits would help in preventing significant effort shift of permitted vessels to the sablefish fishery. The distribution of initial permits between states under this alternative would change by between +11 percentage points (Washington) to -12 percentage points (California) compared to the distribution of vessels making B species directed fishery landings during the 2004-2006 window period. The non-qualifying vessels under this alternative would have to increase revenues from other commercial fisheries or revenue sources by 1% - 2%, on average, to make up for lost B species harvest opportunity (Appendix E).

The long-term fleet size goal under this alternative could increase B species groundfish revenues for permitted vessels by about 44% based on landings data for criteria 14.4K-3 and 6.1K-3. These latter criteria would have permitted 139 and 211 vessels in 2004-2006, respectively (**Table ES-4**). There is no timeline for long-term goal attainment under this alternative. The previous year landing requirement in combination with the prohibition on permit transfers between vessels are intended to accelerate permit attrition.

The initial environmental consequences of this alternative would be similar to Alternative 1 (No-action), but substantial when the long-term fleet size goal is met due to reduced fleet size. Such a large reduction in fleet size would reduce the amount of gear required to meet landing limits thus result in reduced target species discards and protected species interaction, particularly marine mammals and seabirds. This alternative (along with Alternatives 2, 3 and 4) would provide for identification of fishery participants and improve the ability of managers to project fishery impacts.

Other NEPA Issues

These will be addressed in the final EA.

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ACRONYMS

CDFG	California Department of Fish and Game
Council.....	Pacific Fishery Management Council
EC	Enforcement Consultants
EEZ	Exclusive economic zone
EFH	Essential fish habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FMP	Fishery management plan
GAP	Groundfish Advisory Subpanel
GAC.....	Groundfish Allocation Committee
GMT	Groundfish Management Team
IAC.....	Intersector Allocation Committee
LE	Limited entry or A permit program
Magnuson-Stevens Act (MSA)	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
ODFW	Oregon Department of Fish and Wildlife
OY	Optimum yield
Plan	Groundfish Strategic Plan
PSMFC	Pacific States Marine Fisheries Commission
RCA	Rockfish Conservation Area
Secretary	United States Secretary of Commerce
SFA	Sustainable Fisheries Act
SSC	Scientific and Statistical Committee

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USFWS United States Fish and Wildlife Service
VMS Vessel monitoring system
WOC Washington, Oregon, and California
WDFW Washington Department of Fish and Wildlife

ABBREVIATIONS AND SPECIES GROUP DEFINITIONS

Port Groups (principal ports)

NPS: North Puget Sound (Neah Bay, Port Angeles, Sequim, Port Townsend, Blaine, Bellingham Bay, Anacortes, La Conner, Friday Harbor)
SPS: South Puget Sound (Everett, Seattle, Tacoma, Olympia, Shelton)
CWA: Coastal Washington (La Push, Copalis Beach, Grays Harbor, Westport, Willapa Bay)
CLW: Columbia River, Washington (Ilwaco, Chinook)
CLO: Columbia River, Oregon (Astoria, Gearhart-Seaside, Cannon Beach)
TLA: Tillamook (Tillamook/Garibaldi, Nehalem Bay, Netarts Bay, Pacific City, Salmon River)
NPA: Newport (Depoe Bay, Siletz Bay, Newport, Waldport, Yachats)
CBA: Coos Bay Area (Winchester Bay, Charleston, Bandon, Florence)
BRA: Brookings Area (Port Orford, Gold Beach, Brookings)
CCA: Crescent City Area (Crescent City Harbor)
ERA: Eureka Area (Eureka, Fields Landing, Trinidad)
BGA: Fort Bragg Area (Fort Bragg, Albion, Point Arena)
BDA: Bodega Bay Area (Bodega Bay, Point Reyes, Tomales Bay)
SFA: San Francisco Area (San Francisco, Sausalito, Oakland, Princeton/ Half Moon Bay, Alameda, Berkeley, Richmond)
MNA: Monterey Area (Monterey, Moss Landing, Santa Cruz)
MRA: Morro Bay Area (Morro Bay, Avila)
SBA: Santa Barbara Area (Santa Barbara, Port Hueneme, Oxnard, Ventura)
LAA: Los Angeles Area (Terminal Island, San Pedro, Wilmington, Newport Beach, Dana Point, Long Beach)

SDA: San Diego Area (San Diego, Oceanside)

Species (PacFIN codes)

Crab (Dungeness, king, tanner, rock, blue, golden)
Salmon (Chinook, coho, pink, sockeye, chum)
Groundfish (see text)
Shellfish (clams, oysters, cockles, geoduck, scallops)
Shrimp (pink, ghost and mud shrimp; golden, ridgeback and spotted prawns)
HMS (highly migratory species: Dorado; blue and striped marlin; blue shark; basking shark; shortfin mako shark, bigeye, common and pelagic thresher sharks; albacore, blue, yellowfin, bigeye, skipjack tunas; swordfish)
CPS (coastal pelagic species: Pacific and round herring; chub and jack mackerel; market squid; northern anchovy; Pacific bonito; Pacific sardine)
Others (white seabass; Pacific and California halibut; yellowtail; sea urchin; sea cucumber; barracuda; non CPS squid, croakers, eels, surfperch; wahoo, hagfish, non-groundfish sharks and skates; ocean whitefish, octopus, smelt; pomfret, non-groundfish greenlings, and all others do not fit the above species groups)

Gear Types

Hkl: hook-and-line
Pot: pot or trap gear
Net: set net gear

Miscellaneous

Vsl: vessel
\$\$: dollars
000s or Ks: thousands
mt: metric ton(s)
lb: pound(s)

1.0 PURPOSE OF AND NEED FOR THE ACTION

The groundfish fishery in the Exclusive Economic Zone (EEZ), offshore waters between 3 and 200 nautical miles (nm), off the coasts of Washington, Oregon, and California (WOC) 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 FMP has been in effect since 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 or MSA), 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 the Migratory Bird Treaty Act.

NEPA regulations require that NEPA analysis documents be combined with other agency documents to reduce duplication and paperwork (40 CFR§§1506.4). Therefore, this EA will ultimately become a combined regulatory document to be used for compliance with not only NEPA, but also E.O. 12866, RFA, and other applicable laws. 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.

- Chapter One describes the purpose and need of the proposed action.
- Chapter Two describes a reasonable range of alternative management actions that may be taken to meet the proposed need.
- Chapter Three contains a description of the socioeconomic, biological, and physical characteristics of the affected environment.
- Chapter Four examines changes in the socioeconomic, biological, and physical environments resulting from the alternative management actions.
- Chapter Five addresses consistency with the FMP and other applicable laws.
- Chapter Six is the regulatory impact review and regulatory flexibility analysis.
- Chapter Seven lists the Federal and State agencies consulted.
- Chapter Eight is a list of individuals who helped prepare this document.
- Chapter Nine provides a list of references.
- Chapter Ten contains the Finding of No Significant Impact.
- Chapter Eleven describes the groundfish fishery management terms used in the text
- Chapter Twelve contains appendices that provide additional information in support of comments or conclusions made in the text

1.1 Introduction

In 1994, NMFS implemented a limited entry program for the Pacific Coast groundfish fisheries, which created a permitting program to restrict the number of vessels allowed to directly target groundfish. The Council had discussed and developed this limited entry program as Amendment 6 to the FMP in the early 1990s. At that time, Pacific Coast fisheries as a whole were perceived as overcapitalized, meaning that fishing effort (number of vessels participating and fishing power of individual vessels) far exceeded potential Pacific Coast fish and shellfish biological yields. In the Environmental Impact Statement (EIS) for Amendment 6, the Council expressed concern that vessels looking for opportunities to expand their fishing operations would begin to enter the groundfish fishery, which had only recently converted from

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partial foreign harvest to complete domestic harvest. To prevent this anticipated migration to the groundfish fisheries, the Council adopted the Amendment 6 limited entry program, which essentially capped the number of groundfish fishery participants to those vessels with historic participation in the groundfish fisheries at a qualifying level

The limited entry program did not reserve all groundfish for the limited entry fleet, which allowed for the development of the open access fisheries. Amendment 6 specified that percentages of annual allowable groundfish catch that had been taken by vessels that did not qualify for limited entry permits would be set aside for an open access fishery. This fishery was left unlimited in participation to ensure that vessels participating in state-managed fisheries and landing groundfish incidentally would continue to have access to the groundfish resource. The fishery was also left unlimited to allow smaller vessels to directly target groundfish at lower landings rates than in the limited entry fishery. Since 1994, any vessel without a limited entry permit and using gear other than trawl gear has been allowed to directly target and land groundfish under open access fishery regulations and limits. Additionally, vessels using trawl gear in non-groundfish fisheries, such as shrimp and prawn fisheries, have been allowed to land groundfish taken incidentally in those fisheries under open access fishery regulations and limits. Allowable groundfish landings have been declining in recent years, primarily in response to the Magnuson-Stevens Act that requires NMFS and the fishery management councils to implement measures to rebuild overfished fish stocks. As of 2007, seven groundfish species have been declared overfished and are managed under strict rebuilding guidelines. All of these species co-occur with more abundant groundfish stocks, which mean that harvest of both the overfished stocks and their more abundant co-occurring stocks has been severely restricted to protect the overfished stocks. Despite these overall harvest restrictions, participation in the open access sectors of the groundfish fisheries remains unrestricted.

The open access fishery is characterized by frequent turnover in participants and no fishery registration requirement. This complicates projection of fishery impacts on target species and non-target species such as overfished groundfish species. The large number of vessels that typically participate in the directed fishery component far exceeds the capacity of the resource to sustain harvest on a year round basis. Thus, restrictive trip and cumulative landing limits have been used to ensure year-round fisheries. Restrictive landing limits can lead to trip limit overages and high grading, which exacerbates fishery discard mortality of target and non-target species. The Council first discussed limiting entry in the directed fishery sector of the open access fishery in 1998 and resumed discussion of the issue in 2000 as a management priority under its Groundfish Strategic Plan. The matter has been delayed because of higher priority groundfish issues including the need to develop and implement rebuilding plans for overfished groundfish stocks. In September 2006, the Council revived the open access permitting issue. It determined at that meeting that the resources were available to move forward with FMP Amendment 22 to convert the open access fishery to federal permit management, in part based on an offer by the California Department of Fish and Game (CDFG) and the other member states to assist in the process. At this same meeting, they set a fishery control date of September 13, 2006 to notify the public of its intent to consider open access fishery permitting (71 FR 64216, November 1, 2006).

1.2 Description of the Proposed Action

The proposed action is for the open access sector of the Pacific Coast groundfish fishery and is intended to compliment the existing limited entry or A Permit Program established under Amendment 6 to the FMP. The proposed action has two parts:

1. Conversion of the directed (target) fishery component of the open access groundfish fishery for specified groundfish species to limited entry management wherein vessels with valid registrations or permits would be allowed to directly fish for and land specified groundfish species consistent with the OYs and trip limits established for the open access sector of the Pacific Coast groundfish fishery. For Alternatives 3-6, this is called the B permit.
2. Conversion of the incidental (non-target) fishery component of the open access groundfish fishery to a registration program for all open access vessels that do not qualify or submit an application for a directed fishery permit and that seek to retain incidental amounts of specified groundfish species consistent with the OYs and trip limits established for the open access sector of the Pacific Coast groundfish fishery. For Alternatives 3-6, this is called the C permit.

1.2.1 Action Area

The open access sector of the groundfish fishery takes place in waters between 0 and 200 nautical miles (nm) off the coasts of Washington, Oregon, and California (WOC). However, federal authority for this fishery is from 3 to 200 nm, the Exclusive Economic Zone (EEZ), off of WOC. State authority is from 0 to 3 nm.

1.2.2 Scope of the Action

The proposed action relates to the open access sector of the Pacific Coast groundfish fishery and is proposed to compliment the existing limited entry or A permit program established under FMP Amendment 6. The proposed action extends to all groundfish species harvested or impacted directly or incidentally by open access fishing operations with the exception of certain nearshore species, explained in Chapter 2, Alternatives. The analysis of alternatives is proposed to focus on fishery data for open access vessels that used directed fishery gear types during the window period of April 1998 to September 2006.

1.3 Purpose of and Need for the Action

1.3.1 Need

The majority of groundfish stocks are now fully harvested by domestic fishermen in the Pacific Coast groundfish fishery (PFMC 2008). Changes in the Magnuson-Stevens Act coupled with new information indicating much lower productivity for many groundfish species has resulted in the determination that several stocks are overfished (PFMC 2008). Expectations of future productivity of several groundfish species have been lowered along with estimated OYs since the mid 1990s (PFMC 2006). The Council has determined that the groundfish fishery is overcapitalized and a Groundfish Strategic Plan (PFMC 2000) calls for more than a 50 percent reduction in fishing effort. Further, there is a general level of excess (i.e., “too much”) harvest capacity in many United States managed commercial fisheries, ranging from Northeast Atlantic monkfish to Alaska groundfish and halibut) (NMFSc 2008).

The Council and NMFS are considering bringing the open access fishery under a limited entry program to limit overall capacity directed towards groundfish. Without incorporating open access users into a limited entry program, allocation issues will become more acute and additional, more restrictive measures will be needed to prevent overharvest of stocks and increased fishery discards.

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Limited entry (aka, limited or restricted access) fishery programs have been established for one or more of the following purposes: 1) to promote resource sustainability; 2) to create an orderly fishery; 3) to promote conservation among fishery participants; and 4) to maintain the long-term economic viability of fisheries (CFGC 2008).). Limited entry is the most common approach for managing harvesting capacity in a fishery (NMFS 2008c). The Council managed limited entry fisheries include the non-open access groundfish fishery and the California coastal pelagic finfish fishery (see: <http://www.pcouncil.org/>). The states administer over 50 individual species or species/gear-based limited entry programs, which represent the majority of commercial fisheries in the respective states (Appendix C). It is recognized that the rules to obtain and renew a permit, to upgrade a fishing vessel and to transfer a permit to a replacement vessel need to be sufficiently restrictive to have lasting reduction in fishery capacity (NMFS 2008c). The basic problem with limited entry in other commercial fisheries has been their failure to address the common underlying management problem (NMFS 2008c).

The proposed action is needed because:

1. Fishing capacity for federal groundfish species needs to be carefully managed to ensure that capacity and/or effort is maintained consistent with resource availability and limited entry is an important step in managing fishery capacity.
2. Restrictive landing limits have been necessary for some groundfish species because of high fishing capacity. Low landing limits reduce the economic potential of the fishery to local communities, and can exacerbate fishery discards due to trip limit overages and species high grading and capacity reduction has the potential to increase fishery profits.
3. Registration of all open access fishery vessels is important to meeting fishery management goals to facilitate projecting fishery catches and discards and efficiently allocating sampling resources to collect fishery biological and economic data among ports.
4. The Pacific Coast states have management programs for their nearshore groundfish fisheries, which has likely pushed unlicensed vessels into federal waters, increasing fishing pressure there.
5. Salmon fishing restrictions have likely resulted in effort shifts by salmon vessels to directed open access groundfish fisheries, which puts added pressure on overfished groundfish stocks and reduces economic viability of affected groundfish fisheries.
6. Management measures to protect overfished groundfish species have, in recent years, included large area closures and reduced harvest limits. Enforceability of these and other management measures would be improved by managers and enforcement officials being able to identify which vessels are permitted to participate in the groundfish fisheries. It would also facilitate dissemination of fishery information including fishery regulations.

1.3.2 Purpose of the Proposed Action

The open access fishery is composed of a diversity of fishers. Some fishers participate in more than one fishery while others are solely dependent on the groundfish fishery as an income source. Some occasionally land groundfish caught incidentally with other gears such as shrimp trawl and salmon troll. Strong market incentives for groundfish (e.g., live and fresh fish markets) have encouraged participation by fixed gear/hook and line limited entry and open access fishers even though groundfish trip limits have been severely restrained. A large number of recent participants fish in nearshore fisheries for groundfish, but only land a small amount of fish on an annual basis. There is not much opportunity for the development of new fisheries given the constraints on the current fisheries to reduce bycatch of overfished stocks. The purpose of the proposed action is to:

1. Meet the Council's Strategic Plan goals of reducing capacity in the groundfish fisheries and the Council's commitment to an open access permitting program.

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2. Meet the FMP's Objective #2, as revised by Amendment 18 to the FMP: Adopt harvest specifications and management measures consistent with resource stewardship responsibilities for each groundfish species or species group. Achieve a level of harvest capacity in the fishery that is diverse, stable, and profitable. This reduced capacity should lead to more effective management for many other fishery problems.
3. Ensure that federal management of the open access fisheries is compatible with state license limitation programs for nearshore and other state-managed fisheries.
4. Comply with the provisions of Section 312, MFCMA re: Transition to Sustainable Fisheries, which provide for a voluntary fishing capacity reduction program (Appendix H).

1.3.3 Timeline and Responsible Entities

Conversion of the open access groundfish fishery to federal permit management has been under consideration by the PFMC and NMFS since April 1998, when the first notification of possible fishery conversion to federal permit management was published by the NMFS (see: www.FR64216_1998ControlDate.pdf). The notice was done to notify fishers that any future fishery landings might not be considered for limited entry program qualification. A summary of completed and proposed actions on the open access fishery permit program initiative follows:

Step	Dates
Control date set (first) for OA fishery permit program	April 1998
Groundfish Strategic Plan recommends OA fishery permit program	October 2000
OA fishery permit program planning	January 2001-April 2002
Council discussion continues on need for OA fishery permit program in the context of other groundfish issues	November 2002-June 2006
Control date set (second) for OA fishery permit program	September 2006
Overview, scoping and Council direction for OA permit program	June 2007
Evaluation of alternatives and preparation of preliminary draft environmental assessment (EA)	June 2007-February 2008
Council meeting to review EA and amend alternatives	March 2008
Analyze amended alternatives and prepare updated draft EA	April-August 2008
Groundfish Allocation Committee meeting	July 2008
Council meeting: adopt final alternative, if appropriate	September 2008
Council meeting: consider final adoption if not done in September 2008	March 2009
Implementation phase and initial permit issuance	April-December 2009 or 2010
B and C permits required	January 2010 or 2011

Advisory body and public input will be received at regularly scheduled Council meetings.

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The above timeline is sensitive to the timing of final Council action and the ability of NMFS to begin issuing permits. The requirement for possession of B and C permits would be expected to start on the first day of the year following completion of the permit issuance process, explained below. Final Council action at the September 2008 meeting could allow for program implementation in time for the 2010 fishing season, but delay until March 2009 would likely mean a one year delay in program implementation, until the 2011 fishing season.

The implementation phase and initial permit issuance items in the above table cover the following actions: (1) preparation of proposed B and C permit regulations, development of a B and C permit administrative program and process, and preparation of B and C permit application forms by NMFS-NWR, (2) submittal of the preliminary draft EA by the PFMC Executive Officer to the NMFS-NWR, (3) review by NMFS of the preliminary draft EA for content, adequacy and consistency, and (4) determination by NMFS of the significance of the proposed action relative to NEPA and other relevant federal policies. Depending on (4) NMFS would provide notice of availability of the draft EA and publish the proposed rule in the *Federal Register*, which would provide for a 30-day public comment period. Once the rule is finalized, NMFS-NWR with assistance from state management agencies would publish a public notice that details: (1) B and C permit qualification criteria, (2) identification numbers of vessels that appear to qualify for B permit issuance, (3) required fee amounts for B and C permit application processing; (4) locations where B and C permit applications can be obtained and a description of documents required to demonstrate meeting the landing requirements; 5) the deadline date for making a permit application; and 6) description of the basis for appeal requirements

To expedite the application process, NMFS may identify potentially qualified vessels and mail a B permit application package to the vessel owners to confirm landings/participation in qualifying years. Other vessel owners who are not initially identified as qualified would be allowed to apply for a B permit. However, they would be required to provide verifiable landing documentation as specified by NMFS in the public notice. The application form would require such information needed to verify vessel landings during qualifying years, current vessel owner and vessel identification. Applicants will be given six months from the time the public notice is published to submit a completed application form and a valid check or money order to cover the application fee. Late applications would not be accepted by NMFS after the deadline date and the issuance of B permits will be limited to those applications that have been received during the application period. The B permit application fee will be non-refundable. After receipt of completed application forms and supporting documents during the application period the NMFS-NWR Fisheries Permit Office will issue B permits to qualifying vessel owners. Details of the C permit application process have not been determined at this time and will require close coordination between the states and NMFS.

The scope and complexity of the open access permit program will directly impact the time required to draft, revise and review the regulatory package and determine the incremental resources required by NMFS-NWR to implement the initiative. Also, NMFS anticipates that there will be a number of other high priority management initiatives requiring staff resources, including Pacific Coast groundfish trawl rationalization. To undertake these initiatives, NMFS may be required to hire additional staff which is subject to federal budgeting and personnel hiring. A more detailed timeline for the B and C permit issuance process and assuming March 2009 final Council action follows.

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STEPS	DATES
Council adopts final action	March 2009
NMFS and states develop C permit issuance requirements	April – May 31, 2009
SFD drafts OA Proposed Regulations/FPO prepares PRA Package	April – July 31, 2009
SFD Publishes Proposed Rule	September 1, 2009
30 Day Comment Period on PR Ends	September 30, 2009
Final rule/compliance guide published	November 30, 2009
Application Period/Public Outreach	January - June 30, 2010
Deadline for B permit applications	June 30, 2009
States Issue C Permits as part of annual state permit renewals	Variable dates in 2010/2011
B and C Permits Required	January 1, 2011

1.4 Background

1.4.1 History of the Open Access Fishery

At the request of members of the Groundfish Advisory Panel (GAP), the Council appointed a diverse committee to begin studying options for limited entry in the groundfish fishery in the spring of 1987. By that summer, the Council had adopted a July 11, 1987 control date, with the intention that landings made after that date would not be used in evaluating qualification for a limited entry program. Because this control date was not published in the *Federal Register*, a subsequent control date of August 1, 1988 was adopted by the Council and published along with a date of July 11, 1984, which would serve as the beginning of the qualifying window.

Early plans for limiting entry included gear endorsements for groundfish trawl, longline and pot gears within the limited entry fishery, with a remaining open access fishery only for what were termed "exempted" gears--consisting primarily of gill net, shrimp trawl, salmon troll, and other line gears not meeting the longline definition. This collection of open access gears included some for which groundfish was caught as bycatch while targeting other species, and some for which groundfish was often the target species.

The public voiced concern regarding the potential impact of this structure on small line and pot vessels, many of whom had only recently shifted much of their effort to groundfish as a result of the depressed fishery for salmon. To address this concern, the list of gears available for use in the open access fishery was expanded to include the use of the non-trawl gears included in limited entry--pot and longline. However, an additional stipulation was added, whereby only landings of more than 500 pounds of groundfish would count towards meeting the minimum landing requirement for a limited entry permit. This transformation increased the opportunities for open access vessels to target sablefish, and some rockfish species, for which longline/pot gears were more effective than exempted gears. Although enlarging the suite of gears available for targeting groundfish--relative to the original plan--addressed many of the concerns of small-boat fishers interested in targeting groundfish, it also eventually brought

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traditional bycatch users into greater conflict with those targeting groundfish under the same open access allocations.

While the Council approved the limited entry program (Amendment 6 to the FMP) in 1991, it was not implemented until the 1994 fishing season. During the interim, participation in some segments of the groundfish fishery increased considerably. Some of those who expanded their ability to harvest groundfish during this period, but did not initially qualify for permits, purchased permits following the program's implementation. The vast majority did not, and either continued as part of the open access fishery, or discontinued fishing groundfish.

Implementation of a limited entry program for Pacific Coast groundfish in 1994 effectively froze participation in the limited entry fishery, but effort continued to shift in and out of the open access fishery. The commercial open access groundfish fishery consists of vessels that do not necessarily depend on revenues from the fishery as a major source of income. Many vessels that predominately fish for other species inadvertently catch and land groundfish. Or, in times and areas when fisheries for other species are not profitable, some vessels will transition into the groundfish open access fishery for short periods. The commercial open access fishery for groundfish is split between vessels targeting groundfish (*directed fishery*) and vessels targeting other species (*incidental fishery*).

Overall levels of fishing effort and catch are dependent on stock availability, which is used to establish overall harvest limits for all sectors called optimum yields (OYs). These are used to allocate between sectors, which are called harvest guidelines (HGs). In establishing OYs for Pacific Coast groundfish, an initial step is to calculate allowable biological catches (ABCs) for major stocks or management units (groups of species). ABC is the estimated maximum sustainable yield (MSY) harvest level associated with the current stock abundance. The term “overfishing” is used to denote situations where catch exceeds or is expected to exceed the ABC or maximum sustainable yield (MSY) proxy. This can also be expressed as where catch exceeds or is expected to exceed the maximum fishing mortality threshold (MFMT). The term “overfished” describes a stock whose abundance is below its overfished/rebuilding threshold, or minimum stock size threshold (MSST). Overfished/rebuilding thresholds, in general, are linked to the same productivity assumptions that determine the ABC levels (**PFMC 2008**).

There were indications of stock depression for bocaccio and canary rockfish in the early and mid-1990s, which resulted in the Council and NMFS taking action to reduce ABCs, OYs, and HGs (**Appendix F**). Harvest shares by the limited entry and open access sectors have been computed based on historical landings, which have been established as fishery allocations since 1994. Between 1994 and 1997 the open access fishery HGs were reduced from over 9,000 mt to 5,600 mt (39%) for all species combined and from 6,300 mt to 3,900 mt (38%) for the rockfish (*Sebastes*) complex. The reductions were based on conservation concerns for these and other groundfish species (**Table 1-1**). Trip and cumulative landing limit management for vessels have long been used by the Council to achieve HGs. However, there were no notable changes in open access fishery landing limits as a result of HG reductions during 1994-1997 (**Table 1-2**).

Groundfish stock assessments during 1998-2001 resulted in the following stocks being declared overfished: lingcod, southern bocaccio, Pacific Ocean perch, canary rockfish, cowcod, darkblotched rockfish, widow rockfish and yelloweye rockfish. In response additional reductions were made in ABCs and HGs for these and associated groundfish species. During 1998-2006, the open access fishery HG for all species combined was reduced from 4,700 mt to 2,800 mt (40%) and for the rockfish complex from 3,500 mt to 1,900 mt (46%) (**Table 1-1; Figure 1-1**). The corresponding landing limit reductions went from 40,000 lbs of rockfish per vessel-month in 1998 to a low of 575 lbs per vessel-month depending on area in 2006, a reduction of 86%. Prohibition on fishery take and landing was extended to canary,

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cowcod and yelloweye rockfish, and the southern bocaccio landing limit could be no larger than the total shelf landing limit for an individual vessel for the entire month (**Table 1-2**).

In 2000, rockfish species management was partitioned into ecological zones based on water column depth contours wherein individual species were normally found, as follows: nearshore species, shoreline to 20 fathoms (fms); shelf rockfish, 20 fms to 100 fms and slope rockfish, >100 fms. The species within these ecological zones are discussed in subsection 3, Affected Environment. Historically, shelf rockfish was the mainstay of the open access directed fishery and included such high volume species as bocaccio, canary, chilipepper, widow, and yellowtail rockfish. Beginning in 2000 the fishery for shelf rockfish was closed during some two-month cumulative landing periods or reduced to an equivalent of 100 lbs of fish per month (**Table 1-2**).

The directed open access fishery historically targeted groundfish in the “dead” and/or “live” fish fishery using a variety of gears. The terms dead and live fish fisheries referred to the state of the fish when they were landed. The dead fish fishery was historically the most common way to land fish. Beginning in the late 1990s, the higher market value for live fish resulted in increased landings of live groundfish. Most of the fish harvested in the live fish fishery were taken in the nearshore ecosystem and included nearshore rockfish species. The states have dealt with management of their nearshore commercial fisheries in different ways, which will be discussed in subsection 3.3.3.4.2.

Fishing opportunity for *Sebastes* was greatly reduced during 1994-2006 while fishing for sablefish was relatively stable with HGs in the Monterey-Vancouver area (northern area) ranging from 278 mt in 1998 to 629 mt in 2004 and averaging 499 mt. The same was true for the Conception area, except for a precautionary commercial fishery HG adjustment in 2001. The Conception area HG ranged from 212 mt in 2001 to 425 mt during 1994-2000 and averaged 355 mt (**Table 1-1**).

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Table 1-1 Open access fishery allocations by species or species complex in metric tons, 1994-2006 1/

Species (allocation)	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004 2/	2005-06 2/
Lingcod (19%)	700	290	290	290	76	80	31	48	48	54	29	54
Sablefish-north (9.4%) 3/	590	463	463	463	278	423	600	537	367	542	629	627
Sablefish-Conception (HG)	425	425	425	425	425	425	425	212	229	294	276	275
Widow (3%)	250	240	240	240	158	184	128	68	26	23	8	9
Canary (12.3%)			70	90	77	71	15	5	5	3	3	3
Chilipeper (44.3%)						1,190	866	879	879	879	879	870
Bocaccio-south (44.3%) 4/	460	490	490	108	62	49	24	19	19	6	48	33
Yellowtail (8.3%) 5/	700	650	600	270	279	327	286	256	260	226	356	303
Shortspine TH (0.27%) 6/			4	4	4	3	3	2	3	3	3	27
Darkblotched (2.3%)								3	5	4	3	2
Sebastes-north (9.6%) 7/	1,360	1,130	1,080	640	651	555	253	222	203	190	179	180
Slope							10	7	10	--	--	--
Shelf							50	34	30	--	--	--
Nearshore							193	181	163	--	--	--
Sebastes-south (44.3%) 7/	4,640	4,240	4,240	3,030	2,738	455	588	414	569	621	616	676
Slope							97	164	142	--	--	--
Shelf							258	176	320	--	--	--
Nearshore							233	74	107	--	--	--
Sebastes	6,250	5,610	5,560	3,910	3,547	2,831	2,160	1,866	1,966	1,952	2,092	2,076
All species total	7,965	6,788	6,742	5,092	4,330	3,762	3,219	2,665	2,613	2,845	3,029	3,059

1/ Sources: PFMC 2002 SAFE; NMFS-NWR web site.

2/ There were no specific allocations for widow, canary, bocaccio and darkblotched in 2004-2006 and for lingcod in 2005-2006. These values were calculated based on commercial fishery OYs and open access fishery allocation proportions for comparison to earlier years.

3/ North of Conception statistical area

4/ Eureka, Monterey and Conception statistical areas

5/ Vancouver and Columbia statistical areas

6/ The shortspine thornyhead allocation was for the area north of Pt. Conception during 1994-1999 and north of the Conception statistical area in later years.

7/ The dividing line for *Sebastes* north and south during 1994-1998 was the Columbia-Eureka statistical area border (43 N lat.), the yellowtail and canary HGs were apportioned between and are included in the northern and southern *Sebastes* OYs, and the bocaccio OY was included in the southern *Sebastes* OY. The *Sebastes* OYs were inclusive of all species excluding widow and chilipepper rockfish. Beginning in 1999 the dividing line between north and south was near Cape Mendocino and the two *Sebastes* categories (used in this table) were for rockfish species other than those shown in the table (i.e., other and remaining categories).

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Table 1-2. Daily limits (pounds/day), trip limits (pounds/trip) and monthly-equivalent limits (pounds/month) for groundfish open access participants using open access gear by species category and year, 1994-2006 1/

Species Category	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Monthly equivalent units for <i>Sebastes</i> North and South Taken with Open Access Gear 2/													
<i>Sebastes</i> north (Cape Mendocino)	40,000	35,000	35,000	40,000	40,000	5,700	3,850	5,950	3,600	2,700	3,250	3,250/	2,975/
Canary						1,000	50	50	0	0	0	0	0
Yellowtail						2,600	100	100					
Yelloweye									0	0	0	0	0
Widow (add-on)						2,000	3,000	3,000					
POP (add-on)						100	100	100	100	100	100	100	100
Minor <i>Sebastes</i>						3,600 max							
Minor slope rockfish							250	250	300	400	450	450	375/ 625
							100	100	200	200	200		0-150
Minor shelf rockfish							max	max	max	max	max	200 max	max
Minor nearshore							250	1,000	1,500	600	600	600	600
Black and blue rf (add-on)							250	1,500	1,500	1,400	1,900	1,900/	1,900/
												1,950 3/	1,950 3/
<i>Sebastes</i> south (Cape Mendocino-Pt. Conception)	40,000	40,000	40,000	40,000	40,000	10,100	3,925	3,300/	1,100-	850-	650-		
								6,500	6,700	1,175	1,350	650-1,350	575-1,525
Canary						1,000	50	0/50	0	0	0	0	0
Bocaccio				2,000	1,000	500	200	0/200	0/200	0	0/100	0/100	0/100
Bocaccio-set/trammel net (add-on)				4,000	2,000	1,000							
Yelloweye									0	0	0	0	0
Widow (add-on)						2,000	3,000	0/3,000					
Chilipepper						6,000	2,000	0/2,500	0/500				
Splitnose (add-on)						100	200	200	200	200	200	200	200
Cowcod							1 fish	0	0	0	0	0	0
Minor <i>Sebastes</i>						2,000 max							
Minor slope rockfish								250	2,500	5,000	400	450	375/ 625
6/								200	0/200	0/200	50/125	0/150	0/150
Minor shelf rockfish								max	max	max	max	0/150 max	max
Minor nearshore rockfish							275	600	0/600	200-450	0-550	0-550	0-550
<i>Sebastes</i> south (S of Pt. Conception)	40,000	40,000	40,000	40,000	40,000	10,100	3,925	3,300/	5,200/	5,450-	5,200-	5,200-	5,575-
								6,500	6,300	6,175	6,250	6,375	6,375
Canary						1,000	50	0/50	0	0	0	0	0
Bocaccio				2,000	1,000	500	200	200	0/200	0	0/50	0/50	0/50
Bocaccio-set/trammel net (add-on)				4,000	2,000	1,000							
Yelloweye									0	0	0	0	0
Widow (add-on)						2,000	3,000	0/3,000					
Chilipepper						6,000	2,000	0/2,500	0/2,500				
Splitnose (add-on)						100	200	200	200	200	200	200	200
Cowcod							1 fish	0	0	0	0	0	0
Minor <i>Sebastes</i>						2,000 max							
Minor slope rockfish								250	2,500	5,000	5,000	5,000	5,000
								200	0/200	0/500	50/125	0/250	
Minor shelf rockfish								max	max	max	max	0/375 max	375 max
Minor nearshore rockfish							275	600	0/600	850	0-800	0-800	0-800
Daily Limits for Thornyheads Taken with Open Access Gear													
North (Monterey and north)	-	50	0	0	0	0	0	0	0	0	0	0	0
South (Conception)	-	50	50	50	50	50	50	50	50	50	50	50	50
Daily and Cumulative Monthly Equivalent Limits for Sablefish Taken with Open Access Gear													
Daily North (Monterey-Vancouver)	250	300	300	300	300	300	300	300	300	300	300	300	300
Monthly cumul equiv limits	7,500	9,000	9,000	1,500	900	900	1050-1650	2,400	1,200	1,600	1,800	1,800	1,500/ 2,500
Daily South (Conception)	350	350	350	350	350	350	350	350	350/ 300	350	350	350	350
Monthly cumul equiv limits	10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500	4,200/ 3,600	4,200	4,200	4,200	4,200
Monthly Equivalent Limits for Other Groundfish Taken with Open Access Gear													
Lingcod		20,000	10,000	10,000	0-500	0/250	0/400	0/400	0/300	0/300	0/300	0/300	0/300
Dover sole						100	300	300					
Pacific sanddab (flatfish add-on)							300	300	2,700	2,700	2,700	2,700	2,700
Arrowtooth flounder						200	200	300					
Flatfish (all species)						300	300	300	300	300	300	300	300
Pacific whiting						100	100	300	300	300	300	300	300
Trip Limits for Groundfish Taken with Non-groundfish Trawl Gear													
Pink shrimp	1,500	1,500	1,500	500	500	500	500	500	500	500	500	500	500
Spot/ridgeback prawn	1,000	1,000	1,000	500	500	300	300	300	300	300	300	300	300
CA halibut/sea cucumber	500	500	500	500	500	300	300	300	300	300	300	300	300
Monthly Cumulative Limit for Yellowtail Rockfish Taken with Salmon Troll Gear 4/													
North of Cape Mendocino											200	200	200

1/ These are January-February adopted landing limits and do not reflect in-season change to keep within harvest guidelines; "max" means limit applies to all shelf species, excluding widow.

2/ Separate *Sebastes* limits were set north and south of Point Lookout OR in 1994, and north and south of Cape Mendocino, CA since 1995. In addition to being subject to cumulative landings limits, *Sebastes* north and south were subject to a 10,000 pound trip limit.

3/ An additional 500 lbs of black and blue rockfish was allowed in the area between Cape Mendocino and the CA/OR border, which is not shown in the table.

4/ 1 lb of yellowtail could landed with every 2 lbs of salmon up to the monthly limit.

www references:

1994-2001: <http://www.pcouncil.org/groundfish/gfsafe0702/tbl29.pdf>

2002: <http://www.nwr.noaa.gov/Publications/FR-Notices/2002/upload/67FR1555.pdf>

2003: <http://www.nwr.noaa.gov/Publications/FR-Notices/2003/upload/68FR936.pdf>

2004: http://www.nwr.noaa.gov/Publications/FR-Notices/2004/upload/01-08-04_Measures04Mar-Dec_PropRule.pdf

2005-2006: http://www.nwr.noaa.gov/Publications/FR-Notices/2004/upload/69FR77012_2005-2006MgmtMeasures.pdf

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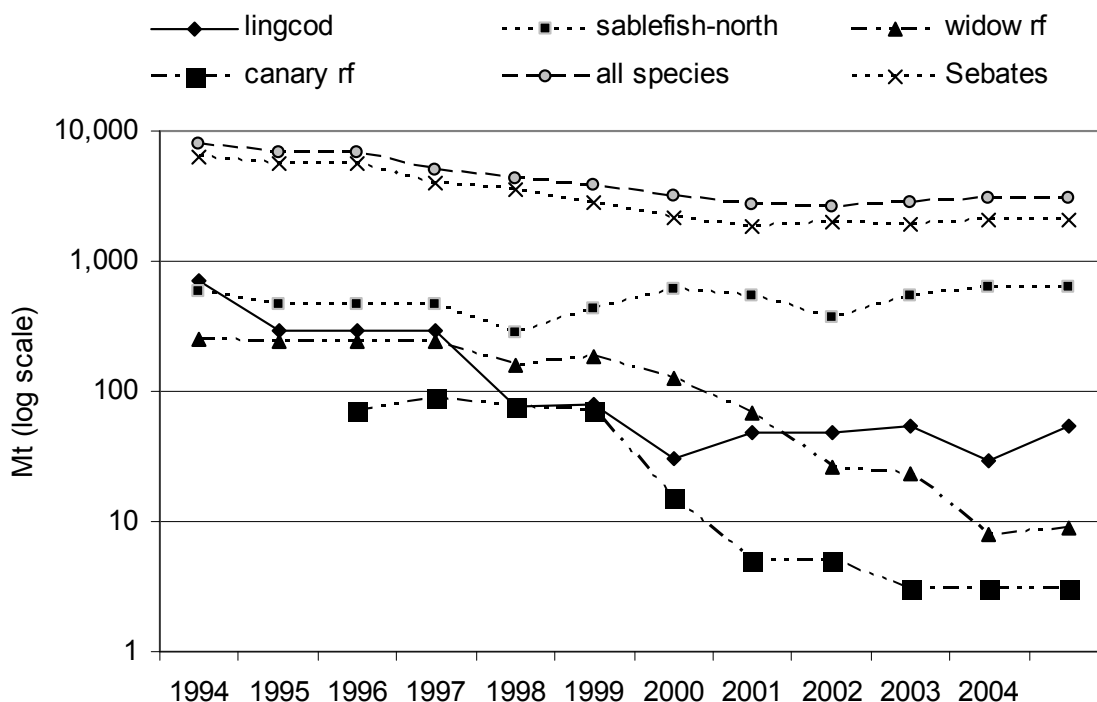


Figure 1-1. Open access fishery harvest guidelines for key groundfish stocks and in total, 1994-2006

The sablefish fishery was typically managed using a daily trip limit of 300 lbs in the northern area and 350 lbs in the Conception area. Two-month cumulative landing limits were used in both areas as a way of slowing the harvest. The monthly equivalent sablefish limits in the northern area at the start of the season ranged from 900 lbs in 1998 to 2,500 lbs for a period in 2006. The comparable limits at the start of the season in the Conception area ranged from 10,500 lbs during 1994-2001 to 4,200 lbs in 2006 (**Table 1-2**). Weekly landing limits were implemented as a way of further slowing the harvest in the northern fishery beginning in 1998 and in the Conception area in 2002

In season actions were routinely taken in both sablefish management areas to stay within HGs. The adjustments were usually made during October-December and usually involved increases in two-month or monthly cumulative landing limits. A major exception was in 2006 when action was taken to reduce the daily/once weekly/two-month cumulative landing limits in the northern area fishery of from 300 lbs/1000 lbs/5000 lbs to 300 lbs/1000 lbs/ 3000 lbs. This was done in May in anticipation of effort shift from the salmon fishery to the directed sablefish fishery because of highly restrictive salmon fishing regulations (see: <http://www.nwr.noaa.gov/Publications/FR-Notices/2006/upload/Halibut-Inseason-May06.pdf>). However, beginning in October the directed sablefish fishery in the northern area had to be closed due to sablefish HG attainment. This was the only year since the fishery began in 1994 that the directed open access sablefish fishery had to be closed because of HG attainment. The salmon fishery had less restrictive regulations in 2007, which in combination with restrictive sablefish landing limits during summer months of 300 lbs/700 lbs/2100 lbs, may have deflected salmon fleet effort shift to the directed sablefish fishery that year because the sablefish fishery remained open all year.

Lingcod was declared over fished in 1999 and declared rebuilt in 2005. Except for large OY adjustments in 1995 and 1998, the open access fishery lingcod HG ranged from 29 mt in 2004 to 80 mt in 1999 and averaged 53 mt during 1998-2006 (**Table 1-1**). Since 1998 there have been season closures to protect spawning fish. When the season was open for lingcod since 1998 the monthly equivalent landing limit ranged from 250-500 lbs and was typically 300 lbs per vessel-month.

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Landing limit management of all groundfish in the non-groundfish trawl fisheries went through three phases of landing limit reduction during 1994-2006. The first was in 1997 when the pink shrimp and prawn fishery limit were each reduced from 1,500 lbs and 1,000 lbs per month, respectively, to 500 lbs per month each, which made them the same as the California halibut and sea cucumber fishery limits. The second change was in 1999 when the prawn fishery and halibut and sea cucumber limits were reduced to 300 lbs per vessel per month. In all years, the non-groundfish trawl fisheries could not land more groundfish than the target species. A yellowtail rockfish incidental landing allowance of up to 200 lbs per vessel per month was allowed in the salmon troll fishery north of Cape Mendocino beginning in 2004 (**Table 1-2**).

The Council and NMF have used a two prong approach to protecting depleted and overfished groundfish stocks: 1) reductions in ABCs and OYs of overfished stocks and associated species, as discussed above, and 2) adoption of large conservation areas wherein fishing methods or allowable gear types are regulated in order to protect particular species or species groups of fish and their habitats. Pacific Coast groundfish fisheries, and fisheries that may take groundfish incidentally, are managed with a variety of closed areas intended to either minimize the bycatch of overfished groundfish species, or to protect groundfish habitat. Many of the closed areas are gear-specific, meaning that they are closed to some particular gear types, but not others. In addition, the states of Washington, Oregon and California have marine areas closed to fishing that provide addition protection to depleted groundfish stocks. The Yelloweye Rockfish Conservation Areas off the northern Washington Coast was the first large conservation area adopted by the Council to provide added protection to depleted yelloweye rockfish. This was in 1998. The next large groundfish closure areas were the southern California Cowcod Conservation Areas in 2001; followed by the coastwide Rockfish Conservation Areas in 2002, the Farallon Islands Closed Area off Central California in 2004; and the Cordell Banks Closed Area off Central California in 2005. These closed areas have differing fishery impacts depending on gear type used. **Appendix G** provides details on the regulations for the groundfish conservation areas. The effect of declining rockfish OYs, associated reductions in rockfish landing limits and the use of conservation areas to provided added protection to overfished rockfish stocks are discussed in **Section 1.4.1**.

1.4.2 Groundfish Strategic Plan

The Council's Groundfish Strategic Plan (Plan) was adopted in 2000. The Plan noted that the groundfish resource could not support the number of vessels catching and landing groundfish, which numbered over 2,000 commercial fishers, and many thousands of recreational anglers. To bring harvest capacity in line with resource productivity, the number of vessels in most fishery sectors needed to be reduced by at least 50%. Fishing fleet overcapitalization had been a major factor in fish stock depletions and led to economic and social crises in the industry and in coastal communities. The Plan reported that

“...allowing an open access fishery with a total absence of limits on capacity is a serious management problem. Decreased participation in non-groundfish fisheries such as salmon, improved prices for some groundfish species like sablefish, and the development of the live rockfish fishery had transformed the open access fishery from a primarily bycatch fishery with a small directed fishery component, to a much larger fishery with many more participants relying on the fishery for large portions of their annual incomes. Reducing capacity in the fishery is fundamentally necessary to reducing overfishing, minimizing bycatch and improving the economic outlook for the Pacific Coast fishing industry. Capacity reduction should not be seen as just another type of management measure. Capacity reduction must be a key element of any plan to ensure management effectiveness and economic viability of the Pacific Coast groundfish fishery. Without significant capacity reduction, the Council will continue to find it difficult, if not

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impossible, to achieve many of the conservation and economic objectives of the Groundfish FMP. Current capital utilization rates are quite low for all sectors of the commercial groundfish fishery.”

The Council’s Scientific and Statistical Committee (SSC) compared potential harvest capacity for the fish actually available for harvest in 2000 and calculated a measure of overcapitalization in several different fishery sectors which they called “current capital utilization rate.” This parameter was used to describe the percentage of vessels in the current fleet that could harvest the available groundfish. They sorted vessel landings data by fishery sector for each year during 1984-1992 in descending order of total annual and cumulative groundfish landings and counted down the vessel list from the more to less productive vessels to determine the number of vessels needed each year to harvest the available groundfish. They used 1984-1992 for this comparison because vessel harvest constraints were much less restrictive in those earlier years and catches from those years seemed to be a better indicator of what vessels were able to harvest. The number of open access vessels needed to harvest the 2000 open access groundfish OY of 2,207 mt ranged from 47 to 105 boats (**Table 1-3**). Based on these results, 50 and 100 were used as lower and upper estimates of the number of open access boats needed to harvest the 2000 open access groundfish allocation. Dividing the lower and upper limits of the number of vessels needed to harvest the 2000 open access OY by 794 vessels (the number of active directed open access fishery participants in 2000) yielded an open access capital utilization rate of 6%-13%

Table 1-3. Estimates of number of open access directed fishery “highliners” needed to harvest the 2000 non-whiting groundfish OYs. Source: SSC 2000

Year	# Vessels	Cumulative Mt
1984	13	2,222
1985	25	2,218
1986	52	2,222
1987	53	2,208
1988	83	2,214
1989	83	2,212
1990	105	2,215
1991	69	2,224
1992	47	2,218

Since the SSC analysis was done the number of vessels participating in the directed open access fishery has either been higher than or about the same level as it was in 2000 (see **sections 2 and 3**). However, the open access fishery OY for all species has substantially declined which indicates that fishery overcapitalization is even greater today than it was in 2000 (**Table 1-1**). Updated vessel participation and harvest data are presented in **Section 3.3**.

“Excess capacity is the difference at a point in time between what a fisherman can actually produce and what could potentially be produced if all restrictions on his operation were removed. Overcapacity may be defined as the difference between the fishing firm’s potential level of production (individual vessel’s catch) and the target level of production (total allowable harvest) that has been established for that particular fishery” (Kirkley et al June 2002)

The Plan also recommended that the Council consider deferring management of nearshore rockfish, and other species such as cabezon, kelp greenling and California scorpionfish to the states, and that all commercial fisheries should eventually be limited through federal or state license or permit limitation programs.

1.4.3. 2008 NMFS Report to Congress

NMFS prepared an analysis of harvest capacity in 44 federally managed fisheries in 2004. They used fishery vessel landings data (rather than vessel physical data) and concluded that the West Coast limited entry groundfish fishery ranked 20th in terms of excess harvest capacity with an estimated excess capacity rate of 26% (meaning there was 26% more fleet harvest capacity than the actual landed catch). The most disparate groundfish fishery was for sablefish with an estimated excess capacity rate of 59% (NMFS 2008c). The open access groundfish fishery was not included in the analysis (based on the species and tonnages listed in Appendix A), but the findings support the Strategic Plan analysis that the open access directed fishery, like the limited entry fishery, has far more fishing capacity than the available resources can support.

1.4.4 Strategic Plan Implementation Oversight Committee

Following adoption of its Strategic Plan, the Council convened the Strategic Plan Oversight Committee (SPOC) to monitor the Council's progress toward the goals of the Strategic Plan. The SPOC developed a list of 15 groundfish action priorities, which included two "critical" elements (science and Council process action items) for Council consideration. The open access permitting issue was ranked seven below the two critical operational elements, buyback, trawl permit stacking (a provision to allow for the use of two or more permits to provide for increased landings by a single vessel), observers, groundfish process, and fixed gear stacking. A subcommittee of the SPOC was formed to look at open access capacity reduction issues, the Ad-Hoc Open Access Permitting Subcommittee (OAPS).

The OAPS first met in January 2001 and continued with a series of meetings through March 2002. These meetings ceased for the remainder of 2002 due to increased Council's workload on other higher priority issues. However, the Council reviewed its progress with Strategic Plan recommendations in November 2002 and decided at that point that it would begin development of an open access permitting program and drafted the associated analysis for such a program in 2003. The proposed FMP amendment was intended to meet the Strategic Plan goal of reducing capacity in the open access fisheries landing groundfish and to meet the Council's commitment to an open access permitting program. Considerable advisory body and public input was provided in response to meetings of the OAPS (subsection 1.5, Scoping Process). A summary of findings from the analysis of 1990-2001 open access groundfish fishery data provided to the OAPS is presented in Appendix A. Based on groundwork laid by the SPOC and OAPS, NMFS staff led a joint Council/NMFS working session to identify key issues and concerns that would need to be addressed in developing a plan amendment for conversion of the open access fishery to limited entry management. Based on those discussions, the NMFS staff began initial drafting of an EIS to support deliberations on the issue. The first chapter of that document was provided to the Council at its November 2003 meeting (PFMC 2003). That draft "first step" document was used in preparing this preliminary draft Environmental Assessment (EA).

1.5 Scoping Process

The Council has been conducting scoping on the issue of requiring permitting in the open access fisheries since January 2001. Both the scoping activities and public issues and concerns regarding this action that were conducted or expressed prior to the preparation of this EA are described below.

1.5.1 Council Meetings

JANUARY 2001

The Open Access Permitting Subcommittee (OAPS) of the Strategic Plan Oversight Committee (SPOC) had its first meeting via teleconference on January 18, 2001. The OAPS initially identified two fishery strategies wherein open access vessels were directly targeting groundfish: directed hook-and-line fisheries and directed setnet fisheries. Additionally, the OAPS identified the following gear types as being used to

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take groundfish incidentally in the open access fisheries: exempted trawl gear (non-groundfish trawl gear), salmon troll, halibut longline, non-directed setnet fisheries. The OAPS also noted that several of these fisheries are geographically distinct, which should be taken into account when developing initial permitting and allocation strategies. Finally, the OAPS recommended that the Council form a policy group to explore developing a restricted access program for the open access fisheries.

APRIL-MAY 2001

At the April 2001 Council meeting, the Council provided guidance for the SPOC on capacity reduction issues, but only briefly discussed license limitation in the open access fisheries. The OAPS met in April 2001 and the SPOC in May 2001, with both groups providing minutes to the Council at the Council's June 2001 meeting. At this meeting, the OAPS discussed setting a priority for introducing permitting for the directed fisheries for groundfish, with permitting for the incidental fisheries being a lower priority. The OAPS also reviewed Dr. James Hastie's "Analysis of Open Access Fishery," an analysis of groundfish landings data, which provides a profile of groundfish catches occurring in the open access fisheries (Hastie 2001). Following this review of Hastie's fleet profile, the OAPS composed six questions that it felt the Council should consider before embarking on a permitting program for the directed open access fisheries. OAPS recommendations from this meeting were reviewed by the SPOC at its May 2001 meeting, but the SPOC made no recommendations on this issue other than that the OAPS material should be provided to the Council and public at the June 2001 Council meeting.

JUNE 2001

At the June 2001 Council meeting, the Council discussed the results of the meetings of the OAPS and the SPOC and the various priority actions in the Strategic Plan. During Council discussions, members of the Council recommended that the Council proceed first with developing a directed groundfish permit for those vessels currently in the open access fisheries that target groundfish directly, and then look at fisheries that take groundfish incidentally. Council members further commented that one of the most important issues in considering a license limitation program for the open access fisheries is allocation between the different fisheries. There was some concern from Council members that this program might take too much time in an already overburdened schedule. The Council's Groundfish Advisory Subpanel (GAP) also commented on this issue at this meeting, noting that limiting access in the open access fisheries will take a lot of time and effort and that the states are already proceeding with license limitation in their nearshore fisheries. However, both of the open access fishery representatives on the GAP were in favor of proceeding with license limitation for the open access fisheries.

JULY-AUGUST 2001

The OAPS met on July 31, 2001 to discuss the Council's recommendations from their June meeting. At that meeting, the OAPS reviewed Dr. Hastie's analysis of historical fishing activities within the open access fleets, discussed whether the states could help with developing this program by providing state-level profiles of their open access fisheries, discussed whether it would be more or less complicated to include fisheries that incidentally take groundfish in the whole-fleet profile, discussed whether the program should include an allocation between directed and incidental open access groundfish fisheries, and provided outlines of nearshore groundfish management off each of the three states. The SPOC met on August 30, 2001, and discussed all of the Strategic Plan's priorities, including license limitation in the open access fisheries and the July OAPS meeting. The SPOC made the following recommendations for the Council's consideration at its September meeting: Council staff's Executive Director to provide a report on funds available for Strategic Plan implementation at the Council's October/November meeting; a meeting of the OAPS should be held after the October/November meeting; Dr. Hastie should continue development of a historical analysis of participation and catch in open access fisheries; the SPOC will reconsider whether to develop an incidental groundfish permit (for nontargeting open access fisheries) after the historical analysis is complete.

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SEPTEMBER 2001

The Council discussed the results of the OAPS and SPOC meetings held over the summer, but did not address open access license limitation beyond recommending that the OAPS hold another meeting after the October/November Council meeting. The Council's GAP commented only that work on this issue should be delayed until after the October/November Council meeting.

JANUARY 2002

The OAPS met January 30-31, 2002 and reviewed the FMP's goals for the original limited entry fishery, modifying it for license limitation in the open access fisheries so that it reads, "The primary objective of the limited entry program will be to match harvest capacity in the Pacific Coast groundfish fishery with the productivity of the resource." The OAPS also detailed objectives for a new license limitation program: to allow sustainable prosecution of fisheries for non-groundfish species without groundfish waste; and to set qualification criteria for a license limitation program high enough to reduce the number of vessels being licensed, then to bring both the current open access harvest allocations and the newly licensed vessels into the limited entry program. The OAPS also provided further data requests to NOAA Fisheries analysts for dividing historical open access landings data by fishery, geographic area, and gear type.

MARCH 2002

At its March 2002 meeting, the Council discussed Strategic Plan implementation, including license limitation in the open access fisheries. The OAPS report to the March Council meeting was intended to be a draft report, with the final available at the April 2002 Council meeting.

APRIL 2002

During its April 2002 meeting, the Council again discussed Strategic Plan implementation, with a more full report from the OAPS January meeting. At this meeting, a Council member recommended including a qualification criteria option proposed by a member of the public: that open access vessels be allowed to join the limited entry fishery based on landings made by gears other than the three limited entry gears (trawl, fishpot, longline) during the limited entry qualifying period of 1984-1988. At this meeting, the GAP commented only that the issues and alternatives associated with open access license limitation had not been fleshed out well enough for a comprehensive analysis on the effects of a new license limitation program.

NOVEMBER 2002

At its November 2002 meeting, the second anniversary of the Council's adoption of the Strategic Plan, the Council reviewed all of its Strategic Plan priorities. On the issue of open access license limitation, the Council recommended that an open access permitting development team meet to develop options for a moratorium permit for directed open access groundfish fisheries. Permits would be based on minimum historic participation, non-transferable, renewable, interim until a formal limited entry program were developed. At this meeting, the Council's Groundfish Management Team (GMT) commented that converting the directed open access fishery to a limited entry fishery has been a priority of the GMT for many years; however, the GMT also noted that there were ongoing state efforts to limit commercial groundfish fisheries participation. With state license limitation programs in place, only groundfish occurring outside of the three-mile state boundary, primarily sablefish and southern slope rockfish, would remain directed open access fisheries. Finally, the GMT noted that converting open access vessels to a permitted fleet would offer other management benefits, particularly because it would allow managers and enforcement agencies to better identify fleet participants for vessel monitoring system and observer program coverage. The GAP noted the state license limitation efforts could reduce open access directed groundfish fisheries participation coastwide and recommended that the Council continue regular meetings of its OAPS.

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MARCH 2003

No discussion of OA permitting (except under workload priorities).

(<http://www.pcouncil.org/minutes/2003/0303min.pdf>).

SEPTEMBER 2003

Under agendum B.7.c. Council Member Robinson reported he will have comments on open access at the November meeting. Council Member Vojkovich noted resolving the open access problem is imperative in CA. Dr. McIsaac said this item is moving up in the priorities and suggested taking the open access agenda item update and turning it into a planning session.

(<http://www.pcouncil.org/minutes/2003/0903min.pdf>).

NOVEMBER 2003

Agendum D.15 addressed Open Access Limitation Discussion and Planning. Council staff presented the overview. Council Member Brown noted we still need to define the “directed” open access fishery. Council Member Vojkovich suggested working on the issue over the winter and to have a phone call in January (agendum I.4.). NMFS staff presented an initial start at a NEPA document (see: <http://www.pcouncil.org/bb/2003/1103/exd15.pdf>). Open Access Limitation update was proposed for April and June 2004 meetings (<http://www.pcouncil.org/bb/2003/1103/exi4.pdf>). Council members expressed concern about continuation of unrestricted participation in the open access fishery and displacement of open access effort onto the shelf with implementation of the state nearshore limited entry system. There are several ways to approach the problem. One would be to move forward with a moratorium permit. It was also agreed it was premature to discuss a new control date at this point and the issue needed to be addressed in terms of staff workload.

APRIL 2004

The Council discussed elevating the OA permitting issue but noted there were still other high priority issues to deal with, such as inseason management policies

SEPTEMBER 2004

Under B.8.d. Council Member Vojkovich asked if NMFS policy for handling fishing capacity had funds with it to support the OA permitting initiative. It is noted under C.11.d that identification of open access vessels is not possible in the VMS system. (<http://www.pcouncil.org/minutes/2004/0904min.pdf>).

APRIL 2005

The Council discussed whether the open access VMS requirement would reasonably address the need for permitting the OA fisheries. It was noted that most vessels that target groundfish operate in state waters which would be exempt from the VMS requirement. The Council considered adopting a control date for the longline spiny dogfish fishery which led to a discussion about the overall need for OA fishery permitting.

SEPTEMBER 2005

Motion was passed to look at fishery impacts from expanded fishing on spiny dogfish by longliners under open access landing limits. Support was expressed to find time to work on OA permitting.

NOVEMBER 2005

The Council discussion regarding regulatory streamlining led to OA permitting issues and that it may be useful to begin documenting the steps that would be involved and develop a concrete plan, which would be like the groundfish harvest specifications planning schedule, but more fleshed out. Thus it could be a candidate for this regulatory streamlining exercise. The Council also discussed OA permitting in the context of groundfish work planning, bycatch reduction and the need to identify OA vessels and estimate their catches.

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MARCH 2006

OA Permitting suggested for June 2006 meeting.

http://www.pcouncil.org/bb/2006/0306/agb5a_supp_att1.pdf

APRIL 2006

OA Permitting issue moved from June to September 2006 meeting:

http://www.pcouncil.org/bb/2006/0406/agb5a_supp_att1.pdf

JUNE 2006

Council member Moore stated that the open access limitation issue needs to be done to be able to complete trawl individual quota and intersector allocation issues.

SEPTEMBER 2006

The Council and NMFS discussed the effectiveness of the November 1999 open access permitting control date. Legal Council noted that control dates are public notices of possible Council action and have no regulatory effect. Also, control dates do not preclude the use of earlier catch histories for issuing permits. The Council moved to set a new control date of September 13, 2006 to give people notice that landings after that date may not apply to catch history used to qualify for an OA limited entry permit. Council member Vojkovich, California, offered staff to undertake the plan amendment analysis and paperwork because a full-time Council member staff position would be needed to do the work. The GMT reported that they are in favor of reducing the size of the OA fleet and that a federal permit is recommended. The GAP prioritized open access limitation behind trawl individual quotas, intersector allocation and Amendment 15. The Enforcement Consultants (EC) reported that VMS will not identify all open access participants because VMS only applies in federal waters. The Council members expressed a wish for a simple program but noted public input will likely be substantial which could complicate the matter. The Council expressed support to get the process started in 2007. NMFS noted the observer program would be more effective with all sectors under a federal permit. Legal Council noted a NEPA analysis would be required, but it may not need to be an environmental impact statement.

MARCH 2007

Open Access Limitation issue tentatively placed on June 2007 agenda, described as “Next Steps.”

http://www.pcouncil.org/bb/2007/0307/Ag_D1.pdf.

APRIL 2007

CDFG Report (Agendum C.1.a, supplemental CDFG report) submitted requesting June 2007 agenda item for Open Access Permitting. Issue is on June 2007 agenda for “Direct Development of Alternatives.”

http://www.pcouncil.org/bb/2007/0407/C.1a_CDFG_sup.pdf.

JUNE 2007

The Council and NMFS heard a CDFG report on the status of open access fisheries and recommendations for the implementation of B and C permit programs for directed and incidental fisheries, respectively (<http://www.pcouncil.org/bb/2007/bb0607.html#groundfish0>). A menu of permitting alternatives was recommended, each of which required differing degrees of directed fishery fleet size reduction ([Agenda Item E.4.a, Attachment 2](#)). The recommendations were based on a combination of sources including an open access fishery capacity analysis produced by the Economic Subcommittee of the Council’s SSC (PFMC 2000), public scoping at Council meetings since 1998, input from Council advisory committees, and member states’ and NMFS input at those same meetings. NMFS reported that the proposed Purpose and Need statement for the initiative appeared to be adequate, and that an Environmental Assessment should be the appropriate NEPA path for regulation adoption. The Council received advisory body and public input at the meeting and expanded upon the range of alternatives for further analysis. The Council

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adopted an FMP amendment schedule with a 2009-2010 management cycle target implementation date ([Agenda Item E.4.a, Attachment 1](#)), the CDFG recommendations menu, three additional fleet size alternatives (including a GAP socio-economic recommendation), and a provision for less restrictive permit transfer conditions. (<http://www.pcouncil.org/decisions/currentdec.html#groundfish>).

SEPTEMBER 2007

Further action on open access permitting was postponed from the November 2007 Council meeting agenda until 2008 because of Council workload.

MARCH 2008

The Council received input on a preliminary draft environmental assessment that described and analyzed the Council's June 2007 alternatives. Advisory body comments were generally incorporated into instructions to the report writing team to use in improving the next document for consideration at the September 2008 meeting. The Council directed the writing team to remove previous Alternative 5 (the permit consolidation alternative) and to include some additional management considerations, including a 2006 fleet size goal alternative, additional minimum landing or participation standards, a no permit transfer provision, and a state landing endorsement option. The Council also directed removal of the gear or vessel length endorsement option from further consideration (see **Section 2.7** for explanation).

JULY 2009

The Groundfish Allocation Committee met to receive a preliminary report of the updated EA that was proposed to be presentation at the September 2008 meeting. The GAC voted to narrow the range of qualification criteria for consideration in the final action on this initiative, which was anticipated to occur at the March 2009 meeting.

1.5.2 Public Comments from Council Meetings

APRIL - MAY 2001

The Council held a discussion and public comment session at its April 2001 meeting for the activities of the SPOC, which included discussions of license limitation for the open access fisheries. Public comment during that session included: an offer by a non-profit organization to create a fleet effort profile of where fishing activities take place; concern expressed that reduction of the groundfish fleet as a whole would require allocation between different users; observation that, under the Strategic Plan, all sectors of the fleet are to be reduced by 50%; comment that Council's current advisory committee structure might not be the most useful for moving the Council forward through SPOC priorities. Public comment at the May 2001 SPOC meeting was limited to a request that OAPS materials be provided to the Council's advisory bodies and the public prior to the June Council meeting.

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JUNE 2001

During the public comment session at the Council's June 2001 meeting, public comment addressed open access fisheries license limitation: participation in the open access fisheries be not merely capped, but be reduced by 50%, as recommended in the Strategic Plan; if effort is only capped in the open access fisheries, not reduced, groundfish trip limits will remain at such low levels that groundfish will not provide reasonable income levels for participants; people come and go in open access fisheries all the time, many part-timers get involved who then fail; a license limitation program will be politically challenging for the Council and the fishing communities, but it is essential nevertheless; permits should be issued to vessels, rather than to persons as is done in the California nearshore plan; qualification criteria should be sufficiently high enough to cut the fleet down to about 300-350 boats, with consideration for the years before the control date, 1994-1999, perhaps some combination of annual or cumulative landings levels along with participation in at least 4 out of 6 years, or similar; salmon fishermen do encounter groundfish and they would like to continue to have access to groundfish, regardless of how the open access license limitation program comes out, perhaps by limiting groundfish take by allowing so many pounds of groundfish per pounds of salmon taken.

JULY-AUGUST 2001

Public comment at the OPAS meeting in July 2001: Concern was expressed about 1) providing for a directed groundfish fishery 2) allocation of open access groundfish between the directed and incidental sectors which could result in lower landings limits and in increased discards, and 3) permitting of vessels with small catch histories. Members of the public attending the August 2001 SPOC meeting did not comment on the open access license limitation issues.

SEPTEMBER 2001 - MARCH 2002

At the September 2001 Council meeting, the public did not have specific recommendations on license limitation in the open access fishery, although there were comments on other aspects of the Strategic Plan. Similarly, the public did not specifically provide comments on open access license limitation at the March Council meeting, except that one commenter expressed disappointment that capacity reduction issues seem to be falling lower and lower on the Council's priority list.

APRIL 2002

Public comments at the April 2002 Council meeting on license limitation for the open access fisheries: 1) knowing the time it took to implement the original limited entry permit program, it doesn't seem possible to implement a new license limitation program for another five years; 2) if there's going to be a new license limitation program for the boats now in the open access fisheries, all of the fish allocated to the open access fisheries with the original limited entry program should be shifted to the limited entry fisheries; 3) failing to eliminate the open access fishery in 1994 was a mistake and fixing it with another limited entry program would be a bigger mistake; 4) the Council should consider the option of closing the directed portion of the open access fleet by 2004, allocating the necessary portion of the open access quota to the open access incidental fisheries and redistribute the remainder of the open access quota to the existing limited entry fleet and recreational fisheries; 5) the alternative of eliminating the directed open access fleet altogether would be an FMP amendment that would allow vessels using gears other than the three limited entry gears to purchase a limited entry permit and convert that permit's gear endorsement to their non-limited entry gear, additionally; 6) new "A" permits should be issued to groundfish directed fishing vessels that met the original limited entry qualifying criteria during the qualifying period with gear other than the three limited entry gears; finally, 7) the goals and objectives that you've set for yourself cannot be met with limited entry programs and trip limit management alone.

NOVEMBER 2002

At the November 2002 Council meeting, the public did not have specific recommendations on license limitation in the open access fishery, although there were comments on other aspects of the Strategic Plan.

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JUNE 2005

Public comment was made during Public Comment that the time is right to revisit the open access permitting issue.

JUNE 2007

Public comments were received on the CDFG recommendations for open access permitting alternatives: Need to protect “drop-in” fishermen; Support initiative, but no big fleet size reduction is necessary, reductions will adversely affect communities, cap fishery at reasonable number; Industry should have prepared document not biologists, support GAP statement, not possible to match capacity with resource because resource abundance is not known; add one meeting to adoption process and move issue forward, allow A boats to use B permits; B permits will result in ports w/o fishermen, permits should be assigned to ports; No need for permits, more fish than you think, give 20-yr fishermen permits; Give permits to all vessels since 1994, make permits non-transferable and give property rights based on historic catches.

MARCH 2008

Public comments on the preliminary draft environmental assessment that the Council received at this meeting. There was some discussion about the pros and cons on moving directly to individual transferrable quotas for the OA fleet. There was one suggestion to move lingcod into state nearshore permits and the comment made that the B fleet must never be added to the A fleet.

JULY 2009

The Groundfish Advisory Committee advisors generally supported: (i) a fleet size of around 400 vessels, (ii) allowance for B permit transferability, (iii) a recent year fishery participation requirement (like QF-3), (iv) allowance for alternate use of A and B permits on vessels in the same year (using declaration process), (v) elimination of state landing endorsement provision, and (vi) length endorsement for B permits.

1.5.3 State Meetings

CALIFORNIA

The California Department of Fish and Game (CDFG) held four small focus group meetings in July and August 2007 to discuss the federal open access permitting process and get a better understanding of the needs and perspectives of California fishermen. The concerns were very similar among the groups. Several individuals wanted the catch history to go the individual instead of the vessel because state permits are issued to the individual as opposed to the vessel. Many individuals preferred status quo management without any changes to the current fishery, but if changes had to be made they preferred capping the fleet size at the current level and any qualifying criteria be set low enough to allow most participants to qualify. Other individuals felt that the sablefish fishery should be permitted and other species left alone.

OREGON

Oregon held three public meetings in September of 2007 and one in October at which the possibility of an Open Access limitation program was mentioned however specific details and alternatives were not discussed at any length. Oregon will conduct meetings prior to final action to inform and receive public input about the Open Access limitation program.

WASHINGTON

Washington held a public meeting on January 9, 2008. The primary purpose of the meeting was to review the options and process being considered by the Pacific Fishery Management Council (PFMC) for converting the open access groundfish fishery to a federal limited entry permitted fishery.

1.6 Related NEPA Analyses

Other recent NEPA documents prepared for the Pacific Coast groundfish fishery provide detailed information pertaining to the open access groundfish fishery. These NEPA documents are listed below. Rather than repeat information detailed in the other NEPA documents, the information has been summarized in this document and the reader is referred to the appropriate sections in the other NEPA documents for further detail.

- Expanded Coverage of the Program to Monitor Time-Area Closures in the Pacific Coast Groundfish Fishery, Final Environmental Assessment (NMFS 2006)
- The Pacific Coast Groundfish Fishery Management Plan, Essential Fish Habitat Designation and Minimization of Adverse Impacts, Final Environmental Impact Statement (NMFS 2005)
- Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2007-2008 Pacific Coast Groundfish Fishery and Amendment 16-4: Rebuilding Plans for Seven Depleted Pacific Coast Groundfish Species; Final Environmental Impact Statement Including Regulatory Impact Review and Initial Regulatory Flexibility Analysis (PFMC and NMFS 2006)

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This section details the alternatives analyzed in subsections 2.1 [Alternative 1 (No-action)] through subsection 2.5 (Alternative 5) and describes those that were rejected from further analysis in subsection 2.6 (Alternatives Considered but Rejected for Further Analysis). *While each alternative reads as a complete program option, the components of each alternative could potentially be mixed and matched to create an open access licensing program.*

The key issues to be considered in the alternatives for permit management of the open access fishery include (1) limitation on the number of fishery participants in the directed open access fishery and (2) registration of all other open access fishery participants. Limiting the number of vessels in the directed fishery is important for stabilizing harvest opportunity in the permitted fleet and to prevent fishing effort increases during times of increased groundfish availability or demand. Registration of all open access fishery participants is important for projecting fishery impacts and providing for year-round fishing opportunity. Alternative 1 would maintain current management of the open access fishery. Alternative 2 considers a licensing system for all open access fishery participants but does not limit participation. Alternatives 3 through 5 consider a limited entry program with a B permit program for the directed fishery participants and a C permit program for vessel owners that do not qualify for a B permit and that may want to land B species groundfish caught incidentally to fishing operations for non-federal groundfish species or nearshore groundfish, which are not part of the proposed B permit program, as explained below. Basic conditions and assumptions regarding issuance and application of B and C permits are explained in **Table 2-1**.

A directed open access fishery landing is defined as one in which directed fishery gear (non-salmon hook and line, fishpot, and setnet) was used and specified groundfish revenue was >50% of the total revenue from all fishery products on the same trip as recorded in the PacFIN data base of the Pacific States Marine Fisheries Commission. Landings data were used as a proxy for actual fisherman harvest strategy. This definition is consistent with previous open access fishery studies (**Goen and Hastie 2002; Burden 2005**) but is not the same as the approach used by the Council's Intersector Allocation Committee (IAC). The IAC uses weight of fish in the landing rather than revenue as the metric for defining a directed open access fishery landing. The IAC also uses different criteria for assigning landings to the Limited Entry and open access sectors (**John DeVore 2007**). Open access fishery data were analyzed to compare the weight and revenue based approaches for defining directed fishery landings. The weight-based and revenue-based approaches produced nearly identical results for all B permit groundfish species except for sharks and rays in the California setnet fishery. The latter are relatively high volume, low ex-vessel price groundfish species (**Appendix B**). Based on this analysis, the work group concluded that a revenue-based criterion is appropriate for the purpose of the current document and should not compromise the findings and recommendations of the IAC.

As discussed above in subsection 1.5, Scoping Process, the Council has a long history of evaluating excess capacity in the open access fisheries and making recommendations on the levels of capacity that might be suitable to ensure that ongoing vessel participation levels in the fishery are more compatible with available harvest. Alternatives 3 through 5 collectively consider a window period of April 1998—September 2006³ for permit qualification, as approved by the Council at its June 2007 meeting. These years were chosen because April 9, 1998 was the initial open access fishery control date (63 FR 53637, October 6, 1998) and September 13, 2006 was the most recent control date (71 FR 64216, November 1,

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³ Throughout this document “window period” means April 1998-September 2006; 2004-2006 window period years means January 2004-September 2006.

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Table 2-1. Basic Conditions and Assumptions

-
- 1) The B permit program is intended to better match fleet capacity with resource availability.
 - 2) B permits would be issued to current owners of qualifying vessels and permits would be registered to single vessels.
 - 3) B permits would apply to the directed taking and landing of all federal groundfish not including, nearshore rockfish, cabezon, kelp greenling and California scorpionfish (nearshore groundfish, which are protected under state regulations).
 - 4) A directed open access fishery landing is one in which >50% of the total revenue was of B species groundfish, and directed fishery gear was used. Only landings of B species of groundfish during April 1998 - September 2006 would be considered. 1/
 - 5) State nearshore permits may not be used in lieu of obtaining a B permit to take B species groundfish.
 - 6) A C permit must be registered to a vessel to land incidental amounts of federal groundfish excluding nearshore species. A state-issued nearshore permit registered to the vessel or in possession of a fisherman on board the vessel may be used in lieu of obtaining a federal C permit.
 - 7) Valid B and C permits or state-issued nearshore permits would be required when fishing for, possessing and landing permitted species in U.S. waters off the coasts of Washington, Oregon and California (0-200 miles).
 - 8) B permit landing limits would be set based upon open access fishery allocations. C permit landing limits would take into account target species landings (nearshore and non-groundfish landings).
 - 9) State regulations would continue to be in compliance with federal regulations.
 - 10) B permits would be renewed annually; expired permits would not be renewed. Timing of annual B permit application would align with current A permit renewals (fall of year prior).
-
- 1/ April 1998-September 2006 is inclusive of the two OA permit program control dates.

2006). These dates reflect participation in the fishery for about a decade. Each of these alternatives is based on one or more Council assessments of appropriate fishery participation levels. Alternative 3 would capture the fleet size set by market forces during some of the years when the overall groundfish fisheries were most constrained by overfished species rebuilding measures. Alternative 5 is based on a 2000 fishery capacity socio-economic analysis by the Council's SSC of what groundfish fleet sizes might be if they were better matched with then-available harvest levels. By contrast, Alternative 4 requires an analysis of various minimum landing or participation criteria to qualify for a directed fishery permit.

Nearshore rockfish, cabezon, kelp greenling and California scorpionfish (nearshore species) are removed from any federal license or permit requirement in Alternatives 2 through 5. This was done because these species predominately occur in state waters, and because the states manage and regulate or affect the take of those species (see **Appendix D** for information on the states' nearshore management efforts). Therefore, removal of these nearshore species avoids duplicate licensing or permitting requirements between state and federal agencies for fishermen or vessels. The remaining groundfish species include species groups that are identified in Federal regulation at 50 CFR Part 660 as shelf and slope rockfish, roundfishes, flatfishes, sharks, and other species (**Table 2-2**).

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Table 2-2: Listing of Federal Groundfish Species including Ones Proposed for New Federal Permit Program (B Species Program)

Nearshore rockfishes: All proposed for exclusion from federal B permit program

Overfished species: None identified

Minor Nearshore Species: black rockfish (*Sebastes melanops*), black-and-yellow rockfish (*Sebastes chrysomelas*), blue rockfish (*Sebastes mystinus*), brown rockfish (*Sebastes auriculatus*), calico rockfish (*Sebastes dalli*), California scorpionfish (*Scorpaena guttata*), China rockfish (*Sebastes nebulosus*), copper rockfish (*Sebastes caurinus*), gopher rockfish (*Sebastes carnatus*), grass rockfish (*Sebastes rastrelliger*), kelp rockfish (*Sebastes atrovirens*), olive rockfish (*Sebastes serranoides*), quillback rockfish (*Sebastes maliger*), and treefish (*Sebastes serripes*)

Shelf rockfishes: All proposed for inclusion in federal B permit program

Overfished species: bocaccio (*Sebastes paucispinis*) (South of Cape Mendocino), canary rockfish (*Sebastes pinniger*), cowcod (*Sebastes levis*) (South of Pt. Conception), widow rockfish (*Sebastes entomelas*), and yelloweye rockfish (*Sebastes ruberrimus*)

Minor Shelf Species: bronzedspotted rockfish (*Sebastes gilli*), chameleon rockfish (*Sebastes phillipsi*), chilipepper rockfish (*Sebastes goodei*), dusky rockfish (*Sebastes variabilis*), dusky rockfish (*Sebastes ciliatus*), dwarf-red rockfish (*Sebastes rufianus*), flag rockfish (*Sebastes rubrivinctus*), freckled rockfish (*Sebastes lentiginosus*), greenblotched rockfish (*Sebastes rosenblatti*), greenspotted rockfish (*Sebastes chlorostictus*), greenstriped rockfish (*Sebastes elongatus*), halfbanded rockfish (*Sebastes semicinctus*), harlequin rockfish (*Sebastes variegatus*), honeycomb rockfish (*Sebastes umbrosus*), longspine thornyhead (*Sebastolobus altivelis*), Mexican rockfish (*Sebastes macdonaldi*), pink rockfish (*Sebastes eos*), pinkrose rockfish (*Sebastes simulator*), pygmy rockfish (*Sebastes wilsoni*), redstripe rockfish (*Sebastes proriger*), rosethorn rockfish (*Sebastes helvomaculatus*), rosy rockfish (*Sebastes rosaceus*), shortbelly rockfish (*Sebastes jordani*), shortspine thornyhead (*Sebastolobus alascanus*), silvergray rockfish (*Sebastes brevispinis*), speckled rockfish (*Sebastes ovalis*), squarespot rockfish

(*Sebastes hopkinsi*), starry rockfish (*Sebastes constellatus*), striptail rockfish (*Sebastes saxicola*), swordspine rockfish (*Sebastes ensifer*), tiger rockfish (*Sebastes nigrocinctus*), vermilion rockfish (*Sebastes miniatus*), and yellowtail rockfish (*Sebastes flavidus*)

Slope Rockfishes: All proposed for inclusion in federal B permit program

Overfished species: darkblotched rockfish (*Sebastes crameri*) (north of Pt. Arena, CA), Pacific Ocean perch (*Sebastes alutus*) (WA and OR)

Minor Slope Species: Aurora Rockfish (*Sebastes aurora*), Bank Rockfish (*Sebastes rufus*), Blackgill Rockfish (*Sebastes melanostomus*), Redbanded Rockfish (*Sebastes babcocki*), Rougheye Rockfish (*Sebastes aleutianus*), Sharpchin Rockfish (*Sebastes zacentrus*), Shortraker Rockfish (*Sebastes borealis*), Splitnose Rockfish (*Sebastes diploproa*), and Yellowmouth Rockfish (*Sebastes reedi*)

Roundfishes: All proposed for inclusion in federal B permit program except as noted

Overfished species: None identified

lingcod (*Ophiodon elongatus*), cabezon (*Scorpaenichthys marmoratus*) (B permit excluded species), kelp greenling (*Hexagrammos decagrammus*) (B permit excluded species), Pacific cod (*Gadus macrocephalus*), Pacific hake (Pacific Whiting) (*Merluccius productus*), Pacific flatnose (finescale codling) (*Antimora microlepis*), Pacific grenadier (Pacific rattail) (*Coryphaenoides acrolepis*), sablefish (*Anoplopoma fimbria*)

Flatfishes: All proposed for inclusion in B permit program

Overfished species: None identified

arrowtooth flounder (*Atheresthes stomias*), butter sole (*Isopsetta isolepis*), curlfin sole (*Pleuronichthys decurrens*), Dover sole (*Microstomus pacificus*), English sole (*Parophrys vetulus*), flathead sole (*Hippoglossoides elassodon*), Pacific sanddab (*Citharichthys sordidus*), petrale sole (*Eopsetta jordani*), rex sole (*Glyptocephalus zachirus*), rock sole (*Lepidopsetta bilineata*), northern rock sole (*L. polyxystra*), sand sole (*Psettichthys melanostictus*), and starry flounder (*Platichthys stellatus*)

Sharks, Skates, and Chimaeras: All proposed for inclusion in B permit program

Overfished species: None identified

leopard shark (*Triakis semifasciata*), soupfin shark (*Galeorhinus galeus*), spiny dogfish (*Squalus acanthias*), big skate (*Raja binoculata*), California skate (*Raja inornata*), longnose skate (*Raja rhina*), and spotted ratfish (*Hydrolagus collieri*)

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The alternatives are summarized in **Table 2-3** and described in subsections 2.1 through 2.5. The NMFS may use combinations of elements within the alternatives, including retention and transfer conditions, in developing its preferred alternative. However, if the B permit program strays from the basic characteristics of the A permit program the added implementation burden and costs will likely be passed back to the industry.

Table 2-3: Summary of Council's license registration and B permit management alternatives

Issue to be addressed	Alternative				
	A-1 (no action)	A-2 (license registration)	A-3	A-4	A-5
1) Initial fleet size	n/a	n/a	a) 2004-06 avg (680 vessels) or b) 2006 fleet size (713)	based on permit qualification criteria (see Table 2)	1994-99 fleet size (390 vessels)
2) Fleet size goal	n/a	n/a	same as initial fleet size	same as initial fleet size	80% reduction from 2000 fleet size (to 170)
3) Permit transferability	n/a	n/a	yes, once per year	yes, once per year	no 1/
4) Previous year landing requirement	n/a	n/a	no	no	yes
5) State landing endorsement	n/a	n/a	yes	no	no
6) A & B permit usage on same vessel	n/a	n/a	yes, alternately in same yr 2/	yes, alternately in same yr 2/	not in same yr
7) Permit qualification criteria	n/a	n/a	see Table 2.	see Table 2.	see Table 2.

1/ There may be hardship conditions under which transfer might be allowed.

2/ A pre-fishing declaration would be used to notify NMFS of permit type changes.

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Table 2-4: B permit qualification criteria contained in Alternatives 1-5

Alternative	Standard	Framework(s) used for analyses	Abbrev
1 & 2	n/a	n/a	n/a
3 (a)	top 680 vessels	cum lbs, 2004-2006 (QF-1)	680v-1
	top 680 vessels	cum lbs, 1998-2006 (QF-2)	680v-2
	top 680 vessels	cum lbs, 1998-2006, w/ 2004-2006 trip (QF-3)	680v-3
3 (b)	top 713 vessels	QF-1, QF-2 and QF-3	713v-1, 2, 3
4	≥ 47,900 lbs	QF-3	47.9K-3
	≥ 36,100 lbs	QF-3	36.1K-3
	≥ 21,800 lbs	QF-3	21.8K-3
	≥ 14,400 lbs GROUP 1	QF-3	14.4K-3
	≥ 6,100 lbs	QF-3	6.1K-3
	≥ 3,500 lbs	QF-3	3.5K-3
	≥ 1,600 lbs	QF-3	1.6K-3
	≥ 1 lb	QF-1 or QF-3	1lb-1
	≥ 1 trip 1/	QF-1 or QF-3	1trip-1
	≥1 trip in two yrs	trips per year, 2004-2006 (QF-4)	2 in 3 yrs-4
	≥ 100 lbs	max lbs, any yr, 2004-2006 (QF-5)	100 max-5
	≥ 500 lbs GROUP 2	QF-5	500 max-5
	≥ 1000 lbs	QF-5	1000 max-5
	≥ 2000 lbs	QF-5	2000 max-5
	≥ 100 lbs	QF-1 and QF-3	100 lbs-1, 3
	≥ 500 lbs GROUP 3	QF-1 and QF-3	500 lbs-1, 3
	≥ 1000 lbs	QF-1 and QF-3	1000 lbs-1, 3
	≥ 2000 lbs	QF-1 and QF-3	2000 lbs-1, 3
5	top 390 vessels	QF-1, QF-2 and QF-3	390v-1, 2, 3

1/ Standards are variables that have been fixed as part of each qualification criterion, but could be varied to achieve a particular outcome

2/ Frameworks consist of fixed variables, including a base period and unit of measure (metric) that are used to determine which vessels meet the standard specified under each criterion.

3/ n/a means not applicable because no limited entry permit is proposed under A-1 or A-2

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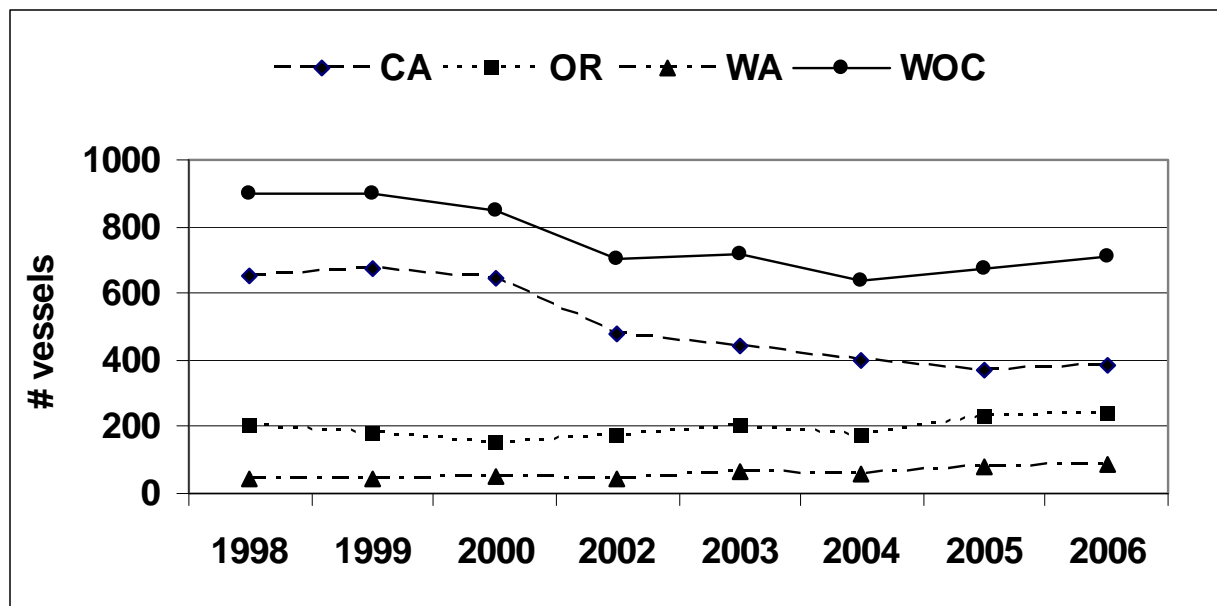


Figure 2-1: Directed fishery trends in numbers of vessels for B species groundfish by state and overall, 1998-2006 window period

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Table 2-5. Directed B species open access fishery participation and landing statistics by species group, year, state and total, 1998-2006

Yr	Sablefish				Shelf RF				Slope RF				Lingcod				Sharks				Others 1/				Total Directed			
	vs1	mts	000s	vs1	mts	000s	vs1	mts	000s	vs1	mts	000s	vs1	mts	000s	vs1	mts	000s	vs1	mts	000s	vs1	mts	000s	vs1	mts	000s	
1998	CA	92	94.6	\$219.0	433	797.3	\$1,161.0	171	192.3	\$220.0	257	46.2	\$105.0	54	25.2	\$34.0	71	29.0	\$43.0	654	1,185.1	\$1,782.0						
	OR	30	16.3	\$45.0	135	178.5	\$272.0	3	4.4	\$6.0	103	20.7	\$47.0	0	0.0	\$0.0	44	21.0	\$38.0	200	240.8	\$409.0						
	WA	29	25.6	\$79.0	10	12.4	\$9.0	0	0.0	\$0.0	17	5.6	\$7.0	0	0.0	\$0.0	20	57.0	\$65.0	46	100.7	\$160.0						
1999	sum	151	136.5	\$343.0	578	988.2	\$1,442.0	174	196.7	\$226.0	377	72.5	\$159.0	54	25.2	\$34.0	135	107.0	\$146.0	900	1,526.6	\$2,351.0						
	CA	102	176.9	\$454.0	479	264.1	\$538.0	72	16.9	\$29.0	293	39.9	\$119.0	52	25.2	\$37.0	105	49.0	\$86.0	677	571.9	\$1,263.0						
	OR	15	20.6	\$65.0	132	93.3	\$194.0	8	1.2	\$2.0	125	27.1	\$74.0	0	0.0	\$0.0	58	13.0	\$43.0	180	155.4	\$377.0						
2000	WA	28	36.0	\$115.0	7	9.1	\$7.0	0	0.0	\$0.0	14	4.8	\$6.0	2	4.8	\$2.0	15	9.0	\$11.0	44	63.2	\$141.0						
	sum	145	233.5	\$634.0	618	366.5	\$739.0	80	18.1	\$31.0	432	71.8	\$199.0	54	30.0	\$39.0	178	71.0	\$140.0	901	790.5	\$1,781.0						
	CA	115	299.0	\$944.0	403	96.3	\$282.0	65	8.5	\$22.0	221	19.8	\$64.0	55	22.3	\$31.0	127	81.0	\$118.0	642	526.7	\$1,460.0						
2001	OR	34	43.6	\$159.0	103	7.3	\$19.0	1	0.5	\$1.0	89	12.3	\$45.0	2	0.1	\$0.0	0	0.0	\$0.0	154	63.9	\$224.0						
	WA	32	51.9	\$202.0	9	1.7	\$3.0	2	1.5	\$2.0	12	4.8	\$6.0	1	1.5	\$1.0	2	1.0	\$2.0	49	62.8	\$215.0						
	sum	181	394.5	\$1,305.0	515	105.3	\$304.0	68	10.5	\$25.0	322	36.9	\$115.0	58	23.9	\$32.0	129	82.0	\$120.0	845	653.4	\$1,899.0						
2002	CA	112	273.7	\$820.0	301	66.7	\$177.0	41	25.9	\$52.0	244	29.0	\$97.0	49	24.4	\$34.0	96	48.0	\$106.0	518	467.5	\$1,286.0						
	OR	64	58.9	\$199.0	89	5.5	\$15.0	1	0.6	\$1.0	119	24.1	\$82.0	0	0.0	\$0.0	2	0.0	\$0.0	180	89.3	\$296.0						
	WA	44	60.3	\$218.0	8	0.8	\$1.0	2	1.4	\$1.0	12	3.6	\$5.0	0	0.0	\$0.0	0	1.0	\$1.0	54	66.8	\$225.0						
2003	sum	220	392.9	\$1,237.0	398	73.0	\$193.0	44	27.9	\$54.0	375	56.7	\$184.0	49	24.4	\$34.0	98	49.0	\$107.0	752	623.6	\$1,807.0						
	CA	119	268.3	\$798.0	222	19.7	\$72.0	45	60.7	\$133.0	244	37.2	\$132.0	40	16.0	\$24.0	68	49.0	\$80.0	480	451.4	\$1,238.0						
	OR	53	49.7	\$180.0	61	3.6	\$9.0	1	0.1	\$0.0	126	27.4	\$94.0	0	0.0	\$0.0	8	0.0	\$0.0	176	81.2	\$283.0						
2004	WA	44	65.2	\$237.0	0	0.6	\$0.0	0	0.9	\$1.0	9	2.9	\$4.0	1	4.2	\$1.0	0	1.0	\$0.0	47	74.4	\$244.0						
	sum	216	383.2	\$1,215.0	283	23.9	\$81.0	46	61.7	\$134.0	379	67.5	\$230.0	41	20.2	\$25.0	76	50.0	\$80.0	703	607.0	\$1,765.0						
	CA	118	312.6	\$946.0	169	8.7	\$39.0	46	82.4	\$194.0	240	32.5	\$131.0	47	28.1	\$37.0	50	55.0	\$50.0	445	519.6	\$1,398.0						
2005	OR	96	134.3	\$492.0	52	3.3	\$8.0	13	0.8	\$1.0	123	28.9	\$91.0	0	0.0	\$0.0	0	1.0	\$0.0	202	168.1	\$593.0						
	WA	64	118.2	\$450.0	0	0.2	\$0.0	0	1.5	\$2.0	4	2.1	\$3.0	1	43.9	\$18.0	0	2.0	\$1.0	68	167.7	\$473.0						
	sum	278	565.1	\$1,888.0	221	12.2	\$47.0	59	84.7	\$197.0	367	63.5	\$225.0	48	72.0	\$55.0	50	58.0	\$51.0	715	855.4	\$2,464.0						
2006	CA	92	288.3	\$831.0	189	23.9	\$104.0	48	52.2	\$130.0	215	39.9	\$158.0	43	23.6	\$48.0	60	57.0	\$52.0	402	484.9	\$1,323.0						
	OR	67	73.6	\$225.0	66	2.9	\$7.0	3	1.0	\$1.0	120	31.1	\$97.0	0	0.2	\$0.0	3	0.0	\$0.0	177	109.1	\$330.0						
	WA	53	96.4	\$326.0	1	0.5	\$1.0	2	1.4	\$1.0	4	1.7	\$3.0	4	86.1	\$38.0	0	1.0	\$1.0	57	187.3	\$369.0						
AVG	sum	212	458.3	\$1,382.0	256	27.3	\$112.0	53	54.6	\$132.0	339	72.7	\$258.0	47	109.9	\$86.0	63	58.0	\$53.0	636	781.3	\$2,022.0						
	CA	101	458.3	\$1,312.0	170	21.2	\$99.0	46	30.8	\$84.0	192	35.8	\$145.0	44	21.9	\$31.0	49	39.0	\$34.0	367	607.5	\$1,704.0						
	OR	107	257.6	\$916.0	54	3.4	\$9.0	4	5.1	\$7.0	150	29.4	\$101.0	2	0.2	\$0.0	2	5.0	\$2.0	232	300.5	\$1,035.0						
AVG	WA	68	182.2	\$678.0	2	0.4	\$1.0	2	6.5	\$8.0	5	2.4	\$4.0	2	3.2	\$2.0	0	1.0	\$1.0	78	195.5	\$693.0						
	sum	276	898.1	\$2,906.0	226	25.0	\$109.0	52	42.4	\$99.0	347	67.6	\$250.0	48	25.3	\$33.0	51	45.0	\$37.0	677	1,103.5	\$3,432.0						
	CA	122	279.9	\$942.0	165	21.3	\$103.0	35	33.0	\$85.0	192	26.8	\$113.0	41	22.9	\$43.0	29	15.0	\$32.0	382	399.3	\$1,318.0						
AVG	OR	132	250.8	\$984.0	42	3.0	\$9.0	3	5.1	\$7.0	135	27.6	\$109.0	0	0.0	\$0.0	2	4.0	\$2.0	241	290.1	\$1,111.0						
	WA	86	157.5	\$612.0	0	0.2	\$0.0	1	0.8	\$1.0	4	2.7	\$5.0	2	59.8	\$31.0	0	1.0	\$0.0	90	221.6	\$649.0						
	sum	340	688.2	\$2,538.0	207	24.5	\$112.0	39	38.9	\$93.0	331	57.1	\$227.0	43	82.7	\$74.0	31	20.0	\$34.0	713	911.0	\$3,078.0						
AVG	CA	108	272.4	\$807.3	281	146.6	\$286.1	63	55.9	\$105.4	233	34.1	\$118.2	47	23.3	\$35.4	73	46.9	\$66.8	507	579.3	\$1,419.1						
	OR	66	100.6	\$362.8	82	33.4	\$60.2	4	2.1	\$2.9	121	25.4	\$82.2	0	0.1	\$0.0	13	4.9	\$9.4	194	166.5	\$517.6						
	WA	50	88.1	\$324.1	4	2.9	\$2.4	1	1.6	\$1.8	9	3.4	\$4.8	1	22.6	\$10.3	4	8.2	\$9.1	59	126.7	\$352.1						
sum	224	461.1	\$1,494.2	367	182.9	\$348.8	68	59.5	\$110.1	363	62.9	\$205.2	49	46.0	\$45.8	90	60.0	\$85.3	760	872.5	\$2,288.8							
1) others species includes unspecified rockfish, flatfishes, rays and chimeras																												

1/ others species includes unspecified rockfish, flatfishes, rays and chimeras

2.1 Alternative 1 (No action)

Alternative 1, No-action, would continue to allow commercial fishing vessels to prosecute federal groundfish species allocated to open access fisheries without federal registration, except as required under the Vessel Monitoring System (VMS) program (**72 FR 69162, December 7, 2007**). The VMS program requires commercial vessels to register with NMFS and utilize VMS equipment if they intend to take federal groundfish in federal waters in the WOC area. The No-action alternative does not limit participation in the open access fishery.

2.2 Alternative 2

This alternative establishes an annual federal license requirement for vessel owners that intend to participate in the open access groundfish fishery. The purpose of this alternative is to identify all vessels and vessel owners that participate in the open access fishery and to aid managers in estimating fishery impacts to target and non-target species. This alternative would not limit fishery participation. To be eligible for an open access license, the vessel owner must have a valid commercial fishing license with Washington, Oregon, or California and the vessel must be currently documented by the United States Coast Guard (USCG) or state registered. As with A permits, NMFS would require that the applicant/vessel owner certify that he/she is eligible to own a US-documented vessel. NMFS would issue a single open access license that would authorize the vessel to participate in both the directed and incidental components of the open access fishery. NMFS would mail open access license applications to vessel owners prior to the calendar year and would encourage submission of applications at least 30 days prior of the calendar year (and start of the open access fishery). However, a vessel owner may apply for an open access license at any time during the year.

2.3 Alternative 3

Alternative 3 is one of two alternatives that have a specific initial fleet size goal for issuance of B permits. The goal for Alternative 3 is based on either: 1) the average number of vessels that made directed B species landings in the WOC area during the recent years of 2004-September 2006 ⁴which computes to be 680 vessels, after rounding or 2) the number of vessels that participated in the directed fishery in 2006, which is 713 (Figure 2-1; **Table 2-5**). The long-term fleet size goal is the same as the initial fleet size goal under this alternative. The purpose of this alternative is to limit participation in the directed open access fishery and to register all other vessels that encounter groundfish on an incidental basis. This alternative would aid managers in projecting fishery impacts for target and non-target species. B permits would be issued to those in the directed open access fishery and C permits would be issued to those vessels that incidentally land groundfish, excluding nearshore species, for all vessels that do not have an A or B permit or state-issued nearshore permit. Three different qualification criteria (QF-1, QF-2 and QF-3) were used to determine which vessels would qualify for B permits under this alternative (**Table 2-4**).

Under this alternative, a B permit could be transferred to a different vessel once per calendar year and vessels could be registered to both an A and B permit and used the two permits alternately during the year, but not in the same cumulative landing period. The permit holder would be required to notify NMFS prior to leaving port of the permit type that would be in use. B permits would have a state landing

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⁴ “Recent years” in this EA refers to the period January 2004-September 2006. The selection of years for defining recent participation was restricted to 1) two or more successive years in order to compute an “average” participation level and 2) one of the three recent three successive year periods (2003-2006, 2004-2006 and 2005-2006) because the selection of any period prior to 2003 would represent “most” of the window period. The period 2004-2006 was selected over the other possible periods because the period 2004-2006 encompassed 1) the longest period of increasing participation in the WOC directed open access fishery during the 1998-2006 window period and 2) 2004 was the nadir in terms of vessel participation in the directed open access fishery for the window period (**Figure 2-1; Table 2-5**). There were also major regulation differences in the earlier years that are discussed in the text.

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endorsement, based on the state in which the majority of qualifying fishing trips was landed in the most recent year of fishery participation, and there would be no previous year landing requirement (**Table 2-3**).

C permits would be required to land groundfish excluding nearshore species for all vessels that do not have an A or B permit or a state-issued nearshore fishery permit. C permits would be available year-round and would be available to all state-registered commercial fishing vessels. A state-issued nearshore permit registered to the vessel or a fisherman on board the vessel could be used in lieu of a C permit registration to the vessel, but could not be used in lieu of a B permit registration.

2.4 Alternative 4

Alternative 4 was expanded by the Council at its March 2008 meeting. Under this alternative there would be no specified initial or long-term fleet size goal, but no new permits would be issued after the first program year. The first set of qualification standards under this alternative range from 47,100 lbs to one lb. These values represent the minimum lbs of B species groundfish landed by vessels that took 50%, 60%, 70%, 80%, 95% and 100% of the B species groundfish during the window period. The remaining qualification standards have a minimum participation level of one landing in two years during 2004-2006 or four minimum landing levels of 100, 500, 1000 and 2000 lbs. The qualifications frames used to analyze these qualification standards are shown in Table 2-4.

The B permit program would operate similar to the current limited entry permit program (A permits) under this alternative. Permits would be transferable, with transfers being allowed once per calendar year and effective at the start of the next two-month cumulative limit period. In addition, vessels could be registered to A and B permits simultaneously and the vessel would be able to use the two permit types alternately during the year, but not in the same cumulative landing period. The permit holder would be required to notify NMFS of the permit type that would be in use prior to leaving port. There is no state landing endorsement or previous year landing requirement under this alternative (**Table 2-3**).

C permits would be required to land groundfish excluding nearshore species for all vessels that do not have an A or B permit or a state-issued nearshore fishery permit. C permits could be applied for at any time of year. A state-issued nearshore permit registered to the vessel or a fisherman on board the vessel, could be used in lieu of a C permit registration, but could not be used in-lieu of a B permit registration.

2.5 Alternative 5

Under Alternative 5, the initial fleet size goal is 390 vessels, which is 91% of the average number of vessels that fished at least three years for federal groundfish species, including nearshore species, during 1994-1999 (**Appendix A**). The 91% adjustment factor is extrapolated from the relationship between total number of vessels that had directed fishery landings of federal groundfish and those that had directed fishery landings of B species groundfish during 2000-2006 (**Tables 2-4 and 3-5**). This period of time was used because specificity of landings data was much lower in the earlier years, compared to the latter years, because a high proportion of rockfish were recorded as “unspecified rockfish” (Gerry Kobylinski 2007). The long-term fleet size goal is 170 vessels, which is approximately 80% of the 2000 directed fishery fleet size, the same year the Council’s Strategic Plan was adopted. The 80% reduction figure is based on the capitol utilization rate estimate for the directed open access fishery developed by the Council’s Scientific and Statistical Committee based on 1984-1992 fishery data. Three different qualification criteria (QF-1, QF-2 and QF-3) were used to determine which vessels would qualify for B permits under this alternative (Table 2-4).

There is a previous year landing requirement and permits would be non-transferable under this alternative in order to accelerate fishery attrition to meet the long-term fleet size goal. In order to allow that all renewals are completed by December 31, the previous year landing requirement must occur by November

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30. A vessel owner could own single or multiple A and B permitted vessels, but a single vessel could not be registered to both permit types in the same year. (So if a vessel is registered to an A permit on January 1, that vessel would not be eligible to be registered to a B permit for the remainder of the year).

C permits would be required to land groundfish excluding nearshore species for all vessels that do not have an A or B permit or a state-issued nearshore fishery permit under this alternative. C permits could be applied for at any time of year. A state-issued nearshore permit, registered to the vessel or a fisherman on board the vessel, could be used in lieu of a C permit registration to the vessel.

2.6 Alternatives Considered but Not Analyzed in Detail

Several alternatives were considered but not accepted for full analysis:

Permit stacking to allow for increased landings by single vessels:

This concept was considered to be outside the scope of the proposed permit management program.

Directed sablefish fishery tiering and possible integration with the A permit sablefish program:

This concept was considered to be outside the scope of the proposed permit management program.

Fish allocations between B permit gear types (hook-and-line, pot and set-net):

Additional allocations of fish could lead to increased fishery discards due to allocation attainment with potentially negative impacts to overfished groundfish species.

Sub-area endorsements (e.g., sablefish endorsements for the Conception area and the Monterey-Vancouver area):

Cross-over of vessels between management areas is not a problem under current management, thus the need for additional fishery regulation is not warranted.

Gear type or vessel length endorsement:

The Council initially considered having a gear type or vessel length endorsement but decided against either or both provisions because 1) a gear endorsement would limit a fisher's ability to switch to more efficient or less destructive gear types, and 2) fishing regulations in the directed OA fishery generally have a greater role in determining vessel landings than vessel size.

Permit consolidation requirement:

This option was removed from the first draft environmental assessment at the March 2008 meeting because of the complexity and uncertainty of requiring B permit holders to obtain permits from other permit holders at specified yearly increments in order to reduce the fleet size to meet a particular long-term fleet size goal.

Market-based Management (e.g., Individual Fishing Quotas, fishing cooperatives, community quotas, collectively termed Limited Access Privilege Programs [LAPPs]):

LAPPs have been shown to reduce the incentive to maintain or increase fishery capacity. License limitation or limited entry is the common first step to the cessation of capital expansion and the implementation of more effective and lasting measures. Limited entry does not preclude eventual adoption of market-based tools (NMFS 2008c).

3.0 AFFECTED ENVIRONMENT

- This section describes the Pacific Coast groundfish fishery and the resources that would be affected by the alternatives. Physical resources are discussed in Section 3.1, biological resources are described in Section 3.2, and socioeconomic resources are described in Section 3.3. Other recent NEPA documents prepared for the Pacific Coast groundfish fishery provide detailed information pertaining to the physical, biological and socioeconomic environment (See subsection 1.6, Related NEPA Analyses, of this EA).

3.1 Physical Characteristics of the Affected Environment

3.1.1 *General Characteristics*

3.1.1.1 Ocean currents

In the North Pacific Ocean, the large, clockwise-moving North Pacific Gyre circulates cold, sub arctic surface water eastward across the North Pacific, splitting at the North American continent into the northward-moving Alaska Current and the southward-moving California Current. Pacific Coast, the surface California Current flows southward through the United States Pacific Coast EEZ. The California Current is known as an eastern boundary current, meaning it draws ocean water along the eastern edge of an oceanic current gyre. The northward-moving California Undercurrent flows along the continental margin and beneath the California Current. Influenced by the California Current system and coastal winds, waters off the United States Pacific Coast are subject to major nutrient upwelling, particularly off Cape Mendocino. Shoreline topographic features such as Cape Blanco and Point Conception, and bathymetric features such as banks, canyons, and other submerged features, often create large-scale current patterns such as eddies, jets, and squirts. The effect of El Niño-Southern Oscillation (ENSO) events on climate and ocean productivity in the northeast Pacific is relatively well-known. In the past decade a still longer period cycle, termed the Pacific Decadal Oscillation or PDO, has been identified. Although similar in effect, instead of the one-year to two-year periodicity of ENSO, PDO events affect ocean conditions for 15 years to 25 years (**PFMC 2004**).

3.1.1.2 Physical and biological conditions

There are distinct large-scale patterns of biological distribution along the Pacific Coast that provide for a first-order characterization of habitat into large zoogeographic provinces: the Oregonian and San Diego. The Oregonian Province extends from the Strait of Juan de Fuca in the North to Point Conception in the South. The San Diego Province begins at Point Conception in the north and runs south past the terminus of the EEZ (NMFS 2005). Cape Mendocino represents an important ecological break in the distribution of many groundfish species (particularly rockfish) (**PFMC 2004**).

The United States Pacific Coast is characterized by a relatively narrow continental shelf. The 200 m depth contour shows a shelf break closest to the shoreline off Cape Mendocino, Point Sur, and in the Southern California Bight; and widest from Central Oregon north to the Canadian border, as well as off Monterey Bay. Deep submarine canyons pocket the EEZ, with depths greater than 4,000 m south of Cape Mendocino (**PFMC 2004**).

Estuaries such as San Francisco Bay and Puget Sound are important habitats for many fish and wildlife species and some groundfish species. Other important smaller estuaries include Gray's Harbor, Washington and Yaquina Bay, Oregon. Kelp forest communities are found relatively close to shore along the open coast. These subtidal communities provide vertically structured habitat through the water column on the rocky shelf from the waterline to a depth of up to 10 meters. Surfgrass beds are found on hard-bottom substrates along higher energy coasts. (Studies have shown seagrass beds to be among the

areas of highest primary productivity in the world). Tide pool habitats are common along the coasts of all three states and are often inhabited by a variety of attached algae, invertebrates, and small fishes. Unconsolidated bottom habitats are composed of small particles (i.e. gravel, sand, mud, silt, and various mixtures of these particles) and contain little to no vegetative growth due to the lack of stable surfaces for attachment. Such areas are scattered along nearshore and coastal shelf zones. Coastal unconsolidated bottom habitats are utilized by a number of managed fish species. Hard bottom habitats in the coastal zone may be composed of bedrock, boulders, cobble, or gravel/cobble. Hard substrates are one of the least abundant benthic habitats off the respective states, yet they are among the most important habitats for fishes. There are a number of species and life stages of groundfish that occur in the water column, but do not have any association with benthic substrate. Structure-forming invertebrates (such as corals, basketstars, brittlestars, demosponges, gooseneck barnacles, sea anemones, sea lilies, sea urchins, sea whips, tube worms, and vase sponges) have created important ocean bottom habitats in the shelf and slope zones. Offshore, unconsolidated bottom habitats are composed of small particles (i.e. gravel, sand, mud, silt, and various mixtures of these particles) and contain little to no vegetative growth due to the lack of stable surfaces for attachment. A large number of managed groundfish species utilize offshore unconsolidated bottom habitat during at least part of their life. Hard bottom habitats in the offshore zone may be composed of bedrock, boulders, cobble, or gravel/cobble. Many managed species are dependent on hard bottom habitat during some portion of their life cycle.
(NMFS 2005)

3.1.2 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act requires NMFS and the Council to describe Essential Fish Habitat (EFH) and enumerate potential threats to EFH from both fishing and nonfishing activities for the managed species.

EFH is defined at 50 CFR 600.10 as: those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. For the purpose of interpreting the definition of essential fish habitat: “Waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; “substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities; “necessary” means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species' full life cycle.

The EFH EIS contains detailed information on the Pacific Coast marine habitat and physical oceanography (Section 3.2, NMFS 2005). In response to the EFH EIS, NMFS implemented regulations designating EFH for Pacific Coast groundfish (50 CFR 660.395) and closing several areas to fishing with bottom trawl gear and bottom contact gear (50 CFR 660.306(h)).

3.2 Biological Characteristics of the Affected Environment

3.2.1 Groundfish Species

There are over 90 species of groundfish managed under the groundfish FMP. These species include over 60 species of rockfish in the family Scorpaenidae, 7 roundfish species, 12 flatfish species, assorted sharks, skates, and a few miscellaneous bottom-dwelling marine fish species. The groundfish 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 (PFMC 2005). Table 4-1 in the 2007-2008 Specifications EIS lists the latitudinal and depth distributions of adult groundfish species (NMFS 2008).

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The Acceptable Biological Catch (ABC) is an estimate of the amount of stock that may be harvested each year without jeopardizing the continual sustainability of the resource. The Council and NMFS use the results of quantitative stock assessment to develop annual ABCs for major groundfish stocks. For groundfish species where there are little or no detailed biological data available to develop ABCs, rudimentary stock assessments are prepared using the best available data, or the ABC levels are based on 50% of historical landings. The ABC may be modified with precautionary adjustments to account for uncertainty. A stock's optimum yield (OY) is its target harvest level, and is usually lowered from its ABC. ABCs and OYs for groundfish species are published in Federal regulation at 50 CFR Part 660, Tables 1a-1c and 2a-2c.

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 on a continuing basis. For Pacific Coast groundfish, overfishing occurs if total mortality estimates exceed the ABC in a given year. 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 percent of the estimated unfished biomass level. In 2007, seven groundfish species continue to be designated as overfished: bocaccio (south of Monterey), canary rockfish, cowcod (south of Point Conception), darkblotched rockfish, Pacific Ocean perch, widow rockfish, and yelloweye rockfish.

The following section presents a brief summary of the biological characteristics of the most common federally-managed groundfish species encountered in the open access fishery, including overfished and precautionary zone stocks, non-overfished stocks and unassessed stocks.

3.2.1.1 Overfished and Precautionary Zone Groundfish Species

Seven species of Pacific Coast groundfish, all rockfish species, are currently declared overfished by NMFS. They are:

- Cowcod (*Sebastes levis*)
- Canary Rockfish (*Sebastes pinniger*)
- Darkblotched Rockfish (*Sebastes crameri*)
- Pacific Ocean Perch (*Sebastes alutus*)
- Bocaccio (*Sebastes paucispinis*)
- Widow Rockfish (*Sebastes entomelas*)
- Yelloweye Rockfish (*Sebastes ruberrimus*)

Rockfish are long-lived, late maturing, and slow-growing species. These traits make them particularly vulnerable to overfishing. "Overfishing" and "overfished" are defined in the Pacific Coast Groundfish FMP for each species or species complex. According to the FMP's definition, a stock (or fish population) is overfished when its spawning stock abundance declines to 25% of its estimated "unfished biomass" (the spawning population size if the stock had never been fished; biomass is the weight of a population of fish). Once a stock is declared overfished, measures must be taken to rebuild stock abundance to a level that supports maximum sustained yield (MSY). For most Pacific Coast groundfish stocks, that level is defined as 40% of the stock's virgin, unfished abundance. "Overfishing" is defined as a harvest rate that is predicted to cause a stock to decline to an overfished level. The FMP further defines overfishing as fishing at a rate that exceeds F_{msy} . The Magnuson-Stevens Act and FMP require management measures that end overfishing. The Magnuson-Stevens Act also requires that the Council rebuild an overfished stock within ten years, if the stock's biology allows it to be rebuilt within this relatively short timeframe. Rebuilding the currently overfished rockfish species will probably take significantly longer. If a stock cannot be rebuilt within ten years, then the maximum allowable time to rebuild the stock is the time to

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rebuild the stock in the absence of fishing, plus one mean generation time. (Mean generation time is the time it takes for a sexually mature female to replace herself in the population). Historically, these species were taken by trawl, hook and line, and sport gear. Overfished shelf rockfish species are still incidentally caught with commercial and sport line gear. Depth-based restrictions have been adopted to reduce harvest of overfished groundfish, to end overfishing, and to rebuild these stocks.

Estimates of recent open access fishery impacts to overfished groundfish species are provided in sections 3.3.2.3 (incidental fishery) and 3.3.3.6 (directed fishery)

The following species are considered to be precautionary zone species:

- Cabezon (*Scorpaenichthys marmoratus*)
- Petrale sole (*Eopsetta jordani*)
- Sablefish (*Anoplopoma fimbria*)

Some assessed species, including some of the most important target species such as sablefish (*Anoplopoma fimbria*), are below the target biomass, B_{MSY} , although not overfished. These species are classified as precautionary zone species and OYs for these stocks are set according to a precautionary formula that progressively reduces the OY below the ABC as the estimated stock size is lower. This precautionary reduction provides surplus production to allow the stock to increase to the target biomass over time.

Biological, life history and available stock status information on overfished and precautionary zone species are presented in Appendix F.

3.2.1.2 Non-overfished and Unassessed Groundfish Stocks

The following Groundfish FMP species are considered non-overfished or unassessed stocks.

Non-over fished stocks

California Skate (*Raja inornata*)
Longnose Skate (*Raja rhina*)
Pacific Whiting (Pacific Hake) (*Merluccius productus*)
Bank Rockfish (*Sebastes rufus*)
Black Rockfish (*Sebastes melanops*)
Blackgill Rockfish (*Sebastes melanostomus*)
California Scorpionfish (*Scorpaena guttata*)
Chilipepper (*Sebastes goodei*)
Gopher Rockfish (*Sebastes carnatus*)
Lingcod (*Ophiodon elongatus*)
Longspine Thornyhead (*Sebastolobus altivelis*)
Shortbelly Rockfish (*Sebastes jordani*)
Shortspine Thornyhead (*Sebastolobus alascanus*)
Splitnose Rockfish (*Sebastes diploproa*)
Yellowtail Rockfish (*Sebastes flavidus*)
Arrowtooth Flounder (*Atheresthes stomias*)
English Sole (*Pleuronectes vetulus*)
Starry Flounder (*Platichthys stellatus*)

Unassessed Stocks

Aurora rockfish (*Sebastes aurora*)

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Big skate (*Raja binoculata*)
Black-and-yellow rockfish (*Sebastes chrysomelas*)
Blue rockfish (*Sebastes mystinus*)
Bronzespotted rockfish (*Sebastes gilli*)
Brown rockfish (*Sebastes auriculatus*)
Butter sole (*Isopsetta isolepis*)
Calico rockfish (*Sebastes dalli*)
California skate (*Raja inornata*)
China rockfish (*Sebastes nebulosus*)
Copper rockfish (*Sebastes caurinus*)
Curlfin sole (*Pleuronichthys decurrens*)
Dusky/dark rockfish (*Sebastes. variabilis*) (dusky rockfish) and *S. ciliatus* (dark rockfish)
Finescale codling (*Antimora microlepis*)
Flag rockfish (*Sebastes rubrivinctus*)
Flathead sole (*Hippoglossoides elassodon*)
Grass rockfish (*Sebastes rastrelliger*)
Greenblotched rockfish (*Sebastes rosenblatti*)
Greenspotted rockfish (*Sebastes chlorostictus*)
Greenstriped rockfish (*Sebastes elongatus*)
Harlequin rockfish (*Sebastes variegatus*)
Honeycomb rockfish (*Sebastes umbrosus*)
Kelp greenling (*Hexagrammos decagrammus*)
Kelp rockfish (*Sebastes atrovirens*)
Leopard shark (*Triakis semifasciata*)
Mexican rockfish (*Sebastes macdonaldi*)
Olive rockfish (*Sebastes serranoides*)
Pacific cod (*Gadus macrocephalus*)
Pacific grenadier (*Coryphaenoides acrolepis*)
Pacific sanddab (*Citharichthys sordidus*)
Pink rockfish (*Sebastes eos*)
Quillback rockfish (*Sebastes maliger*)
Spotted ratfish (*Hydrolagus colliei*)
Redbanded rockfish (*Sebastes babcocki*)
Redstripe (*Sebastes proriger*)
Rex sole (*Glyptocephalus zachirus*)
Rock sole (*Lepidopsetta polyxystra* and *L. bilineata*),
Rosethorn rockfish (*Sebastes helvomaculatus*)
Rosy rockfish (*Sebastes rosaceus*)
Rougheye rockfish (*Sebastes aleutianus*)
Sand sole (*Psettichthys melanostictus*)
Sharpchin rockfish (*Sebastes zacentrus*)
Shortraker rockfish (*Sebastes borealis*)
Silvergray rockfish (*Sebastes brevispinis*)
Soupfin shark (*Galeorhinus galeus*)
Spiny dogfish (*Squalus acanthias*)
Speckled rockfish (*Sebastes ovalis*)
Squarespot rockfish (*Sebastes hopkinsi*)
Starry rockfish (*Sebastes constellatus*)
Stripetail rockfish (*Sebastes saxicola*)
Tiger rockfish (*Sebastes nigrocinctus*)
Treefish (*Sebastes serriceps*)

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Vermilion rockfish (*Sebastes miniatus*)

Yellowmouth rockfish (*Sebastes reedi*)

Biological, life history and available stock status information on non-overfished and unassessed groundfish species are presented in **Appendix F**.

3.2.2 Non-groundfish Species (State-managed or under other FMPs)

The following non-groundfish species may be caught incidentally in fisheries targeting groundfish. Thus, changes in fishing regulations in groundfish fisheries could increase or decrease fishing mortality on incidentally caught species. Alternatively, those fisheries targeting nongroundfish species may be affected by management measures intended to reduce or eliminate incidental catches of overfished groundfish species in these fisheries.

California halibut (*Paralichthys californicus*)

California sheephead (*Semicossyphus pulcher*)

Coastal Pelagic Species (CPS) as follows:

Northern anchovy (*Engraulis mordax*)

Pacific sardine (*Sardinops sagax*)

Pacific (chub) mackerel (*Scomber japonicus*)

Jack mackerel (*Trachurus symmetricus*)

Market squid (*Decapoda sp*)

Dungeness crab (*Cancer magister*)

Greenling species other than kelp greenling (*Hexagrammos decagrammus*) as follows:

Rock greenling (*H. agocephalus*)

Painted greenling (*Oxylebius pictus*)

White spotted greenling (*H. stelleri*)

Highly migratory species (HMS) as follows:

Striped marlin *Tetrapturus audax*

Swordfish *Xiphias gladius*

Common thresher shark *Alopias vulpinus*

Pelagic thresher shark *Alopias pelagicus*

Bigeye thresher shark *Alopias superciliosus*

Shortfin mako (bonito shark) *Isurus oxyrinchus*

Blue shark *Prionace glauca*

North Pacific albacore *Thunnus alalunga*

Yellowfin tuna *Thunnus albacares*

Bigeye tuna *Thunnus obesus*

Skipjack tuna *Katsuwonus pelamis*

Northern bluefin tuna *Thunnus orientalis*

Dorado (a.k.a. mahi mahi, dolphinfish) *Coryphaena hippurus*

Ocean whitefish (*Caulolatilus princeps*)

Pacific pink shrimp (*Pandalus jordani*)

Pacific halibut (*Hippoglossus stenolepis*)

Ridgeback prawn (*Sicyonia ingentis*)

Sea cucumber species as follows:

California sea cucumber (*Parastichopus californicus*)

Warty sea cucumber (*P. parvimensis*)

Spot prawn (*Pandalus platyceros*)

White seabass (*Atractoscion nobilis*)

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Biological, life history and available stock status information on non-overfished and unassessed groundfish species are presented in **Appendix F**.

3.2.3 Prohibited Species

Under the Pacific Coast groundfish FMP, prohibited species are those groundfish species or species groups for which quotas have been achieved and/or the fishery closed. Prohibited species are also any species of salmonid, Pacific halibut, or, seaward of Washington or Oregon, Dungeness crab. Regulations at 50 CFR 660.306 prohibit retention of prohibited species and they must be returned to the sea as soon as practicable with a minimum of injury when caught and brought on board. This section focuses on the later definition of prohibited species: salmon, Pacific halibut and Dungeness crab.

3.2.3.1 Pacific salmon

Salmon are anadromous which means they hatch in freshwater streams and rivers, migrate to the ocean for feeding and growth, and return to their natal streams to spawn. Chinook salmon (*Oncorhynchus tshawytscha*) and coho salmon (*O. kisutch*) are the main salmon species managed by the Council. In odd-numbered years, the Council may manage special fisheries near the Canadian border for pink salmon (*O. gorbuscha*). Sockeye (*O. nerka*) and chum (*O. keta*) salmon and steelhead trout (*O. mykiss*) are rarely caught in the Council's ocean fisheries. Salmon are affected by a wide variety of factors in the ocean and on land, including ocean and climatic conditions, dams, habitat loss, urbanization, agricultural and logging practices, water diversion, and predators (including humans). Salmon are an important source of spiritual and physical sustenance for Indian tribes, and they are symbolically important to many other residents of the Pacific Coast. Because salmon migrate so far when in the ocean, managing the ocean salmon fisheries is an extremely complex task.

The West Coast Groundfish Observer Program (WCFOP) has primarily focused on sampling limited entry (A permit) vessels since it began in 2001 (66 FR 20609). The data collected from fixed gear vessels are the best available for inferring the approximate discard rates for prohibited species in the directed B species groundfish fishery. The landing limits for groundfish in the limited entry fisheries have been higher than in the open access fishery, and the two fisheries generally operate in different areas with the open access vessels operating closer to port because of lower operating cost and lower landing limits. However, it seems likely that the relative abundance of fish species in the catch should be somewhat similar between the two fisheries.

WCFOP data collected in the sablefish endorsed and non-sablefish endorsed limited entry fixed gear fisheries in 2006 showed no bycatch of Pacific salmon. Sampling was conducted aboard vessels that used longline gear in the non-sablefish endorsed fishery and longline or pot gear in the sablefish endorsed fishery. Sample sizes consisted of 118 trips (185 sets) in the non-sablefish endorsed fishery, all off California (mostly off Los Angeles), and 104 trips (675 sets) in the sablefish-endorsed fishery, which was conducted coastwide and included 65 longline trips (452 sets) and 39 pot trips (288 sets) (NMFS 2007a; NMFS 2007b).

3.2.3.2 Pacific halibut

Pacific halibut (*Hippoglossus stenolepis*) is described in **Section 3.2.2** on non-groundfish fisheries that incidentally catch groundfish. Pacific halibut is a prohibited species for all groundfish fisheries except for the limited entry fixed gear primary sablefish fishery north of Pt. Chehalis, WA, as provided for in groundfish and halibut regulations.

WCFOP data collected in the sablefish endorsed and non-sablefish endorsed limited entry fixed gear fisheries in 2006 showed considerable catch of Pacific halibut in the sablefish-endorsed fishery, discussed below. Sampling was conducted aboard vessels that used longline gear in the non-sablefish endorsed

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fishery and longline or pot gear in the sablefish endorsed fishery. Sample sizes consisted of 118 trips (185 sets) in the non-sablefish endorsed fishery, all off California (mostly off Los Angeles), and 104 trips (675 sets) in the sablefish-endorsed fishery, which was conducted coastwide, but mostly off Washington and Oregon, and included 65 longline trips (452 sets) and 39 pot trips (288 sets) (NMFS 2007a; NMFS 2007b). No Pacific halibut were observed in the non-sablefish endorsed fishery, which was conducted mostly in southern California. The discard rate of Pacific halibut in the sablefish-endorsed fishery was 45.92 lbs/100 lbs of retained sablefish in the longline fishery samples and 3.65 lbs/100 lbs of retained sablefish in the pot fishery samples.

3.2.3.3 Dungeness crab

Dungeness crab (*Cancer magister*) is described in **Section 3.2.2** on non-groundfish fisheries that incidentally catch groundfish. Dungeness crab is a prohibited species for all groundfish fisheries.

WCPOP data collected in the sablefish endorsed and non-sablefish endorsed limited entry fixed gear fisheries in 2006 showed no bycatch of Dungeness crab. Sampling was conducted aboard vessels that used longline gear in the non-sablefish endorsed fishery and longline or pot gear in the sablefish endorsed fishery. Sample sizes consisted of 118 trips (185 sets) in the non-sablefish endorsed fishery, all off California (mostly off Los Angeles), and 104 trips (675 sets) in the sablefish-endorsed fishery, which was conducted coastwide and included 65 longline trips (452 sets) and 39 pot trips (288 sets) (NMFS 2007a; NMFS 2007b).

3.2.4 Protected Species

Marine species listed as endangered or threatened under the Endangered Species Act (ESA) include marine mammals, seabirds, sea turtles, salmon, and green sturgeon. 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. Marine mammals and seabirds are also protected under other laws described below.

3.2.4.1 Pacific Salmon

Several species of salmon found along the Pacific Coast have been listed under the ESA (see Insert, below). ESA-listed species are managed under ESA regulations. "Take" (a term that covers a broader range of impacts than just mortality) of listed species may be allowed as long as it is not the primary purpose of the activity. (Therefore, catches of ESA-listed stocks are termed incidental take.) As part of the process authorizing such take, regulatory agencies must consult with NMFS in order to ensure fisheries conducted in the Council area do not "jeopardize the continued existence of the species" (or in the case of salmon, the listed ESUs). Because of the Council's central role in developing fishery management regimes, it must take the results of such consultations into account. Typically this process, termed a "Section 7 consultation" after the relevant section in the ESA, results in a biological opinion (BO) that applies a set of consultation standards to the subject activity and mandates those actions that must be taken in order

ESA Listed Salmonids

Endangered

Chinook salmon (*Oncorhynchus tshawytscha*)
Sacramento River Winter; Upper Columbia Spring
Sockeye salmon (*Oncorhynchus nerka*)
Snake River
Steelhead trout (*Oncorhynchus mykiss*)
Southern California; Upper Columbia River

Threatened

Coho salmon (*Oncorhynchus kisutch*)
Central California; Lower Columbia River,
Southern Oregon, and Northern California Coasts
Chinook salmon (*Oncorhynchus tshawytscha*)
Snake River Fall, Spring, and Summer;
Puget Sound; Lower Columbia; Upper Willamette;
Central Valley Spring; California Coastal
Chum salmon (*Oncorhynchus keta*)
Hood Canal Summer; Columbia River
Sockeye salmon (*Oncorhynchus nerka*)
Ozette Lake
Steelhead trout (*Oncorhynchus mykiss*)
South-Central California; Central California Coast;
Snake River Basin; Lower Columbia;
California Central Valley; Upper Willamette;
Middle Columbia River; Northern California

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to avoid such jeopardy. In addition to the Section 7 consultation, actions that fall under the jurisdiction of the ESA may also be permitted through ESA Section 10 and ESA Section 4(d). Section 10 generally covers scientific, research, and propagation activities that may affect ESA-listed species. Section 4(d) covers the activities of state and local governments and private citizens. Section 4(d) of the ESA requires NMFS and the U.S Fish and Wildlife Service to promulgate “protective regulations” for threatened species (Section 4(d) is not applicable to species listed as endangered) whenever it is deemed “necessary and advisable to provide for the conservation of such species.” “Whenever any species is listed as a threatened species pursuant to subsection (c) of this section, the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of such species. The Secretary may by regulation prohibit with respect to any threatened species any act prohibited under section 9(a)(1) of this title ...” These protective rules for threatened species may apply to any or all of the ESA Section 9 protections that automatically prohibit take of species listed as endangered. The rules need not prohibit all take. There may be an “exception” from the prohibitions on take, so long as the take occurs as the result of a program that adequately protects the listed species and its habitat. In other words, the 4(d) rule can restrict the situations to which the take prohibitions apply. Sec 9(a)(1) includes the take prohibition. The U.S Fish and Wildlife Service adopted a blanket regulation automatically applying the take prohibition to all threatened species upon listing. NMFS has no comparable blanket 4(d) regulation. Instead, NMFS promulgates 4(d) regulations on a species-by species basis once a species is listed as threatened. In proposing and finalizing a 4(d) rule, NMFS may establish exemptions to the take prohibition for specified categories of activities that NMFS finds contribute to conserving listed salmonids. Other exemptions cover habitat-degrading activities (and tribal and recreational fishing activities) that NMFS believes are governed by a program that adequately limits impacts on listed salmonids. As part of the process for developing annual management measures, NMFS summarizes the current consultation standards and may provide additional guidance to the Council on minimizing the take of listed species.

3.2.4.2 Marine Mammals

The waters off Washington, Oregon, and California support a wide variety of marine mammals. Approximately thirty species, including seals and sea lions, sea otters, and whales, dolphins, and porpoise occur within the EEZ. Many marine mammal species seasonally migrate through Pacific Coast waters, while others are year round residents.

The Marine Mammal Protection Act (MMPA) and the ESA are the Federal legislations that guide marine mammal species protection and conservation policy. Under the MMPA, NMFS is responsible for the management of cetaceans and pinnipeds, while the U.S. Fish and Wildlife Service manages sea otters. Stock assessment reports review new information every year for strategic stocks (those whose human-caused mortality and injury exceeds the potential biological removal (PBR)) and every three years for non-strategic stocks. Marine mammals whose abundance falls below the optimum sustainable population are listed as “depleted” according to the MMPA.

ESA Listed Marine Mammals

Endangered

Sperm whale (*Physeter macrocephalus*)
Humpback whale (*Megaptera novaeangliae*)
Blue whale (*Balaenoptera musculus*)
Fin whale (*Balaenoptera physalus*)

Threatened

Steller sea lion (*Eumetopias jubatus*) Eastern Stock
Guadalupe fur seal (*Arctocephalus townsendi*)
Southern sea otter (*Enhydra lutris*) California Stock

MMPA Listed Marine Mammals

Depleted

Northern fur seal (*Callorhinus ursinus*)
Eastern Pacific Stock
Killer whale (*Orcinus orca*)
Eastern North Pacific, Southern Resident Stock

Fisheries that interact with species listed as depleted, threatened, or endangered may be subject to

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management restrictions under the MMPA and ESA. NMFS publishes an annual list of fisheries in the *Federal Register* separating commercial fisheries into one of three categories, based on the level of serious injury and mortality of marine mammals occurring incidentally in that fishery. The categorization of a fishery in the list of fisheries determines whether participants in that fishery are subject to certain provisions of the MMPA, such as registration, observer coverage, and take reduction plan requirements. The Pacific Coast groundfish fisheries are in Category III, indicating a remote likelihood of, or no known serious injuries or mortalities, to marine mammals.

3.2.4.3 Seabirds

The California Current System supports more than two million breeding seabirds and at least twice that number of migrant visitors. Tyler et al. (1993) reviewed seabird distribution and abundance in relation to oceanographic processes in the California Current System and found that over 100 species have been recorded within the EEZ including: albatross, shearwaters, petrels, storm-petrels, cormorants, pelicans, gulls, terns and alcids (murre, murrelets, guillemots, auklets and puffins). In addition to these “classic” seabirds, millions of other birds are seasonally abundant in this oceanic habitat including: waterfowl, waterbirds (loons and grebes), and shorebirds (phalaropes). There is considerable overlap of fishing areas and areas of high bird density in this highly productive upwelling system. The species composition and abundance of birds varies spatially and temporally. The highest seabird biomass is found over the continental shelf and bird density is highest during the spring and fall when local breeding species and migrants predominate.

U.S. Fish and Wildlife Service is the primary Federal agency responsible for seabird conservation and management. Under the Magnuson-Stevens Act, NMFS is required to ensure fishery management actions comply with the laws designed to protect seabirds.

<u>ESA Listed Seabirds</u>
Endangered
Short-tail albatross (<i>Phoebastria albatrus</i>)
California brown pelican (<i>Pelecanus occidentalis</i>)
California least tern (<i>Sterna antillarum browni</i>)
Threatened
Marbled murrelet (<i>Brachyramphus marmoratus</i>)
<u>USFWS Listed Seabirds</u>
Birds of Conservation Concern
Black-footed albatross (<i>Phoebastria nigripes</i>)
Ashy storm-petrel (<i>Oceanodroma homochroa</i>)
Gull-billed tern (<i>Sterna nilotica</i>)
Elegant tern (<i>Sterna elegans</i>)
Arctic Tern (<i>Sterna paradisaea</i>)
Black skimmer (<i>Rynchops niger</i>)
Xantus's murrelet (<i>Synthliboramphus hypoleuc</i>)

3.2.4.4 Sea Turtles

Sea turtles are highly migratory and four of the six species found in U.S. waters have been sighted off the Pacific Coast. Little is known about the interactions between sea turtles and Pacific Coast commercial fisheries. The directed fishing for sea turtles in WOC groundfish fisheries is prohibited, because of their ESA listings. The management and conservation of sea turtles is shared between NMFS and USFWS.

<u>ESA Listed Sea Turtles</u>
Endangered
Green turtle (<i>Chelonia mydas</i>)
Leatherback turtle (<i>Dermochelys coriacea</i>)
Olive ridely turtle (<i>Lepidochelys olivacea</i>)
Threatened
Loggerhead turtle (<i>Caretta care</i>)

3.2.4.5 Green Sturgeon

The Southern Distinct Population Segment (DPS) of green sturgeon (*Acipenser medirostris*) (71 FR 17757, April 7, 2006) are listed as threatened under the ESA. Green sturgeons are found from Ensenada, Mexico, to Southeast Alaska. Green sturgeons are not abundant in any estuaries along the Pacific Coast,

although they are caught incidentally in estuaries while fishing for white sturgeon.

The green sturgeon is a primitive, bottom dwelling fish. It is characterized by its large size and long round body. The sturgeon has no scales, instead it has "scutes" (or plates) located along its body. Scutes are actually large modified scales that serve as a type of armor or protection. The dorsal body color is a dark olive-green, with the ventral surface a lighter whitish green, with the scutes having a lighter coloration than the body. Green sturgeon can reach 7 feet in length and weigh up to 350 lbs.

The green sturgeon is an anadromous fish that spends most of its life in salt water and returns to spawn in fresh water. It is a slow growing and late maturing fish that apparently spawns every 4 to 11 years during the spring and summer months. Feeding on algae and small invertebrates while young, green sturgeon migrate downstream before they are two years old. Juveniles remain in the estuaries for a short time and migrate to the ocean as they grow larger. Adult green sturgeon feed on benthic invertebrates and small fish. The green sturgeon can become highly migratory later in life. They have been documented as traveling over 600 miles between freshwater and estuary environments (PSMFC 2007).

3.2.4.6 Protected Species Impacts

The 2007-2008 Groundfish Harvest Specifications and Amendment 16-4 EIS contains the following conclusions regarding impacts of groundfish fisheries (including open access fisheries) to protected species (NMFS 2006).

“The 2005-06 groundfish harvest specifications EIS did not find that the proposed action would result in significant impacts to protected species, based on a qualitative evaluation of the alternatives. Although there was insufficient spatio-temporal information to predict interactions under different alternatives, projected catch, as a gross proxy for overall fishing effort, was used to comparatively evaluate the alternatives. Groundfish trawl fishing effort as reported in logbooks has fallen over the past few years; for example, 110,512 tow-hours were reported in 2000 while 64,763 tow hours were logged in 2004. Declining groundfish trawl effort is a predictable response to lowered OYs and more restrictive management measures imposed to reduce bycatch of depleted groundfish and it is reasonable to conclude that non-trawl sectors experienced similar declines. Furthermore, because OYs for some depleted species—principally canary and yelloweye rockfish—have not increased, it is likely that fishing effort in 2005 and 2006, and the 2007-08 biennium will continue a declining trend. Combined with the conclusion of no significant impact in the previous EIS, and the lack of new information suggesting otherwise, it is reasonable to conclude that the range of alternatives in the current EIS will not result in significant impacts to protected species. For this reason effects to sea turtles, marine mammals, and seabirds are not evaluated in further detail within this EIS. However, given the new information contained in the 2006 supplemental biological opinion on the groundfish fisheries, this EIS focuses on impacts of the alternatives on the ESA-listed salmon evolutionarily significant units (ESUs) identified in that opinion.”

3.3 Socioeconomic Characteristics of the Affected Environment

3.3.1 *Management Structure of the Open Access Fishery*

A brief description of the current management of open access groundfish fisheries is presented in this section. A more detailed description of the open access fisheries is provided in the Draft EA entitled “Expanded Coverage of the Program to Monitor Time-Area Closures in the Pacific Coast Groundfish Fishery” (PFMC 2007).

3.3.1.1 Federal Management

The open access component of the groundfish fishery is allocated a portion of the available harvest to fishers targeting groundfish without limited entry permits, and fishers who target non-groundfish fisheries that incidentally catch groundfish (**PFMC 2007**). The *directed* fisheries are those that harvest (1) shelf rockfish primarily using hook-and-line gear; (2) sablefish, primarily using hook-and-line or pot gear; (3) nearshore species, primarily using hook-and-line or pot gear; and (4) “other” species, primarily using hook-and-line or setnet gear. Groundfish trawl gear may not be used in the open access fishery. Trawl gears for target species such as pink shrimp, California halibut, ridgeback prawns, and sea cucumbers, called non-groundfish trawl gear in Federal regulations, are exempted from this rule and may land incidental amounts of groundfish.

All sectors of the groundfish fishery, limited entry, open access, recreational and tribal fisheries, are constrained by the need to rebuild groundfish species that have been declared overfished. Groundfish specification and management measures are set on a biennial basis with inseason adjustments made at regularly scheduled Council meetings, when necessary, in order to keep the fisheries within species’ harvest limits or rebuilding plans established for overfished species (**PFMC 2007**).

Trip limits and landing frequency have been designated as routine for many species or species groups, all of which are potentially affected by open access fishers. This means that management measures for these species or species groups can be changed more rapidly. Inseason actions to change management measures can be published after one Council meeting and without full notice and comment rulemaking (i.e., through a final rule with no comment period). Generally, directed open access vessels have substantial harvest opportunities for a variety of groundfish species, including but not limited to sablefish, nearshore rockfish, slope rockfish south of Point Conception, California scorpionfish, cabezon, kelp greenling, Pacific sanddab, and spiny dogfish. A relatively low harvest opportunity is provided for lingcod coastwide (**NMFS 2007**). More restrictive salmon fishing opportunities in 2006 likely led those fishers to pursue other species, ultimately causing an increase in open access sablefish landing rates and causing early (October) closure of the directed sablefish fishery in that year (**NMFS 2006**).

Minor shelf rockfish assemblages are divided north and south of 40°10' N latitude. Access to northern shelf species has been substantially limited since the implementation of Rockfish Conservation Areas (RCAs; **Appendix G**) in 2002 largely to reduce mortalities of canary and yelloweye rockfish. Access to southern shelf species has also been substantially limited since the implementation of RCAs under permanent regulations to reduce catch of depleted species, particularly bocaccio and canary rockfish.

Minor slope rockfish assemblages are also divided north and south of 40°10' N latitude with nine species of rockfish in each assemblage. The bulk of the fishery for these species has been harvested with trawl gear with longline gear impacting the resource to a much lesser degree. Areas have been reopened to hook-and-line vessels under recent management alternatives.

Federal regulations do not currently allow for LE trawl fishery landings of nearshore species except for vessels using selective flatfish trawl gear, which are allowed to take up to 300 lbs per month. Limited Entry and open access fixed gear fisheries currently are allowed to take up to 5,000 and 6,000 lbs per 2-mo landing period north and south of the Oregon-California border to Cape Mendocino, respectively, except no more than 1,200 lb may be species other than black or blue rockfish. Current LE fixed gear regulations allow for the taking and landing of 600-800 lbs per 2-mo cumulative landing period depending on time of year and species south of Cape Mendocino. Pink shrimp trawl vessels are allowed to take up to 1,500 lbs of groundfish per trip depending on number of days in the trip (**NMFS 2007**).

3.3.1.2 State Management

The coastal states have management programs or regulations affecting fishermen and vessels that harvest federal groundfish either as target species or incidental to fishing for federal or state managed species. The state limited entry programs cover a variety of species and gear types (**Appendix C**). Nearshore species management has been addressed by the states in different ways. Washington law prohibits directed commercial fishing for groundfish in state waters. Federal and tribal laws provide for tribal fisheries (Makah, Quileute, Hoh, and Quinault), which may fish for groundfish in the Usual and Accustomed fishing areas. Oregon and California have developed nearshore fishery management plans and associated limited entry programs that are aimed at capping or reducing harvest capacity in their nearshore fisheries (see **Appendix D** for more information on the states' nearshore regulations or management programs).

Federal groundfish species included in California and Oregon Nearshore Management Plans

Cabezon, *Scorpaenichthys marmoratus*
Kelp greenling, *Hexagrammos decagrammus*
Black rockfish, *Sebastes melanops*
Black and yellow rockfish, *S. chrysomelas*
Blue rockfish, *S. mystinus*
Brown rockfish, *S. auriculatus*
Calico rockfish, *S. dalli*
California scorpionfish, *Scorpaena guttata* (CA species only)
China rockfish, *S. nebulosus*
Copper rockfish, *S. caurinus*
Gopher rockfish, *S. carnatus*
Grass rockfish, *S. rastrelliger*
Kelp rockfish, *S. atrovirens*
Olive rockfish, *S. serranoides*
Quillback rockfish, *S. maliger*
Tiger rockfish, *S. nigrocinctus* (not in CA plan)
Treefish, *S. serripes*
Vermilion rockfish, *S. miniatus* (not in CA plan)

Oregon and California have extraterritorial jurisdiction in the EEZ over fishing vessels that are registered in their respective states. In both states nearshore species may only be taken and landed by permitted vessels or permitted fishermen. State extraterritorial jurisdiction does not extend to fishing activities in the EEZ or beyond by vessels not registered in Oregon or California. Nearshore species are occasionally caught in federal waters, which make them vulnerable to take off Oregon and California and landing in Washington by vessels not registered in the bordering states. NMFS regulations do not allow for the taking of groundfish by foreign vessels. Washington laws allow for the taking and landing of nearshore species taken in federal waters except as prohibited by RCA or other conservation area regulations, which encompass the vast majority of the EEZ.

There has been a virtual absence of nearshore species landings by open access fishermen at Washington ports since before 1998, as shown in Section 3.3.2.4.3 below. This shows there currently is no interest or opportunity for fishermen to take nearshore species off the Washington coast or either of the other two states. Oregon and California nearshore landings, which have been substantial over the years, have been regulated and enforced by the respective states (for California see: 14 CCR §150.16).

In developing a federal license limitation program, the coastal states, tribes, Council and NMFS must ensure that state and federal capacity reduction programs are compatible with each other and that together the programs ultimately achieve the goals of the license limitation program. The Council process will provide a forum for this cooperation.

3.3.1.3 Pacific Coast Observer Programs for Groundfish

The Magnuson-Stevens Act requires that FMPs establish a standardized reporting methodology to assess the amounts and types of bycatch in a fishery, and requires that FMPs identify and rebuild overfished stocks. For the Pacific Coast groundfish fishery, federal observer programs gather information to help manage bycatch and overfished species.

There are currently two Federal observer programs being operated by the NMFS Northwest Fisheries Science Center in the Pacific Coast groundfish fishery: the At-sea Hake Observer Program and the

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Pacific Coast Groundfish Observer Program (WCGOP). These two programs are very different from each other particularly in how they are funded, the type of sampling and fishery data that are used to derive total catch, and availability of data for inseason management. Participation in the at-sea hake/whiting fishery is restricted to vessels with limited entry trawl permits. Therefore, that program is not relevant to this NEPA document on the open access fishery.

The WCGOP is a year round federally funded program that provides observers for all of the commercial groundfish fisheries, except the Pacific whiting fishery. Because monitoring of the Pacific whiting shoreside sector has been carried out under the EFPs, WCGOP observers have not been used to provide coverage for that sector. The Pacific States Marine Fish Commission is under contract to provide observers who are trained by NMFS. All sampling protocols and coverage strategies are defined by NMFS. Because there are few observers in relation to the number of vessels in the groundfish fishery, observer sampling coverage has focused on obtaining bycatch data at sea which can be combined with state fish ticket data to derive bycatch ratios for different fishing areas and target fishing strategies. Trawl vessel logbook data is used to estimate trawl vessel fishing effort. Using observer, fish ticket, and trawl logbook data, the fishery is modeled to derive estimate of total catch by species. Due to the delayed availability of fish ticket and logbook data, and the time needed to process observer data, the final analysis of estimated total catch by species is typically not finalized until the year after the fishing year has ended (WCGOP 2007).

Currently, WCGOP has two observer program data reports for the open access fisheries (WCGOP 2005 & 2007). Both reports focus on the open access nearshore fisheries in depths of less than 50 fathoms, but include any other open access fixed-gear trips in depths of less than 50 fathoms.

3.3.2 Catch Characteristics - Amounts and Fishery Values

PacFIN data were used to characterize effort and catch in commercial groundfish fisheries during the window period. Recreational data were extracted from the RecFIN web site.

3.3.2.1 Pacific Coast Groundfish Fisheries

Landed weight of groundfish in specified Pacific Coast groundfish fisheries declined from about 46,000 mt to 21,000 mt during the window period. The commercial and recreational portions of the catch averaged 90% and 10%, respectively, with the commercial portion varying between 86% and 93% annually. The landing trend in all fisheries was generally downward. The open access portion averaged about 5% of the total groundfish landed and ranged from about 4% to 7% annually (**Table 3-1; Figure 3-1**).

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Table 3-1: WOC shoreside groundfish landing metrics (excluding tribal, research, shoreside whiting, and at-sea catches) by year and sector, 1998-2006 1/

Part 1: metric tons

Year	LE	OA-D	OA-I	OA-T	Recreational	Total
1998	31,827	2,152	465	2,617	2,876	39,473
1999	38,895	1,377	449	1,826	3,509	45,607
2000	34,204	1,127	341	1,468	3,110	39,908
2001	27,296	1,134	288	1,422	3,142	32,994
2002	24,000	1,089	130	1,219	3,023	29,331
2003	23,209	1,185	79	1,264	4,040	29,698
2004	22,139	1,153	94	1,247	2,321	26,860
2005	22,181	1,451	103	1,553	2,488	27,673
2006	16,260	1,166	81	1,247	2,551	21,224
AVG	26,668	1,315	226	1,540	3,007	32,530

Part 2: proportion of total for all fisheries

1998	80.6%	5.5%	1.2%	6.6%	7.3%	100.0%
1999	85.3%	3.0%	1.0%	4.0%	7.7%	100.0%
2000	85.7%	2.8%	0.9%	3.7%	7.8%	100.0%
2001	82.7%	3.4%	0.9%	4.3%	9.5%	100.0%
2002	81.8%	3.7%	0.4%	4.2%	10.3%	100.0%
2003	78.2%	4.0%	0.3%	4.3%	13.6%	100.0%
2004	82.4%	4.3%	0.4%	4.6%	8.6%	100.0%
2005	80.2%	5.2%	0.4%	5.6%	9.0%	100.0%
2006	76.6%	5.5%	0.4%	5.9%	12.0%	100.0%
AVG	81.5%	4.2%	0.6%	4.8%	9.5%	100.0%

1/ Commercial data from PacFIN; recreational from RecFIN

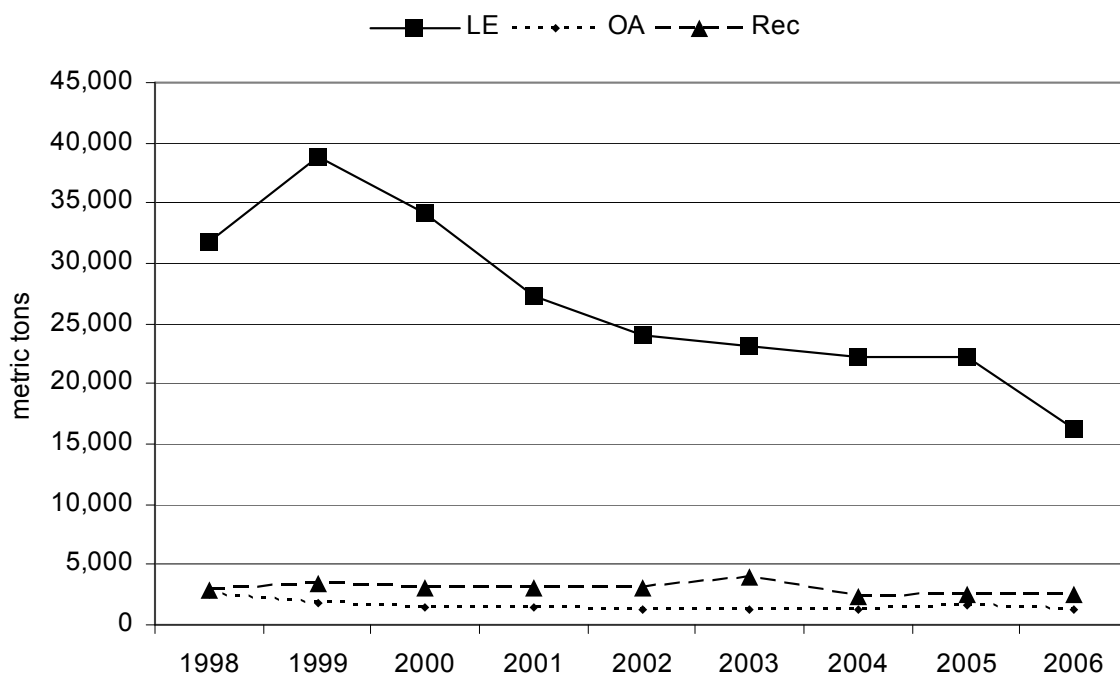


Figure 3-1: Landing trends in WOC groundfish fisheries by sector and year, 1998-2006 window period

3.3.2.2 Open Access Fisheries

Open access fisheries are made up of those vessels landing Federal groundfish species without a federal limited entry groundfish permit (A permits). Participants in the open access fisheries generally fall into two categories: 1) those that target groundfish (directed) and 2) those that catch groundfish while fishing for other species (incidental). The number of vessels that participated in open access fisheries declined from 1,483 in 1999 to 905 in 2006 (**Table 3-2; Figure 3-2**). The weight of fish landed by open access vessels averaged 1,547 metric tons (mts) and ranged from 2,609 mts to 1,215 mts (**Table 3-2 and Figure 3-3**).

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Table 3-2: Total open access fishery data including incidental catch tonnages and proportions (P) of 1998-2006 totals

Year	State	Total OA		Incidental	P
		# vsIs	mt	mt	
1998	CA	987	1,823.2	172.2	0.09
	OR	410	562.2	169.2	0.30
	WA	79	224.0	123.3	0.55
	sub	1,476	2,609.4	464.7	0.18
1999	CA	1,004	1,162.2	191.1	0.16
	OR	380	538.9	207.4	0.38
	WA	99	114.0	50.7	0.44
	sub	1,483	1,815.1	449.2	0.25
2000	CA	967	1,017.2	171.0	0.17
	OR	376	335.7	123.8	0.37
	WA	87	109.1	46.1	0.42
	sub	1,430	1,462.0	340.9	0.23
2001	CA	783	877.7	95.0	0.11
	OR	404	444.4	165.6	0.37
	WA	95	94.7	27.8	0.29
	sub	1,282	1,416.8	288.4	0.20
2002	CA	707	777.6	70.8	0.09
	OR	366	342.8	38.1	0.11
	WA	86	94.9	20.9	0.22
	sub	1,159	1,215.3	129.8	0.11
2003	CA	633	741.5	59.8	0.08
	OR	338	347.9	15.8	0.05
	WA	100	171.3	3.7	0.02
	sub	1,071	1,260.7	79.3	0.06
2004	CA	558	748.1	64.0	0.09
	OR	353	304.8	26.2	0.09
	WA	87	191.4	4.2	0.02
	sub	998	1,244.3	94.4	0.08
2005	CA	501	873.6	71.1	0.08
	OR	374	475.6	24.9	0.05
	WA	101	258.0	6.8	0.03
	sub	976	1,607.2	102.8	0.06
2006	CA	484	596.5	55.1	0.09
	OR	309	423.4	20.6	0.05
	WA	112	275.4	4.8	0.02
	sub	905	1,295.3	80.5	0.06
AVGS	CA	736	957.5	105.6	0.11
	OR	368	419.5	88.0	0.21
	WA	94	170.3	32.0	0.19
TOTAL		1,198	1,547.3	225.6	0.15

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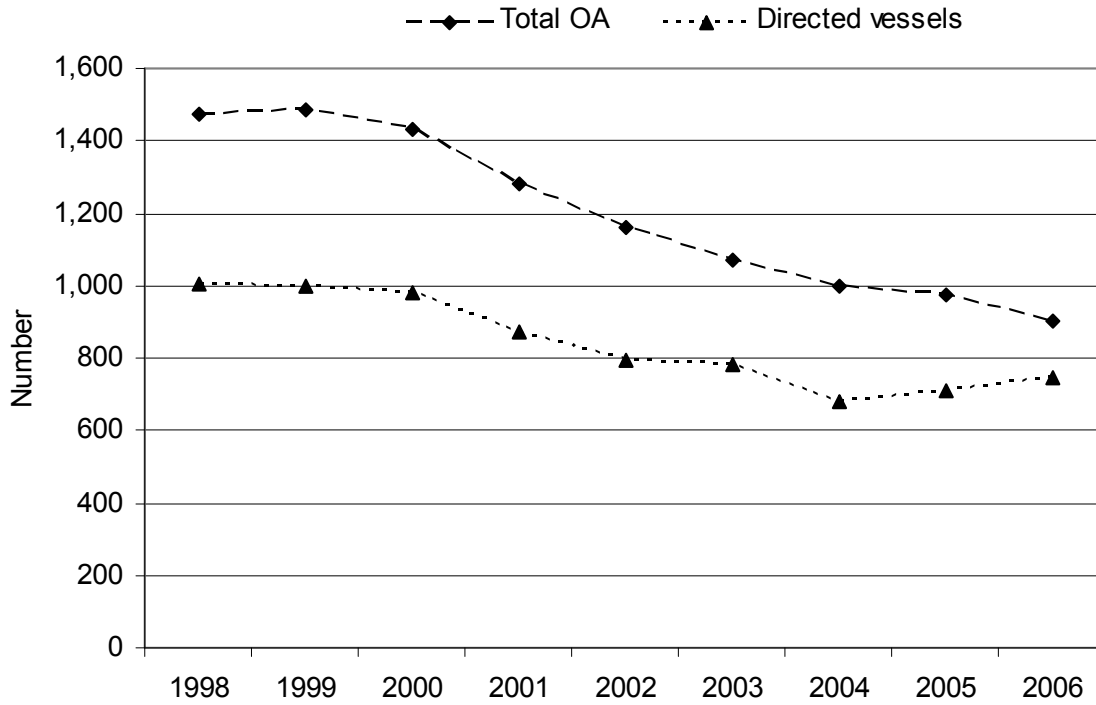


Fig 3-2: Number vessels in total and directed open access fisheries, 1998-2006

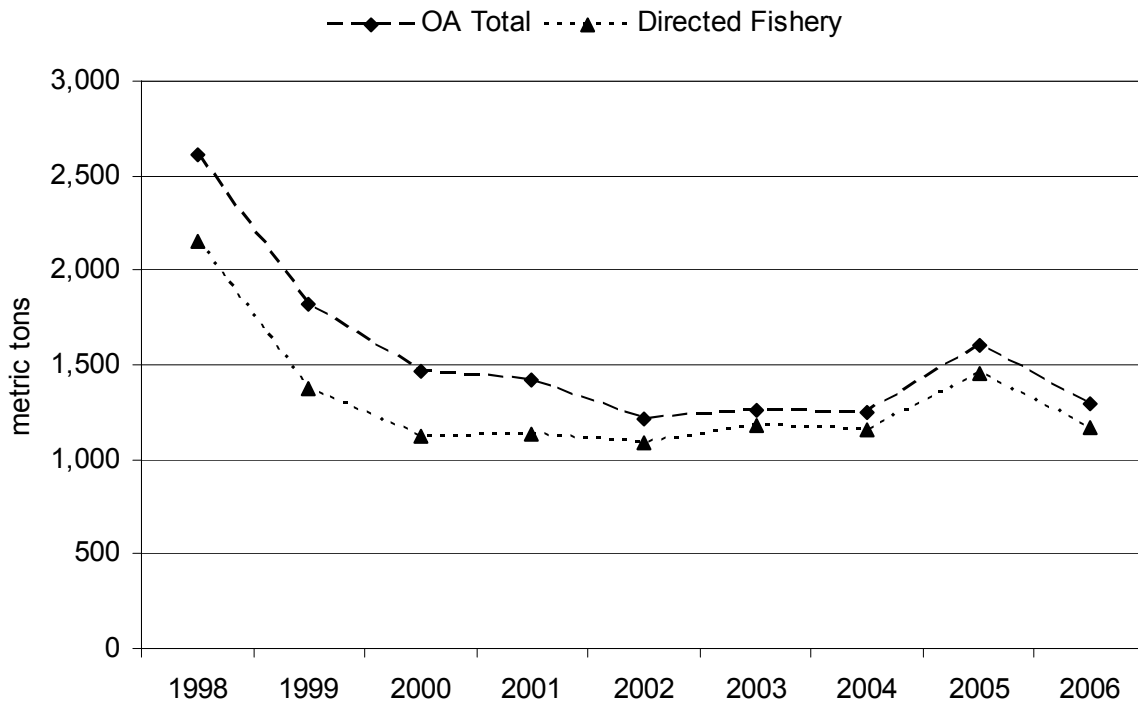


Fig 3-3: Tonnages landed in total and directed open access fisheries, 1998-2006

During 1994-2006, landed catches of allocated groundfish species in open access fisheries declined from 2,767 mt in 1994 to 733 mt in 2002 (74% decrease) then increased to 1,181 mt in 2005. The recent years'

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increase in landings was due to increased landings of sablefish, mostly in the Monterey-Vancouver management area (**Table 3.2.1**). During the same period the landed catch of rockfish (*Sebastes*) declined from 1,627 mt in 1994 to 186 mt in 2005 then increase to 196 mt, an overall 88% decrease in landings (**Table 3.2.1**).

Table 3.2.1: Open access fishery landed catches of allocated species in metric tons, 1994-2006
1/

Species (allocation)	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Lingcod (19%)	475	342	298	315	101	100	56	72	79	71	81	74	72
Sablefish-north (9.4%) 3/	599	540	641	542	176	266	428	412	370	548	454	904	697
Sablefish-Conception (HG)	66	80	41	5	3	10	14	14	29	32	26	17	117
Widow (3%)	276	168	53	98	213	46	17	15	1	1	0	1	1
Canary (12.3%)			186	233	175	93	15	7	1	0	0	0	0
Chilipeper (44.3%)						108	52	28	3	0	2	1	1
Bocaccio-south (44.3%) 4/	457	346	153	72	73	24	5	5	2	0	2	1	3
Yellowtail (8.3%) 5/	772	418	403	353	414	112	67	54	26	6	11	9	10
Shortspine TH (0.27%) 6/			14	16	1	3	2	2	1	0	1	0	0
Darkblotched (2.3%)								0	1	0	1	2	3
<i>Sebastes</i> -north (9.6%) 7/	264	85	144	83	66	62	43	53	45	29	29	45	39
Slope							8	8	2				
Shelf							7	7	5				
Nearshore							28	38	38				
<i>Sebastes</i> -south (44.3%) 7/	1,087	980	768	613	641	258	168	171	175	156	153	127	139
Slope							9	25	60				
Shelf							22	13	11				
Nearshore							137	133	104				
<i>Sebastes</i>	1,627	1,233	965	794	920	703	367	333	254	192	198	186	196
All species total	2,767	2,195	1,959	1,672	1,201	1,082	867	833	733	843	760	1,181	1,082

1/ see Table 1-1 for footnotes.

3.3.2.3 Incidental Open Access Fisheries

3.3.2.3.1 Fishery Descriptions

Groundfish are caught incidentally in all major Pacific Coast commercial fisheries, including the following non-groundfish trawl fisheries: California halibut, pink shrimp, ridgeback prawn, sea cucumber and spot prawn. The fixed gear fisheries that take incidental amounts of groundfish include California halibut, coastal pelagic species, crab pot, fish pot, highly migratory species, Pacific halibut, salmon, sea urchin, and set net fisheries. Incidental fisheries are described in this section. For more information on individual gear types see: **Recht 2003** and **NMFS 2005**.

3.3.2.3.1.1 California Halibut

California halibut are commercially harvested by three principal gears: otter trawl, entangling nets (set gill net and set trammel net), and hook-and-line, all of which intercept groundfish. Trawling for California halibut is permitted in federal waters from 3 to 200 nautical miles (nm) offshore under specified regulations. Trawling is prohibited in California waters, 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 not less than 1 nm from the mainland shore (**CDFG 2007**). Trawlers annually take about 71% of the commercial halibut harvest, followed by 15% from entangling nets, and 14% from hook-and-line gear in recent years. Approximately 19% of the state's total annual catch in recent years was landed in a live condition which can command a premium price about 1.5 times greater than in a dead condition. (**Stephen P. Wertz 2007**).

3.3.2.3.1.2 Pink Shrimp

The Pacific Coast's pink shrimp fishery began in the 1950s in California and is now concentrated in Oregon and Washington. Regulations have evolved over time, but in 1981 they were changed, based on a three-state agreement, to establish uniform coastwide management measures. The resulting regulations, which are still in effect, include an open season from April 1 through October 31. A minimum mesh size of 1 3/8 inches measured inside the knots (California waters only), and a maximum count per pound of 160 are enforced when landing pink shrimp in a port. The pink shrimp fishery off the Pacific Coast is managed by the states, but trip limits for incidental groundfish catch, a vessel monitoring system beginning in 2008, and area restrictions protecting groundfish EFH are enforced in the federal open access fishery. Additionally, in 2000, the Council determined canary rockfish to be overfished. In response, the three states required fishermen to use approved Bycatch Reduction Devices (BRDs). BRDs were required in California in 2002, and in Oregon and Washington, they were required mid-season in 2001 and 2002; and permanently beginning in 2003. These devices have greatly reduced fish bycatch. The landings of other fin fish species now comprise less than 0.01 percent of the total value. The pink shrimp trawl fishery is exempted from RCA boundaries because of BRDs that effectively reduce rockfish bycatch. Pink shrimp are harvested by trawl vessels using a single net fished from the stern (single rig) or two independent nets set out from the vessel by trawl arms (double rig). Vessels generally work between 75 and 125 fathoms on green mud or muddy-sand substrates (**Adam J. Frimodig 2007 and Kelly Ames 2008**).

3.3.2.3.1.3 Ridgeback prawn

Ridgeback prawns (*Sicyonia ingentis*) are harvested commercially using bottom trawl gear in California south of Pt. Conception, mostly in the Santa Barbara Channel and off Santa Monica Bay. NMFS regulations allow the ridgeback prawn trawl fishery to operate in the RCA to 100 fm when the shoreward boundary is at 75 fm. A regulation summary and Title 14, California Code of Regulation reference, is available on the CDFG web site at:

<http://www.dfg.ca.gov/marine/pdfs/commercialdigest2007.pdf>. The ridgeback prawn fishery operates primarily between 35 fm and 90 fm, with an average fishing depth of 75 fm. Trawl log data show that 99 percent of ridgeback prawns are caught in depths of 101 fm or less. Trawl data from 2001 showed that 40 percent of the annual catch occurred in depths of 75 fm to 100 fm (**Robert Leos 2007**).

3.3.2.3.1.4 Sea Cucumber

Two sea cucumber species are targeted commercially: the California sea cucumber (*Parastichopus californicus*) and the warty sea cucumber (*P. parvimensis*). Commercial dive fisheries for sea cucumbers take place in Washington, Oregon, Alaska, and the coast of British Columbia, Canada. Additionally, California has a trawl fishery for sea cucumbers. Of the three states, Washington and California are the major producers with only small amounts taken occasionally in Oregon. Oregon's cucumber fishery is classified as a developmental fishery. Washington's sea cucumber fishery takes place in the Strait of Juan de Fuca and Puget Sound. Washington State regulations prohibit the take of sea cucumber by means other than by dive gear, which precludes incidental take of groundfish. California's trawl fishery is subject to groundfish incidental take regulations. California's trawl (and dive) sea cucumber fishery is a restricted access fishery requiring possession of a permit. Trawl landings have remained relatively stable since peaking in 2002 with all but a small fraction (1%) taken in southern California ports. Ten trawlers took approximately 30% of the state's catch in 2006. Trawl catches also take place when vessels fish for California halibut since there is no limit to the amount that may be taken when trawl vessels are fishing in the California halibut trawl grounds, with trips lasting from one to several days in length. (**Laura Rogers-Bennett and David S. Ono 2007; Michele Culver 2008**).

3.3.2.3.1.5 Spot Prawn

California is the only state with a major spot prawn fishery. Oregon's spot prawn fishery is part of its Developmental Fishery Program, with permits required to harvest this species (permits are not needed to harvest these species as bycatch in other established fisheries). In California, spot prawn is currently caught only with trap gear under specified regulations, although a small amount shows up as bycatch in the ridgeback trawl fishery (< 0.5 mt/year). A 50 lb allowance of spot prawn while trawling for ridgeback prawn is still legal, but spot prawn may not be landed as bycatch when trawling for pink shrimp (**CDFG 2007**). The baited traps are fished in strings at depths of 100 –167 fm along submarine canyons or shelf breaks. Each string consists of a groundline with anchors and a buoy at one or both ends, and 10 to 30 traps attached. No other species may be taken in a prawn trap so all bycatch is returned to the water immediately. Until 2002, spot prawn were harvested in California by trawl and trap gear. In 2003, the use of trawl gear for the take of spot prawn was outlawed because of the bycatch of rockfish, particularly bocaccio, an overfished species. Oregon and Washington banned the use of trawl gear to take spot prawn in 2004 due to concerns about habitat destruction. Both states currently allow the use of pot gear for spot prawn take and landing. Almost all spot prawn harvested is sold live, with ex-vessel prices ranging from \$10.00 to \$13.50/pound. Fresh dead spot prawn generally sells for half the price of live (**Kristine Barsky 2007 and Kelly Ames 2008**).

3.3.2.3.1.6 Coastal Pelagic Species

Coastal pelagic species (CPS) include northern anchovy, market squid, Pacific bonito, Pacific saury, Pacific herring, Pacific sardine, Pacific (chub or blue) mackerel, and jack (Spanish) mackerel. Coastal pelagic species fisheries are concentrated in California, but fishing also takes place in Washington and Oregon. Management of the CPS is now governed by the CPS Fishery Management Plan including provisions for limited entry management. During the 1940s and 1950s, approximately 200 vessels participated in the Pacific sardine fishery. Some present day CPS vessels are remnants of that fleet. Coastal pelagic species are harvested directly and as bycatch in other fisheries. Generally, they are targeted with "round-haul" gear including purse seines, drum seines, lampara nets, and dip nets. These species are also taken incidentally with midwater trawls, pelagic trawls, gillnets, trammel nets, trolls, pots, hook-and-line, and jigs. CPS finfish are sold as relatively high volume/low value products (e.g., Pacific mackerel canned for pet food, Pacific sardine frozen and shipped to Australia to feed penned tuna, and northern anchovy reduced to meal and oil). In addition to fishing for CPS finfish, many of these vessels fish for market squid, Pacific bonito, bluefin tuna, and Pacific herring. Vessels using round-haul gear account for approximately 99% of the CPS landings and revenue per year. Crew sizes vary, with larger purse seiners using between six to 10 crew members. Fishing is usually done in relatively shallow waters (<20 fathoms) with trips of no more than a day in length. Because CPS are harvested mostly with purse seine gears schools relatively near the water's surface, where fish are easily identified, the incidental catch of groundfish is thought to be minimal. However, incidental catch increases when purse seines are set in shallow water, nearshore, such that the seine net comes in contact with the bottom or a rocky outcropping (**Goen and Hastie 2002**).

3.3.2.3.1.7 Crabpot

Dungeness crab (*Cancer magister*) exist in commercial quantities from Alaska to south of San Francisco, California. Dungeness crab lives in the intertidal zone to a depth of 170 m. Washington's coastal commercial crab grounds extend from the Columbia River to Cape Flattery near Neah Bay and include the estuaries of the Columbia River, Grays Harbor, and Willapa Bay. Oregon has consistently been one of the largest producers of Dungeness crab on the Pacific Coast, and its Dungeness crab fishery is the largest single species commercial fishery by value of the state. California's fishery is centered in northern California with the central California fishery taking place around the San Francisco port complex. Washington, Oregon, and California undertake coordinated management of the fishery under the auspices of the Pacific States Marine Fisheries Commission. An average of about 1,700 vessels per year has

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participated in the coastwide fishery since 1998. Crab pots are used for most all commercial crabbing. Pots must conform to construction guidelines that efficiently minimize their impact on undersize and non-target species. Multiple crab pots are set in rows, each on an individual line. Pots are retrieved using hydraulic “crab blocks” which are essentially power driven winches. An efficient crew can hoist and re-bait as many as 400 pots per day. Pots are predominantly set between 10 and 50 fathoms (60-300 feet) although Dungeness crab commonly occur from intertidal areas to 200 fathoms (1,200 feet). Crabs are stored live in holds on boats that are filled with re-circulating sea water and are delivered every few days to fish processing plants. Groundfish are caught incidentally in Dungeness crab pots off all three states, but can only be landed in California ports (**Robert Leos 2007**).

Lobster fishermen typically use 100-500 traps, although some fishermen may use as many as 750 traps at the peak of the season. Lobster traps are box-like devices usually constructed of heavy wire mesh, although other materials (such as plastic) may be used. Traps are baited with whole or cut fish, and placed on the sea floor using cement, bricks, or steel as ballast. The incidental take of groundfish in this fishery is minimal. For example, in 2006, of the 158 OA vessels that made lobster landings, about 0.25 mt of groundfish was taken with trips where lobster were also landed (**Robert Leos 2007**).

3.3.2.3.1.8 Finfish Pot (California sheephead and hagfish)

Fin fish pot gear is used for targeting sablefish, thornyheads and nearshore species, and for non-groundfish species such as California sheephead and hagfish. Sheephead was not a targeted species until recent years due to the live fish fishery and high demand for this particular species. California sheephead are under state management and are subject to the regulations that govern the state’s nearshore fishery complex. The sheephead total allowable catch has been 75,200 pounds per year. Other regulations include a 13 inch (total length) minimum size limit, and two-month cumulative trip limits per nearshore fishery permit holder. From 2004-2006, trap (pot) gear was used to catch the majority of landed sheephead, accounting for 85% (100 mt) of the three-year total of 118 mt in the open access fishery (includes directed and incidental). At least 90% of this take was landed in live condition. Of the 45 fishermen who made any sheephead landings using trap gear during this three-year period, 10 of them accounted for approximately 66% of the total sheephead take (**Robert Leos 2007**). Only one pot permit is allowed in Oregon’s nearshore fishery (**Kelly Ames 2008**).

In the developing hagfish fishery, the take is made largely with bucket trap gear with no incidental take of other species. Bucket traps are basically modified plastic barrels. Korean traps are permitted but are not generally used because of their smaller size. Oregon has had the largest fishery followed by Washington and California, primarily in the Conception area. The market for this fishery is exports to Korea in a live condition. In Oregon hagfish are under the Developmental Fishery Program. Permits are valid for 90 days from issuance, unless five landings of 1,000 lb or 25,000 lb total is landed within the 90-day time period, in which case the permit is valid for the rest of the year. Currently, there are 25 permits for harvest by pot gear. Roughly 100 pots are fished using 55 gallon plastic drums. In 2007, four permits were issued and roughly 850,000 lbs of hagfish were landed in Oregon. No other open access finfish pot fisheries exist in Oregon (**Robert Leos 2007; Kelly Ames 2008**).

3.3.2.3.1.9 Highly Migratory Species

Highly migratory species (HMS) include tunas, billfishes, dorado, and certain pelagic sharks. The Council’s HMS FMP applies to all U.S. vessels that fish for HMS within the EEZ (3-200 nautical miles) off California, Oregon, or Washington and to U.S. vessels that pursue HMS on the high seas (seaward of the EEZ) and land their fish in California, Oregon, or Washington. There are 5 distinctive gear types used to harvest HMS commercially, with hook-and-line gear being the oldest and most common. Other gears used to target HMS are driftnet, pelagic longline, purse seine, and harpoon. Vessels targeting HMS take groundfish incidentally in small quantities. A notable source of groundfish species mortality within the

HMS fishery has been due to “mixed trips,” in which a vessel operating under a VMS license also targets groundfish during a single trip. The expansion of VMS coverage into the open access fishery, effective February 7, 2008 (72 FR 69162, December 7, 2007), is expected to reduce mixed trip impacts on groundfish, and depleted species in particular (**Steve Wertz 2007**)

3.3.2.3.1.10 Pacific Halibut Longline

Pacific halibut (*Hippoglossus stenolepis*) are managed by the bilateral (United States./Canada) International Pacific Halibut Commission (IPHC) with implementing regulations set by Canada and the United States in their own waters. The Pacific Halibut Catch Sharing Plan for waters off Washington, Oregon, and California (Area 2A) specifies IPHC management measures for Pacific halibut on the Pacific Coast. Implementation of IPHC catch levels and regulations is the responsibility of the Council, the states of Washington, Oregon, and California, and the Pacific halibut treaty tribes. The directed fishery is responsible for most of the non-treaty commercial catch of Pacific halibut, while the treaty catch is approximately 35% of the total allowable catch. An incidental halibut fishery occurs within the primary sablefish fishery north of Point Chehalis, Washington (46° 53' 18" N. latitude). To allow landing of these halibut, the Catch Sharing Plan stipulates that when the Area 2A total allowable catch (TAC) is above 900,000 pounds, halibut may be retained in the limited entry primary sablefish fishery. Rockfish are also caught in the halibut fishery, particularly yelloweye rockfish. However, encounters have been significantly reduced in the non-treaty commercial fishery in recent years by restricting the fishery to depths greater than 100 fm. Sablefish are commonly intercepted, as they are found in similar habitat to Pacific halibut and are easily caught with longline gear. Landings of halibut are monitored by state fish tickets and through the mandatory logbooks required in the directed commercial halibut fishery. In 2006, the IPHC issued 298 licenses for the directed commercial fishery (including the incidental halibut during the sablefish fishery) for Area 2A. The directed commercial fishery consisted of three 10-hour fishing periods with fishing period limits. Fishing periods are set up using vessel size classes (Jamie Goen 2007 and Kelly Ames 2008)

3.3.2.3.1.11 Salmon Troll

Salmon are targeted with troll gear off of all three states. Troll gear consists of heavily weighted main troll lines from which multiple leaders with attached lures or baited hooks are used to catch Chinook salmon off all three states and coho salmon off Oregon and Washington. The ocean commercial salmon fishery, both nontreaty and treaty, is under federal management with a suite of seasons, gear restrictions, and total allowable harvest levels. The Council manages commercial fisheries in federal waters, while the states manage fisheries in territorial waters, which are usually in close conformance to the federal regulations. Annual average salmon troll vessels for the window period were 634 in California, 422 in Oregon and 66 in Washington. Bycatch of fish other than salmon is generally limited by regulation. The EIS for 2007-2008 groundfish management measures determined that catch levels for target salmon fisheries would not have a significant impact on overfished groundfish species (**Robert Leos 2007**).

3.3.2.3.1.12 Red sea urchin

Some California dive boats used fixed fishing gear to harvest fin fish species during diving operations for red sea urchin during the window period. Both state and federally managed species may be harvested including federal groundfish. The fixed gear types used during dive operations are not generally recorded on fish tickets and probably include one or a combination of hook and line and fish pot gear types (**Robert Leos 2007**).

3.3.2.3.1.13 California Setnet Fishery

The California setnet fishery uses anchored gill or trammel nets to catch target fish species, including federal groundfish. California regulations limit the fishery to specific times and areas (**CDFG 2007**).

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The three top species targeted are California halibut, white seabass, and thresher shark. These three species make up approximately 72% of all landings. California halibut is the major target species, making up approximately 35% of the cumulative window period total. Other species taken in appreciable numbers include: yellowtail, soupfin shark, skates, and leopard shark. Fishery activity has been concentrated in ports south of Point Conception where 87 different vessels made landings during the window period. Thirty made landings in the south-central region with only 6 making landings in the north-central region. The most vessels that fished in any single year was in the south region with 36 in 1999. That region averaged 26 vessels per year. This indicates that many vessels move out and move into the fishery on a year-to-year basis (**Robert Leos 2007**).

3.3.2.3.2 Landings Characteristics of Incidental Fisheries

The overall contribution of incidental fisheries to WOC groundfish fisheries was discussed above. Here we describe the landings in individual fisheries for which landings data are available. There were substantial incidental landings during 1998-2001 window period years that cannot be tied to particular fisheries, and appear to be the result of data coding errors or the inclusion of limited entry data in open access fishery files. The unaccounted for fishery landings in incidental fisheries declined from 58 mt to 96 mt during 1998-2001 to an annual range of 3 mt to 7 mt during 2002-2006 (**Table 3-3**). The available data show that fisheries with the greatest incidental impact on federal groundfish during the window period were the pink shrimp trawl, California set net, California halibut trawl and salmon troll fisheries, which collectively averaged 153.5 mt per year or 81% of the total for all fisheries combined. Starting in 2003 there were reductions in incidental fishery landings in several fisheries. The most notable reduction was in the pink shrimp trawl fishery which fell from 47 mt in 2002 to 1.3 mt in 2003 and continued to decline toward zero in most years thereafter (**Table 3-3**). Average annual incidental fishery landings for all fisheries combined during 2003-2006 window period years were 89 mt tons, which was 45% of the window period average of 190 mt for landings that can be attributed to individual fisheries.

Table 3-3: Federal groundfish landings in incidental fisheries, 1998-2006 including averages

Fishery	1998	1999	2000	2001	2002	2003	2004	2005	2006	AVG
Non-groundfish trawl										
California halibut	56.6	47.3	22.5	21.7	14.3	10.6	28.1	31.6	22.7	28.4
Pink shrimp	186.5	220.8	153.0	94.2	47.0	1.3	1.8	0.1	0.0	78.3
Ridgeback prawn	1.9	4.1	8.0	9.1	3.8	3.4	0.9	1.2	3.4	4.0
Sea cucumber	3.1	1.6	1.2	1.4	0.9	1.1	0.3	0.1	0.0	1.1
Spot prawn 1/	28.8	16.0	6.0	3.4	2.0	0.2	0.0	0.0	0.0	6.3
subtotal	276.9	289.8	190.7	129.8	68.0	16.6	31.1	33.0	26.1	118.0
California halibut HL 2/	4.7	5.8	5.2	3.7	2.3	3.4	3.0	1.2	1.1	3.4
CPS	6.2	3.6	2.5	2.8	2.0	4.3	2.9	0.8	1.9	3.0
Crabpot	1.5	1.0	1.2	0.7	0.6	0.9	1.2	4.3	6.1	1.9
Fish pot 2/	3.7	3.1	6.8	9.0	3.1	3.9	4.5	2.3	1.2	4.2
HMS	3.8	2.7	2.9	3.4	4.1	1.9	2.1	1.7	1.7	2.7
Pacific halibut LL 2/	2.0	4.6	3.7	5.6	4.1	10.9	15.9	20.3	20.3	9.7
Salmon	37.8	22.5	18.0	13.4	9.3	8.7	13.1	11.5	4.1	15.4
Sea urchin	0.0	0.1	0.5	0.1	0.3	0.3	0.0	0.0	0.0	0.1
Set net 2/	31.9	57.7	46.3	38.8	29.2	25.8	16.8	22.3	14.4	31.5
subtotal	91.6	100.9	87.1	77.5	54.9	60.1	59.6	64.4	50.8	71.9
TOTAL	368.5	390.7	277.8	207.3	122.9	76.7	90.7	97.4	76.9	189.9
Fishery unknown	96.2	58.4	63.1	81.2	6.9	2.7	3.6	5.4	3.6	35.7
TOTAL (2)	464.7	449.1	340.9	288.5	129.8	79.4	94.3	102.8	80.5	225.6

1/ Prohibited in California starting April 2003. Incidental landings are allowed with ridgeback prawn landings

2/ excludes B species directed fishery landings

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Landings of target species by fisheries that made incidental groundfish landings averaged about 195,000 mt worth about \$ 149 million ex-value price annually during the window period. The groundfish landings associated with these deliveries contributed $\leq 0.2\%$ in terms of weight or value of the landed catch (**Table 3-4**). Federal groundfish incidental fishery landing contributions varied in importance between fisheries. The fisheries with highest groundfish contributions were the California halibut trawl fishery (26% by weight; 9% by value), Pacific halibut long-line fishery (16% by weight; 10% by value), California spot prawn trawl fishery (11% by weight; 1% by value) and the California set net fishery (9% by weight; 3% by value). All other fisheries showed average groundfish landings of $\leq 5\%$ by weight or value compared to target species landings (**Table 3-4**).

Table 3-4: Summary of open access fishery incidental fishery landings of federal groundfish, 1998-2006 annual averages

Fishery	Target species		Federal groundfish		Federal groundfish % based on	
	mt	K\$\$	mt	K\$\$	mt	K\$\$
Non-groundfish trawl						
California halibut	111.2	759.4	28.4	66.1	25.5%	8.7%
Pink shrimp	8,244.7	6,254.2	78.3	90.9	0.9%	1.5%
Ridgeback prawn	219.6	625.5	4.0	7.6	1.8%	1.2%
Sea cucumber	91.5	162.4	1.1	2.7	1.2%	1.6%
Spot prawn 1/	57.5	929.7	6.3	11.3	10.9%	1.2%
subtotal	8,724.6	8,731.1	118.0	178.5	1.4%	2.0%
California halibut HL 2/	66.1	467.6	3.4	15.3	5.1%	3.3%
CPS	149,012.7	31,799.8	3.0	5.3	0.0%	0.0%
Crabpot	15,428.1	60,653.2	1.9	7.2	0.0%	0.0%
Fish pot 2/	288.8	542.0	4.2	41.7	1.4%	7.7%
HMS	12,194.8	22,361.4	2.7	4.9	0.0%	0.0%
Pacific halibut LL 2/	62.0	308.3	9.7	31.8	15.6%	10.3%
Salmon	3,196.3	13,655.2	15.4	24.1	0.5%	0.2%
Sea urchin	5,618.8	9,336.6	0.1	1.0	0.0%	0.0%
Set net 2/	351.5	1,356.7	31.5	37.8	9.0%	2.8%
subtotal	186,219.0	140,480.8	71.9	169.1	0.0%	0.1%
TOTAL	194,943.6	149,212.0	189.9	347.6	0.1%	0.2%
Unknown	NA	NA	35.7	NA	NA	NA
Total (2)	194,943.5	149,211.9	225.6	NA	NA	NA

1/ spot prawn trawling prohibited in California starting April 2003. Incidental landings allowed with ridgeback prawn landings

2/ excludes B species directed fishery landings

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The Council's Groundfish Management Team (GMT) makes projections of groundfish regulation impacts to overfished groundfish species. This is done for the biennial specifications and whenever inseason regulation changes are proposed. The open access fishery incidental groundfish fishery impacts estimated for 2007, updated with June 2007 inseason adjustments, were as follow:

2007 Projected mortality impacts (mt) of overfished groundfish species under current regulations. Updated with June 2007 inseason adjustments, whiting bycatch of widow rockfish through July 26, and new research catch projections. a/

Fishery	Bocaccio b/	Canary	Cowcod	Dkbl	POP	Widow	Yelloweye
Open Access: Incidental Groundfish							
CA Halibut	0.1	0.0		0.0	0.0		
CA Gillnet c/	0.5			0.0	0.0	0.0	
CA Sheephead c/				0.0	0.0	0.0	0.0
CPS- wetfish c/	0.3						
CPS- squid d/							
Dungeness crab c/	0.0		0.0	0.0	0.0		
HMS b/		0.0	0.0	0.0			
Pacific Halibut c/	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pink shrimp	0.1	0.1	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
Salmon troll	0.2	0.8	0.0	0.0	0.0	0.3	0.2
Sea Cucumber	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spot Prawn (trap)							
2007 OY	218	44.0	4.0	290	150	368	23
B species incidental fishery impact	1%	2%	0%	0%	0%	0%	1%

a/ All numbers reflect projected annual total catches except that the non-tribal "Limited Entry Trawl- Whiting" numbers are the total bycatch caps for canary and darkblotched rockfish.

b/ South of 40°10' N. lat.

c/ Mortality estimates are not hard numbers; based on the GMT's best professional judgment.

d/ Bycatch amounts by species unavailable, but bocaccio occurred in 0.1% of all port samples and other rockfish in another 0.1% of all port samples (and squid fisheries usually land their whole catch).

The estimates show the open access incidental fisheries were estimated to take a negligible (<0.5%) amount of over fished cowcod, darkblotch and widow rockfish, and Pacific Ocean perch and 1% or 2% of overfished bocaccio, canary and yelloweye rockfish based on 2007 estimates of optimum yield (OY). The single largest impact was to bocaccio in the California gillnet fishery; the salmon troll fishery impacted several species including bocaccio, canary, widow and yellowtail rockfish.

3.3.2.4 Directed Open Access Fishery

3.3.2.4.1 Fishery Descriptions

Directed fishery groundfish catches are made using hook and line, fish pot and set net gear. The directed fisheries are described in this section. For more specific information on individual gear types, see: **Recht, F. 2003 and NMFS 2005.**

3.3.2.4.1.1 Groundfish Hook-and-Line

Open access hook-and-line gears include longline, vertical hook-and-line (Portuguese longline), jigs, handlines, rod and reels, vertical and horizontal setlines, troll lines, cable gear and stick gear. Vessels fishing off Washington, Oregon, and California use these gears to target sablefish, lingcod, nearshore shelf, and slope rockfishes, cabezon, greenlings, spiny dogfish, Pacific sanddab, grenadier, and other federal groundfish. Fish are landed in live or dead condition in Oregon and California but not in Washington where possession of live bottom fish taken under a commercial fishing license is prohibited (**Robert Leos 2007**).

Longline gear is the most common open access hook-and-line gear used by vessels directly targeting sablefish. Both vertical and horizontal long-line types are used. They are generally fished in waters up to 600 fathoms, though sometimes as deep as 760-800 fathoms. Nearly all are landed dead in all three states, but some sablefish are landed live in the Oregon fishery. Lingcod have been a target of commercial fisheries since the early 1900s in California, and since the late 1930s in Oregon and Washington. Longline and hook-and-line gear are used to target lingcod. Lingcod are taken from near the surface to about 60 fathoms, but are found in depths to 200+ fathoms. The longline fishery for spiny dogfish is currently prosecuted by a limited number of vessels specializing in the fishery during the winter and early spring months when dogfish occur in fishable concentrations off the north Washington Coast. During the window period, Washington's fishery accounted for almost all the landings of this species. Pacific grenadier (*Coryphaenoides acrolepis*) are among the most abundant fishes of the continental slope and are found at depths from 155 to 3,825 m, most commonly between 600 and 2,500 m. Since 1998, approximately 300 mt of grenadier have been taken by OA longline vessels with peak landings in 2000 (89 mt). Since then, landings have decreased with four mt landed by OA vessels using longline in 2006. Pacific sanddab (*Citharichthys sordidus*) is taken in the hook-and-line fishery, mostly in California. South of 42° N latitude, when fishing for Pacific sanddab (and "other flatfish") vessels using hook-and-line gear with no more than 12 hooks per line, using hooks no larger than "Number 2" hooks, and up to two 1 pound weights per line, are not subject to the RCA restrictions (**Robert Leos 2007**).

WCPOP data collected in the sablefish endorsed and non-sablefish endorsed limited entry fixed gear fisheries in 2006 provide estimates of retained and discarded fish catches. Sampling was conducted aboard vessels that used longline gear in the non-sablefish endorsed fishery and longline or pot gear in the sablefish endorsed fishery. Sample sizes consisted of 118 trips (185 sets) in the non-sablefish endorsed fishery, all off California (mostly off Los Angeles), and 104 trips (675 sets) in the sablefish-endorsed fishery, which was conducted coastwide, but mostly off Washington and Oregon, and included 65 longline trips (452 sets) and 39 pot trips (288 sets) (NMFS 2007a; NMFS 2007b).

Data from the sablefish endorsed fishery north of Cape Mendocino where most of the endorsed fishery observations were made showed a discard rate per 100 lbs of sablefish retained of 46.5 lbs of Pacific halibut and 13.9 lbs of sablefish. (Table 3-4a; Table 3-4b). **NEED TO ADD DATA FOR NON-ENDORSED FISHERY**

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Table 3-4a: 2006 discard rates for species or species groups observed in limited entry sablefish-
endorsed fixed-gear sets north of Cape Mendocino (40 10'N. lat) and gear type

		Discarded	Retained	Total	Rate 1/
Bocaccio					
	Longline	12	70	82	0.002
	Pot				0.000
	Total	12	70	82	0.001
Canary					
	Longline	46	9	55	0.007
	Pot				0.000
	Total	46	9	55	0.005
Darkblotched					
	Longline	145	1,486	1,632	0.023
	Pot		627	627	0.000
	Total	145	2,114	2,259	0.015
POP					
	Longline	71	115	186	0.011
	Pot		14	14	0.000
	Total	71	129	199	0.007
Yelloweye					
	Longline	291		291	0.047
	Pot				0.000
	Total	291		291	0.031
Widow					
	Longline		4	4	0.000
	Pot				0.000
	Total		4	4	0.000
Sablefish					
	Longline	86,004	620,315	706,319	13.865
	Pot	52,940	327,348	380,288	16.172
	Total	138,944	947,663	1,086,607	14.662
Whiting					
	Longline	42		42	0.007
	Pot	2		2	0.001
	Total	44		44	0.005
Dover					
	Longline	105	228	334	0.017
	Pot	63	136	199	0.019
	Total	168	364	532	0.018
Longspine					
	Longline		49	49	0.000
	Pot		4	4	0.000
	Total		52	52	0.000
Shortspine					
	Longline	602	3,483	4,085	0.097
	Pot	2		2	0.001
	Total	604	3,483	4,087	0.064

1/ Rate=lbs discarded/ 100 lbs sablefish retained

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Table 3-4b: 2006 discard rates for species or species groups observed in limited entry sablefish-endorsed fixed-gear sets north of Cape Mendocino (40 10'N. lat) and gear type

		Discarded	Retained	Total	Rate 1/
Arrowtooth	Longline	27,623	2,788	30,411	4.453
	Pot	242	2,553	2,795	0.074
	Total	27,864	5,341	33,206	2.940
Petrale	Longline	4	37	41	0.001
	Pot		5	5	0.000
	Total	4	42	46	0.000
English	Longline		3	3	0.000
	Pot				0.000
	Total		3	3	0.000
Other FF	Longline	648		648	0.104
	Pot				0.000
	Total	648		648	0.068
Yellowtail	Longline	119	338	457	0.019
	Pot				0.000
	Total	119	338	457	0.013
Other shelf	Longline	666	1,427	2,092	0.107
	Pot	9	40	49	0.003
	Total	675	1,466	2,141	0.071
Other slope	Longline	1,364	27,638	29,001	0.220
	Pot	9	3,985	3,994	0.003
	Total	1,372	31,623	32,995	0.145
Blackgill	Longline		179	179	0.000
	Pot		220	220	0.000
	Total		399	399	0.000
Lingcod	Longline	12,339	4,817	17,157	1.989
	Pot	4,219	3,936	8,155	1.289
	Total	16,559	8,753	25,312	1.747
Other RF	Longline	356	138	494	0.057
	Pot				0.000
	Total	356	138	494	0.038
Pacific	Halibut				
	Longline	288,694	30,597	319,291	46.540
	Pot	11,991		11,991	3.663
	Total	300,685	30,597	331,282	31.729
All	Longline	419,131	693,721	1,112,853	67.567
	Pot	69,477	338,868	408,345	21.224
	Total	488,607	1,032,588	1,521,195	51.559

1/ Rate=lbs discarded/ 100 lbs sablefish retained

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The nearshore fishery is defined, in part, by the area from the coastal high-tide line offshore to approximately 30 fathoms. The number of species included in the nearshore fishery complex range from 19 in California to 23 in Oregon. The nearshore fishery is a restricted access fishery in that each state has jurisdiction over the number and type of permits issued, the included species, and where those permits may be used. Washington has no commercial nearshore fishery. The primary gears used in the nearshore area are hook-and-line, including rod-and-reel, vertical hook-and-line, cable gear, stick gear, and set longline. Much of the fishing is done by single operators in smaller vessels including kayaks, skiffs, and small boats. Trips generally last only a day because much of the harvest is directed at the live-fish fishery, which yields a higher price per pound. In California, hook and line gear for the live fish fishery has been limited to a maximum of 150 hooks per vessel and 15 hooks per line within one mile of the mainland shore since 1995.

The Oregon nearshore fishery occurs in waters from shore to 30 fm, but mostly in 10 fm (18 meters) or less. Nearshore rockfish and species such as cabezon and greenling are the primary target of the live fish fishery in Oregon. Black rockfish is the primary target for the fresh fish market. One permit is issued allowing for the use of pot gear (typically targeting cabezon). Dive and trawl gear are not legal while used in conjunction with the Black/Blue/Nearshore permit. Commercial fishing for food fish is prohibited in Oregon bays and estuaries and within 183 meters (200 yards) from a man-made structure.

Nearshore fishing activity peaks during the summer months when sea and weather conditions are more conducive to fishing. This is especially true for fishing activity in Oregon and northern California waters. For the nine-year period, black rockfish was the dominate species landed by OA hook-and-line vessels, making up approximately 41% of the total landings (about 4,100 mt). Cabezon was next with 19%, followed by greenlings, gopher and grass rockfishes, with 7%, 6%, and 5%, respectively (**Robert Leos 2007; Kelly Ames 2008**).

3.3.2.4.1.2 Groundfish Trap

Approximately 20% of federal groundfish landed in the directed OA fishery was made using fish trap (pot) gear during the window period. Traps are highly selective for sablefish and are fished off a long-line in series (a set of traps) in waters up to 600 fathoms, though sometimes as deep as 760-800 fathoms. Up to 50 traps are attached to each main line. The traps are rectangular, trapezoidal or conical in shape. The most common, trapezoidal traps are approximately 6' x 2.5' in size and weigh about 55 pounds. The bigger rectangular traps may be over 100 pounds in weight. Traps are usually baited with Pacific whiting or sometimes whiting and squid. Many sablefish trap fishermen are now using escape rings to allow the escape of smaller fish while the trap is fishing. This reduces the number of fish the fishermen have to handle and reduces fish mortality due to handling in the release of small fish.

WCFOF data collected in the sablefish endorsed and non-sablefish endorsed limited entry fixed gear fisheries in 2006 provide estimates of retained and discarded fish catches. Sampling was conducted aboard vessels that used longline gear in the non-sablefish endorsed fishery and longline or pot gear in the sablefish endorsed fishery. Sample sizes consisted of 118 trips (185 sets) in the non-sablefish endorsed fishery, all off California (mostly off Los Angeles), and 104 trips (675 sets) in the sablefish-endorsed fishery, which was conducted coastwide, but mostly off Washington and Oregon, and included 65 longline trips (452 sets) and 39 pot trips (288 sets) (NMFS 2007a; NMFS 2007b).

Data from the sablefish endorsed fishery north of Cape Mendocino where most of the endorsed fishery observations were made showed a discard rate per 100 lbs of sablefish retained of 3.7 lbs of Pacific halibut and 16.2 lbs of sablefish (Table 3-4a and 3-4b). The discard rate of overfished groundfish species was negligible for all species. **NEED TO ADD DATA FOR NON-ENDORSED FISHERY.**

Cabazon was a distant second in the OA vessel directed groundfish trap fishery, with 1.8% (approximately 120 mt) of the total take of federal groundfish. In this fishery, California fishermen made the majority of the landings, with about 90% of the total take of cabazon. A total of 126 California vessels participated in the cabazon fishery with Oregon's total at three historically, with only one issued an Oregon Limited Entry Nearshore Permit in 2004. There were no Washington OA vessels recorded as having made cabazon landings using trap gear. Other species commonly taken in directed OA landings where cabazon were caught included: California sheephead, lingcod, gopher, kelp, grass, black-and-yellow, and black rockfishes. The majority of California's cabazon landings in the more recent years has centered on the Morro Bay port complex. Since 2003, California fishermen have been required to possess a nearshore fishing permit to catch and land cabazon since this species is included in the state's shallow species nearshore complex. Since 2003, fishers in Oregon have been required to possess a nearshore permit to land more than incidental amounts of cabazon (**Robert Leos 2007; Kelly Ames 2008**).

3.3.2.4.1.3 Groundfish Setnet

Setnet gear is legal to use to target federal groundfish in the open access fishery south of 38° N. lat. only. The fishermen generally target non-groundfish species, but some have made groundfish landings that met the definition used in this report for directed open access groundfish fishing. The set net fishery is generally described in **Section 3.3.2.3.1.13**. The number of vessels that participated in the directed setnet fishery for groundfish species ranged from a high of about 50 in 1999 and 2000 to about one half those amounts in 2005 and 2006. Landings of federal groundfish taken in the directed segment of California's setnet fishery during the window period were dominated by bank rockfish, soupfin shark, chilipepper and widow rockfishes, and the unspecified rockfishes market category group (**Robert Leos 2007**).

3.3.2.4.2 Directed Groundfish Vessels and Landings (Including Nearshore)⁵

The number of directed groundfish fishery vessels declined from about 1,000 in 1998 to 677 in 2004 then increased to 709 and 744 in 2005 and 2006, respectively (**Table 3-5**). Sablefish and nearshore species accounted for an average of 84% with an annual range of 60%-91% of directed fishery revenues during the window period (**Table 3-5; Figure 3-4**). The sablefish component of revenues increased from 7% in 1998 to 50% in 2006 (**Table 3-5; Figure 3-4**). The nearshore component increased from 53% to 65% of revenues during 1998-2001 window period years then declined to 40% in 2006 (**Table 3-5; Figure 3-4**). The remaining revenues were from shelf and slope rockfish landings and other species such as lingcod, grenadiers, thornyheads, and specified sharks and rays. The major drop in shelf rockfish landings between 1998 and subsequent years reflects the reduced harvest guidelines and more restrictive rockfish limits that began to be implemented at that time in response to depressed status of certain key rockfish stocks and that was discussed in **Section 1.4.1**. The turnaround in open access revenues that began in 2005 was associated with increased sablefish landings (**Figure 3-4**).

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Table 3-5 Directed open access fishery participation and landings statistics, 1998-2006 Page 1

Yr	State	Sablefish			Nearshore			Shelf RF			Slope RF		
		No. Vsls	mts	(000s)	No. Vsls	mts	(000s)	No. Vsls	mts	(000s)	No. Vsls	mts	(000s)
1998	CA	83	94.6	\$218.7	461	471.6	\$2,420.7	251	797.3	\$1,160.6	90	192.3	\$220.3
	OR	29	16.3	\$45.4	93	152.2	\$276.3	98	178.5	\$272.4	1	4.4	\$6.4
	WA	29	25.6	\$79.5	0	0.0	\$0.0	10	12.4	\$9.4	0	0.0	\$0.0
	Total	141	136.5	\$343.6	554	623.8	\$2,697.0	359	988.2	\$1,442.4	91	196.7	\$226.7
1999	CA	97	176.9	\$453.8	495	404.4	\$2,641.7	281	264.1	\$538.5	30	16.9	\$28.6
	OR	14	20.6	\$64.9	108	176.3	\$533.3	90	93.3	\$193.6	1	1.2	\$1.7
	WA	28	36.0	\$114.6	0	0.0	\$0.1	7	9.1	\$7.3	0	0.0	\$0.0
	Total	139	233.5	\$633.3	603	580.7	\$3,175.0	378	366.5	\$739.4	31	18.1	\$30.3
2000	CA	112	299.0	\$944.2	505	323.9	\$2,898.4	197	96.3	\$281.5	26	8.5	\$21.5
	OR	34	43.6	\$158.6	126	147.4	\$565.9	36	7.3	\$19.4	1	0.5	\$0.7
	WA	32	51.9	\$201.8	0	0.0	\$0.0	9	1.7	\$2.6	2	1.5	\$1.5
	Total	178	394.5	\$1,304.6	631	471.3	\$3,464.3	242	105.3	\$303.5	29	10.5	\$23.7
2001	CA	109	273.7	\$820.0	441	319.1	\$2,557.8	114	66.7	\$177.4	25	25.9	\$51.5
	OR	64	58.9	\$199.1	137	189.4	\$742.4	12	5.5	\$14.6	1	0.6	\$0.6
	WA	44	60.3	\$217.7	1	0.1	\$0.1	7	0.8	\$1.0	2	1.4	\$1.4
	Total	217	392.9	\$1,236.8	579	508.6	\$3,300.3	133	73.0	\$193.0	28	27.9	\$53.5
2002	CA	118	268.3	\$797.7	344	257.8	\$2,059.8	75	19.7	\$72.1	38	60.7	\$132.7
	OR	52	49.7	\$179.7	147	223.4	\$1,065.4	5	3.6	\$9.1	0	0.1	\$0.8
	WA	44	65.2	\$236.6	1	0.2	\$0.1	0	0.0	\$0.0	0	0.0	\$0.0
	Total	214	383.2	\$1,214.0	492	481.4	\$3,125.3	80	23.3	\$81.2	38	60.8	\$133.5
2003	CA	118	312.6	\$945.9	296	164.1	\$1,504.2	42	8.7	\$39.4	43	82.4	\$194.0
	OR	96	134.3	\$492.4	126	163.8	\$654.0	7	3.3	\$7.8	0	0.8	\$1.1
	WA	64	118.2	\$449.8	0	0.0	\$0.0	0	0.0	\$0.0	0	0.0	\$0.0
	Total	278	565.1	\$1,888.1	422	327.9	\$2,158.2	49	12.0	\$47.2	43	83.2	\$195.1
2004	CA	91	288.3	\$831.0	224	201.2	\$1,837.6	88	23.9	\$104.4	38	52.2	\$129.7
	OR	67	73.6	\$225.0	112	169.5	\$750.6	12	2.9	\$6.6	3	1.0	\$1.3
	WA	53	96.4	\$325.8	0	0.0	\$0.0	1	0.5	\$0.5	2	1.4	\$1.3
	Total	211	458.3	\$1,381.8	336	370.7	\$2,588.2	101	27.3	\$111.5	43	54.6	\$132.3
2005	CA	101	458.3	\$1,312.1	208	195.1	\$1,811.0	70	21.2	\$98.6	37	30.8	\$84.0
	OR	107	257.6	\$915.9	114	150.3	\$759.3	10	3.4	\$8.7	4	5.1	\$7.3
	WA	68	182.2	\$677.9	0	0.0	\$0.0	2	0.4	\$0.7	2	6.5	\$7.6
	Total	276	898.1	\$2,905.9	322	345.4	\$2,570.3	82	25.0	\$108.0	43	42.4	\$98.9
2006	CA	122	279.9	\$941.5	201	141.7	\$1,463.0	74	21.3	\$103.0	29	33.0	\$85.4
	OR	132	250.8	\$983.6	103	112.6	\$580.7	9	3.0	\$9.1	3	5.1	\$7.3
	WA	86	157.5	\$612.2	0	0.0	\$0.0	0	0.0	\$0.0	1	0.8	\$0.8
	Total	340	688.2	\$2,537.3	304	254.3	\$2,043.7	83	24.3	\$112.1	33	38.9	\$93.5
AVG	CA	106	272.4	\$807.2	353	275.4	\$2,132.7	132	146.6	\$286.2	40	55.9	\$105.3
	OR	66	100.6	\$362.7	118	165.0	\$658.7	31	33.4	\$60.1	2	2.1	\$3.0
	WA	50	88.1	\$324.0	0	0.0	\$0.0	4	2.8	\$2.4	1	1.3	\$1.4
	Total	222	461.1	\$1,493.9	471	440.5	\$2,791.4	167	182.8	\$348.7	42	59.2	\$109.7

1/ others includes unspecified rockfish, flatfish, lingcod, sharks, rays and chimeras

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Table 3-5: Directed open access fishery participation and landings statistics, 1998-2006. Page 2

Yr	State	Lingcod			Sharks			Others 1/			Total Directed		
		vsl	mts	000s	vsl	mts	000s	vsl	mts	000s	No. Vsls	mts	(000s)
1998	CA	80	54.2	\$124.6	53	26.5	\$36.8	43	20.2	\$20.6	748	1,658.7	\$4,208.9
	OR	62	20.8	\$47.1	0	0.0	\$0.0	39	20.9	\$37.7	210	393.0	\$685.1
	WA	17	5.6	\$6.7	0	0.0	\$0.0	20	57.2	\$64.8	46	100.7	\$160.4
	Total	159	80.6	\$178.4	53	26.5	\$36.8	102	98.3	\$123.1	1004	2,152.4	\$5,054.4
1999	CA	108	45.0	\$134.0	49	26.9	\$38.9	63	42.0	\$69.2	764	977.9	\$3,910.7
	OR	83	28.0	\$76.5	0	0.0	\$0.0	49	12.2	\$40.5	184	331.7	\$910.5
	WA	14	4.8	\$6.5	2	8.7	\$2.5	15	4.6	\$10.4	50	67.1	\$142.2
	Total	205	77.8	\$217.0	51	35.6	\$41.4	127	58.8	\$120.1	998	1,376.7	\$4,963.4
2000	CA	64	21.7	\$70.3	52	23.4	\$32.2	85	77.7	\$110.4	760	852.4	\$4,365.1
	OR	44	12.3	\$44.6	2	0.1	\$0.2	0	0.1	\$0.1	172	211.3	\$789.5
	WA	11	4.8	\$6.5	1	1.5	\$0.6	2	1.3	\$2.0	49	63.0	\$215.2
	Total	119	38.8	\$121.4	55	25.0	\$33.0	87	79.1	\$112.5	981	1,126.7	\$5,369.8
2001	CA	84	32.9	\$112.2	43	26.1	\$35.5	71	42.2	\$89.3	627	788.0	\$3,848.3
	OR	51	24.2	\$81.9	0	0.0	\$0.0	2	0.1	\$0.1	194	278.7	\$1,038.7
	WA	12	3.6	\$4.8	0	0.0	\$0.0	0	0.7	\$0.5	54	67.0	\$225.4
	Total	147	60.7	\$198.9	43	26.1	\$35.5	73	43.0	\$89.8	875	1,133.7	\$5,112.4
2002	CA	99	40.7	\$159.1	39	16.3	\$24.0	44	45.7	\$52.1	543	709.9	\$3,300.7
	OR	65	27.4	\$93.5	0	0.0	\$0.0	0	0.4	\$0.4	201	304.6	\$1,348.3
	WA	9	2.9	\$4.2	1	4.2	\$1.4	0	0.7	\$0.4	48	74.5	\$244.0
	Total	173	71.8	\$256.8	40	20.5	\$25.4	44	46.0	\$52.9	792	1,089.0	\$4,893.0
2003	CA	106	36.3	\$146.6	45	32.2	\$41.1	34	47.4	\$30.7	502	685.1	\$2,908.4
	OR	78	29.7	\$91.9	0	0.0	\$0.0	0	0.0	\$0.0	212	332.0	\$1,247.4
	WA	4	2.1	\$3.2	1	43.9	\$17.7	1	1.8	\$0.7	68	167.7	\$473.2
	Total	188	68.1	\$241.7	46	76.1	\$58.8	34	49.2	\$31.4	782	1,184.8	\$4,629.0
2004	CA	104	43.9	\$175.2	40	24.9	\$49.9	42	51.9	\$33.0	435	686.8	\$3,164.0
	OR	73	31.0	\$97.3	0	0.2	\$0.0	1	0.5	\$0.3	185	278.8	\$1,081.9
	WA	4	1.7	\$2.8	4	86.1	\$37.9	0	1.2	\$0.6	57	187.3	\$369.0
	Total	181	76.6	\$275.3	44	111.2	\$87.8	43	53.6	\$33.9	677	1,152.9	\$4,614.9
2005	CA	80	41.8	\$173.8	36	26.8	\$34.3	32	28.5	\$1.2	391	803.4	\$3,519.1
	OR	89	31.4	\$101.8	1	0.2	\$0.2	1	2.8	\$1.0	240	450.8	\$1,794.2
	WA	5	2.4	\$3.9	2	3.2	\$1.6	0	0.9	\$0.9	78	196.3	\$693.5
	Total	174	75.6	\$279.5	39	30.2	\$36.1	33	32.2	\$3.1	709	1,450.5	\$6,006.8
2006	CA	92	31.5	\$136.4	30	24.1	\$44.6	20	9.5	\$6.8	405	541.9	\$2,784.3
	OR	78	30.5	\$110.0	0	0.0	\$0.0	0	0.8	\$0.4	249	402.8	\$1,691.3
	WA	4	2.7	\$4.7	2	59.8	\$30.9	0	0.6	\$0.3	90	221.6	\$649.1
	Total	174	64.7	\$251.1	32	83.9	\$75.5	20	10.9	\$7.5	744	1,166.3	\$5,124.7
AVG	CA	91	38.7	\$136.9	43	25.2	\$37.5	48	40.6	\$45.9	575	856.0	\$3,556.6
	OR	69	26.1	\$82.7	0	0.1	\$0.0	10	4.2	\$8.9	205	331.5	\$1,176.3
	WA	9	3.4	\$4.8	1	23.0	\$10.3	4	7.7	\$9.0	60	127.2	\$352.4
	Total	169	68.3	\$224.5	45	48.3	\$47.8	63	52.3	\$63.8	840	1,314.8	\$5,085.4

1/ others includes unspecified rockfish, flatfish, lingcod, sharks, rays and chimeras

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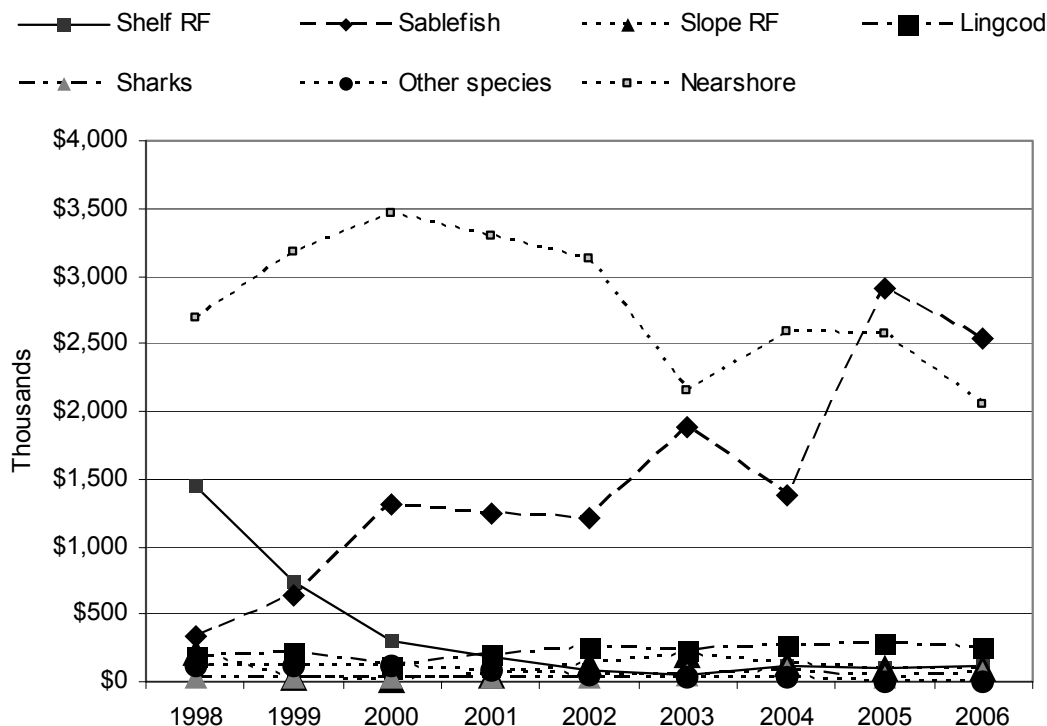


Figure 3-4: Trends in directed fishery revenues by species and year, 1998-2006

The trend in vessels making at least one directed sablefish landing in the WOC area steadily increased during the window period except for 2004 when there was a downturn in participation. The trend in sablefish impact, based on landings expressed as a proportion of annual allocations for the Monterey-Vancouver management area (northern area) (**Table 1-1**), followed the directed fishery vessel participation trend very closely (**Table 3-5; Figure 3-5**). In 2005 the northern area fishery exceeded its harvest guideline by over 40% (**Tables 1.1 and 3.1.1; Figure 3-5**). More restrictive sablefish landing and cumulative landing limits were implemented during May-September 2006 in anticipation of a possible effort shift by salmon vessels to the sablefish fishery because of reduced salmon fishing opportunity. However, the restrictions did not work and the fishery had to be closed during October-December because of projected allocation attainment (see: <http://www.nwr.noaa.gov/Publications/FR-Notices/2006/upload/71FR58289.pdf>).

It is not clear that reduced salmon fishing opportunity contributed to the high sablefish harvest in 2005. This is because the commercial fishery south of Cape Falcon to the US/Mexico border landed 582,000 Chinook salmon, which was just below the precious 10-year fishery average of 602,000 Chinook salmon, while the fishery between the US/Canada border to Cape Falcon landed 87,000 Chinook salmon, which was substantially above its previous 10-year average of 48,000 Chinook salmon (see: http://www.pcouncil.org/salmon/salbluebook/App_A_Hist_Ocean_Effort_Land.xls).

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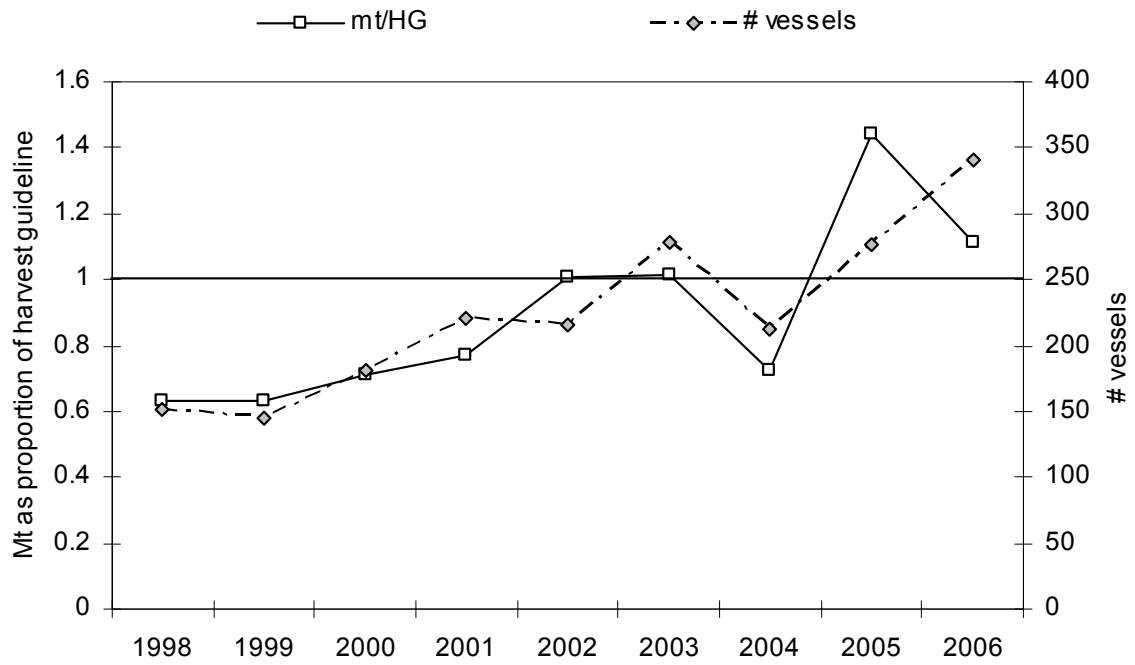


Figure 3-5: Directed open access sablefish fishery trends: number of directed fishery vessels and landings shown as a proportion of annual harvest guideline, Monterey-Vancouver area, 1998-2006 seasons

3.3.3 Vessel and Fisherman Characteristics

B permit species fishery data for the window period were used to characterize fisherman and vessels. Nearshore species landings data have been excluded in following sections. The window period was divided in some analyses into three periods: 1998-2003, 2004-2006 and 1998-2006.

3.3.3.1 Vessel Participation Frequencies

A total of 2,587 different vessels participated in the directed open access fishery during the window period, and 69% (1,484) of the vessels that made a landing during 1998-2003 (2,157) did not make a directed fishery landing during 2004-2006. Conversely, 1,103 vessels (31%) that made a landing during 2004-2006 also made a landing during 1998-2003. A total of 430 new vessels entered the fishery during 2004-2006. A total of 71 vessels (3%) made a landing every year and 443 vessels (17 %) made a directed fishery landing in most (≥ 5) years of the window period (**Table 3-6**).

Table 3-6. Vessel participation frequencies by time period, 1998-2006

# yrs	1998-2003	2004-2006	1998-2006
0	430	1484	0
1	1009	508	1117
2	462	287	517
3	265	308	309
4	182		201
5	118		157
6	121		93
7			62
8			60
9			71
Total	2587	2587	2587

3.3.3.2 States' Abilities to Track Vessel Owners and Vessel Ownership Frequencies

Personal catch history is not part of the PacFIN database. Such information must be tracked at the state level.

California

California is able to track vessel ownership on an annual basis since before 1998 and assigns landings or revenues to commercial fisherman license number, which is recorded on each commercial dealer receipt. In the following analyses, vessel ownership was assigned to the person or entity that registered the vessel at the start of the year. Thus, the data do not reflect within year ownership changes.

The ownership records of California vessels for 1998-2006 showed that 91% (1,557) that landed B species groundfish during the window period had a single owner during the window period through the last year of fishery participation. The remaining 9% of vessels (162) had between two and four owners through the last year of fishery participation. The maximum number of owners, assuming all owners did not previously own an open access fishery vessel, was 1,901 for an average of 1.11 owners per vessel (**Table 3-7a**). Note: this analysis went through the last year each vessel made a directed fishery landing and did not track ownership to the end of the window period (which would have resulted in more owners per vessel).

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Table 3-7. Owner profile data for California vessels that made one or more B species groundfish directed fishery landings during 1998-2006

a) Vessel-owner frequency data

# owners/vessel	Number vsls	Vessel proportion	Owner proportion
1	1,557	81.9%	90.6%
2	143	7.5%	16.6%
3	18	0.9%	3.1%
4	1	0.1%	0.2%
Total vessels	1,719	100.0%	
Total owners	1,901		100.0%

b) Vessel registration status for 2006

	Documented	Undocumented	Totals
Registered, only owner	127	184	311
Registered, one of 2-4 owners	33	34	67
Registered, first year	2	1	3
Not registered	473	865	1,338
sum	635	1,084	1,719

c) Contribution of current (2006) vessel owners to B species catch history for individual vessels by contribution category

Contribution category	Number vsls	Proportion
>90%	322	84.5%
>50%	352	92.4%
>10%	369	96.9%
>0%	381	100.0%
zero%	0	0.0%
Total vessels	381	100.0%

Registration data for 2006 showed that 22% of the vessels that made a B species groundfish directed fishery landing during 1998-2006 were registered in California as commercial fishing vessels ("current owners"). A slightly higher proportion of undocumented vessels (80% compared to 74%) were not registered in 2006 (Table 3-7b). Analysis of 2006 registration data and 1998-2006 window period B species catch history data showed that 322 (84.5%) of current owners were responsible for >90% of their vessel's B species catch history and that 12 (3.1%) current owners were responsible for ≤10% of their vessel's B species catch history (Table 3-7c).

Oregon

Oregon can track commercial fishery landings history at the vessel owner level; landings can not be tracked by individual skippers or crew members. The vessel may be owned by an individual, individuals, or business. In the table below (Table 3-8-1) the data were analyzed by boat/owner; the same owner may be included multiple times in the table if they owned several different boats. If there were two individuals listed on a license (e.g., married, family members, etc.) these are included as a single owner. Seven of the boats on the list of open access vessels could not be tracked as they were boats that made single deliveries into Oregon and were not required to have an Oregon boat license.

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Table 3-8-1. Oregon vessel ownerships frequencies, 1998-2006

# owners	Frequency	Proportion	Max owners
1	631	85%	631
2	95	13%	190
3	13	2%	39
4	2	0%	8
Total	741	100%	868

Washington

Since the mid 1990's the commercial fishing license in Washington has been owned by a person or business with a requirement to designate a vessel to the license. Prior to then, the license was assigned a vessel rather than an individual. Therefore, for the years under consideration for open access limitation, WDFW could track catch history at the level of license owner (**Michele Culver 2008**).

Possible Ways to Issue Permits to Fishermen or Previous Vessel Owners

The concern regarding issuance of B permits to current owners of qualifying vessels is that 1) vessel operators (i.e., the fishermen) do not get catch history credits for use in qualifying for a permit and 2) previous vessel owners do not receive catch history credits for the time they owned a vessel for use in qualifying for a permit.

The problem in issuing permits to fishermen or previous vessel owners is that the PacFIN data base does not store such information. This means that either major revision to the PacFIN data base would have to be made or the responsibility for recommending individuals or entities for permit issuance would fall back on the states. Revisions to the data base would be very costly and time consuming to complete. Moreover, the changes might not be useful for any other Council or NMFS purpose than for B permit issuance.

For the states to recommend fishermen or previous vessel owners for permit issuance, the Council and NMFS would need to provide specific guidance on how to organize and rank catch history data in a fair and equitable manner and how to deal with fishermen and vessel owners that fished in more than one state (see Section 3.3.3.6 for between state vessel landing frequencies). All three states would need to agree upon a timeline for project completion and commit staff resources to undertake the assignment.

3.3.3.3 Landing Frequencies

Vessel cumulative tonnage landing frequencies showed that 56% of vessels (1,443) landed < 0.5 mt and 12% (322) landed over 5 mt during the window period. The remaining vessels, 822, landed between 0.5 mt and 5 mt in total. Vessel tonnage frequencies were generally higher on a per vessel basis during 2004-2006 compared to 1998-2003 even though the accounting period was shorter by three years (**Table 3-8-2**).

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Table 3-8-2: Vessel tonnage frequencies by time period, 1998-2006

mt bin 1/	1998-2003		2004-2006		1998-2006	
	# vsls	Prop.	# vsls	Prop.	# vsls	Prop.
zero	434		1,484		0	
<0.5 mt	1,310	60.8%	548	49.7%	1,443	55.8%
<1 mt	231	10.7%	154	14.0%	290	11.2%
<2 mt	194	9.0%	135	12.2%	256	9.9%
< 3 mt	63	2.9%	30	2.7%	77	3.0%
< 4 mt	98	4.6%	59	5.3%	144	5.6%
< 5 mt	42	2.0%	31	2.8%	55	2.1%
> 5 mt	215	10.0%	146	13.2%	322	12.4%
Total	2,153	100.0%	1,103	100.0%	2,587	100.0%

1/ each bin is exclusive of previous bin(s)

Vessel cumulative value landing frequencies show that 50% of vessels (1,283) landed < \$1,000 worth of B species groundfish and 4% (105) landed over \$100,000 worth of fish during the window period. The remaining vessels, 1,199 vessels, landed between \$1,000 and \$100,000 in fish. Vessel value frequencies were generally higher on a per vessel basis during 2004-2006 compared to 1998-2003 even though the accounting period was shorter by three years (**Table 3-9; Figure 3-6**).

Table 3-9: Cumulative ex-vessel frequencies by time period, 1998-2006

\$\$ 000 bin 1/	1998-2003		2004-2006		1998-2006	
	# vsls	Prop.	# vsls	Prop.	# vsls	Prop.
<1	1,188	55.0%	441	40.0%	1,283	49.6%
<2	257	11.9%	127	11.5%	270	10.4%
<3	139	6.5%	90	8.2%	188	7.3%
<4	64	3.0%	66	6.0%	103	4.0%
<5	72	3.3%	41	3.7%	76	2.9%
<10	165	7.7%	122	11.1%	241	9.3%
<20	114	5.3%	98	8.9%	170	6.6%
<30	50	2.3%	37	3.4%	77	3.0%
<50	57	2.6%	40	3.6%	74	2.9%
<100	40	1.9%	38	3.4%	73	2.8%
<130	4	0.2%	2	0.2%	14	0.5%
<170	6	0.3%	1	0.1%	12	0.5%
<200	1	0.0%		0.0%	4	0.2%
<250		0.0%		0.0%	2	0.1%
Total	2,157	100.0%	1,103	100.0%	2,587	100.0%

1/ each bin is exclusive of previous bin(s)

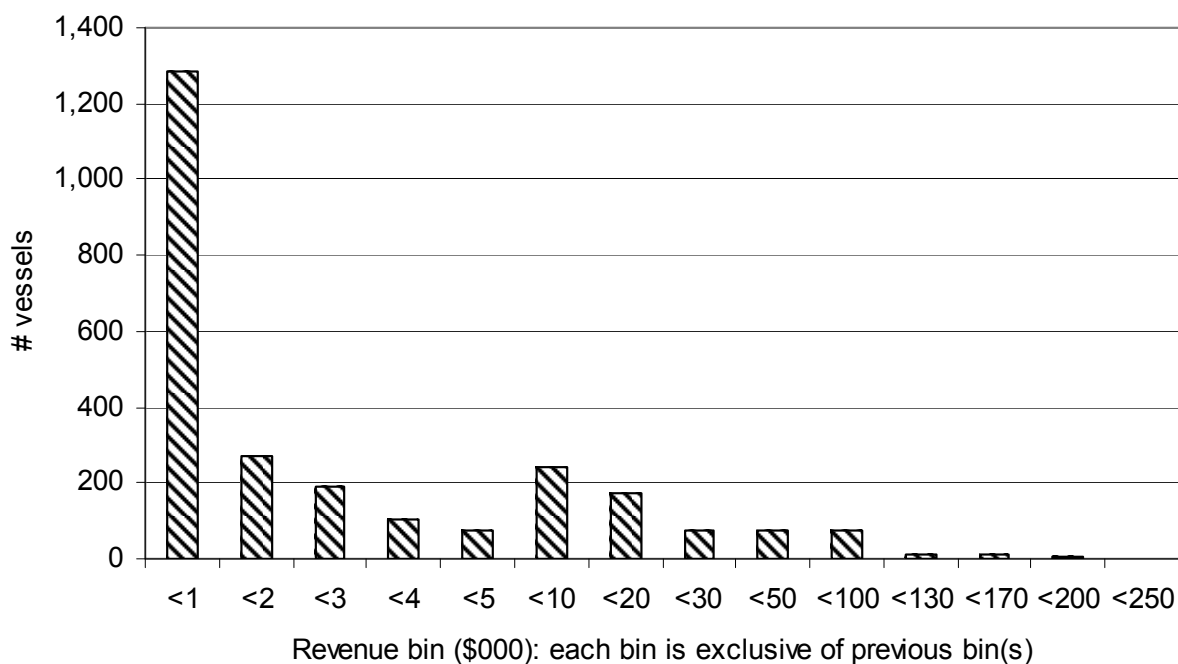


Figure 3-6: Revenue frequencies for WOC vessels that made B species landings during the window period (2587 vessels).

3.3.3.4 Distribution of Vessels and Primary Gear Types

A total of 2,587 vessels had directed B species groundfish landings during the window period. Their distribution by state and PacFIN port group was estimated based on port group where most B species landings were made by individual vessels. The data showed that 66% of vessels delivered to California ports and 26% and 8% made landings at Oregon and Washington ports, respectively. The top three port groups for numbers of vessels were Morro Bay (11%), Monterey (10%), and Brookings (9%). San Francisco was very close to Brookings at slightly less than 9% (**Table 3-10**).

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Table 3-10: Distributions of B species vessels and gear types used by port group, state and 1998-2003, 2004-2006 and 1998-2006 time periods

1998-2003							2004-2006							1998-2006						
AGY	Port	Hkl	Pot	Net	Tot	Prop.	AGY	Port	Hkl	Pot	Net	Tot	Prop.	AGY	Port	Hkl	Pot	Net	Tot	Prop.
WA	NPS	40	0	0	40	0.02	WA	NPS	18	1	0	19	0.02	WA	NPS	49	1	0	50	0.02
	SPS	3	0	0	3	0.00		SPS	2	0	0	2	0.00		SPS	3	0	0	3	0.00
	CWA	53	11	0	64	0.03		CWA	41	11	0	52	0.05		CWA	72	17	0	89	0.03
	CLW	32	1	0	33	0.02		CLW	19	34	0	53	0.05		CLW	32	33	0	65	0.03
	sub	128	12	0	140	0.06		sub	80	46	0	126	0.11		sub	156	51	0	207	0.08
	P	0.91	0.09	0.00	1.00			P	0.63	0.37	0.00	1.00			P	0.75	0.25	0.00	1.00	
OR	CLO	36	9	0	45	0.02	OR	CLO	33	12	0	45	0.04	OR	CLO	48	16	0	64	0.02
	TLA	76	1	0	77	0.04		TLA	43	7	0	50	0.05		TLA	93	6	0	99	0.04
	NPA	80	4	0	84	0.04		NPA	40	11	0	51	0.05		NPA	97	10	0	107	0.04
	CBA	103	10	0	113	0.05		CBA	70	20	0	90	0.08		CBA	136	22	0	158	0.06
	BRA	200	1	0	201	0.09		BRA	107	2	0	109	0.10		BRA	230	3	0	233	0.09
	sub	495	25	0	520	0.24		sub	293	52	0	345	0.31		sub	604	57	0	661	0.26
CA 1/	P	0.95	0.05	0.00	1.00		CA 1/	P	0.85	0.15	0.00	1.00		CA 1/	P	0.91	0.09	0.00	1.00	
	CCA	74	6	0	80	0.04		CCA	30	7	0	37	0.03		CCA	85	10	0	95	0.04
	ERA	73	4	0	77	0.04		ERA	44	2	0	46	0.04		ERA	89	5	0	94	0.04
	BGA	138	50	0	188	0.09		BGA	44	43	0	87	0.08		BGA	148	67	0	216	0.08
	BDA	98	1	1	101	0.05		BDA	28	0	0	28	0.03		BDA	110	1	1	112	0.04
	SFA	187	4	4	195	0.09		SFA	72	3	1	76	0.07		SFA	220	6	3	229	0.09
	MNA	206	14	9	229	0.11		MNA	85	12	1	98	0.09		MNA	238	17	8	263	0.10
	MRA	243	10	11	264	0.12		MRA	92	10	2	104	0.09		MRA	262	13	9	284	0.11
	SBA	110	10	15	135	0.06		SBA	53	1	9	63	0.06		SBA	140	9	14	163	0.06
	LAA	104	4	29	137	0.06		LAA	42	0	15	59	0.05		LAA	123	4	32	161	0.06
	SDA	61	9	20	91	0.04		SDA	20	5	9	34	0.03		SDA	70	10	21	102	0.04
	sub	1,294	112	89	1,497	0.69		sub	510	83	37	632	0.57		sub	1,485	142	88	1,719	0.66
	P	0.86	0.07	0.06	1.00			P	0.81	0.13	0.06	1.00			P	0.86	0.08	0.05	1.00	
WOC Total		1,917	149	89	2,157	1.00	WOC Total		883	181	37	1,103	1.00	WOC Total		2,245	250	88	2,587	1.00
P		0.89	0.07	0.04	1.00		P		0.80	0.16	0.03	1.00		P		0.87	0.10	0.03	1.00	

1/ includes two dive boats BGA,SDA

1/ includes two LAA dive boats

1/ includes four dive boats

Primary gear types used by individual vessels were estimated based on gear type used to make most B species landings by time period and landing location⁶. The large majority of vessels--87% for all areas combined--used hook and line gear⁷. Pot gear⁸ was the second most common gear type (10%) and was

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⁶ Visual inspection of gear type data showed many vessels used more than one gear type to harvest B species groundfish, and the amount of catch taken by individual gear types by individual vessels varied between years and landings made at different ports within the same year. The gear type combinations were too varied to make a succinct (and meaningful) analysis of gear type combinations used to make B species landings during window period years. Thus, an algorithm was applied to vessel landings data to identify primary gear types.

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⁷ There is a variety of commercial fishing gear that uses hooks and lines in various configurations to catch finfish. These include longline, vertical hook and line, jigs, handlines, rod and reels, vertical and horizontal setlines, troll lines, cable gear and stick ge

ar.

⁸ The words "pot" and "trap" are used interchangeably to mean baited boxes set on the ocean floor to catch various fish and shellfish. They can be circular, rectangular or conical in shape. The pots may be set out individually or fished in strings. On the Pacific Coast, live sablefish, Dungeness crab, spot prawns, rock, box, and hermit crabs, spider crabs, spiny lobster and finfish (California sheephead, cabezon, kelp and rock greenling, California scorpionfish, moray eels, and many species of rockfish) are caught in pots.

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the most common gear type in the Columbia River, Washington area (33 of 65 vessels). Set net gear ⁹was used by 3.4% of the vessels, all off California. Four California dive boats made directed B species fishery landings (gear type unknown) (**Table 3-10**).

The distribution of the 1,103 vessels that made landings during 2004-2006 showed a northward shift compared to 1998-2003 vessel distributions. The California proportion was lower by 12 points to 57% while Oregon increased 7 points to 31% and Washington 4 points to 11%. The Brookings port group had the most vessels during this more recent period at 10%, followed by Morro Bay and Monterey at 9% each. Coos Bay, Oregon and Fort Bragg, California each were at 8% (tables 3-8 and 3-9). Hook and line gear was the primary gear type but declined 9 points, while pot gear increased by a corresponding amount compared to the previous period. Pot gear was by far the predominant gear type in the Columbia River, Washington area and was nearly as common as hook and line gear in the Fort Bragg area. Set net gear declined from about 4% to 3% of the coastwide gear totals during the 1998-2003 and 2004-2006 time periods. Two California dive boats made directed fishery landings during each of the latter periods (**Table 3-10**).

During 1998-2006, 3 vessels (<0.1%) made one or more landings in all three states, and 49 (1.9%) vessels made one or more landings in two states, as follow: 25 (1.0%) in Oregon and California, 23 (0.9%) in Washington and Oregon and 1 (<0.1%) in Washington and California. During 2004-2006, 2 vessels (<0.2%) made one or more landings in all three states, and 27 (2.4%) vessels made one or more landings in two states as follow: 12 (1.1%) landed in Oregon and California, 14 (1.3%) in Washington and Oregon, and 1 (<0.1%) in Washington and California.

3.3.3.5 Vessel Size Classes

The lengths of vessels that participated in the B species directed fishery during the window period showed decreasing vessel length from north to south. The average lengths of California, Oregon and Washington vessels were 28 ft, 32 ft, and 39 ft, respectively. The modal length of vessel in Washington was 40-49 ft while the modal length in California and Oregon was 21-24 ft, although there was a second modal length of Oregon vessels at 35-39 ft. (**Table 3-11**). The smaller vessels in California and Oregon may indicate participation in nearshore fisheries wherein smaller vessels may be able to fish more effectively closer to shore than larger vessels. The larger size of Washington vessels may be due to their dependence on sablefish, which are found farther offshore and require more working space to carry longline or pot fishing gear.

Table 3-11: Length frequencies of B species directed fishery vessels by 5-ft bins, 1998-2006

AGY	<10	10-14	15-20	21-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	>69	# vsls	Avg
CA	3	137	256	319	277	252	202	132	73	35	14	8	2	9	1,719	28.5
OR	1	7	54	172	81	80	95	68	45	28	12	4	8	6	661	32.3
WA	1	1	4	31	13	24	22	35	35	18	15	4	1	3	207	39.3
WOC	5	145	314	522	371	356	319	235	153	81	41	16	11	18	2,587	30.3

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⁹ Set net is a stationary, buoyed, and anchored gillnet or trammel net

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3.3.3.6 Participation in Other Fisheries

Landings data for the 2004-2006 window period were used to assess the dependence of B species vessels on other commercial fisheries. The analysis looked at landings and revenues from all major WOC commercial fisheries for vessels that made at least one directed B species landing during 2004-2006 window period years. The analysis showed that B species groundfish comprised 6.1 % and 6.8 %, respectively, of total fishery landings by B species vessels in terms of tonnage and revenues. Total fishery landings represented the sum of all commercial fishery tonnages and revenues by B species vessels during the specified years. Many of the vessels fished for nearshore species (47%), salmon troll and crabpot species (37%), , and miscellaneous (other) species (38%). HMS was also important to many vessels (31%) (**Table 3-12-1**). Tonnage landed was highest in crabpot fisheries (40%), followed by CPS (22%) and HMS (12%). Fisherman revenues were highest by a wide margin in crabpot fisheries at 53 % of total revenues. Salmon was second at 13 % of revenues (**Table 3-12-1**).

Table 3-12-1: Total fishery landings by vessels that made directed B species landing during 2004-2006 window period years, all years combined. WOC AREA

Fishery	# vsls	mts	000s	#vsls	mts	\$\$
B directed	1103	2,796.0	\$8,531.4	100.0%	6.1%	6.8%
Nearshore	516	972.9	\$7,163.6	46.8%	2.1%	5.8%
Salmon	406	2,666.4	\$16,550.8	36.8%	5.9%	13.3%
Red urchin	23	1,788.1	\$2,328.6	2.1%	3.9%	1.9%
Trawl	31	1,964.7	\$2,513.1	2.8%	4.3%	2.0%
Set net	50	613.6	\$2,789.7	4.5%	1.4%	2.2%
HMS	347	5,351.1	\$10,564.1	31.5%	11.8%	8.5%
CPS	94	9,795.1	\$2,269.8	8.5%	21.5%	1.8%
Crabpot	406	18,236.8	\$66,364.3	36.8%	40.1%	53.2%
P. halibut	98	191.9	\$1,165.2	8.9%	0.4%	0.9%
C. halibut	149	42.2	\$365.4	13.5%	0.1%	0.3%
Fishpot	29	488.1	\$862.2	2.6%	1.1%	0.7%
Other	421	609.1	\$3,223.4	38.2%	1.3%	2.6%
Total	1103	45,516.0	\$124,691.6	100.0%	100.0%	100.0%

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B species directed fishery vessels in Washington and California derived similar proportions of their total commercial fishery revenues from B species groundfish landings (7.8% and 7.9%, respectively) during 2004-2006. Oregon vessels had a slightly lower dependence at 5.2% of total revenues. Crabpot was the major source of commercial fishing revenues to B species vessels in all three states, followed by salmon in California and Oregon and HMS in Washington (Tables 3-12-2, 3-12-3 and 3-12-4; Figure 3-7).

Table 3-12-2: Total fishery landings by vessels that made directed B species landing during 2004-2006 window period years, all years combined. WASHINGTON ONLY

Fishery	# vsls	mts	000s	#vsls	mts	\$\$
B directed	126	608.6	\$1,723.1	100.0%	8.1%	7.8%
Nearshore	4	0.7	\$0.8	3.2%		
Salmon	37	325.6	\$1,957.5	29.4%	4.3%	8.8%
Red urchin						
Trawl	2	575.0	\$462.4	1.6%	7.7%	2.1%
Set net						
HMS	60	1,713.1	\$3,162.0	47.6%	22.9%	14.3%
CPS						
Crabpot	52	4,117.6	\$14,188.7	41.3%	55.0%	64.1%
P. halibut	24	58.2	\$367.2	19.0%	0.8%	1.7%
C. halibut						
Fishpot	2	6.4	\$8.6	1.6%	0.1%	
Other	21	79.7	\$258.7	16.7%	1.1%	1.2%
Total	328	7,484.9	\$22,129.0	100.0%	100.0%	100.0%

Table 3-12-3: Total fishery landings by vessels that made directed B species landing during 2004-2006 window period years, all years combined. OREGON ONLY

Fishery	# vsls	mts	000s	#vsls	mts	\$\$
B directed	345	687.1	\$2,433.2	100.0%	4.7%	5.2%
Nearshore	180	435.0	\$2,099.6	52.2%	3.0%	4.5%
Salmon	172	938.7	\$6,022.1	49.9%	6.4%	12.8%
Red urchin						
Trawl	4	1,224.7	\$1,047.7	1.2%	8.3%	2.2%
Set net						
HMS	156	2,052.4	\$3,903.9	45.2%	14.0%	8.3%
CPS	7	70.5	\$6.9	2.0%	0.5%	
Crabpot	136	8,718.1	\$30,153.6	39.4%	59.5%	64.2%
P. halibut	73	133.5	\$797.5	21.2%	0.9%	1.7%
C. halibut						
Fishpot	5	368.8	\$348.3	1.5%	2.5%	0.8%
Other	106	32.4	\$147.5	30.7%	0.2%	0.3%
Total	1184	14,661.2	\$46,960.3	100.0%	100.0%	100.0%

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Table 3-12-4: Total fishery landings by vessels that made directed B species landing during 2004-2006 window period years, all years combined. CALIFORNIA ONLY

Fishery	# vsls	mts	000s	#vsls	mts	\$\$
B directed	632	1,500.2	\$4,375.1	100.0%	6.4%	7.9%
Nearshore	332	537.2	\$5,063.3	52.5%	2.3%	9.1%
Salmon	197	1,402.1	\$8,571.2	31.2%	6.0%	15.4%
Red urchin	23	1,788.1	\$2,328.6	3.6%	7.7%	4.2%
Trawl	25	165.0	\$1,003.1	4.0%	0.7%	1.8%
Set net	50	613.6	\$2,789.7	7.9%	2.6%	5.0%
HMS	131	1,585.6	\$3,498.2	20.7%	6.8%	6.3%
CPS	87	9,724.6	\$2,262.9	13.8%	41.6%	4.1%
Crabpot	218	5,401.1	\$22,021.9	34.5%	23.1%	39.6%
P. halibut	1	0.1	\$0.5			
C. halibut	149	42.2	\$365.4	23.6%	0.2%	0.6%
Fishpot	22	112.9	\$505.4	3.5%	0.5%	0.9%
Other	294	497.0	\$2,817.2	46.5%	2.1%	5.1%
Total	2161	23,369.7	\$55,602.5	100.0%	100.0%	100.0%

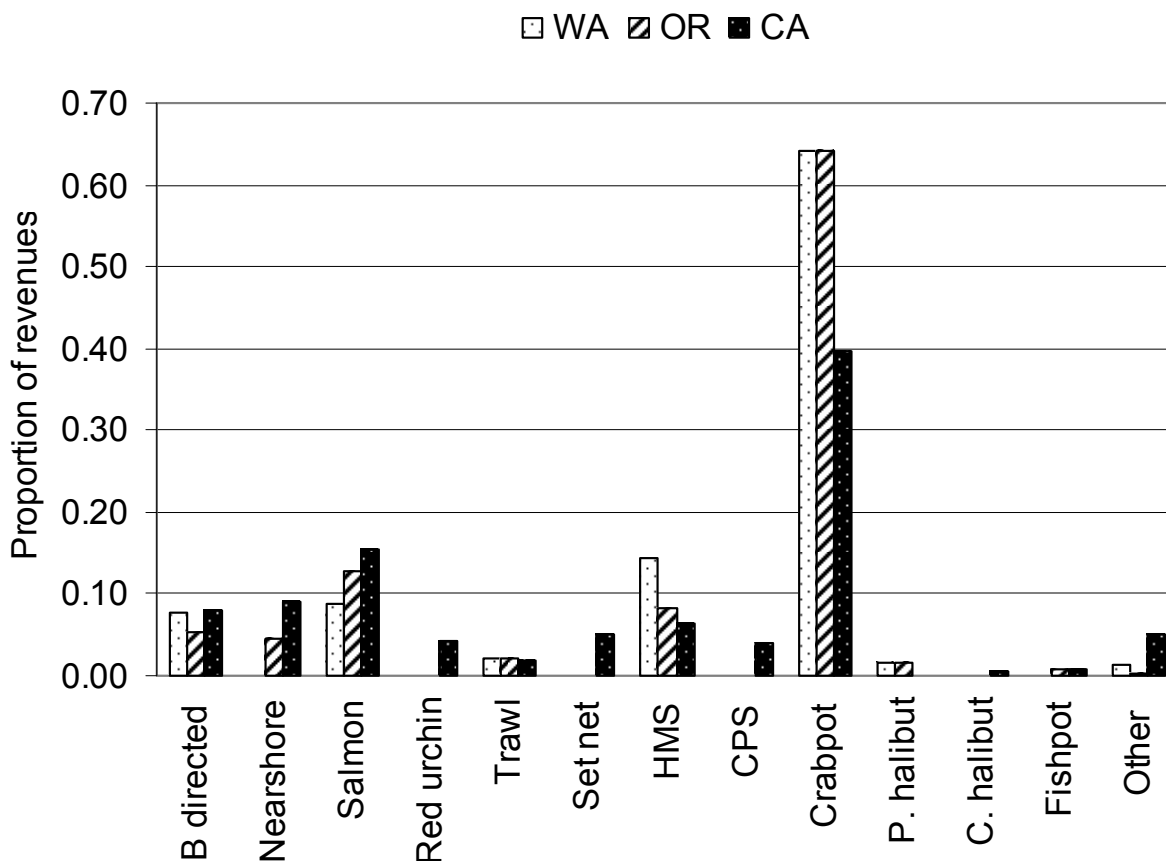


Figure 3-7: Proportion of revenues derived from specified species groups by vessels that made B species landings during 2004-2006 by state.

Note: this analysis did not show the dependence of WOC commercial fishing vessels on B species groundfish. Some of the vessels in the other commercial fisheries likely made no B species groundfish landings during the specified years. If the analysis were done to show the dependence of WOC

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commercial fishing vessels on B species groundfish the contribution of B species landings would be less than the values shown in the above tables.

3.3.3.7 Impacts to Overfished Groundfish

The PFMC's Groundfish Management Team (GMT) makes projections of groundfish regulation impacts to overfished groundfish species. This is done for biennial specifications and whenever inseason regulation changes are proposed. The open access fishery directed fishery impacts estimated for 2007 updated with June 2007 inseason adjustments were as follow:

2007 Projected mortality impacts (mt) of overfished groundfish species under current regulations. Updated with June 2007 inseason adjustments, whiting bycatch of widow rockfish through July 26, and new research catch projections. a/

Fishery	Bocaccio b/	Canary	Cowcod	Dkbl	POP	Widow	Yelloweye
Open Access: Directed Groundfish							
Sablefish DTL	0.0			0.2	0.1	0.0	0.5
Nearshore (North of 40°10' N. lat.)	0.0	1.7	0.1	0.0	0.0	0.1	2.0
Nearshore (South of 40°10' N. lat.)	0.0			0.0	0.0		
Other	10.6			0.0	0.0	0.0	0.1
2007 OY	218	44.0	4.0	290	150	368	23
B species directed fishery impact	5%	0%	3%	0%	0%	0%	3%

a/ All numbers reflect projected annual total catches except that the non-tribal "Limited Entry Trawl- Whiting" numbers are the total bycatch caps for canary and darkblotched rockfish.

b/ South of 40°10' N. lat.

The estimates show the B species directed fishery (which excludes nearshore species) was estimated to take a negligible (<0.5%) amount of over fished canary, darkblotch and widow rockfish and Pacific Ocean perch and 3% or 5% of overfished bocaccio, cowcod and yelloweye rockfish based on 2007 estimates of optimum yield (OY). Most of the impact was in the sablefish daily trip limit fishery except for bocaccio which was estimated to be caught in "other" fisheries such those for lingcod and shelf rockfish.

3.3.4 Target Species Vessel Groups

Vessels were assigned to target species groups based on receipt of >50% of B species from a single species or species group for landings during 2004-2006 as follows: sablefish, shelf rockfish, slope rockfish, lingcod, sharks and rays (sharks), and other species. Vessels that could not be assigned to a target species group were assigned to a non-target species group.

Lingcod was landed by more vessels (599) than any other species group, followed by shelf rockfish and sablefish at 546 and 504 vessels, respectively. Between 109 and 261 vessels landed slope rockfish, other species, and sharks. The non-target fleet numbered 25 vessels (Table 3-13-1; Figure 3-8).

Sablefish was the most sought-after B species groundfish during 2004-2006 with landings totaling 4.3 million pounds. Of the sablefish total, 98% was landed by the target sablefish fleet. The total B species landing by the sablefish fleet of about 4.8 million pounds represented 78% of the B species harvest by all directed fishery vessels of 6.2 million pounds (Table 3-13-1; Figure 3-8).

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Table 3-13-1. Target and B species statistics for WOC vessels during 2004-2006 1/

	Sablefish fleet			Shelf RF fleet			Slope RF fleet			Lingcod fleet		
	vsls	target lbs	B lbs	vsls	target lbs	B lbs	vsls	target lbs	B lbs	vsls	target lbs	B lbs
WA	114	959,077	999,921	0	0	0	2	156	207	4	8,028	8,467
OR	178	1,249,506	1,340,896	9	3,775	5,818	0	0	0	158	151,885	167,999
CA	155	2,205,421	2,455,166	114	64,512	84,082	27	155,279	190,365	224	170,573	224,555
WOC	447	4,414,004	4,795,982	123	68,287	89,900	29	155,435	190,572	386	330,485	401,021
Fleet 3/	504	4,507,341	98%	546	169,063	40%	261	299,165	52%	599	434,603	76%
lbs/vsl		9,875	10,729		555	731		5,360	6,571		856	1,039
median		4,142	4,422		208	273		2,746	3,658		420	468
high		69,416	75,252		9,038	12,967		38,300	40,880		4,975	6,908
low		16	16		3	3		42	42		5	5
	Shark fleet			Other species fleet			Non-target fleet 2/			Totals for all fleets		
	vsls	target lbs	B lbs	vsls	target lbs	B lbs	vsls	target lbs	B lbs	vsls	target lbs	B lbs
WA	5	288,169	298,812	0	0	0	1	0	34,379	126	1,255,429	1,341,786
OR	0	0	0	0	0	0	0	0	0	345	1,405,166	1,514,713
CA	52	145,219	150,224	36	16,361	18,837	24	0	184,224	632	2,757,365	3,307,452
WOC	57	433,388	449,037	36	16,361	18,837	25	0	218,603	1,103	5,417,960	6,163,952
Fleet	109	480,175	90%	288	257,926	6%	25	0	n/a	2,332	6,148,274	88%
lbs/vsl		7,603	7,878		454	523		n/a	8,744		4,912	5,588
median		789	789		131	131		n/a	1,480		n/a	n/a
high		175,190	183,801		5,337	5,337		n/a	127,668		175,190	183,801
low		9	14		1	1		n/a	15		0	1

1/ each vessel was assigned to a species group based on a >50% revenue criterion

2/ vessels that landed did not land >50% of revenues on a single species group were placed in this category
each species that were made by each target species fleet.

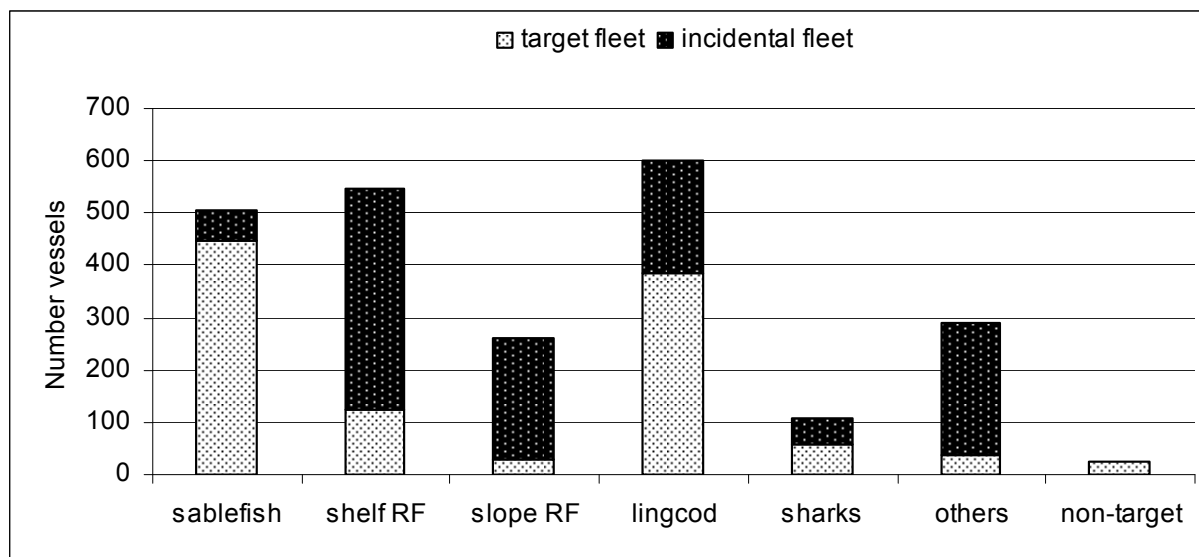


Figure 3-8: Number of vessels that derived their primary (>50%) B species fishery revenues from specified species groups (target fleet) and those that derived secondary (\leq 50%) revenues from those same groups (incidental fleet) during 2004-2006. The non-target fleet was comprised of vessels that did not have a target species group.

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The distribution of sablefish was highest at Oregon ports (178, 40%), followed by California (155, 35%) and Washington (114, 26%) (**Table 3-13-1**). Sablefish vessels averaged 9,875 lbs of sablefish, which represented 92% of the total B species landings by the sablefish fleet. Sablefish vessel B species catch histories ranged from 16 to 75,252 lbs per vessel with a median landing of 4,422 lbs. The vast majority (>91%) of B species landings by sablefish vessels was of sablefish (**Table 3-13-1; Figure 3-9**).

Total landings by each of the other groups was very small by comparison to sablefish ranging from 258,000 for other species to 480,000 for sharks (**Table 3-13-1; Figure 3-9**). The shark fleet took 90% of the shark landings, while the lingcod fleet took 76% of the lingcod landings. The other species fleet took only 6.3% of the other species total, while the shelf and slope rockfish fleets took 40% and 52%, respectively of those species totals (**Table 3-13-1; Figure 3-9**). The average landing per vessel was relatively high for shark and slope rockfish vessels with a range of 6,571-8,744 lbs. Conversely it was low for the shelf rockfish, lingcod and other species vessels with a range of from 523-1,039 per vessel. The high vessel overall landed a total of 183, 801 pounds of B species groundfish, most of which was sharks. The lingcod fleet was almost entirely California and Oregon vessels. The shark, shelf rockfish, slope rockfish, and other species fleets were almost entirely California vessels (**Table 3-13-1**).

State-specific target-species data show relatively strong B species catch histories for California sablefish vessels (9,380 lb median), followed by Washington (4,438 lb median) and Oregon (3,140 lb median) vessels (**Table 3-13-2**). The few (5) Washington shark vessels have very high B species catch histories of B species groundfish (32,595 lb median), nearly all of which are sharks. California slope rockfish vessels also have relatively large B species catch histories (3,780 lb median) compared to most other target-species vessel groups (**Table 3-13-2**). The Washington lingcod vessels also have relatively strong B species catch histories (2,074 lb median) but there are only four of them. All other state-specific target-species vessel groups have relatively small B species catch histories (1,421 lbs median or less) (**Tables 3-13-2 and 3-13-3**).

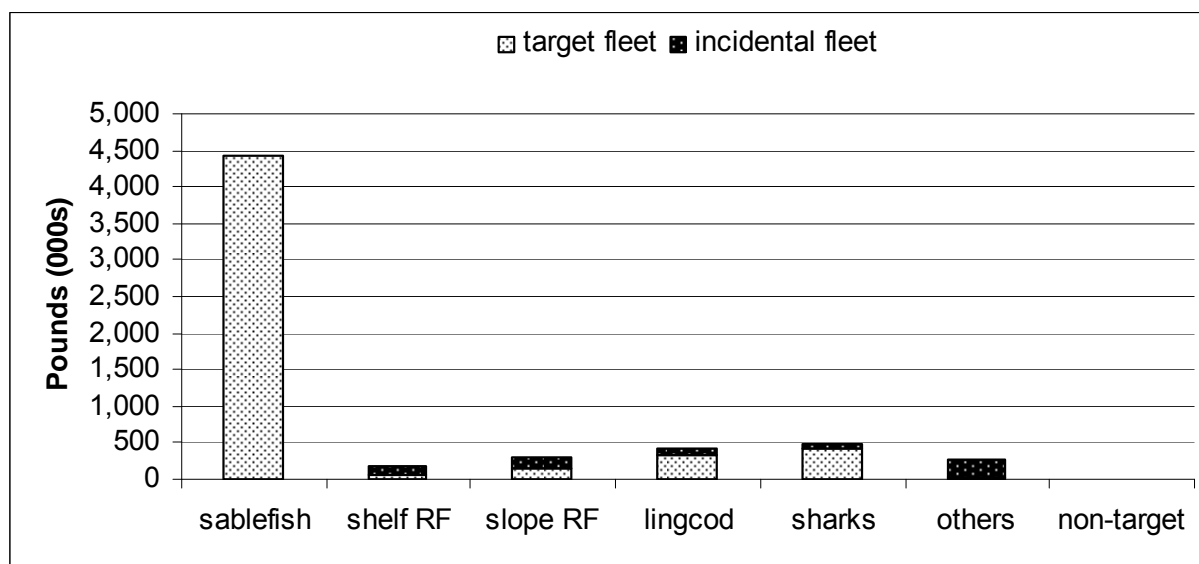


Figure 3-9. Pounds of B species groundfish landed by vessels that derived their primary (>50%) B species fishery revenues from specified species groups (target fleet) and those that derived secondary ($\leq 50\%$) revenues from those same groups (incidental fleet) during 2004-2006. The non-target fleet was comprised of vessels that did not have a target species group.

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Table 3-13-2. State-specific target-species fleet statistics

	Sablefish fleet			Shelf RF fleet			Slope RF fleet			Lingcod fleet		
	vsIs	targ lbs	B lbs	vsIs	targ lbs	B lbs	vsIs	targ lbs	B lbs	vsIs	targ lbs	B lbs
WA	114			0			2			4		
lbs/vsl		8,413	8,771		0	0		78	104		2,007	2,117
median		4,079	4,438		0	0		78	104		1,971	2,074
high		43,202	43,912		0	0		89	134		4,056	4,152
low		26	26		0	0		67	73		31	167
OR	178			9			0			158		
lbs/vsl		7,020	7,533		419	646		0	0		961	1,063
median		3,083	3,140		37	37		0	0		556	571
high		56,684	63,208		1,501	2,217		0	0		4,319	5,538
low		41	41		4	4		0	0		12	14
CA	155			114			27			224		
lbs/vsl		14,229	18,005		566	738		5,751	7,051		761	1,002
median		7,026	9,380		213	277		3,192	3,780		385	430
high		69,416	127,668		9,038	12,967		38,300	40,880		4,975	6,908
low		16	1,594		3	3		42	42		5	5
	Shark fleet			Other species fleet			Non-target fleet 2/			Totals for all fleets		
	vsIs	targ lbs	B lbs	vsIs	targ lbs	B lbs	vsIs	targ lbs	B lbs	vsIs	targ lbs	B lbs
WA	5			0			1			126		
lbs/vsl		57,634	59,762		0	0		0	34,379		10,043	10,649
median		32,063	32,595		0	0		0	34,379		3,750	4,214
high		175,190	183,801		0	0		0	34,379		175,190	183,801
low		3,347	3,347		0	0		0	34,379		26	26
OR	0			0			0			345		
lbs/vsl		0	0		0	0		0	0		4,073	4,390
median		0	0		0	0		0	0		1,235	1,302
high		0	0		0	0		0	0		56,684	63,208
low		0	0		0	0		0	0		4	4
CA	52			36			24			632		
lbs/vsl		2,793	2,889		36	454		0	7,676		4,535	5,233
median		427	488		131	131		0	1,421		579	702
high		64,070	64,088		5,337	5,337		0	127,668		69,416	127,668
low		9	14		1	1		0	15		1	1

1/ each vessel was assigned to a species group based on a >50% revenue criterion

2/ vessels that landed did not land >50% of revenues on a single species group were placed in this category

3/ number of vessels and lbs landed in B species directed trips are shown in this row including the proportion of the total landed of each species that were made by each target species fleet.

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Table 3-13-3: Median B species directed fishery landings during 2004-2006 window period for state-specific target-species vessel groups 1/

State and target-species vessel group	Median lbs	# vsls
WA non-target	34,379	1
WA shark	32,595	5
CA sablefish	9,380	155
WA sablefish	4,438	114
CA slope rockfish	3,780	27
OR sablefish	3,140	178
WA lingcod	2,074	4
CA non-target	1,421	24
OR lingcod	571	158
CA shark	488	52
CA lingcod	430	224
CA shelf rockfish	277	114
CA other species	131	36
WA slope rockfish	104	2
OR shelf rockfish	37	9
Total	-	1,103

1/ Derived from Appendix Table E-15. Vessels were assigned to target-species groups based on >50% of revenues from a particular group.

3.3.5 Processor Characteristics Over Action Time Period - Number, Size Class, Revenues, Dependence, Other Fishery Participation

Data on the number of fish processing plants and their employees are presented in subsection 6.2, Regulatory Impact Review and Regulatory Flexibility Analysis.

WOC fish buyers and fish processing plants received about 990 thousand metric tons of fishery products during the 2004-2006 window period. The ex-vessel value of the landings was about \$784 million. CPS species comprised 42% of the landings by weight while crab was the most valuable species group at 37% for all species combined. Groundfish represented 39% by weight and 20% by ex-vessel value of total fishery landings. The leading port groups in terms of weight of fish landed were Oregon-Columbia River (CLO, 20%), Los Angeles Area (LAA, 17%), Washington-Columbia River (CWA, 15%) and Newport (NPA, 14%). The leading port groups in terms of ex-vessel value of fish landed were Coastal Washington (CWA, 14%), Newport (NPA, 11%), Los Angeles Area (LAA, 9%), Coos Bay (CBA, 8%) and Santa Barbara Area (SBA, 8%) (**Table 3-14**).

A total of 809 different fish buyers, distributed among 70 ports, purchased B species groundfish during window period years. In 2006, the comparative figures were 214 buyers among 55 ports. A large majority of buyers (79%) operated from California ports, particularly between San Francisco (SFA) and San Diego (SDA) (471). Fishermen landing and selling their own catches likely contributed to the large number of fish buyers at California ports (**Table 3-15**).

Total B species landings for the window period years were 7,906 mt of fish with an ex-vessel value of \$20.7 million. The leading state for B species groundfish landings (for directed fishery and incidental fishery landings combined) was California with 66% by weight and 62% by ex-vessel value of WOC window period totals (**Table 3-15**).

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Table 3-14. WOC commercial fishery landings by species group, port group and state in number of vessels, tonnage landed and ex-vessel value for 2004-2006 window period years combined. Imports and shipments excluded.

	Groundfish		Salmon		Shellfish		Shrimp		Crab		HMS		CPS		Other		Total	
	mts	\$\$K	mts	\$\$K	mts	\$\$K	mts	\$\$K	mts	\$\$K	mts	\$\$K	mts	\$\$K	mts	\$\$K	mts	\$\$K
WA																		
NPS	13,786	20,770	1,468	5,378	0	0	1	10	1,804	7,949	1,158	3,524	742	131	527	3,436	19,486	41,198
SPS	89	385	9	42	0	0	18	129	54	275	48	101	0	0	147	172	365	1,104
CWA	107,027	19,030	372	2,030	190	624	6,338	5,373	17,546	61,842	8,292	14,743	10,830	1,227	353	1,682	150,948	106,551
CLW	19,946	4,389	53	363	2	5	1,747	1,489	3,090	10,215	10,835	20,629	8,331	1,259	72	335	44,076	38,684
WAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sub	140,848	44,574	1,902	7,813	192	629	8,104	7,001	22,494	80,281	20,333	38,997	19,903	2,617	1,099	5,625	214,875	187,537
OR																		
CLO	74,965	27,528	228	1,666	59	264	5,276	4,392	6,128	20,188	3,454	7,688	112,394	14,564	318	646	202,822	76,936
TLA	193	503	216	1,479	128	105	1,595	1,427	1,848	6,425	269	583	203	23	16	53	4,468	10,598
NPA	117,900	24,225	1,243	8,263	0	1	6,870	6,492	9,941	33,614	4,727	9,229	277	160	443	1,254	141,401	83,238
CBA	19,696	12,765	1,211	7,670	33	61	3,934	3,597	8,988	31,761	3,050	6,368	57	35	1,043	1,450	38,012	63,707
BRA	2,768	6,486	265	1,648	3	13	352	412	6,030	20,880	72	161	3	1	346	261	9,839	29,862
sub	215,522	71,507	3,163	20,726	223	444	18,027	16,320	32,935	112,868	11,572	24,029	112,934	14,783	2,166	3,664	396,542	264,341
CA																		
CCA	5,735	3,889	170	993	0	0	291	773	11,684	40,341	342	628	0	0	11	9	18,233	46,633
ERA	15,765	8,855	132	741	0	0	1,219	1,162	6,974	24,474	699	1,354	25	11	433	365	25,247	36,962
BGA	4,654	7,348	1,295	7,704	1	1	5	38	867	3,036	74	180	0	0	1,445	1,134	8,341	19,441
BDA	103	317	1,023	6,537	0	0	365	283	1,704	6,563	37	72	253	177	55	185	3,540	14,134
SFA	2,433	4,156	2,345	13,391	0	1	447	1,200	3,915	16,046	123	349	3,240	1,390	792	4,343	13,295	40,876
MNA	2,788	5,096	918	5,680	0	0	244	1,213	262	1,162	309	720	55,183	7,556	161	825	59,865	22,252
MRA	1,517	4,317	125	930	0	0	372	1,887	202	960	104	344	946	468	54	250	3,320	9,156
SBA	273	1,253	8	54	0	0	122	2,273	1,120	3,063	144	343	67,201	29,368	11,492	22,959	80,360	59,313
LAA	467	2,430	1	6	3	4	101	2,004	182	503	1,398	2,491	159,060	53,960	2,663	9,753	163,875	71,151
SDA	240	1,265	0	0	1	5	26	506	157	356	723	2,909	149	92	1,524	6,648	2,820	11,781
CAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sub	33,975	38,926	6,017	36,036	5	11	3,192	11,339	27,067	96,504	3,953	9,390	286,057	93,022	18,630	46,471	378,896	331,699
WOC Total	390,345	155,007	11,082	64,575	420	1,084	29,323	34,660	82,496	289,653	35,858	72,416	418,894	110,422	21,895	55,760	990,313	783,577

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Table 3-15: B species fish buyer data by state and in total for 1998-2006 with 2006 data in parentheses

	Port group	# ports	# buyers	mts	\$\$K
WA	NPS	4 (3)	15 (4)	405.9 (68.8)	739.6 (62.8)
	SPS	1 (1)	3 (1)	20 (4.7)	77.9 (19.3)
	CWA	4 (2)	14 (4)	419.9 (39.6)	1272.2 (151.9)
	CLW	2 (1)	13 (3)	298.8 (109.6)	1,096.8 (420.1)
	WAU	1 (0)	1 (0)	.3 (0)	.9 (0)
	sub	12 (7)	46 (12)	1,144.9 (222.7)	3,187.4 (654.1)
OR	CLO	1 (1)	9 (4)	198.6 (33.8)	768.8 (131.4)
	TLA	2 (2)	21 (10)	70.9 (14.0)	192.1 (54.9)
	NPA	2 (2)	37 (10)	146.2 (36.0)	426.9 (153.5)
	CBA	4 (4)	28 (11)	392.8 (96.6)	1,207.9 (372.7)
	BRA	3 (3)	28 (6)	706.4 (115.2)	2,117.9 (419.5)
	sub	12 (12)	123 (41)	1,514.9 (295.6)	4,713.6 (1132.0)
CA	CCA	2 (1)	27 (4)	147.3 (12.3)	500.6 (46.4)
	ERA	4 (3)	39 (10)	424.4 (38.8)	1,118.3 (125.1)
	BGA	4 (4)	41 (11)	1,234.6 (157.7)	3,456.7 (483.2)
	BDA	5 (3)	61 (11)	527.9 (3.2)	788.1 (12.2)
	SFA	8 (5)	133 (33)	490.9 (33.1)	1,101.9 (143.6)
	MNA	4 (4)	74 (18)	1,422.9 (72.5)	2,767.8 (192.0)
	MRA	3 (3)	49 (22)	307.8 (36.0)	842.8 (118.7)
	SBA	5 (4)	87 (21)	231.4 (9.6)	655.1 (32.7)
	LAA	7 (6)	71 (15)	187.2 (12.8)	606.2 (49.7)
	SDA	3 (3)	57 (16)	271.3 (25.0)	974.6 (117.3)
	CAU	1 (0)	1 (0)	.4 (0)	1 (0)
	sub	46 (36)	640 (161)	5,246.1 (401.0)	12,813.1 (1,320.9)
WOC	Total	70 (55)	809 (214)	7,905.9 (919.3)	20,714.1 (3,107.0)

3.3.6 Participation Requirements, Restrictions, Licensing

There is no Federal permitting or licensing requirement to participate in the open access fishery, beyond the requirement to have an operational VMS unit when fishing in federal waters. .

California

California requires open access vessel owners and fishermen to annually register their vessel and obtain commercial fishing licenses for all persons on the vessel with CDFG. There is no state permit requirement to take federal species except for nearshore species which are managed under three independent types of limited entry permit: 1) shallow nearshore species, 2) deeper nearshore species, and 3) a bycatch permit. A permit is required of any person to directly or incidentally take either nearshore species group. California requires commercial fish buyers and processors to obtain appropriate licenses in advance of receiving and processing federal groundfish. There is no restriction on the number of fishermen or vessels that may participate in the groundfish fishery, other than for nearshore species as described above. California commercial fishery registration and license information are available on the CDFG web site at: <http://www.dfg.ca.gov/licensing/commercial/commercialinfo.html>

Oregon

In Oregon licenses are required for any boat, vessel, or floating craft used in taking of food fish or shellfish for commercial purposes, except clams and crayfish. Boat licenses are not required to take fish for bait under a bait fishing license. A single delivery license may be obtained in lieu of commercial fishing and boat licenses for each separate landing of catch. Oregon commercial fishery license information is available on the ODFW web site at: <http://www.dfw.state.or.us/fish/commercial/forms.asp>.

Washington

(Need WA input here)

3.3.7 Revenue/Costs to the Participants and to State and Federal Governments

California

California registration and license fee information are posted on CDFG's web site as follows:

<http://www.dfg.ca.gov/licensing/commercial/commercialinfo.html>. Commercial fees are as high as \$1,560 annually for a multi-purpose fish business license. The basic commercial fishing license is \$108.25 annually for resident fishermen. The vessel registration fee is \$284 annually for a resident vessel owner.

Oregon

Oregon registration and license information can be found at

<http://www.dfw.state.or.us/fish/commercial/forms.asp>. Every individual operating or assisting in the operation of any commercial fishing gear or fishing boat must have a commercial fishing license or crewmember license (except for albacore). Every member of the crew on a commercial fishing boat must be licensed. Residential commercial fishing licenses are \$50.00, nonresident commercial fishing license are \$290, and a crewmember license is \$85.00.

Washington

Washington State limited entry licenses (e.g., coastal Dungeness crab or salmon troll) include a delivery permit, which allows for the landing of all state classified species into Washington. If an individual does not have a state limited entry license, then he/she would need to purchase a non-salmon delivery permit to land groundfish (Michele Culver 2008). Washington commercial fishery registration and license information are available on the WDFW web site at: <http://wdfw.wa.gov/lic/commercial/index.htm>.

NMFS

Currently, NMFS charges only for initial issuance and annual renewal of Pacific Coast Groundfish Limited Entry Permits but it has the authority to charge fees for a broader range of limited entry permit services (i.e.; transfer, permit replacement). In 2008, it is anticipated that the fee for the renewal of a Limited Entry Permit will be about \$125. NMFS assessed an initial issuance fee for the A Limited Entry Permit (~\$200 in 1993) and a subsequent Sablefish Endorsement (~\$800 in 1997). Costs of each alternative would be dependent on the incremental activities and resources required to implement the permit requirements and on the number of permit holders/applicants.

3.3.8 Groundfish-dependent Communities

Landings data for vessels that made directed fishery landings of B species groundfish during 2004-2006 window period years were analyzed to determine the relative importance of B species directed fishery landings to the states and port groups within states¹⁰. The data showed that Washington, Oregon and California landings totaled 2,796 mt of fish worth about \$8.5 million to the fishermen for all years combined during 2004-2006 window period years (**Table 3-16**).

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¹⁰ Personal income impact analysis of the alternatives is presented in Appendix E. It shows that revenue-based analysis for B species directed fishery groundfish, represented 52%-59%, depending on state, and 55% overall for all species combined of personal income impact to the West Coast economy during 2004-2006 (Table E-16).

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Table 3-16: B species groundfish directed fishery landings in number of landings, tons, ex-vessel value, and proportion of total commercial fishery landings by port group and state during 2004-2006 window period

Port/AGY	B species data							B species prop. of commercial landings	
	# ldgs	mt	000s	Price/ lb	P ldgs	P mt	P \$\$	P mt	P \$\$
SPS	19	7	\$30	\$1.85	0%	0%	0%	2.0%	2.7%
NPS	208	198	\$225	\$0.51	1%	7%	3%	1.0%	0.5%
CWA	682	157	\$553	\$1.60	3%	6%	6%	0.1%	0.5%
CLW	691	242	\$903	\$1.69	3%	9%	11%	0.5%	2.3%
WA	1,600	604	\$1,711	\$1.28	8%	22%	20%	0.3%	0.9%
CLO	291	94	\$363	\$1.75	1%	3%	4%	0.0%	0.5%
TLA	898	31	\$107	\$1.56	4%	1%	1%	0.7%	1.0%
NPA	245	48	\$187	\$1.78	1%	2%	2%	0.0%	0.2%
CBA	673	188	\$666	\$1.60	3%	7%	8%	0.5%	1.0%
BRA	3,953	338	\$1,153	\$1.55	19%	12%	14%	3.4%	3.9%
OR	6,060	700	\$2,476	\$1.60	29%	25%	29%	0.2%	0.9%
CCA	1,111	36	\$133	\$1.67	5%	1%	2%	0.2%	0.3%
ERA	517	126	\$395	\$1.43	2%	4%	5%	0.5%	1.1%
BGA	3,144	605	\$1,706	\$1.28	15%	22%	20%	7.3%	8.8%
BDA	381	11	\$38	\$1.60	2%	0%	0%	0.3%	0.3%
SFA	1,231	81	\$304	\$1.70	6%	3%	4%	0.6%	0.7%
MNA	1,954	370	\$774	\$0.95	9%	13%	9%	0.6%	3.5%
MRA	3,006	96	\$319	\$1.50	14%	3%	4%	2.9%	3.5%
SBA	468	33	\$112	\$1.55	2%	1%	1%	0.0%	0.2%
LAA	493	36	\$133	\$1.66	2%	1%	2%	0.0%	0.2%
SDA	1,170	98	\$430	\$1.99	6%	3%	5%	3.5%	3.6%
CA	13,475	1,492	\$4,345	\$1.32	64%	53%	51%	0.4%	1.3%
WOC	21,135	2,796	\$8,531	\$1.38	100%	100%	100%	0.3%	1.1%

Washington received 22%, Oregon 25% and California 64% by weight of the coastwide total of B species directed fishery landings. The respective state proportions in terms of value of catch to the fishermen were 20%, 29% and 51% respectively. The Brookings port group had the greatest activity in terms of number of landings (19%), followed by Fort Bragg (15%) and Morro Bay (14%) port groups. The Fort Bragg port group had the greatest total weight landed (22%) followed by Monterey and Brookings port groups (13% and 12%, respectively). The Fort Bragg port group was also highest in terms of fisherman revenues followed by Brookings and Columbia River, Washington port groups at 20%, 14% and 11%, respectively. The highest price paid for B species groundfish was in the San Diego port group at \$1.99 and lowest in North Puget Sound port group at \$0.51. The coastwide average price paid per pound was \$1.38 (**Table 3-16**).

States' landings data for individual groundfish species and year are shown in **Table 3-5**. The primary port of landing by vessels that made B species landings during 2004-2006 window period years and the gear types used are tabulated in **Table 3-10**.

B species landings expressed as proportion of total WOC fishery landings in recent years (2004-2006 window period) showed a negligible (<0.3%) contribution rate based on tonnage landed and 1.1% based on ex-vessel value of fish landed (**Table 3-16**). For individual ports, B species landings exceeded 3% of total landings either in terms of weight or value of fish landed at six port groups (tonnage and ex-vessel values, respectively, shown in parentheses): Fort Bragg (BDA, 7% and 9%), Brookings (BRA, 3% and

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4%), Morro Bay (MRA, 3% and 3%), South Puget Sound (SPS, 2% and 3%) and Monterey (MNA, 1% and 3%) (Table 3-16; Figure 3-10).

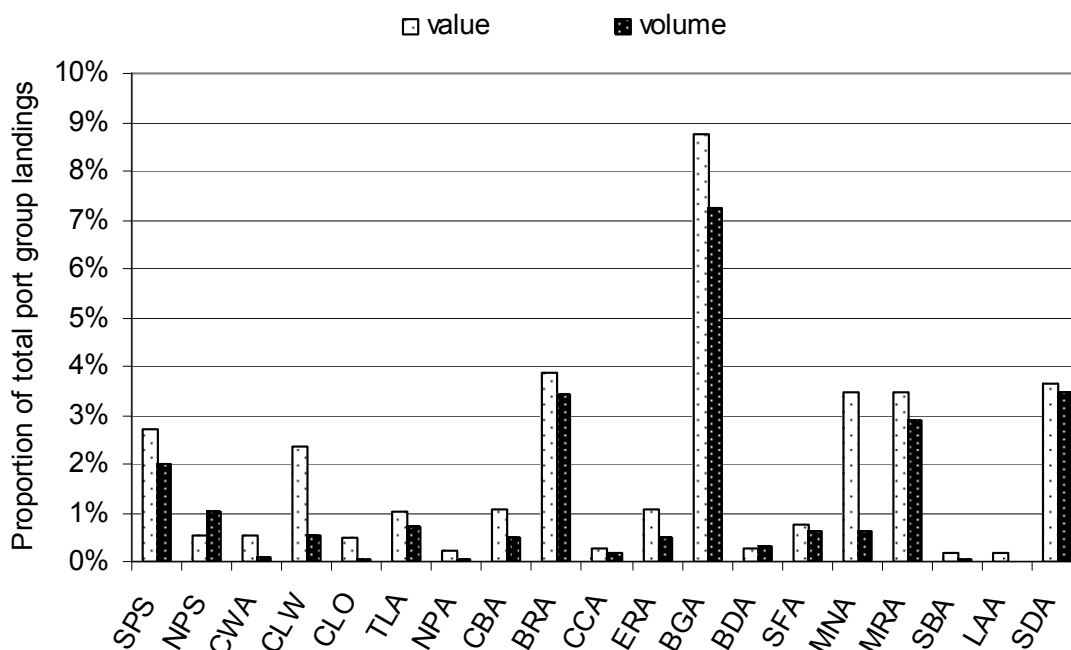


Figure 3-10: B species groundfish landings expressed as a proportion of WOC port group landings, 2004-2006 window period years combined

The “2007-2008 Groundfish Specifications and Management Measures Amendment 16-4: Rebuilding Plans Environmental Impact Statement” Appendix A “Additional Socioeconomic Analysis” contains a study called “Fishing Community Engagement, Dependence, Resilience and Identification of Potentially Vulnerable Communities” in Section A.4.1. This study looked at four categories to categorize communities, which are: engagement, dependency, resiliency and vulnerability. Each category was developed using various indicators. For this analysis, dependence, resilience and vulnerability are applicable indicators. Dependence refers to a community’s dependence upon the groundfish fishery. This includes both limited entry and open access fishing. Resilience refers to the ability for a community to adapt to changes in management measures and vulnerability highlights areas that exhibit both high dependence and low resilience. The following table shows the categories and indicators, used for each category. Notice the scale for dependence and resilience range by the number of indicators.

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Category	Indicator	Scale
Dependence	<ul style="list-style-type: none"> Number of federal and state groundfish permits as a percentage of each state's total number of groundfish permits (based on owner's mailing address) Groundfish revenue as a percentage of total community fisheries revenue Groundfish revenue as a percentage of total groundfish revenue coastwide 	0-3
Resilience	<ul style="list-style-type: none"> Industry diversity index Unemployment rate Percentage of the population living below that poverty line Isolated cities Population density 	0-5
Vulnerable	<ul style="list-style-type: none"> Communities that are both relatively highly dependent and have relatively low resilience. These are areas that scored a 1 or greater for both dependence and resilience 	Yes/No

The methodology of this study was to comprise the data sets for each indicator by category and community. Then communities were ranked highest to lowest for each indicator value. The top 1/3 communities were identified for each indicator and the number of times a community was listed in the top 1/3 for each indicator was tallied.

This report analyzed 131 communities; 74 communities had a dependence score of one or higher and 18 cities had a score of two or higher, these are: Astoria, Bellingham, Brookings, Coos Bay, Crescent City, Eureka, Fort Bragg, Morro Bay, Newport, Port Orford, San Francisco, which had a score of three and Blaine, Gold Beach, Moss Landing, Neah Bay, Pacific City, Port Angeles, and Westport, which had a score of two. Out of these 18 cities 15 had a resilience score of 1 or greater while Brookings, San Francisco and Blaine had a score of 0 and are therefore had no indicators ranked in the top 1/3 of all areas analyzed. According to this report's definition of vulnerability, the 15 cities identified with a score of 1 or greater in both categories would be considered vulnerable. However, given that the resilience scale is based on 5 criteria, areas with a score of three or greater should be paid particular attention. These are: Moss Landing and Neah Bay.

3.3.9 *Environmental Justice*

Executive Order (EO) 12898 obligates Federal agencies to identify and address "disproportionately high adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations in the United States" as part of any overall environmental impact analysis associated with an action. NOAA guidance (NAO 216-6) at '7.02, states that "consideration of EO 12898 should be specifically included in the NEPA documentation for decision-making purposes." Agencies should also encourage public participation--especially by affected communities--during scoping, as part of a broader strategy to address environmental justice issues.

The environmental justice analysis must first identify minority and low-income groups that live in the project area and may be affected by the action. Typically, census data are used to document the occurrence and distribution of these groups. Agencies should be cognizant of distinct cultural, social, economic, or occupational factors that could amplify the adverse effects of the proposed action. Once communities have been identified and characterized, and potential adverse impacts of the alternatives are identified, the analysis must determine whether these impacts are disproportionate. Because of the context in which environmental justice is developed, health effects are usually considered, and three factors may be used in an evaluation: whether the effects are deemed significant, as the term is employed by NEPA; whether the rate or risk of exposure to the effect appreciably exceeds the rate for the general population or some other comparison group; and whether the group in question may be affected by cumulative or

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multiple sources of exposure. If disproportionately high adverse effects are identified, mitigation measures should be proposed. Community input into appropriate mitigation is encouraged.

Participation in decisions about the proposed action by communities that could experience disproportionately high and adverse impacts is another important principle of the EO. The Council offers a range of opportunities for participation by those affected by its actions and disseminates information to affected communities about its proposals and their effects through several channels. In addition to Council membership, which includes representatives from the fishing industries affected by Council action, the GAP, a Council advisory body, draws membership from fishing communities affected by the proposed action. While no special provisions are made for membership to include representatives from low income and minority populations, concerns about disproportionate effects to minority and low income populations could be voiced through this body or to the Council directly. Although Council meetings are not held in isolated coastal communities for logistical reasons, they are held in different places up and down the Pacific Coast to increase accessibility. In addition, fishery management agencies in Oregon and California sponsored public hearings in coastal communities to gain input on the proposed action. The comments were made available to the Council in advance of their decision to choose a preferred alternative.

The Council disseminates information about issues and actions through several media. Although not specifically targeted at low income and minority populations, these materials are intended for consumption by affected populations. Materials include a newsletter, describing business conducted at Council meetings, notices for meetings of all Council bodies, and fact sheets intended for the general reader. The Council maintains a postal and electronic mailing list to disseminate this information. The Council also maintains a website (www.pcouncil.org) providing information about the Council, its meetings, and decisions taken. Most of the documents produced by the Council, including NEPA documents, can be downloaded from the website.

Sections 8.5.7 in Chapter 8 to the 2005-06 groundfish harvest specifications EIS describes a methodology, using 2000 United State Census data, to identify potential “communities of concern” because their populations have a lower income or a higher proportion of minorities than comparable communities in their region. Pacific Coast ports identified in the PacFIN database were examined in this way. These ports were evaluated using five criteria: the percentage nonwhite population, percentage Native American population, percentage Hispanic population, average income, and the poverty rate. Data were evaluated for both census places and census block groups corresponding to the area around these census places. The values for these statistics were compared to the average value for one of three regions, covering coastal block groups in Washington, Oregon, and northern California; central California; and southern California. For each of the five statistics potential communities of concern were identified. These are communities that have a significantly higher percentage minority population and poverty rate or lower average income than the surrounding reference region.

About two-thirds of the port communities analyzed are above the cutoff threshold for one or more of the statistics, measured either by the census place value or the equivalent block groups. This suggests that additional criteria need to be applied to more realistically identify which ports should be of concern. It should be noted that the population affected by the proposed action, which would be predominantly fishers and those involved in allied industries (e.g., marine supplies, fish processing and equipment) is a small percentage of the population in most communities. It stands to reason that in larger communities and more urban areas, fishery participants are a smaller and potentially less representative component of the population. In isolated rural communities there are usually fewer alternative employment alternatives, making it harder to find work or switch from one occupation to another in response to changes in one economic sector such as fisheries. Given these conditions, another criterion to focus on communities of concern would be population size and urbanization. Eliminating ports with a population greater than

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50,000 and of those ports with a population less than 50,000, those for which the block group area is more than 75 percent urban leaves the list of ports shown in Table 7-48 as potential communities of concern.

It should be noted that fishery participants usually make up a small component of the population and fisheries may be a small part of the local economy in many places. Thus, even if a community has a high proportion of minority or low income residents, these people might not participate in fisheries and are thus minimally affected by the proposed action. Furthermore, within the affected population some segments are more likely to be low income and minority than others. For example, employees in a fishing processing plant may be predominantly from a minority group, and crew on vessels are likely to have a lower earnings than the skipper or vessel owner, making them more likely to be low income. Unfortunately, the kind of detailed population data necessary to determine the characteristics of the population affected by the proposed action are not available. For this reason, the ports identified in **Table 3-17** represent an initial screening.

Table 3-17: Environmental Justice—Communities of Concern

State	Community	Qualifying Demographic Criteria
Washington:	Blaine	poverty rate
	La Conner	% Hispanic
	Neah Bay	% nonwhite, % Native American, average income, poverty rate
	La Push	% nonwhite, % Native American, poverty rate
	Copalis Beach	income
	Westport	income, poverty rate
	Willapa Bay	income, poverty rate
Oregon:	Salmon River	% Native American
	Siletz Bay	% Native American
	Waldport	income
	Winchester Bay	income, poverty rate
	Port Orford	income, poverty rate
	Brookings	% Native American, income
California:	Trinidad	% Native American, income, poverty rate
	Fort Bragg	% Hispanic
	Albion	% Hispanic
	Point Arena	% Native American, % Hispanic
	Moss Landing	% Native American, % Hispanic

The direct source of stress on these communities resulting from the proposed action would be any decline in employment and related personal income in response to additional restrictions placed on groundfish fisheries. However, because the open access groundfish fishery has had historically sporadic participation and comprises a small portion of all Pacific Coast groundfish fishing, it is unlikely that fishermen partake in this fishery for their sole income and rather use it as supplementary income. Further, no alternatives analyzed in this EA terminate this fishery, and rather, the alternatives would limit participation. Therefore, the alternatives should have no to limited impacts on communities of concern.

4.0 ENVIRONMENTAL CONSEQUENCES

The terms "effect" and "impact" are used synonymously under NEPA. Impacts include effects on the environment that are ecological, aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Direct effects are caused by the action itself and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Cumulative impacts are those impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future

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actions, regardless of what agency (Federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Chapter 4 is organized by alternatives. All resource impacts from a single alternative appear under the discussion for that alternative. Sections 4.1 through 4.5 of this document discuss each alternative and the direct and indirect impacts on the physical, biological, and socioeconomic environment that are likely to occur. Section 4.6 presents the reasonably foreseeable cumulative effects on the environment from the proposed alternatives.

A summary of registration requirements, fleet size goals, fleet size expectations, and environmental consequences associated with the Council's alternatives is presented in **Table 4-1-1**.

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Table 4-1-1: Summary of registration requirements, fleet size goals, fleet size expectations, and environmental consequences associated with permit program alternatives

Issue	Reference	A-1	A-2	A-3	A-4	A-5
Registration requirement?	§ 2.0	No	Yes	Yes	Yes	Yes
Fleet size goal						
Initial	§ 2.0	none	none	680 or 713	none	390.00
Long-term	§ 2.0	none	none	none	none	170.00
Initial fleet size expectation 1/	Tab 4-1b	<713	<713	468-680	65-<713	286-390
Long-term fleet size expectation	Tab 4-1b	<713	<713	468-680	65-<713	170
Consistent with "Needs Statement"?	Tab 4-1b	no	partially	partially	yes & no	yes
Environmental impact						
Physical environment	§ 3.1, and § 4.0	N/C	N/C	N/C	N/C	N/C
Biological environment						
Groundfish	§ 3.2.1	N/C	N/C	N/C	N/C	N/C
Non-groundfish	§ 3.2.2	N/C	N/C	N/C	N/C	N/C
Prohibited species	§ 3.2.3	N/C	N/C	N/C	N/C	N/C
Protected species	§ 3.2.4	N/C	N/C	N/C	N/C	N/C
Socioeconomic environment						
Fishery mgmt 2/	§ 2.0	N/C	+	+	N/C to >	>
Catch comp.						
Groundfish 3/	Tab E-4a	N/C	N/C	WC: '+1% to +9% rev	WC: N/C to +75% rev	WC: '+9% to +20% rev
Non-groundfish 4/	Tab E-4b	N/C	N/C	N/C to -2% rev	N/C to -5% rev	-1% to -2% rev
Vessels char.	§ 3.3.3.4, § 3.3.3.5	N/C	N/C	larger size	larger size	N/C
Processors 5/	Tab E-12a & E-12b	N/C	N/C	N/C to -39% lbs	N/C to >-69% lbs	N/C to -73% lbs
Licensing, etc.	§ 3.3.5, § 3.3.6	N/C	new requirement	new requirement	new requirement	new requirement
Costs	§ 2.0	N/C	~\$125/yr	~\$125/yr	~\$125/yr	~\$125/yr
Communities 6/	Tab 4-1b, Col F	N/C	N/C	-1% to -8% \$\$	N/C to -75% \$\$	-9% to -19% \$\$
Environmental Justice	§ 1.5, § 3.3.8	N/C	N/C	N/C	N/C	N/C

1/ The A-1 and A-2 value is the number of vessels that made a B species landing in 2006. Fewer vessels can be expected in the near term because of VMS requirement and elevated fuel price starting in 2008; A-3, A-4 and A-5 values are numbers of vessels eligible for permits and that were active during 2004-2006.

2/ + means improved management; > means substantially improved management, the degree to which cannot be quantified.

3/ Impacts are for B species groundfish revenues. Ranges show proportion of B species harvest made by non-qualifying vessels during 2004-2006. Some of these fish would have been made available for harvest by qualifying vessels and as incidental fishery landings by non-qualifying vessels under C permits or state nearshore permits.

4/ Ranges show amount of total fishery revenues comprised of B species groundfish by non-qualifying vessels during 2004-2006. These values indicate the amount of increase in revenues that would be needed to make up for lost B species groundfish landings by non-qualifying vessels. These are worst-case estimates because some fish would have been allowed in landings by non-qualifying vessels under incidental landing allowances for C permit and nearshore permit holders.

5/ Proportions show the range in poundages by port group for vessels that did not meet qualifying criteria during 2004-2006. These are worst-case estimates because some fish would have been shifted to qualifying vessels and landed by non-qualifying vessels under incidental landing allowances for C permit and nearshore permit holders.

6/ Values shown are personal income impact estimates for vessels that would not have met qualifying criteria during 2004-2006. These are worst-case estimates because some fish would have been shifted to qualifying vessels and landed by non-qualifying vessels under incidental landing allowances for C permit and nearshore permit holders.

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The effects of proposed qualification criteria contained in the B permit alternatives A-3, A-4 and A-5 are evaluated relative to the Permit Program Needs Statement in **Table 4-1-2**.

Table 4-1-2. Assessment of qualification criteria impacts relative to permit program needs statement

Alternative	Criterion	Fleet size 3/	Better match between fleet and fish? (<680 vsls)	Regulation and effort shift relief (positive.) 2/	Personal income economic impact (negative) 4/	Improved monitoring program?
1	n/a	<713	1/	0%	0%	
2	n/a	<713		0%	0%	Y
3 (a)	680v-1	680	Y	2%	2%	Y
	680v-2	468	Y	9%	8%	Y
	680v-3	680	Y	3%	3%	Y
3 (b)	713v-1	713		1%	1%	Y
	713v-2	486	Y	8%	8%	Y
	713v-3	713		2%	2%	Y
4	47.9K-3	65	Y	75%	no est.	Y
	36.1K-3	95	Y	68%	no est.	Y
	21.8K-3	139	Y	44%	no est.	Y
	14.4K-3	211	Y	44%	no est.	Y
	6.1K-3	343	Y	22%	no est.	Y
	3.5K-3	474	Y	8%	8%	Y
	1.6K-3	629	Y	4%	4%	Y
	1lb-1	1,103		0%	no est.	Y
	1 trip-1	1,103		0%	no est.	Y
	2 in 3 yrs-4	595	Y	12%	12%	Y
	100 max-5	939		0%	no est.	Y
	500 max-5	655	Y	2%	2%	Y
	1000 max-5	499	Y	6%	no est.	Y
	2000 max-5	343	Y	13%	no est.	Y
	100 lbs-1	950		0%	no est.	Y
	500 lbs-1	701		2%	1%	Y
	1000 lbs-1	577	Y	3%	3%	Y
	2000 lbs-1	420	Y	8%	8%	Y
	100 lbs-3	1,003		0%	no est.	Y
	500 lbs-3	827		1%	no est.	Y
	1000 lbs-3	727		2%	2%	Y
	2000 lbs-3	581	Y	5%	5%	Y
5	390v-1	390	Y	9%	9%	Y
	390v-2	286	Y	20%	19%	Y
	390v-3	390	Y	13%	12%	Y

1/ blank means "no"

2/ values shown are proportions of B species revenues received during 2004-2006 by non-qualifying vessels (Table E-4b). This is the ex-vessel value of fish that potentially would have been available to qualifying vessels (through in-season regulation adjustment) if the non-qualifying vessels did not land any B species groundfish during 2004-2006. In reality, non-qualifying vessels would have been allowed to land "incidental" amounts of B species groundfish under a C permit or a nearshore permit, thus the values shown reflect a "best-case" scenario for the qualifying vessels.

3/ these values are near-term fleet size expectations or number of potentially qualifying vessels.

4/ This is the same analysis described in footnote 2/ but adjusted using the economic impact factors shown in the methods section. The economic analysis was limited to criteria that qualified between 390 and 713 vessels (see Tables E-20 and E-22). However, the missing values in column F can be reasonably inferred based on revenue impacts shown in column E. These values represent worst-case scenarios in terms of negative economic impacts of the criteria.

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The environmental consequences associated with each of the alternatives are discussed in following sections.

4.1 Alternative 1 (No-action)

Alternative 1, which is the No-action Alternative, would continue to allow commercial fishing vessels to prosecute federal groundfish species allocated to open access fisheries without federal registration, except as required under the Vessel Monitoring System (VMS) program (**72 FR 69162, December 7, 2007**). The VMS program requires most vessels to register with NMFS and utilize VMS equipment if they intend to take and retain federal groundfish in federal waters in the WOC area.

A total of 1,103 different vessels participated in the directed open access fishery for B species groundfish during 2004-2006 window period years. The recent VMS requirement for vessels that fish in federal waters for federal groundfish will likely reduce the number of vessels that participate in the directed fishery in near term years to <713, which is the number that participated in the last year of the window period, 2006.

4.1.1 Effects on the Physical Environment including EFH

The affected environment including EFH is described in **Section 3.1**. The No-action alternative would allow vessel owners to continue to fish for B species groundfish as they have in the past to the extent that future groundfish stock status allows. The directed open access fleet had been increasing during 2004-2006 in the WOC area (**Figure 2-1**), particularly for sablefish (**Figures 3-4 and 3-5**). Continuation of the upward trend in vessel participation in the open access fishery could have a corresponding increase in physical environmental impacts, including gear loss impacts, habitat alteration caused by fishing gear contact with habitat structures, and water pollution associated with vessel fuel and waste spillages. *Overall, no adverse impact to the environment would be expected because no change in management is proposed under this alternative.*

4.1.2 Effects on the Biological Environment

4.1.2.1 Groundfish Species

Groundfish species including overfished groundfish species are described in **Section 3.2.1** and **Appendix F**. *No change in level of groundfish impacts would be expected under this alternative because no change in management is proposed under this alternative.* Effort may fluctuate, but allowable impacts would be managed to meet optimum yield specifications. Trip and cumulative landing limits would continue to be used to constrain harvests to provide for year-round fishery landings.

In 2005, the sablefish harvest guideline was exceeded in the northern management area (Monterey-Vancouver) by over 40% due to increased level of vessel participation in the fishery (**Figures 3-4 and 3-5**). In 2006, the directed sablefish fishery in the northern management area was closed during October-December due to attainment of the sablefish harvest guideline (HG). This was the only year since the fishery began in 1994 that the fishery had to be closed and may have been due to effort shift of salmon vessels to the directed sablefish fishery because of restrictive salmon fishing regulations (see: <http://www.nwr.noaa.gov/Publications/FR-Notices/2006/upload/Halibut-Inseason-May06.pdf>). Salmon regulations were less restrictive in 2007, which, in combination with more restrictive sablefish regulations, may have constrained the effort increase in the directed sablefish fishery (**Section 1.4.1**).

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Continued high level of vessel participation in the directed sablefish fishery will result in more restrictive sablefish landing and cumulative limits than in the past. Further reduction in sablefish limits will increase discards of sablefish and associated overfished groundfish stocks due to trip limit overages and high grading to land the most valuable fish.

4.1.2.2 Non-groundfish Species (State-managed or under other FMPs)

Non-groundfish species are described in **Section 3.2.2** and **Appendix F**. *No change in level of non-groundfish landings or impacts would be expected under this alternative because no change in fishery management is proposed.*

4.1.2.3 Prohibited Species

Prohibited species are generally described in **Section 3.2.3**. *No change in level of impact of open access fishery vessels on prohibited species would be expected because no change in management is proposed under this alternative.*

4.1.2.4 Protected Species

Protected species are generally described in **Section 3.2.4**. *No change in level of impact of open access fishery vessels on prohibited species would be expected because no change in fishery management is proposed under this alternative.*

4.1.3 Effects on the Socioeconomic Environment

4.1.3.1 Management Structure of the Open Access Fishery

The open access fishery management structure is described in **Section 3.3.1**. *No change in management structure would be expected because no change in fishery management is proposed under this alternative.* The state and tribal fishery agencies maintain data bases on vessels that are eligible to commercially fish for groundfish in state and federal waters. These data are available to the Council and NMFS for use in identifying potential open access fishery participants. Historical open access fishery data could be used to further narrow the field of potential open access fishery participants. Such data could be used for projecting open access fishery impacts on federal groundfish species.

4.1.3.2 Catch Characteristics

Catch characteristics of the open access fisheries are described in **Section 3.3.2**. *No change in fishery management is proposed under this alternative.* The status quo alternative allows the fishery to expand in a rapid manner in response to the cost of conducting fishing operations and market conditions associated with trip and cumulative landing limits for federal groundfish species. Fishing vessel participation has been increasing off the WOC in recent years (**Figure 2-1**) and the northern area sablefish fishery exceeded its harvest guideline by over 40% in 2005 and had to be closed early in 2006 due to heavy fishing pressure. The recent sablefish effort increase may have been in response to restrictive salmon fishing regulations and low salmon availability. Continued high level of fishing effort in the sablefish fishery will result in reduced daily and cumulative landing limits with increased negative impacts on fisherman revenues and overfished species compared to recent years.

4.1.3.3 Vessel Characteristics

Vessel characteristics are described in **Section 3.3.3**. *No change in vessel characteristics would be expected because no change in fishery management is proposed under this alternative.*

4.1.3.4 Processor Characteristics

Processor characteristics are described in **Section 3.3.5**. *No change in processor characteristics would be expected because no change in fishery management is proposed under this alternative.*

4.1.3.5 Participation Requirements, Restrictions, Licensing

Participation requirements, restriction and licensing are described in **Section 3.3.6**. *There would be no change in the management of open access fisheries with regard to fishing vessel participation opportunity or federal licensing requirement because no change in fishery management is proposed under this alternative.* Participation in the open access fisheries would continue to be unrestricted, except for state or tribal laws requiring fisherman and vessel registration requirements and for federal VMS program requirements. There would be no added paperwork or time management stress for obtaining and completing federal permit applications, providing copies of supporting documents, and meeting federal permit application deadlines.

4.1.3.6 Revenue/Costs to the Participants and to State and Federal Governments

These issues are discussed in **Section 3.3.7**. *There would be no added cost to conducting commercial fishing for federal groundfish stemming from federal permit fees because no change in management is proposed under this alternative.* There would be no added cost to state and federal governments that can be identified, as a result of this alternative.

4.1.3.7 Groundfish-dependent Communities

Groundfish-dependent communities are described in **Section 3.3.8**. No change in the dependence of fishing communities on groundfish would be expected because no change in fishery management is proposed under this alternative.

4.1.3.8 Environmental Justice

The factors to be considered in the application of the principals of Environmental Justice are explained in **Section 3.3.9**. This regulation process was prosecuted in full view of and in concert with potentially affected ethnic groups, religious sectors, and other interested public members. Public member concerns were recorded and considered in the development and interpretation of the alternatives and subsequent analysis of their impacts on coastal fishing communities and residents. *The status quo alternative means no change in the current fishery management, thus there is no expectation of community impact with regard to the factors listed in Section 3.3.9*

4.2 Alternative 2

This alternative is the same as the No-action Alternative, but establishes an annual licensing requirement in which vessel owners could submit a license application at any time during the year. There would be no differentiation with regard to whether individual vessel owners intended to fish in a directed or incidental fishing mode or to combine the two modes. This alternative would be expected to have fishery and human impacts comparable to Alternative 1 because no change in current fishery management is proposed under this alternative.

A total of 1,103 different vessels participated in the directed open access fishery for B species groundfish during 2004-2006 window period years. The recent VMS requirement for vessels that fish in federal waters for federal groundfish will likely reduce the number of vessels that participate in the directed fishery in near term years to <713, which is the number that participated in the last year of the window period, 2006 (**Tables 4-1-1 and 4-1-2**).

4.2.1 *Effects on the Physical Environment including EFH*

The affected physical environment including EFH is described in **Section 3.1**. This alternative would allow vessel owners to continue to fish for groundfish as they have in the past to the extent that future groundfish stock status allows. The directed open access fleet has been increasing in recent years in the WOC area (**Figure 2-1**), particularly for sablefish (**Figures 3-4 and 3-5**). Continuation of the upward trend in vessel participation in the open access fishery could have a corresponding increase in physical environmental impacts, including gear loss impacts, habitat alteration caused by fishing gear contact with habitat structures, and water pollution associated with vessel fuel and waste spillages. *Overall, no adverse impact to the environment would be expected because no change in current fishery management is proposed in this alternative.*

4.2.2 *Effects on the Biological Environment*

4.2.2.1 Groundfish Species

Groundfish species are described in **Section 3.2.1** and **Appendix F**. *No change in level of groundfish impacts would be expected because no change in current fishery management is proposed under this alternative.* Effort levels may fluctuate but allowable impacts would be managed to meet optimum yield specifications. Trip and cumulative landing limits would continue to be used to constrain harvest and to provide for year-round fishing.

In 2005, the sablefish harvest guideline was exceeded in the northern management area (Monterey-Vancouver) by over 40% due to increased level of vessel participation in the fishery (**Figures 3-4 and 3-5**). In 2006, the directed sablefish fishery in the northern management area was closed during October-December due to attainment of the sablefish harvest guideline (HG). This was the only year since the fishery began in 1994 that the fishery had to be closed and may have been due to effort shift of salmon vessels to the directed sablefish fishery because of restrictive salmon fishing regulations (see: <http://www.nwr.noaa.gov/Publications/FR-Notices/2006/upload/Halibut-Inseason-May06.pdf>). Salmon regulations were less restrictive in 2007, which, in combination with more restrictive sablefish regulations, may have constrained the effort increase in the directed sablefish fishery (**Section 1.4.1**).

Continued high level of vessel participation in the directed sablefish fishery will result in more restrictive sablefish landing and cumulative limits than in the past. Further reduction in sablefish limits will increase discards of sablefish and associated overfished groundfish stocks due to trip limit overages and high grading to land the most valuable fish.

4.2.2.2 Non-groundfish Species (State-managed or under other FMPs)

Non-groundfish species important to WOC fisheries are described in **Section 3.2.2** and **Appendix F**. *No change in level of non-groundfish landings or impacts would be expected because no change in current fishery management is proposed under this alternative.*

4.2.2.3 Prohibited Species

Prohibited species are described in **Section 3.2.3**. *No change in level of impact of open access fishery vessels on prohibited species would be expected because no change in current fishery management is proposed under this alternative.*

4.2.2.4 Protected Species

Protected species are generally described in **Section 3.2.4**. *No change in level of impact of open access fishery vessels on prohibited species would be expected because no change in current fishery management is proposed under this alternative.*

4.2.3 *Effects on the Socioeconomic Environment*

4.2.3.1 Management Structure of the Open Access Fishery

The open access fishery management structure is described in **Section 3.3.1**. *Pre-season registration and licensing of open access fishery participants would facilitate projection of open access fishery landings and impacts, which could lead to better utilization of harvestable resources and protection of overfished groundfish species.* This alternative would allow NMFS to use historical fishery information to determine whether individual vessels are likely to fish in a directed or incidental fishing mode. This alternative does not address potential fishery impacts of new fishery participants in the directed open access fishery; i.e., there would be no limit on the number of future fishery participants. No change in the current management structure is proposed under this alternative. Fisheries would likely continue to be managed using trip and cumulative landing limits with the aim of providing for year round fishery landings.

4.2.3.2 Catch Characteristics

Catch characteristics of the open access fisheries are described in **Section 3.3.2**. *The registration requirement under this alternative would help to more accurately project fishery impacts and landings on a pre-and in-season basis, thus minimizing the need for major late season trip limit changes to stay within or meet fishery allocations.* This alternative allows the fishery to expand in a rapid manner in response to the cost of conducting fishing operations and market conditions associated with trip and cumulative landing limits for federal groundfish species. Total fishing vessel participation has risen in recent years in the WOC area (**Figure 2-1**) and the northern area sablefish fishery exceeded its harvest guideline by over 40% in 2005 and had to be closed early in 2006 due to heavy fishing pressure. The recent sablefish effort increase may have been in response to restrictive salmon fishing regulations and low salmon availability. Continued high level of fishing effort in the sablefish fishery will result in reduced daily and cumulative landing limits with increased negative impacts on fisherman revenues and to overfished species compared to recent previous years.

4.2.3.3 Vessel Characteristics

Vessel characteristics are described in **Section 3.3.3**. *No change in vessel characteristics would be expected because no change in current fishery management is proposed under this alternative.*

4.2.3.4 Processor Characteristics

Process characteristics are described in **Section 3.3.5**. *No change in processor characteristics would be expected because no change in current fishery management is proposed under this alternative.*

4.2.3.5 Participation Requirements, Restrictions, Licensing

Participation requirement, restriction and licensing are described in **Section 3.3.6**. *This alternative would require all vessels that participate in open access fisheries to register with NMFS before any directed or incidental fishing takes place, which would be a new fishery participation requirement.* Any vessel owner that holds a valid commercial fishing registration with one the coastal states would be allowed to register with NMFS to participate in the open access fishery, and there would be no federal limited entry permit requirement.

4.2.3.6 Revenue/Costs to the Participants and to State and Federal Governments

These issues are discussed in **Section 3.3.7**. *There would be an added cost to fishermen and governments, associated with annual vessel licensing under this alternative if done through NMFS.* The current A permit renewal fee is \$125. Vessel owners would be required to register their vessel with NMFS in advance of participating in the fishery. In order to provide NMFS with adequate time to

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complete a vessel registration, vessel owners would need to submit to NMFS an application at least 30 days in advance of the date the vessel owner wishes to begin participation in the fishery. Another approach might be to have the states register the vessels at the same time the vessel owners renew their annual vessel registrations. The states would then provide NMFS with lists of registered vessels, and NMFS might not be required to charge a registration fee.

Adoption of any alternative that requires federal licensing or permitting of current open access vessels to take and possess specified federal groundfish may require that those vessels participate in the federal groundfish fishery vessel monitoring program (VMS program) when fishing for specified federal groundfish in federal or state waters. Some current open access fishermen may not seek to participate in the VMS program because of program cost, and intend to commercially fish for and take specified federal groundfish in state waters only where VMS program participation may not be required. Federal groundfish registration might compromise that strategy. Registration for a federal groundfish license or permit may require vessel participation in the groundfish VMS program. Furthermore, adoption of any alternative that requires federal licensing or permitting may increase the probability of a vessel being selected to participate in the Pacific Coast Groundfish Observer Program. There is an added cost to vessel owners to carry a federal observer on their vessel.

4.2.3.7 Groundfish-dependent Communities

Groundfish-dependent communities are described in **Section 3.3.8**. *No change in dependence of fishing communities on groundfish would be expected because no change in current management structure is proposed under this alternative and the cost of registering their vessel is expected to be nominal* (current A permit renewal fee is \$125).

4.2.3.8 Environmental Justice

The factors to be considered with regard to environmental justice are described in **Section 3.3.9**. This regulation process was prosecuted in full view of and in concert with potentially affected ethnic groups, religious sectors, and other interested public members. All public member concerns were recorded and considered in the development and interpretation of the alternatives and subsequent analysis of their impacts to coastal fishing communities and their residents. *This alternative basically means no change in the current fishery management thus there is no expectation of community impact with regard to the factors listed in Section 3.3.9.*

4.3 Alternative 3

Alternative 3 is one of two alternatives that have initial B species fleet size goals and that provide for issuance of B and C permits. There are two fleet size goals under A-3: (a) 680 vessels, which is the average B species directed fishery fleet size during 2004-2006 window period years, and (b) 713 vessels, which is the number of vessels that made one or more B species directed fishery landing in 2006.. The long-term fishery goal under both goals is the same as the initial fleet size goal (**Tables 4-1-1**). Permits could be transferred once per year and would be endorsed for making B species landings in a single state. There would be no previous year landing requirement for permit renewal (as there is under A-5). A and B permit holders would be able to register their vessels to both permit types and use the two permit types alternately during the year. Vessel owners would be required to notify NMFS of permit usage change prior to leaving port. C permits would be required to land groundfish excluding nearshore species for all vessels that do not have an A or B permit or a state-issued nearshore fishery permit. C permits would be available to any state registered commercial fishing vessel and could be applied for at any time during the year.

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Appendix E presents an analysis of the two qualification standards (QSs) and three qualification frameworks (QFs) contained in this alternative. The selection of QF for issuing B permits has allocative as well as biological and economic implications. The QFs used in the analysis of this alternative were:

- 1) cumulative vessel landings in pounds of B species groundfish during 2004-2006 window period years (QF-1),
- 2) cumulative vessel landings in pounds of B species groundfish during the 1998-2006 window period (QF-2), and
- 3) cumulative vessel landings in pounds of B species groundfish during the 1998-2006 window period in combination with a 2004-2006 window period B permit species landing requirement (QF-3).

The proposed qualification criteria used to analyze and compare A-3, A-4 and A-5, the B and C permit alternatives, with A-1 (No-action) and A-2 (federal license) presented in **Appendix E** are described in **Table 2-4**. One of these criteria (or modification thereof) is proposed to be selected as part of the final action on a preferred alternative that limits the initial number of vessels eligible for B permit issuance.

4.3.1 Effects on the Physical Environment

The affected environment, including EFH, is described in **Section 3.1**. This alternative would reduce the number of vessels eligible to target B species groundfish, which could have a beneficial effect by reducing fishing impacts on habitat. Vessels displacement due to permit non-qualification could result in effort shift to associated species such as salmon, HMS or crab to make up for B species revenue loss (**Appendix E**). It is not clear that such effort shifts would result in a net change in impact on marine habitats. The directed fishery open access fleet has been increasing in recent years (**Figure 2-1**), particularly for sablefish (**Figures 3-4 and 3-5**). Continuation of the upward trend in vessel participation in the open access fishery would stop under the 680 vessel goal alternative because the initial fleet size goal is the same as the 2004-2006 window period average. It would also likely stop under the 713 vessel goal as 713 is the maximum number of vessels that made a directed fishery landing in the last three years of the window period. However, the permit issuance program would not affect the ability of permitted vessels to exert additional fishing pressure in the event of increased groundfish availability, increased market demand for fish, or downturn in associated commercial fishing opportunity (e.g., salmon). Transfer of permits from latent vessels to new vessels provided under this alternative could further exacerbate the sablefish situation. Any effort increase by permitted vessels would have a corresponding impact on the physical environmental, including gear loss impacts, habitat alteration caused by fishing gear contact with habitat structures, and water pollution associated with vessel fuel and waste spillages. *Overall, the reduction in potential average annual fleet size and effort shift of vessels to other fisheries should not have a significant impact on the physical environment because of the small amount of effort and landings in this fishery compared to other Pacific Coast commercial fisheries (<1% based on revenues; see **Section 3.3.8** for fishery comparisons).*

4.3.2 Effects on the Biological Environment

4.3.2.1 Groundfish Species

Groundfish species are described in **Section 3.2.1** and **Appendix F**. No change in level of groundfish impacts would be expected under this alternative, thus there is low potential for significant impact to groundfish species, including overfished groundfish species and protected species. Trip and cumulative landing limits would likely continue to be used to constrain impacts based on optimum yield specifications and to provide for year-round fishery landings. These limits could be further constrained depending on market demand for species like sablefish and fishing opportunity in associated fisheries like

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salmon. The landed B species catch could decline depending on level of estimated discards associated with possible increased fishing effort due these factors.

The vessels that would not qualify for permits under this alternative accounted for between 1%-9% of the B species directed fishery revenues and 1%-8% of the personal income impacts during 2004-2006 (Table 4-1-2). This is the amount of revenues or personal income impacts that might have been incurred due to adoption of this alternative during 2004-2006. However, it is likely that inseason regulation action would have been taken to allow permitted vessels to harvest these fish and/or allowance made for non-qualifying vessels to land all or some of these fish as incidental fishery catches under a C permit or state-issued nearshore permit.

No change in impact to overfished groundfish would be expected under this alternative because the impact to non-overfished groundfish by qualifying vessels would be no less than 92%-98% of potential landings based on landings by these vessels during 2004-2006 (Table E-4-1). This is because the B species directed fishery takes a very small proportion of the optimum yield specifications for over fished groundfish species (zero to 5% depending on species under 2007 regulations, see Section 3.3.3.6).

In 2005, the sablefish harvest guideline was exceeded in the northern management area (Monterey-Vancouver) by over 40% due to increased level of vessel participation in the fishery (Figures 3-4 and 3-5). In 2006, the directed sablefish fishery in the northern management area was closed during October-December due to attainment of the sablefish harvest guideline (HG). This was the only year since the fishery began in 1994 that the fishery had to be closed and may have been due to effort shift of salmon vessels to the directed sablefish fishery because of restrictive salmon fishing regulations (see: <http://www.nwr.noaa.gov/Publications/FR-Notices/2006/upload/Halibut-Inseason-May06.pdf>). Salmon regulations were less restrictive in 2007, which, in combination with more restrictive sablefish regulations, may have constrained the effort increase in the directed sablefish fishery (Section 1.4.1). Continued high level of vessel participation in the directed sablefish fishery could result in more restrictive sablefish landing and cumulative limits than in the past. Further reduction in sablefish limits would increase discards of sablefish and associated overfished groundfish stocks due to trip limit overages and high grading to land the most valuable fish compared to previous recent years. The number of permits proposed to be issued under this alternative (680 or 713) is 146%-158% higher than the average number of vessels that participated in the WOC directed sablefish fishery during 2004-2006 window period years (276 vessels; Table 2-4). Thus the potential is high under this alternative for continued high effort level in the directed sablefish fishery, particularly if permits are transferred from latent fishing vessels to new vessels or access to associated commercial fisheries (e.g., salmon) is further constrained.

4.3.2.2 Non-groundfish Species (State-managed or under other FMPs)

Open access fishery impacts on non-groundfish species are described in Section 3.2.2. Increase in fishing effort and catch of state-managed and federal non-groundfish fisheries from displaced (non-qualifying) vessels would expected to be very small (<0.5%-2%) (Appendix Table E-4b). *under this alternative to compensate for lost groundfish revenues, thus no impact to non-groundfish species would be expected under either initial fleet size goal contained in this alternative.*

4.3.2.3 Prohibited Species

Prohibited species impacts in open access fisheries are described in Section 3.2.3. *No change in level of impact of open access fishery vessels on prohibited species (Pacific salmon, Pacific halibut and Dungeness crab) would be expected under this alternative because no substantial change in impact to B species groundfish would be expected under this alternative and low potential for significant effort shift to associated species, as described above.*

4.3.2.4 Protected Species

Protected species impacts in open access fisheries are described in **Section 3.2.4**. *No change in level of impact of open access fishery vessels on protected species (e.g., listed salmonids, marine mammals, seabirds, turtles) would be expected under this alternative because no substantial change in impact to B species groundfish would be expected under this alternative and low potential for significant effort shift to associated species, as described above.*

4.3.3 Effects on the Socioeconomic Environment

4.3.3.1 Management Structure of the Open Access Fishery

The open access fishery management structure is described in **Section 3.3.1**. *Permitting of open access fishery participants under this alternative would facilitate projection of open access fishery landings and impacts, which could lead to better utilization of harvestable resources and protection of overfished groundfish species.* No change in the current management structure is proposed under this alternative. Fisheries would continue to be managed using trip and cumulative landing limits with the aim of providing for year round fishery landings.

4.3.3.2 Catch Characteristics

Catch characteristics of the open access fisheries are described in **Section 3.3.2**. The permit requirement under this alternative would help to more accurately project fishery impacts and landings on a pre-and in-season basis compared to the no-action alternative, thus minimizing the need for major late season landing limit changes to stay within or meet fishery allocations. The amount of B species groundfish harvested by vessels that would qualify for a permit under this alternative totaled 93%-99% of the total B species groundfish landed by directed fishery vessels during the 2004-2006 window period (**Appendix E Table E-4b**). These ranges in proportions stem from differences in the qualification frameworks used in ranking vessels for permit qualification.

Reduction in number of vessels eligible to prosecute B species groundfish under this alternative to 680 or 713 would not result in a change in B species fishery trip or cumulative landing limits. This is because of the amount of fish harvested by non-qualifying vessels and that would be available for harvest by the permitted vessels (2%-8% more) would be too small to impact the fishery. However, if the permitted vessel owners changed fishing strategy or decided to sell their permits to individuals or entities with different fishing strategies, there could be negative impacts on trip limits, fisherman revenues, and overfished species impacts. If, for example, permitted vessels were to increase pressure on sablefish because of their high market value (**Section 3.3.2.4**), trip and cumulative landing limits might need to be further reduced, which would exacerbate the discard situation and increase impacts to overfished species that associate with sablefish. Many of the vessels that would qualify for a permit under this alternative also fish for salmon (**Section 3.3.3.6**). Total fishing vessel participation in the directed B species groundfish fishery has risen in recent years in the WOC area (**Figure 2-1**), and the northern area sablefish fishery exceeded its harvest guideline by over 40% in 2005 and had to be closed early in 2006 due to heavy fishing pressure. The recent sablefish effort increase may have been in response to restrictive salmon fishing regulations. Continued high level of fishing effort in the sablefish fishery will result in reduced daily and cumulative landing limits with increased negative impacts on fisherman revenues, person income impacts, and overfished species compared to recent years. The number of permits proposed to be issued under this alternative (680 or 713) is 146%-158% higher than the average number of vessels that participated in WOC directed sablefish fishery during 2004-2006 window period years (276 vessels; **Table 2-4**).

Non-qualifying vessels under this alternative would need to increase effort or find alternative revenue sources to make up for revenues lost due to non qualification for B permit issuance. The amount of

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revenue increase that would be required is estimated to be in the range, on average, of <0.5%-2% based on the contribution of B species groundfish to total 2004-2006 window period fishery revenues of non-qualifying vessels (**Appendix Table E-4b**).

The estimated distribution of permits by state (with the proportion of vessels making landings by state during the 2004-2006 window period shown in parentheses) would be as follow: Washington, 16%-17% (11%); Oregon, 29%-34% (31%); and California 49%-55% (57%) (**Table 4-2**). These ranges in proportions stem from differences in qualification framework used in ranking vessels for permit qualification.

The range in potential revenue increase to vessels that would have qualified for B permits during 2004-2006 under the criteria contained in this alternative was from 1% (713v-1) to 9% (680v-2) (**Table 4-1-2**). The range in personal income impact would have been about the same (**Table 4-1-2**). However, allowance would have been made for the non-qualifying vessels to land small amounts of these fish under a C permit or state-issued nearshore permit, which would have reduced the amount of fish potentially available for harvest by the permitted vessels. Overall, no change in groundfish fishery catch characteristics would be expected under this alternative.

4.3.3.3 Vessel Characteristics

Vessel characteristics are described in **Section 3.3.3**. The annual number of B species fishery vessels can be expected to decline from recent year levels under this alternative because (1) the initial permit issuance goal is based on a recent year average (680) or last year of window period (713), (2) vessels are not required to participate in the fishery to be eligible for permit renewal and (3) the new VMS requirement may be too expensive for some vessel owners to continue in the fishery. However, permit transfers from latent or low producing vessels to new permit owners, downturn in commercial fishing opportunity in other fisheries (e.g., salmon), or increased demand for fish have the potential to increase overall groundfish effort, which would further constrain landing limits by participating vessels and increase fishery discards.

Vessels that targeted lingcod, shelf rockfish and other species during window period or subset of window period years used for permit qualification are less likely to receive permits under any alternative that would permit less than the total number of vessels that made one or more directed fishery landing of B species groundfish (**Table 3-13-3**). However, the provision under this alternative to allow for incidental B species landings under a C permit or a state-issued nearshore permit could allow the vessels that do not qualify for B permits to continue to land small amounts of those species. Their landing allowances would be determined as part of the biennial and inseason management process.

Average size of vessel in the fleet could change under this alternative because vessel length would not be a constraining factor in permit transfers; i.e., there is no vessel length endorsement provision. In particular, small vessel owners might be inclined to upgrade to a larger vessel or transfer (e.g., sell) their permit to an owner of a larger vessel over time and there is no provision for new permit issuance under this alternative. Gear used to make the catch could potentially change because there would be no restriction on type of gear vessels could use or that future permit holders would be allowed to use with their permit. Pot fishing vessels tend to be larger on average than hook and line vessels because of the greater deck space required to deploy pot gear, thus more pot fishing vessels could be expected if average size of vessel in the fleet increases. *There is high potential for average size of vessel and number of pot fishing vessels in the fleet to increase under this alternative.*

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Table 4-2. Proportion of WOC vessels that would have qualified for B permits by port group and state during 2004-2006 window period by qualification criterion 1/

Altern	Criterion	# vsls	SPS	NPS	CWA	CLW	WA	CLO	TLA	NPA	CBA	BRA	OR	CCA	ERA	BGA	BDA	SFA	MNA	MRA	SBA	LAA	SDA	CA
A-3 (a)	680v-1	680	0.00	0.02	0.07	0.07	0.17	0.05	0.04	0.05	0.09	0.11	0.34	0.04	0.06	0.09	0.01	0.05	0.08	0.08	0.03	0.03	0.03	0.49
	680v-2	468	0.00	0.03	0.06	0.06	0.16	0.04	0.02	0.03	0.09	0.11	0.29	0.03	0.06	0.11	0.04	0.05	0.12	0.04	0.03	0.04	0.04	0.55
	680v-3	680	0.00	0.02	0.07	0.07	0.16	0.05	0.03	0.04	0.09	0.11	0.33	0.04	0.05	0.09	0.02	0.05	0.09	0.08	0.04	0.03	0.03	0.51
A-3 (b)	713v-1	713	0.00	0.02	0.07	0.07	0.16	0.05	0.04	0.05	0.09	0.11	0.34	0.04	0.06	0.09	0.01	0.05	0.08	0.08	0.04	0.03	0.03	0.50
	713v-2	486	0.00	0.03	0.06	0.06	0.16	0.04	0.02	0.04	0.09	0.11	0.30	0.03	0.06	0.11	0.04	0.05	0.11	0.04	0.03	0.03	0.04	0.54
	713v-3	713	0.00	0.02	0.07	0.06	0.16	0.05	0.03	0.04	0.09	0.11	0.32	0.04	0.05	0.10	0.02	0.05	0.09	0.08	0.04	0.03	0.03	0.52
A-4	47.9K-3	65	0.02	0.03	0.06	0.05	0.15	0.02	0.00	0.00	0.03	0.09	0.14	0.00	0.11	0.31	0.00	0.03	0.18	0.03	0.00	0.02	0.03	0.71
	36.1K-3	95	0.01	0.04	0.06	0.06	0.18	0.01	0.00	0.00	0.05	0.15	0.21	0.00	0.07	0.26	0.00	0.03	0.15	0.03	0.00	0.01	0.05	0.61
	21.8K-3	139	0.01	0.05	0.07	0.07	0.20	0.02	0.00	0.01	0.06	0.14	0.23	0.03	0.08	0.21	0.00	0.04	0.14	0.03	0.00	0.01	0.04	0.57
	14.4K-3	211	0.00	0.03	0.07	0.09	0.20	0.04	0.01	0.03	0.06	0.13	0.28	0.03	0.08	0.17	0.01	0.03	0.12	0.02	0.00	0.01	0.03	0.53
	6.1K-3	343	0.00	0.03	0.06	0.08	0.18	0.04	0.02	0.04	0.09	0.12	0.30	0.04	0.07	0.13	0.02	0.05	0.09	0.03	0.02	0.02	0.04	0.52
	3.5K-3	474	0.00	0.03	0.07	0.08	0.18	0.05	0.03	0.04	0.09	0.13	0.33	0.04	0.06	0.11	0.02	0.05	0.09	0.05	0.03	0.02	0.04	0.50
	1.6K-3	629	0.00	0.02	0.07	0.07	0.16	0.05	0.03	0.04	0.09	0.12	0.32	0.04	0.06	0.10	0.02	0.05	0.09	0.08	0.03	0.02	0.03	0.52
	1lb-1	1,103	0.00	0.02	0.05	0.05	0.11	0.04	0.05	0.05	0.08	0.10	0.31	0.03	0.04	0.08	0.03	0.07	0.09	0.09	0.06	0.05	0.03	0.57
	1 trip-1	1,103	0.00	0.02	0.05	0.05	0.11	0.04	0.05	0.05	0.08	0.10	0.31	0.03	0.04	0.08	0.03	0.07	0.09	0.09	0.06	0.05	0.03	0.57
	2 in 3 yrs-4	595	0.00	0.01	0.05	0.05	0.11	0.03	0.05	0.03	0.08	0.13	0.32	0.04	0.04	0.11	0.01	0.05	0.09	0.12	0.04	0.04	0.03	0.56
	100 max-5	939	0.00	0.02	0.05	0.05	0.13	0.05	0.05	0.05	0.09	0.10	0.33	0.04	0.05	0.08	0.02	0.06	0.08	0.09	0.05	0.04	0.03	0.54
	500 max-5	655	0.00	0.02	0.07	0.07	0.17	0.06	0.03	0.05	0.09	0.11	0.34	0.04	0.06	0.09	0.01	0.05	0.08	0.07	0.03	0.03	0.03	0.49
	1000 max-5	499	0.00	0.03	0.09	0.09	0.21	0.06	0.03	0.04	0.10	0.10	0.32	0.03	0.07	0.10	0.01	0.05	0.08	0.05	0.02	0.02	0.03	0.46
A-5	2000 max-5	343	0.01	0.03	0.10	0.11	0.25	0.06	0.01	0.03	0.11	0.09	0.30	0.03	0.06	0.13	0.00	0.04	0.09	0.03	0.02	0.01	0.03	0.44
	100 lbs-1	950	0.00	0.02	0.05	0.05	0.13	0.05	0.05	0.05	0.09	0.10	0.33	0.04	0.05	0.08	0.02	0.06	0.08	0.10	0.05	0.04	0.03	0.55
	500 lbs-1	701	0.00	0.02	0.07	0.07	0.16	0.05	0.04	0.05	0.09	0.11	0.34	0.04	0.06	0.09	0.01	0.05	0.08	0.08	0.04	0.03	0.03	0.50
	1000 lbs-1	577	0.00	0.03	0.08	0.08	0.19	0.05	0.04	0.04	0.09	0.11	0.33	0.04	0.06	0.10	0.01	0.05	0.08	0.07	0.03	0.02	0.03	0.48
	2000 lbs-1	420	0.00	0.03	0.09	0.09	0.22	0.05	0.03	0.04	0.10	0.11	0.32	0.04	0.06	0.12	0.00	0.04	0.08	0.05	0.02	0.01	0.03	0.46
	100 lbs-3	1,003	0.00	0.02	0.05	0.05	0.12	0.04	0.05	0.05	0.08	0.10	0.32	0.04	0.04	0.08	0.02	0.06	0.09	0.10	0.05	0.05	0.03	0.56
	500 lbs-3	827	0.00	0.02	0.06	0.06	0.14	0.05	0.04	0.05	0.09	0.10	0.33	0.04	0.05	0.09	0.02	0.06	0.09	0.09	0.04	0.04	0.03	0.53
	1000 lbs-3	727	0.00	0.02	0.07	0.06	0.15	0.05	0.04	0.04	0.09	0.11	0.32	0.04	0.05	0.09	0.02	0.06	0.09	0.08	0.04	0.03	0.03	0.52
	2000 lbs-3	581	0.00	0.02	0.07	0.07	0.17	0.05	0.02	0.04	0.09	0.12	0.32	0.03	0.06	0.10	0.02	0.05	0.09	0.07	0.03	0.02	0.03	0.52
	390v-1	390	0.01	0.04	0.08	0.10	0.22	0.05	0.03	0.03	0.11	0.11	0.32	0.03	0.06	0.12	0.01	0.04	0.08	0.05	0.02	0.01	0.03	0.45
	390v-2	286	0.00	0.04	0.07	0.06	0.17	0.04	0.01	0.04	0.07	0.11	0.26	0.03	0.07	0.13	0.04	0.05	0.14	0.02	0.03	0.04	0.02	0.56
	390v-3	390	0.00	0.03	0.06	0.08	0.17	0.04	0.02	0.04	0.09	0.13	0.32	0.04	0.07	0.13	0.02	0.05	0.09	0.04	0.02	0.02	0.04	0.51

1/ Derived from Appendix Tables E-5, E-6, E-7 and E-8

4.3.3.4 Processor Characteristics

Processor characteristics are described in **Section 3.3.5**). *No change in processor characteristics would be expected under this alternative.* The distribution of B permits could affect fish buying opportunities by commercial fish processors. The estimated distribution of permits by state (with the proportion of vessels making landings by state during the 2004-2006 window period shown in parentheses) would be as follows: Washington, 16%-17% (11%); Oregon, 29%-34% (31%); and California 49%-55% (57%) (**Table 4-2**). These ranges in proportions stem from differences in qualification framework used in ranking vessels for permit qualification.

Washington port groups were not nearly as sensitive (>20% potential landing reduction) to vessel non-qualification under this alternative as some Oregon and California port groups. Tillamook and Newport were the most sensitive Oregon port groups under this alternative to vessel non-qualification. California port groups most sensitive to vessel non-qualification were, in approximate order: Santa Barbara, Bodega Bay, Morro Bay, Los Angeles, and Crescent City (**Table 4-3**). This was due to the higher dependence of those ports on vessels that targeted lingcod and shelf rockfish (**Appendix E Table E-14**). Some California shark vessels and other species vessels also have relatively small catch histories (**Table 3-13-3**). However, the provision under this alternative to allow for incidental landings under a C permit or a state-issued nearshore permit would allow the vessels that do not qualify for B permits to continue to land small amounts of those species.

Processors that purchase from vessels that target lingcod, shelf rockfish and other species could receive less fish under any alternative that would permit less than total number of vessels that made one or more directed fishery landing of B species groundfish during window period or subset of window period years used for permit qualification (**Appendix E, Tables E-13 and E-14**). However, the provision under this alternative to allow for incidental B species landings under a C permit or a state-issued nearshore permit could allow the vessels that do not qualify for B permits to continue to land small amounts of those species. Incidental fishery landing allowances would be part of the biennial and inseason management processes.

4.3.3.5 Participation Requirements, Restrictions, Licensing

Participation requirements, restrictions, and licensing are described in **Section 3.3.6**. *Adoption of this alternative would require vessel owners that qualify for a B permit to submit application to NMFS to obtain their initial permit and to apply for permit renewal each year thereafter, which would be a new requirement.* There would be no annual fishery participation requirement. Vessel owners would be allowed to register their B permit to a different vessel once per year. Vessel owners that seek a C permit would be required to submit application for permit issuance, but there would be no federal qualification requirements associated with C permit issuance. Vessel owners would be required to obtain appropriate permit types before any directed or incidental fishing takes place. An alternative approach for issuing C permits would be to allow the states to issue them at the same time the vessel owners renew their vessel registrations. The states would then notify NMFS of the C permit vessels, which could avoid NMFS having to charge a fee for issuing the permits.

Owners of A and B permits would be allowed to use both permit types alternately in the same year, but not in the same cumulative landing period. There would be an advance notice requirement to switch permit type usage between fishing trips. This provision would allow vessels to fish from both A and B permit allocations in the same landing period.

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Table 4-3. Proportion of port group and states' directed B species landings made by vessels that would have qualified by B permits during 2004-2006 window period by qualification criterion (excluding cells of 80% or greater) 1/

Altern	Criterion	# vsIs	SPS	NPS	CWA	CLW	WA	CLO	TLA	NPA	CBA	BRA	OR	CCA	ERA	BGA	BDA	SFA	MNA	MRA	SBA	LAA	SDA	CA
A-3 (a)	680v-1	680													79%		73%				76%	71%	79%	
	680v-2	468																						
	680v-3	680							61%	75%														
A-3 (b)	713v-1	713																						
	713v-2	486													79%		73%				79%	71%	79%	
	713v-3	713								66%	75%													
A-4	47.9K-3	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	36.1K-3	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	21.8K-3	139	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.4K-3	211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6.1K-3	343	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3.5K-3	474	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1.6K-3	629	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1lb-1	1,103																						
	1trip-1	1,103																						
	2 in 3 yrs-4	595	64%					70%		63%							74%	71%				64%		
A-5	100 max-5	939	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	500 max-5	655																						
	1000 max-5	499																						
	2000 max-5	343													64%		68%	30%	78%	63%	56%	73%	80%	69%
	100 lbs-1	950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	500 lbs-1	701																						
	1000 lbs-1	577																						
	2000 lbs-1	420																						
	100 lbs-3	1,003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	500 lbs-3	827																						
A-5	1000 lbs-3	727																						
	2000 lbs-3	581																						
	390v-1	390																						
A-5	390v-2	286																						
	390v-3	390																						

1/ "-" means not estimated. See Tables E-12a and E-12b for all cell values

4.3.3.6 Revenue/Costs to the Participants and to State and Federal Governments

These issues are discussed in **Section 3.3.7**. *For both B and C permits, NMFS would charge fees for the range of administrative costs incurred by NMFS in issuing, renewing, transferring, appealing and replacing permits, which would be a new added cost to fishery participation. The current A permit renewal fee is \$125. Vessel owners would be required to register their vessel with NMFS in advance of participating in the fishery. In order to provide NMFS with adequate time to complete a vessel registration, vessel owners would need to submit to NMFS an application at least 30 days in advance of the date the vessel owner wishes to begin participation in the fishery. An alternative approach for issuing C permits would be to allow the states issue them at the same time the vessel owners renew their vessel registrations. The states would then notify NMFS of the C permit vessels, which could avoid NMFS having to charge a fee for issuing the permits.*

Adoption of any alternative that requires federal licensing or permitting of current open access vessels to take and possess specified federal groundfish may require that those vessels participate in the federal groundfish fishery vessel monitoring program (VMS program) when fishing for specified federal groundfish in federal or state waters. Some current open access fishermen may not seek to participate in the VMS program because of program cost, and intend to commercially fish for and take specified federal groundfish in state waters only where VMS program participation may not be required. Federal groundfish registration might compromise that strategy. Registration for a federal groundfish license or permit may require vessel participation in the groundfish VMS program. Furthermore, adoption of any alternative that requires federal licensing or permitting may increase the probability of a vessel being selected to participate in the Pacific Coast Groundfish Observer Program. There is an added cost to vessel owners to carry a federal observer on their vessel.

4.3.3.7 Groundfish-dependent Communities

Groundfish-dependent communities are discussed in **Section 3.3.8**). *No change in the dependence of fishing communities on groundfish would be expected under this alternative.* The fleet size reduction expected under this alternative would to consolidate the catch among slightly fewer vessels compared to recent years. *The maximum reduction in B species directed fishery groundfish revenues under this alternative is estimated to be 1%-9% (Appendix E, Table E-4b) if there were no regulation adjustment to allow permitted vessels to land fish formerly caught by non-permitted vessels or for non-permitted vessels to land B species groundfish incidental to fishing for other species. Displaced fishers would be expected to shift effort to other fisheries to compensate for lost groundfish revenues, but the amount of effort shift required to make up for lost B species revenues would be small (from <0.5%-2% based on overall lost commercial fishery revenues (Appendix E, Table E-4b).*

The 07-08 Specs EIS completed in 2006 included a comprehensive analysis of Pacific Coast groundfish fishing communities and their engagement in various groundfish fisheries. Most Pacific Coast fishing ports with groundfish landings have some vessels that land open access groundfish. Appendix A to the 07-08 Specs EIS evaluated fishing communities for their dependence on groundfish resources and for their vulnerability to changes in availability of groundfish harvest. This action would not alter the overall available groundfish harvest, but it would affect some vessels in particular ports, either by providing those vessels with a potentially valuable license to participate in the fishery or by eliminating opportunities for those vessels to participate in the fishery. Port cities that Appendix A identified as both having some history of open access groundfish landings and a relatively higher dependency on availability of groundfish resources are: Astoria, Bellingham, Brookings, Coos Bay, Crescent City, Eureka, Fort Bragg, Morro Bay, Newport, Port Orford, and San Francisco. Additional information on the importance of groundfish to fishing communities is provided in **Section 3.3.8**.)

The estimated distribution of permits by state (with the proportion of vessels making landings by state during the 2004-2006 window period shown in parentheses) would be as follow: Washington, 16%-17% (11%); Oregon, 29%-34% (31%); and California 49%-55% (57%) (**Table 4-2**). These ranges in proportions stem from differences in qualification framework used in ranking vessels for permit qualification.

4.3.3.8 Environmental Justice

The factors to be considered with regard to environmental justice are described in **Section 3.3.9**. *This action has low potential for significant impact as it does not target low income or minority communities; it would affect all population segments equally.* Some Pacific Coast fishing communities have open access fishery participants that are not native-English speakers, but few of them participate in the fishery management process. Fishing families from these same communities also participate in the limited entry groundfish fishery, so there are within-community networks of translators. NMFS has not historically translated its groundfish fishery regulations from English into other languages. Some of the communities with relatively high open access fishery landings are considered vulnerable to shifts in groundfish fishing opportunity, although open access landings themselves may not make up the majority of groundfish fishing income to the community. This action does not alter or affect tribal treaty rights to or tribal allocations of groundfish.

4.4 Alternative 4

Alternative 4 was developed to analyze a wide range of minimum landing requirements for B permit issuance. C permit provisions would be same as under alternatives 3-3 and 5. There would be no initial B species fleet size or long-term goal under this alternative (**Table 4-1-1**), but no new permits would be issued after the first year. Under this alternative, permits would be transferable once per year without regard to vessel size or gear used to qualify for the permit, there is no previous year landing requirement as there is under A-5, and there is no state-specific landing endorsement as there is under A-3. A and B permit holders would be able to register their vessels to both permit types and use the two permit types alternately during the year, but would be required to notify NMFS whenever they make a permit usage change before leaving port. C permits would be required to land groundfish, excluding nearshore species, for all vessels that do not have an A or B permit or a state-issued nearshore fishery permit. C permits would be available to any state registered commercial fishing vessel and could be applied for at any time during the year.

Appendix E presents an analysis of the minimum landing requirements for B permit qualification contained in this alternative, which are listed in Table 2-4. One of these criteria (or modification thereof) is proposed to be selected as part of the final action on a preferred alternative that limits the initial number of vessels eligible for B permit issuance. The minimum landing requirement to qualify for a B permit under this alternative ranges from one lb (100% fleet capacity retention) to about 47.9 thousand pounds. The frameworks that were associated with individual criteria were as follows: QF-1, six criteria; QF-3, eleven criteria; QF-4, one criterion; and QF-5, four criteria. A total of twelve criteria were used with the same four qualification standards, which were matched with three different qualification frameworks: QF-1, QF-3 and QF-5. The number of vessels that would have qualified for B permits under the criteria contained in this alternative during 2004-2006 window period years ranged from 65 to 1,103 vessels with a median value of 588 vessels.

4.4.1 Effects on the Physical Environment including EFH

The affected environment, including EFH, is described in **Section 3.1**. *This alternative has the flexibility to substantially reduce the number of vessels eligible to target B species groundfish, which could have a beneficial effect by reducing fishing impacts on habitat.* Vessel displacement due to permit non-qualification could result in effort shifts to associated species such as salmon, HMS or crab to make up

for revenue loss (see **Appendix E Table E-4b** for lost revenue estimates). It is not clear that such effort shifts would result in a net change in impact on marine habitats. The directed open access fleet has been increasing in recent years (**Figure 2-1**), particularly for sablefish (**Figures 3-4 and 3-5**). Continuation of the upward trend in vessel participation in the open access fishery could possibly stop under this alternative, depending on qualification criteria used for B permit issuance. However, the permit issuance program will not affect the ability of permitted vessels to exert additional fishing pressure in the event of increased groundfish availability, increased market demand for fish, or reduced fishing opportunity in associated fisheries, such as salmon. Transfer of permits from latent vessels, depending on qualification criterion, to new vessels provided under this alternative could further exacerbate the sablefish situation. Any effort increase by permitted vessels would have a corresponding impact on the physical environmental, including gear loss impacts, habitat alteration caused by fishing gear contact with habitat structures, and water pollution associated with vessel fuel and waste spillages. Overall, this alternative is not likely to significantly affect the physical environment because the small size of the fishery compared to other Pacific Coast fisheries (0.3% and 1.1% based on weight and revenues, respectively, **Table 3-16**).

4.4.2 *Effects on the Biological Environment*

4.4.2.1 Groundfish Species

Open access fishery impacts on groundfish species are described in **Section 3.2.1**. *The level of change in groundfish landings or impacts under this alternative would depend on the level of fleet harvest capacity that might be retained under this alternative. For example, criterion 47.9K-3 would have eliminated vessels that accounted for 75% of the B species directed fishery revenues received during 2004-2006 (Table 4-1-2). This amount of fish would have substantially increased the amount of fish available for harvest by permitted vessels with associated decrease in target species discards and reduced impacts to over fished groundfish. The criteria contained in A-4 would have increased revenues to permitted vessels ranging from over 40% under 4 criteria, over 20% under 6 criteria and over 10%, for 9 criteria. The other 13 criteria contained in A-4 would have resulted in redistribution to permitted vessels during 2004-2006 of less than 10% of revenues (Table 4-1-2). However, non-permitted vessels likely would have been allowed to land incidental amounts of B species groundfish caught while fishing for associated commercial species during 2004-2006, thus the transfer proportions would have been less than the amounts shown in Table 4-1-2. Personal income impact estimates were not made for all of the criteria contained in A-4. However, the estimates that were made by the two approaches (revenue impact and personal income impact) were the same in 11 of 12 comparisons for criteria that qualified between 390 and 727 vessels (Table 4-1-2).*

In 2005, the sablefish harvest guideline was exceeded in the northern management area (Monterey-Vancouver) by over 40% due to increased level of vessel participation in the fishery (**Figures 3-4 and 3-5**). In 2006, the directed sablefish fishery in the northern management area was closed during October-December due to attainment of the sablefish harvest guideline (HG). This was the only year since the fishery began in 1994 that the fishery had to be closed and may have been due to effort shift of salmon vessels to the directed sablefish fishery because of restrictive salmon fishing regulations (see: <http://www.nwr.noaa.gov/Publications/FR-Notices/2006/upload/Halibut-Inseason-May06.pdf>). Salmon regulations were less restrictive in 2007, which, in combination with more restrictive sablefish regulations, may have constrained the effort increase in the directed sablefish fishery (**Section 1.4.1**). Continued high level of vessel participation in the directed sablefish fishery could result in more restrictive sablefish landing and cumulative limits than in the past. Further reduction in sablefish limits would increase discards of sablefish and associated overfished groundfish stocks due to trip limit overages and high grading to land the most valuable fish compared to previous recent years. Discard rate data for the directed fishery are presented in **Section 3.3.2.4.1**)

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An average of 276 vessels participated in the WOC directed sablefish fishery in the recent window period years of 2004-2006 (**Table 2-4**). Two criteria contained in this alternative would have qualified between 300 and 400 vessels during 2004-2006. These included 6.1K-3 and 2000 max-5 (**Table 4-2**). This number of vessels would ensure that the sablefish fishery is protected against permit transfers from vessels that do not target sablefish; i.e., shelf rockfish, lingcod, other species and California shark vessels.

4.4.2.2 Non-groundfish Species (State-managed or under other FMPs)

Open access fishery impacts on non-groundfish species are described in **Section 3.2.2**. A large decrease in groundfish harvest would likely result in effort shift by permitted vessels to associated fisheries. None of the criteria contained in Alternative 4 would have required an effort shift, overall, by non-qualifying vessels to other commercial fisheries during 2004-2006 of $\geq 5\%$ to make up for loss of B species groundfish revenues (**Appendix E Table E-4b**). However, non-qualifying vessels would have been allowed to land low levels of B species groundfish caught incidentally while fishing for other commercial species under a C permit or state-issued nearshore permit, which would have compensated for some of the potential revenue loss.

4.4.2.3 Prohibited Species

Prohibited species impacts in open access fisheries are described in **Section 3.2.3**. *No change in level of impact of open access fishery vessels on prohibited species (Pacific salmon, Pacific halibut and Dungeness crab) would be expected under this alternative.* The bycatch of salmonids and Dungeness crab is very low in the sablefish endorsed long-line and trap fisheries but significant for Pacific halibut as presented in **Section 3.2.3**. These bycatch rates are likely similar to those that occur in the open access fishery longline and trap fisheries, depending on area of the coast. If capacity and participation in the groundfish fishery were reduced by this action, bycatch of Pacific halibut could in turn be reduced.

4.4.2.4 Protected Species

Protected species impacts in open access fisheries are described in **Section 3.2.4**. *No change in level of impact of open access fishery vessels on protected species (e.g., listed salmonids, marine mammals, seabirds, turtles) would be expected under this alternative because overall groundfish impact would remain the same.* However, depending on criterion, less fishing gear and time might be needed because of reduced fleet size, which could have a beneficial effect on marine mammals and seabirds.

4.4.3 Effects on the Socioeconomic Environment

4.4.3.1 Management Structure of the Open Access Fishery

The open access fishery management structure is described in **Section 3.3.1**. *Permitting of open access fishery participants would facilitate projection of open access fishery landings and impacts, which could lead to better utilization of harvestable resources and protection of overfished groundfish species.* No change in the current management structure would be expected under this alternative. Fisheries would continue to be managed using trip and cumulative landing limits with the aim of providing for year round fishing.

4.4.3.2 Catch Characteristics

Catch characteristics of the open access fisheries are described in **Section 3.3.2**. The permit requirement under this alternative would help to more accurately project fishery impacts and landings on a pre-and in-season basis compared to the no-action alternative, thus minimizing the need for major late season landing limit changes to stay within or meet fishery allocations. For this alternative a wide range of qualification criteria (22 overall) was developed and analyzed. The amount of B species groundfish harvested by vessels that would qualify for a permit under this alternative ranged from 27% to 100% with a median value of 96% of the total B species groundfish landed by directed fishery vessels during the 2004-2006 window period (Tables 4-1-1 and 4-1-2). These ranges in proportions stem from differences in vessel target species strategy, state of origin and qualification criteria used in ranking vessels for permit qualification.

The level of change in groundfish landings or impacts under this alternative would depend on the level of fleet harvest capacity that might be retained. For example, criterion 47.9K-3 would have eliminated vessels that accounted for 75% of the B species directed fishery revenues received during 2004-2006 (Table 4-1-2). This amount of fish would have substantially increased the amount of fish available for harvest by permitted vessels with associated decrease in target species discards and, possibly, reduced impacts to over fished groundfish. The criteria contained in A-4 would have increased revenues to permitted vessels ranging from over 40% under four criteria, over 20% under six criteria and over 10%, under nine criteria. The other 13 criteria contained in this alternative would have resulted in redistribution to permitted vessels during 2004-2006 of less than 10% of revenues (Table 4-1-2). However, non-permitted vessels likely would have been allowed to land incidental amounts of B species groundfish caught while fishing for associated commercial species during 2004-2006, thus the transfer proportions would have been less than the amounts shown in Table 4-1-2. Personal income impact estimates were not made for all of the criteria contained in this alternative. However, the estimates that were made by the two approaches (revenue impact and personal income impact) were the same in 11 of 12 comparisons for criteria that qualified between 390 and 727 vessels (Table 4-1-2).

In 2005, the sablefish harvest guideline was exceeded in the northern management area (Monterey-Vancouver) by over 40% due to increased level of vessel participation in the fishery (Figures 3-4 and 3-5). In 2006, the directed sablefish fishery in the northern management area was closed during October-December due to attainment of the sablefish harvest guideline (HG). This was the only year since the fishery began in 1994 that the fishery had to be closed and may have been due to effort shift of salmon vessels to the directed sablefish fishery because of restrictive salmon fishing regulations (see: <http://www.nwr.noaa.gov/Publications/FR-Notices/2006/upload/Halibut-Inseason-May06.pdf>). Salmon regulations were less restrictive in 2007, which, in combination with more restrictive sablefish regulations, may have constrained the effort increase in the directed sablefish fishery (Section 1.4.1). Continued high level of vessel participation in the directed sablefish fishery could result in more restrictive sablefish landing and cumulative limits than in the past. Further reduction in sablefish limits would increase discards of sablefish and associated overfished groundfish stocks due to trip limit overages and high grading to land the most valuable fish compared to previous recent years. Discard rate data for the directed fishery are presented in Section 3.3.2.4.1)

An average of 276 vessels participated in the WOC directed sablefish fishery in the recent window period years of 2004-2006 (Table 2-4). Two criteria contained in this alternative would have qualified between 300 and 400 vessels during during 2004-2006. These were 6.1K-3 and 2000 max-5 (Table 4-2). This number of vessels would ensure the sablefish fishery is protected against permit transfers from vessels that do not target sablefish; i.e., those that target shelf rockfish, lingcod, other species and California sharks.

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The distribution of vessels that would have met the wide range in qualification criteria contained in this alternative during 2004-2006 were as follows (with the proportion of vessels making landings by state during the 2004-2006 window period shown in parentheses) as follow: Washington, 11%-25% (11%); Oregon, 14%-34% (31%); and California 44%-71% (57%) (Table 4-2). These ranges in proportions stem from differences in vessel target species strategy and the permitting criteria used in ranking vessels for permit qualification.

The range in potential revenue increase to vessels that would have qualified for B permits during 2004-2006 under the criteria contained in this alternative was from no impact (11b-1; 1 trip-1) to 75% (47.9K-3) (Table 4-1-2). The range in personal income impact would have been similar based on economic analyses done for 12 criteria by the two approaches (Table 4-1-2). However, allowance would have been made for the non-qualifying vessels to land small amounts of these fish under a C permit or state-issued nearshore permit, which would have reduced the amount of fish available for transfer to the permitted vessels during 2004-2006.

4.4.3.3 Vessel Characteristics

Vessel characteristics are described in **Section 3.3.3**. *Fishery attrition would be low under this alternative because permits would be transferable regardless of criterion adopted for permit qualification. Permit transfers from latent vessels that might receive a permit under criteria with low qualification standards to new permit owners could increase overall groundfish effort because the new permit holders would have greater incentive to use their new permits.* Also, many salmon vessels would likely receive permits under criteria with low qualification standards and could increase effort in the B species fisheries to make up for lost salmon revenues due to restrictive salmon fishing regulations, which appeared to happen in 2006. An offsetting factor is the requirement for vessel tracking equipment (VMS) on all vessels that operate in federal waters and take federal groundfish, which may be too expensive for some vessel owners to participate in the fishery.

Vessels that targeted lingcod, shelf rockfish and other species during window period or subset of window period years used for permit qualification are less likely to receive permits under any alternative that would permit less than the total number of vessels that made one or more directed fishery landing of B species groundfish (Table 3-13-3). However, the provision under this alternative to allow for incidental B species landings under a C permit or a state-issued nearshore permit could allow the vessels that do not qualify for B permits to continue to land small amounts of those species. Their landing allowances would be determined as part of the biennial and inseason management process.

Average size of vessel in the fleet could change under this alternative because vessel length would not be a constraining factor in permit transfers; i.e., there is no vessel length endorsement provision. In particular, small vessel owners might be inclined to upgrade to a larger vessel or transfer (e.g., sell) their permit to an owner of a larger vessel over time and there is no provision for new permit issuance under this alternative. Gear used to make the catch could potentially change because there would be no restriction on type of gear vessels could use or that future permit holders would be allowed to use with their permit. Pot fishing vessels tend to be larger on average than hook and line vessels because of the greater deck space required to deploy pot gear, thus more pot fishing vessels could be expected if average size of vessel in the fleet increases. *There is high potential for average size of vessel and number of pot fishing vessels in the fleet to increase under this alternative.*

4.4.3.4 Processor Characteristics

Process characteristics are described in **Section 3.3.4**. *No change in processor characteristics would be expected under this alternative. However, the distribution of B permits could affect fish buying opportunities for commercial fish processors.* The distribution of vessels that would have met the wide

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range in qualification criteria contained in this alternative during 2004-2006 were as follows (with the proportion of vessels making landings by state during the 2004-2006 window period shown in parentheses) as follow: Washington, 11%-25% (11%); Oregon, 14%-34% (31%); and California 44%-71% (57%) (Table 4-2). These ranges in proportions stem from differences in vessel target species strategy and the permitting criteria used in ranking vessels for permit qualification.

Port group impacts based on vessels that would have qualified for B permits during 2004-2006 were highly variable between the criteria contained in this alternative. The most restrictive criterion, 47.9K-3, would have consolidated 51% of the B permits in two port groups: Fort Bragg (31%) and Monterey (18%). Many port groups would have had zero or very few (<0.5%) permitted vessels under this same criterion (Table 4-3).

Processors that purchase from vessels that target lingcod, shelf rockfish and other species might receive less fish under any alternative that would permit less than total number of vessels that made one or more directed fishery landing of B species groundfish during window period or subset of window period years used for permit qualification (Appendix Tables E-13 and E-14). However, the provision under this alternative to allow for incidental B species landings under a C permit or a state-issued nearshore permit could allow the vessels that do not qualify for B permits to continue to land small amounts of those species. Incidental fishery landing allowances would be part of the biennial and inseason management processes.

4.4.3.5 Participation Requirements, Restrictions, Licensing

Participation requirement, restriction and licensing are described in Section 3.3.6. Adoption of this alternative would require vessel owners that qualify for a B permit to submit application to NMFS to obtain their initial permit and to apply for permit renewal each year thereafter, but there would be no annual fishery participation requirement. Vessel owners would be allowed to register their B permit to a different vessel once per year. Vessel owners that seek a C permit would be required to submit application for permit issuance, but there would be no federal qualification requirements associated with C permit issuance. Vessel owners would be required to obtain appropriate permit types before any directed or incidental fishing takes place. An alternative approach for issuing C permits would be to allow the states to issue them at the same time the vessel owners renew their vessel registrations. The states would then notify NMFS of the C permit vessels, which could avoid NMFS having to charge a fee for issuing the permits.

Owners of A and B permits would be allowed to use both permit types alternately in the same year, but not in the same cumulative landing period. There would be an advance notice requirement to switch permit type usage between cumulative landing periods. This provision would allow vessels to fish from both A and B permit allocations but not in the same cumulative landing period.

4.4.3.6 Revenue/Costs to the Participants and to State and Federal Governments

These issues are discussed in Section 3.3.7. For both B and C permits, NMFS would charge fees for the range of administrative costs incurred by NMFS in issuing, renewing, transferring, appealing and replacing permits. The current A permit renewal fee is \$125. Vessel owners would be required to register their vessel with NMFS in advance of participating in the fishery. In order to provide NMFS with adequate time to complete a vessel registration, vessel owners would need to submit to NMFS an application at least 30 days in advance of the date the vessel owner wishes to begin participation in the fishery. An alternative approach for issuing C permits would be to all the states to issue them at the same time the vessel owners renew their vessel registrations. The states would then notify NMFS of the C permit vessels, which could avoid NMFS having to charge a fee for issuing the permits.

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Adoption of any alternative that requires federal licensing or permitting of current open access vessels to take and possess specified federal groundfish may require that those vessels participate in the federal groundfish fishery vessel monitoring program (VMS program) when fishing for specified federal groundfish in federal or state waters. Some current open access fishermen may not seek to participate in the VMS program because of program cost, and intend to commercially fish for and take specified federal groundfish in state waters only where VMS program participation may not be required. Federal groundfish registration might compromise that strategy. Registration for a federal groundfish license or permit may require vessel participation in the groundfish VMS program. Furthermore, adoption of any alternative that requires federal licensing or permitting may increase the probability of a vessel being selected to participate in the Pacific Coast Groundfish Observer Program. There is an added cost to vessel owners to carry a federal observer on their vessel.

4.4.3.7 Groundfish-dependent Communities

Groundfish-dependent communities are discussed in **Section 3.3.7**. *No change in the dependence of fishing communities on groundfish would be expected under this alternative because of the relatively low contribution of B species groundfish to local fisheries.* The maximum reduction in B species directed fishery groundfish landings under this alternative is estimated to be 74% (Appendix E, Table E4b) if there were no regulation adjustment to allow permitted vessels to land fish formerly caught by non-permitted vessels or for non-permitted vessels to land B species groundfish incidental to fishing for other species. Any level of fleet size reduction below 680 vessels would be expected to consolidate the catch among fewer vessels compared to recent years with, possibly, no impact on level of groundfish landings. Displaced fishers would be expected to shift effort to other fisheries to compensate for lost groundfish revenues (see Appendix E, Table E-4b).

NMFS completed an Environmental Impact Statement (EIS) in 2006 that included a comprehensive analysis of Pacific Coast groundfish fishing communities and their engagement in various groundfish fisheries. Most Pacific Coast fishing ports with groundfish landings have some vessels that land open access groundfish. Appendix A to the EIS evaluated fishing communities for their dependence on groundfish resources and for their vulnerability to changes in availability of groundfish harvest. This action would not alter the overall available groundfish harvest, but it would affect particular vessels in particular ports, either by providing those vessels with a potentially valuable license to participate in the fishery or by eliminating opportunities for those vessels to participate in the fishery. Port cities that Appendix A identified as both having some history of open access groundfish landings and a relatively higher dependency on availability of groundfish resources are: Astoria, Bellingham, Brookings, Coos Bay, Crescent City, Eureka, Fort Bragg, Morro Bay, Newport, Port Orford, and San Francisco. Additional information on the importance of groundfish to fishing communities is provided in **Section 3.3.8**. A substantial reduction in permits under this alternative has the potential for compaction of permits in a few ports and the absence of permits in other ports depending on the distribution of the more productive boats.

The distribution of vessels that would have met the wide range in qualification criteria contained in this alternative during 2004-2006 were as follows (with the proportion of vessels making landings by state during the 2004-2006 window period shown in parentheses) as follow: Washington, 11%-25% (11%); Oregon, 14%-34% (31%); and California 44%-71% (57%) (Table 4-2). These ranges in proportions stem from differences in vessel target species strategy, state of origin, and the permitting criteria used in ranking vessels for permit qualification.

4.4.3.8 Environmental Justice

The factors to be considered with regard to environmental justice are described in **Section 3.3.9**. *This action has low potential for significant impact as it does not target low income or minority communities; it would affect all population segments equally.* Some Pacific Coast fishing communities have open

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access fishery participants that are not native-English speakers, but few of them participate in the fishery management process. Fishing families from these same communities also participate in the limited entry groundfish fishery, so there are within-community networks of translators. NMFS has not historically translated its groundfish fishery regulations from English into other languages. Some of the communities with relatively high open access fishery landings are considered vulnerable to shifts in groundfish fishing opportunity, although open access landings themselves may not make up the majority of groundfish fishing income to the community. This action does not alter or affect tribal treaty rights to or tribal allocations of groundfish.

4.5 Alternative 5

The initial fleet size goal under this alternative is 390 vessels, which is 91% of the average number of vessels that fished at least three years for federal groundfish species, including nearshore species, during 1994-1999 (**Appendix A, Table 3**). The 91% adjustment factor is extrapolated from the relationship between total number of vessels that had directed fishery landings of federal groundfish and those that had directed fishery landings of B species groundfish during 2000-2006 window period years. An adjustment factor is used because species composition of rockfish landings was less reliable in years prior to 2000 compared to the latter years and often appeared on tickets as “unspecified rockfish.” The long-term fleet size goal is the same as Alternative 5b, 170 vessels. There is no permit consolidation requirement, but there is a previous year landing requirement, which would require vessels to make a B species landing by November 30 of each year in order to renew the permit by December 31. Permits are non-transferable, which would be expected to accelerate permit attrition to meet the long-term goal under this alternative of 170 vessels. Single vessels could only be registered to either an A or B permit in the same year. Thus A permit vessel owners that own a vessel that would qualify for a B permit would have to decide on retaining one or the other permit type.

Appendix E presents an analysis of the one qualification standard (QS) and three qualification frameworks (QFs) contained in this alternative. The selection of QF for issuing B permits has allocative as well as biological and economic implications. The QFs used in the analysis of this alternative were:

- 4) cumulative vessel landings in pounds of B species groundfish during 2004-2006 window period years (QF-1).
- 5) cumulative vessel landings in pounds of B species groundfish during the 1998-2006 window period (QF-2), and
- 6) cumulative vessel landings in pounds of B species groundfish during the 1998-2006 window period in combination with a 2004-2006 window period B permit species landing requirement (QF-3).

The proposed qualification criteria used to analyze and compare A-3, A-4 and A-5, the B and C permit alternatives, with A-1 (No-action) and A-2 (federal license) presented in Appendix E are described in Table 2-4. One of these criteria (or modification thereof) is proposed to be selected as part of the final action on a preferred alternative that limits the initial number of vessels eligible for B permit issuance.

C permits would be required to land groundfish excluding nearshore species for all vessels that do not have an A or B permit or a state-issued nearshore fishery permit. C permits would be available to any state registered commercial fishing vessel and could be applied for at any time during the year.

4.5.1 Effects on the Physical Environment

The affected environment, including EFH, is described in **Section 3.1**. This alternative would reduce the number of vessels eligible to target B species groundfish from a recent year average of 680 vessels to 390 vessels (43%). Vessel displacement due to permit non-qualification could result in effort shifts to

associated species such as salmon, HMS or crab to make up for revenue loss. There would be an attendant increase in habitat impacts in associated fisheries. It is not clear that such effort shifts would result in a net change in impact on marine habitats. Adoption of this alternative would not allow any new vessels in the fishery and would stop the vessel participation increase seen in the WOC area in recent years (**Figure 2-1**), but would not affect the ability of permitted vessels to exert additional fishing pressure in the event of increased groundfish availability, increased market demand for fish, or reduced fishing opportunity in other fisheries.. Any effort increase by permitted vessels would have a corresponding impact on the physical environmental, including gear loss impacts, habitat alteration caused by fishing gear contact with habitat structures, and water pollution associated with vessel fuel and waste spillages. *Overall, this alternative is not likely to significantly affect the physical environment because the small size of the fishery compared to other Pacific Coast fisheries (<1% based on revenues; see **Section 3.3.8** for fishery comparisons).*

4.5.2 Effects on the Biological Environment

4.5.2.1 Groundfish Species

Groundfish species are described in **Section 3.2.1**. *No change in level of groundfish landings or impacts would be expected under in the first program year . This alternative aims to reduce fleet fishing capacity and participation in the groundfish fishery, which could have a beneficial effect on overfished groundfish, protected and prohibited species by reducing gear interactions with those species. The vessels that would not have qualified for a B permit under this alternative landed between 9% and 20% of the B species directed fishery groundfish revenues during 2004-2006, depending on qualification framework (Appendix E, Table E-4b). This is the amount of revenue increase possibly available for the permitted vessels in those years. However, a small amount of fish would have been available for harvest by non-permitted vessels as incidental fishery catches under a C permit or state-issued nearshore permit. Thus, no additional fish may have been available for harvest by the permitted vessels. Attainment of the 170 vessel long-term goal (44% of initial fleet size goal) is more likely to have significant economic benefit to the permitted vessels, result in reduced fishery discards, and require less fishing gear due to reduced fleet size.*

In 2005, the sablefish harvest guideline was exceeded in the northern management area (Monterey-Vancouver) by over 40% due to increased level of vessel participation in the fishery (**Figures 3-4 and 3-5**). In 2006, the directed sablefish fishery in the northern management area was closed during October-December due to attainment of the sablefish harvest guideline (HG). This was the only year since the fishery began in 1994 that the fishery had to be closed and may have been due to effort shift of salmon vessels to the directed sablefish fishery because of restrictive salmon fishing regulations (see: <http://www.nwr.noaa.gov/Publications/FR-Notices/2006/upload/Halibut-Inseason-May06.pdf>). Salmon regulations were less restrictive in 2007, which, in combination with more restrictive sablefish regulations, may have constrained the effort increase in the directed sablefish fishery (**Section 1.4.1**). Continued high level of vessel participation in the directed sablefish fishery will result in more restrictive sablefish landing and cumulative limits than in the past. Further reduction in sablefish limits will increase discards of sablefish and associated overfished groundfish stocks due to trip limit overages and high grading to land the most valuable fish compared to previous recent years.

The number of permits proposed to be initially issued under this alternative (390) is about 40% greater than the average number of vessels that participated in the WOC directed sablefish fishery during 2004-2006 window period years (276 vessels; **Table 2-4**). Thus the potential is greatly reduced for a large effort shift to the directed sablefish fishery under this alternative compared to Alternative 3 and many of the criteria in Alternative 4. The long-term fleet size objective of 170 vessels in this alternative would substantially reduce (or eliminate) the potential for large effort increase in the directed sablefish fishery.

4.5.2.2 Non-groundfish Species (State-managed or under other FMPs)

Open access fishery impacts on non-groundfish species are described in **Section 3.2.2**. Eventual increase in fishing effort and catch of state-managed and federal non-groundfish fisheries from displaced (non-permitted or previously permitted) vessels would be expected to be $\leq 2\%$ under this alternative (**Appendix E Table E-4b**). However, non-qualifying vessels would be allowed to land low levels of B species groundfish caught incidentally while fishing for other commercial species under a C permit or state-issued nearshore permit, which might offset the need to increase effort in other commercial fisheries.

4.5.2.3 Prohibited Species

Prohibited species impacts in open access fisheries are described in **Section 3.2.3**. Pacific halibut is commonly caught in sablefish long-line gear, which is a principal gear type used for sablefish in the open access fishery, and those impacts primarily occurs north of Cape Mendocino. Salmon and Dungeness crab are rarely encountered in long-line fisheries (**Section 3.3.2.4.1**). Reduction in number of vessels in the open access directed fishery is not expected to reduce impacts to B species groundfish, thus encounters with prohibited species is likely not to change under this alternative.

4.5.2.4 Protected Species

Protected species impacts in open access fisheries are described in **Section 3.2.4**. These species include listed salmonids, marine mammals, seabirds and turtles. Substantially reduced open access fishery fleet size under the 170 vessel long-term goal of this alternative (44% of initial fleet size goal) could substantially reduce the amount of gear used in the fishery. Reduced gear deployment in the fishery would reduce the potential for gear encounters with marine mammals and seabirds in particular.

4.5.3 Effects on the Socioeconomic Environment

4.5.3.1 Management Structure of the Open Access Fishery

The open access fishery management structure is described in **Section 3.3.1**. *Permitting of open access fishery participants would facilitate projection of open access fishery landings and impacts, which could lead to better utilization of harvestable resources and protection of overfished groundfish species.* No change in the current management structure would be expected under this alternative. Fisheries would likely continue to be managed using trip and cumulative landing limits with the aim of providing for year round fishing.

4.5.3.2 Catch Characteristics

Catch characteristics of the open access fisheries are described in **Section 3.3.2**. The permit requirements under this alternative would help to more accurately project fishery impacts and landings on a pre-and in-season basis, thus minimizing the need for major late season landing limit changes to stay within or meet fishery allocations. The initial fleet size goal under this alternative would reduce the average fleet in recent years from 680 vessels to 390 vessels and would bring the fleet size closer to the average directed sablefish fishery fleet size of 276 vessels during the 2004-2006 widow period years. This is an important consideration because of the potential for increased sablefish effort stemming from permit transfers from latent vessels to vessel owners that would be motivated to use their new permits. Also, the potential impact of salmon vessel effort shift by permitted vessels due to low salmon availability or restrictive salmon fishing regulations would be lower than the other alternatives that have a fixed initial fleet size goal.

The amount of B species groundfish harvested by vessels that would initially qualify for a permit under this alternative represented 83%-93% of the total B species groundfish landed by directed fishery vessels during the 2004-2006 window period (**Appendix E Table E-4a**). Thus non-qualifying vessels could

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provide 7% -17% more B species groundfish for harvest by permitted vessels. Attainment of the long-term fleet size goal of 170 vessels has the potential based on 2004-2006 window period landings to increase the allowable catch by permitted vessels by about 44%. This is based on results for 21.8K-3 and 14.4K-3 criteria, which would have qualified 139 and 211 vessels during 2004-2006 (Table 4-1-2). This amount of fish would likely provide for substantially higher landing and cumulative limits for some B species groundfish such as sablefish. Discards and overfished species impacts would also be reduced stemming from increased trip limits. However, non-qualifying vessels would be allowed to land incidental amounts of B species groundfish, which would reduce the amount of additional fish available for harvest by permitted vessels.

The projected initial distribution of permits by state (with the proportion of vessels making landings by state during the 2004-2006 window period shown in parentheses) would be as follow: Washington, 17%-22% (11%); Oregon, 26%-32% (31%); and California 45%-56% (57%) (Table 4-2). One possible way to project the approximate distribution of permits under the long-term goal of 170 vessels would be to use the analytical results for criteria that would have provided for initial fleet sizes of 139 and 211 vessels during 2004-2006. Those criteria, 21.8K-3 and 14.4K-3, showed the following distributions: Washington, 20%; Oregon, 23% and 28%, respectively; and California, 57% and 53%, respectively (Tables 4-1-2 and Table 4-2).

Non-qualifying vessels under this alternative would need to increase effort in other fisheries or find other revenue sources to make up for revenues lost due to non qualification for B permits, discounting the B species groundfish that they would be allowed to land incidental to fishing for other commercial species. The amount of revenue increase that would be required of vessels not meeting the initial permit qualification criteria is estimated to be in the range of 1%-2% based on the contribution of B species groundfish to total 2004-2006 window period fishery revenues of non-qualifying vessels (Appendix E: Table E-4b). The long-term impact of reducing the fleet to 170 vessels in terms of lost revenue would be about 4% for vessels that would lose their permits due to failure to make a B species landing every year or for failing to reapply for permit issuance (based on 21.8K and 14.4K-3 criteria shown in Appendix E: Table E-4b).

The range in potential revenue increase to vessels that would have qualified for B permits during 2004-2006 under the criteria contained in this alternative was from 9% (390v-1) to 20% (390v-2) (Table 4-1-2). The range in personal income impact would have been about the same (Table 4-1-2). However, allowance would have been made for the non-qualifying vessels to land small amounts of these fish under a C permit or state-issued nearshore permit, which would have reduced the amount of fish available for harvest by the permitted vessels.

4.5.3.3 Vessel Characteristics

The long-term goal under this alternative could lead to larger average size vessel in the fleet. Permit transfer would not be allowed under this alternative, which should accelerate permit attrition. The annual landing requirement provision would further increase the rate of fishery attrition. It is not clear which vessels would be more likely to stop renewing their permits, but it seems likely that the owners with the larger fishery investments would more likely to renew their permits. These generally would be the larger vessel owners. Thus the average size of vessel in the fleet could increase. The gear used in the fishery could also move more toward pot fishing, which has been the trend over time and also because pot vessels tend to be larger vessels (because of the larger deck space required to transport pot gear). Permit non-transferability precludes owners of smaller vessels from upgrading to a larger vessel or selling their permits to owners of larger vessels.

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Vessels that targeted lingcod, shelf rockfish and other species during window period or subset of window period years used for permit qualification are less likely to receive permits under any alternative that would permit less than the total number of vessels that made one or more directed fishery landing of B species groundfish (Table 3-13-3). However, the provision under this alternative to allow for incidental B species landings under a C permit or a state-issued nearshore permit would allow vessels that do not qualify for B permits to continue to land small amounts of those species. Their landing allowances would be determined as part of the biennial and inseason management process.

The projected initial distribution of permits by state (with the proportion of vessels making landings by state during the 2004-2006 window period shown in parentheses) would be as follow: Washington, 17%-22% (11%); Oregon, 26%-32% (31%); and California 45%-56% (57%) (Table 4-2). One possible way to project the approximate distribution of permits under the long-term goal of 170 vessels would be to use the analytical results for criteria that would have provided for initial fleet size of 139 and 211 vessels during 2004-2006. Those criteria, 21.8K-3 and 14.4K-3, showed the following distributions: Washington, 20%; Oregon, 23% and 28%, respectively; and California, 57% and 53%, respectively (Table 4-3).

4.5.3.4 Processor Characteristics

Processor characteristics are described in **Section 3.3.5**. *No change in processor characteristics would be expected under this alternative.* However, the distribution of permits could affect the ability of commercial fish processors to buy B species groundfish. The projected initial distribution of permits by state (with the proportion of vessels making landings by state during the 2004-2006 window period shown in parentheses) would be as follow: Washington, 17%-22% (11%); Oregon, 26%-32% (31%); and California 45%-56% (57%) (Table 4-2). One possible way to project the approximate distribution of permits under the long-term goal of 170 vessels would be to use the analytical results for criteria that would have provided for initial fleet size of 139 and 211 vessels during 2004-2006. Those criteria, 21.8K-3 and 14.4K-3, showed the following distributions: Washington, 20%; Oregon, 23% and 28%, respectively; and California, 57% and 53%, respectively (Table 4-2).

Washington had one port group that was sensitive (>20% potential landing reduction) to vessel non-qualification under this alternatives, Columbia River. All Oregon port groups, except Brookings were sensitive to non-qualification under criteria that used QF-2 (lbs landed, 1998-2006 window period (Table 4-3). The criteria that used QF-1 had the lowest negative impact on Oregon ports (Table 4-3). Several California port groups were sensitive to vessel non-qualification regardless of qualification framework, in approximate order from most sensitive to least sensitive: Bodega Bay, Santa Barbara, Crescent City, Los Angeles, and Morro Bay (Table 4-3).

4.5.3.5 Participation Requirements, Restrictions, Licensing

Participation requirement, restriction and licensing are described in **Section 3.3.5**. *Adoption of this alternative would require vessel owners that qualify for a B permit to submit application to NMFS to obtain their initial permit and to apply for permit renewal each year thereafter, which would be a new registration requirement.* B permit holders would be required to make a B species landing every year to be eligible for permit renewal. Vessel owners that seek a C permit would be required to submit application for permit issuance, but there would be no federal qualification requirements associated with C permit issuance. Vessel owners would be required to obtain appropriate permit types before any directed or incidental fishing takes place. An alternative approach for issuing C permits would be to allow the states to issue them at the same time the vessel owners renew their vessel registrations. The states would then notify NMFS of the C permit vessels, which could avoid NMFS having to charge a fee for issuing the permits.

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Vessel owners would not be allowed to use A and B permits on the same vessel in the same year. Vessel owners that own an A permit and would qualify for a B permit for the same vessel would have to decide on one or the other permit type because A and B permits may not be used on the same vessel in the same year under this alternative.

4.5.3.6 Revenue/Costs to the Participants and to State and Federal Governments

These issues are discussed in **Section 3.3.7**. For both B and C permits, NMFS would charge fees for the range of administrative costs incurred by NMFS in issuing and renewing permits, which would be an added fishery participation cost. The current A permit renewal fee is \$125. Vessel owners would be required to register their vessel with NMFS in advance of participating in the fishery. In order to provide NMFS with adequate time to complete a vessel registration, vessel owners would need to submit to NMFS an application at least 30 days in advance of the date the vessel owner wishes to begin participation in the fishery. An alternative approach for issuing C permits would be to allow the states to issue them at the same time the vessel owners renew their vessel registrations. The states would then notify NMFS of the C permit vessels, which could avoid NMFS having to charge a fee for issuing the permits.

Under this alternative, permits may not be transferred between vessels; there is a previous year landing requirement, which must be met by November 30 of each year; and single vessels may only be registered to either an A or B permit in the same year. Failure to meet the landing requirement or to renew the permit on time annually would result in denial of permit renewal.

Adoption of any alternative that requires federal licensing or permitting of current open access vessels to take and possess specified federal groundfish may require that those vessels participate in the federal groundfish fishery vessel monitoring program (VMS program) when fishing for those specified federal groundfish in federal or state waters. Some current open access fishermen may not want to participate in the VMS program because of program cost, and intend to commercially fish for and take those specified federal groundfish only in state waters where VMS program participation may not be required. Federal groundfish registration might compromise that strategy. Open access vessel owners should be aware that registration for a federal groundfish license or permit may require their participation in the groundfish VMS program. Furthermore, adoption of any alternative that requires federal licensing or permitting may increase the probability of a vessel being selected to participate in the Pacific Coast Groundfish Observer Program. There is an added cost to vessel owners to carry a federal observer on their vessel.

4.5.3.7 Groundfish-dependent Communities

Groundfish-dependent communities are discussed in **Section 3.3.8**. *No change in the dependence of fishing communities on groundfish would be expected under this alternative. The proposed level of fleet size reduction would be expected to consolidate the available harvest among fewer vessels with no impact on level of total groundfish landings, but the distribution of landings could change.* The maximum reduction in B species directed fishery groundfish landings under this alternative is estimated to be 7%-17% based on 2004-2006 window period data (**Appendix E Table E4b**) if there were no regulation adjustment to allow permitted vessels to land fish formerly caught by non-permitted vessels or for non-permitted vessels to land B species groundfish incidental to fishing for other species. Displaced fishers would likely shift effort to other fisheries to compensate for lost groundfish revenues.

NMFS completed an Environmental Impact Statement (EIS) in 2006 that included a comprehensive analysis of Pacific Coast groundfish fishing communities and their engagement in various groundfish fisheries. Most Pacific Coast fishing ports with groundfish landings have some vessels that land open access groundfish. Appendix A to the EIS evaluated fishing communities for their dependence on groundfish resources and for their vulnerability to changes in availability of groundfish harvest. This

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action would not alter the overall available groundfish harvest, but it would affect particular vessels in particular ports, either by providing those vessels with a potentially valuable license to participate in the fishery or by eliminating opportunities for those vessels to participate in the fishery. Port cities identified in Appendix A having both having some history of open access groundfish landings and a relatively higher dependency on availability of groundfish resources are: Astoria, Bellingham, Brookings, Coos Bay, Crescent City, Eureka, Fort Bragg, Morro Bay, Newport, Port Orford, and San Francisco. Additional information on the importance of groundfish to fishing communities is provided in **Section 3.3.8**.

Washington had one port group that was sensitive (>20% potential landing reduction) to vessel non-qualification under this alternatives, Columbia River. All Oregon port groups, except Brookings were sensitive to non-qualification under criteria that used QF-2 (lbs landed, 1998-2006 window period) (Table 4-3). The criteria that used QF-1 had the lowest negative impact on Oregon ports (Table 4-3). Several California port groups were sensitive to vessel non-qualification regardless of qualification framework. These were in approximate order from most sensitive to least sensitive: Bodega Bay, Santa Barbara, Crescent City, Los Angeles, and Morro Bay (Table 4-3).

The projected initial distribution of permits by state (with the proportion of vessels making landings by state during the 2004-2006 window period shown in parentheses) would be as follow: Washington, 17%-22% (11%); Oregon, 26%-32% (31%); and California 45%-56% (57%) (**Table 4-2**). One possible way to project the approximate distribution of permits under the long-term goal of 170 vessels would be to use the analytical results for criteria that would have provided for initial fleet size of 139 and 211 vessels during 2004-2006. Those criteria, 21.8K-3 and 14.4K-3, showed the following distributions: Washington, 20%; Oregon, 23% and 28%, respectively; and California, 57% and 53%, respectively (**Table 4-2**).

4.5.3.8 Environmental Justice

The factors to be considered with regard to environmental justice are described in **Section 3.3.8**. *This alternative has low potential for significant impact as it does not target low income or minority communities; it would affect all population segments equally.* Some Pacific Coast fishing communities have open access fishery participants that are not native-English speakers, but few of them participate in the fishery management process. Fishing families from these same communities also participate in the limited entry groundfish fishery, so there are within-community networks of translators. NMFS has not historically translated its groundfish fishery regulations from English into other languages. Some of the communities with relatively high open access fishery landings are considered vulnerable to shifts in groundfish fishing opportunity, although open access landings themselves may not make up the majority of groundfish fishing income to the community. This action does not alter or affect tribal treaty rights to or tribal allocations of groundfish.

4.6 Cumulative Effects (Very Preliminary)

Adoption of any alternative that requires federal licensing or permitting of current open access vessels to take and possess specified federal groundfish may require that those vessels participate in the federal groundfish fishery vessel monitoring program (VMS program) when fishing for specified federal groundfish in federal or state waters. Some current open access fishermen may not seek to participate in the VMS program because of program cost, and intend to commercially fish for and take specified federal groundfish in state waters only where VMS program participation may not be required. Federal groundfish registration might require all federally permitted groundfish vessels to participate in the VMS program. Furthermore, adoption of any alternative that requires federal licensing or permitting may increase the probability of a vessel being selected to participate in the West Coast Groundfish Observer Program. There is an added cost to vessel owners to carry a federal observer on their vessel.

Implementation timing of the open access groundfish fishery permit program could be very close to implementation timing of the trawl fishery individual quota program, which, together, or separately might have, or perceived to have cumulative negative impacts in some communities. This is because not all fishers and businesses that associate with groundfish management will be receptive of or in agreement with the outcome of one or both initiatives. Fish processors at some ports might feel negatively effected, while processors in other ports might anticipate improved conditions resulting from one or both initiatives. NMFS License Office will be concerned about the complexity of the two new programs and their ability to handle the added work load and cost using existing resources. Additional staff may be needed to handle two new programs, whereas existing staff might be able to handle one or the other program.

Groundfish management is already complicated based on separate A permit (Limited Entry) and open access fishery regulations. The proposed B and C permit program would add an additional tier to the regulations: A permit, B permit and C permit regulations (although there are already incidental fishery landing provisions for some open access vessels). The new regulations would likely have provision for vessels that previously were covered under directed fishery regulations, but that are now covered under incidental fishery regulations. For example, vessels that did not qualify for a B permit may not be allowed to land B species groundfish without an accompanying amount of non-B species groundfish, the amount of which would need to be specified in regulation.

5.0 CONSISTENCY WITH THE FMP AND OTHER APPLICABLE LAWS

5.1 *CONSISTENCY WITH THE FMP*

(Under development)

5.2 *MAGNUSON-STEVEN'S CONSERVATION AND MANAGEMENT ACT*

(Under development)

5.3 *ENDANGERED SPECIES ACT*

(Under development)

5.4 *MARINE MAMMAL PROTECTION ACT*

(Under development)

5.5 *COASTAL ZONE MANAGEMENT ACT*

(Under development)

5.6 *PAPERWORK REDUCTION ACT*

(Under development)

5.7 *EXECUTIVE ORDER 12866*

(Under development)

5.8 *EXECUTIVE ORDER 13175*

(Under development)

5.9 *MIGRATORY BIRD TREATY ACT AND EXECUTIVE ORDER 13186*

(Under development)

5.10 *EXECUTIVE ORDER 12898 (ENVIRONMENTAL JUSTICE) AND 13132 (FEDERALISM)*

(Under development)

6.0 *REGULATORY IMPACT REVIEW AND REGULATORY FLEXIBILITY ANALYSIS*

(Under development)

6.1 *Regulatory Impact Review*

EO 12866, Regulatory Planning and Review, was signed on September 30, 1993, and established guidelines for promulgating new regulations and reviewing existing regulations. The EO covers a variety

of regulatory policy considerations and establishes procedural requirements for analysis of the benefits and costs of regulatory actions. The RIR provides a review of the changes in net economic benefits to society associated with proposed regulatory actions. The analysis also provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the alternative action that could be used to solve the problems.

The RIR analysis and the environmental analysis required by NEPA have many common elements, including a description of the management objectives, description of the fishery, statement of the problem, description of the alternatives and economic analysis, and have, therefore, been combined in this document. See Table 6.0.1. above for a reference of where to find the RIR elements in this EA.

6.2 Initial Regulatory Flexibility Analysis

The RFA, 5 U.S.C. 603 *et seq.*, requires government agencies to assess the effects that various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those effects. When an agency proposes regulations, the RFA requires the agency to prepare and make available for public comment an 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. 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.

The Small Business Administration (SBA) uses the following definitions to identify small businesses:

- Fish Harvesting: \leq \$4.0 million annually
- Fish Processing: \leq 500 employees
- Wholesale: \leq 100 employees

Also, the business is not dominant in its field of operation.

Fish Harvesting

In 2006, there were 713 vessels that participated in the open access fishery, excluding incidental catches and nearshore species, which accounted for about \$3,100,000. The past five year average (2002-2006) included about 699 vessels, which accounted for about \$2,600,000. Therefore, approximately 700 vessels would be affected by this amendment and the vast majority if not all vessels earn less than \$4.0 million annually from this fishery and consequently would be considered small businesses. Most fishermen do fish in multiple fisheries and may possibly own more than one vessel. The total revenue, including multiple vessels and various fisheries earned by a fishermen, is what is used to determine small business eligibility. Historically, on the Pacific Coast, most fishermen earn well under \$4.0 million annually. In 2004, for example there were a total of 3,622 unique vessels that participated in Pacific Coast commercial fishing with a total revenue of \$366 million (Groundfish spex document, October 2006), which averages to about \$100,000/vessel. There may be some exceptions, such as if a company owns multiple vessels, but that data is not readily available.

Because, the vast majority, if not all, participants are considered small businesses, there would not be a disproportionate effect on small entities compared to large entities. All of the alternatives presented in this amendment with the exception of the No-action alternative would have an impact on the profitability of the participants; however, as stated previously most vessels participate in various fisheries and because the open access groundfish fishery is a small portion of all other fisheries (<0.3% by weight), the impacts should be minor.

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Fish Processing and Wholesale

State data from the United States Census Bureau was retrieved in order to estimate how many fish processing and wholesale establishments may be affected by this amendment and which ones would be defined as a small business.

The following table shows number of fresh and frozen seafood processing (NAICS industry code 311712) establishments by employment size class.

State	Number of Establishments by Employment-size class									
	Total Estabs	1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	1000 or more
CA	31	8	2	3	6	4	6	2	0	0
OR	17	5	2	2	3	2	3	0	0	0
WA	72	11	4	5	17	17	16	2	0	0
Total	120	24	8	10	26	23	25	4	0	0

Source: United States Census Bureau 2005 County Business Patterns (NAICS), Year 2005 Data
Extracted: 9/27/07

Using the data above, all 120 establishments would be considered a small business. However, all of these processing facilities may not process groundfish. There is no breakdown in the data on which fish species each processing plant works with and further, establishments are defined as:

An establishment is a single physical location at which business is conducted or services or industrial operations are performed. It is not necessarily identical with a company or enterprise, which may consist of one or more establishments. When two or more activities are carried on at a single location under a single ownership, all activities generally are grouped together as a single establishment. The entire establishment is classified on the basis of its major activity and all data are included in that classification.

Yet when determining if a business is small based on SBA standards, the employees of the business, including all of its affiliates regardless of the types of other businesses is accounted for. Therefore, 120 would be the maximum number of small fish processing businesses. The Groundfish Spex document, October 2006, provides business descriptions for three of the top ten seafood suppliers in the United States that participate in Pacific Groundfish Fisheries: Pacific Seafood Group, Trident Seafood Corp. and American Seafoods Group. All three of these companies have multiple Pacific Coast facilities. Trident Seafoods has 5 plants in Oregon and Washington combined with over 820 employees (www.tridentseafoods.com) and therefore those 5 plants would not be considered a small business. Further, Pacific Seafood Group has 22 (www.pacseafood.com) locations (processing, distribution and office facilities) located in WA, OR and CA combined, with other facilities beyond the Pacific Coast States. We do not have specific data to show what each facility does and how many employees they have, but www.hoovers.com, shows a total of about 1,000 employees within all of Pacific Seafood Group. These are just two examples of multiple facilities owned by one company that when combined, do not fit the definition of a small business.

Because of data limitations, an exact number of small business processing facilities that would be affected by this amendment cannot be identified; however, as stated previously, the open access groundfish fishery is a small fishery in comparison to all other Pacific Coast fisheries and consequently it is likely that processing companies do not rely on this fishery for the majority of their income.

The following table shows number of fish and seafood merchant wholesalers (NAICS industry code 42446) establishments by employment size class

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State	Number of Establishments by Employment-size class									1000 or more
	Total Estabs	1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	
CA	258	130	45	29	36	13	4	0	1	0
OR	23	16	2	3	1	1	0	0	0	0
WA	126	81	20	10	10	3	2	0	0	0
Total	407	227	67	42	47	17	6	0	1	0

Source: United States Census Bureau 2005 County Business Patterns (NAICS), Year 2005 Data
Extracted: 9/27/07

Using the above data, about 400 wholesalers would be considered a small business, but yet again, for reasons identified above this would be a maximum number, because all of the establishments identified in the table may not distribute groundfish obtained in the open access fishery and some establishments may be part of a larger company that when combined would not fit the small business definition.

Because of data limitations, an exact number of small business wholesale facilities that would be affected by this amendment cannot be identified; however, once more, the open access groundfish fishery is a small fishery in comparison to Pacific Coast fishing and it is likely that wholesale companies do not rely on this fishery for the majority of their income.

7.0 AGENCIES CONSULTED

California Department of Fish and Game
National Marine Fisheries Service, Southwest Region
Oregon Department of Fish and Wildlife
Pacific Fishery Management Council
Washington Department of Fish and Wildlife

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10.0 FINDING OF NO SIGNIFICANT IMPACT

(To be completed by NMFS) Example section follows.

See: <http://swr.nmfs.noaa.gov/tuna/fonsi.pdf>

Finding of No Significant Impact for Regulations Implementing Capacity Management in the Open Access Sector of the Pacific Coast Groundfish Fishery Recommended by the Pacific Fishery Management Council
2009

The PFMC and NMFS, Northwest Region, prepared a draft Environmental Assessment (E A) for the proposed rule. The draft EA was available for public comment through 2009. NMFS did not (did) receive any comments on the draft EA during the 30-day comment period. The EA prepared for the final regulations is largely unchanged from the draft EA.

National Oceanic and Atmospheric Administration Administrative Order 216-6 (NAO 216-6) (May 20, 1999) contains criteria for determining the significance of impacts of a proposed action. In addition, the Council on Environmental Quality (CEQ) regulations at 40 C.F.R. 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity."

Each criterion listed below is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ context and intensity criteria.

These include:

(1) Can the proposed action be reasonably expected to jeopardize the sustainability of any target species that may be affected by the action?

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The proposed action is not expected to jeopardize the sustainability of any target species. The proposed action would be expected to limit to current levels or decrease the harvest of specified groundfish species by limiting the capacity of the U.S. open access fishery groundfish fleet operating off the U.S West Coast.

(2) Can the proposed action be reasonably expected to jeopardize the sustainability of any non-target species?

The proposed action is not expected to jeopardize the sustainability of any non-target species. The proposed action may have the effect of decreasing the incidental take of these species by limiting the capacity of the West Coast open access groundfish fleet below past levels. Open access fishery permitting is expected to reduce the number of vessels that will be eligible to participate in the open access fishery, thus, increase the efficiency of the West Coast groundfish observer program, which monitors the take of non-target species.

(3) Can the proposed action be reasonably expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in Fishery Management Plans?

The proposed action is not expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat. The action proposes to limit the number of U.S. open access fishery groundfish vessels operating off the U.S West Coast. Impacts to ocean and coastal habitats associated with the action would be expected to decrease as a result of this limitation.

(4) Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?

The proposed action is not expected to have a substantial adverse impact on public health or safety. The proposed action is not expected to change current public health or safety conditions.

(5) Can the proposed action be reasonably expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?

The proposed action is not expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species. The proposed action may have the effect of decreasing the incidental take of endangered or threatened species by limiting the capacity of the West Coast open access fishery groundfish fleet below past levels. Open access fishery permitting is expected to reduce the number of vessels that will be eligible to participate in the open access fishery, thus, increase the efficiency of the West Coast groundfish observer program, which monitors the take of endangered or threatened species.

(6) Can the proposed action be expected to have a substantial impact on biodiversity and ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

The proposed action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area. The action does not propose to change the way in which U.S. vessels currently fish. The proposed action would limit the capacity of the fleet operating in the West Coast open access groundfish fishery and may, as a result, limit any impacts on biodiversity and ecosystem function.

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(7) Are significant social or economic impacts interrelated with significant natural or physical environmental effects?

Significant natural or physical environmental effects are not expected to result from the proposed action. Further, significant social and economic impacts are not expected to result from natural or physical environmental effects or any aspect of the proposed action.

(8) To what degree are the effects on the quality of the human environment likely to be highly controversial?

The proposed action would not change the way in which the U.S fishery is executed. It would only restrict the aggregate active capacity of U.S. vessels that can participate in the fishery each year. Other aspects of the proposed action are not expected to be controversial.

(9) Can the proposed action be reasonably expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?

The proposed action is not expected to result in impacts to unique areas, such as those listed above.

(10) To what degree are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

Any effects associated with the proposed action are relatively predictable and not highly uncertain.

(11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

The proposed action is not related to other actions with individually insignificant, but cumulatively significant impacts.

(12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historic resources?

The proposed action is not likely to impact anything listed in or eligible for listing in the National Register of Historic Places, expected to cause loss or destruction of significant scientific, cultural or historic resources.

(13) Can the proposed action be reasonably expected to result in the introduction or spread of a non-indigenous species?

The proposed action is not expected to result in the introduction or spread of a non-indigenous species.

(14) Is the proposed action likely to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

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The proposed action is not likely to establish a precedent for future actions with significant effects or represent a decision in principal about a future consideration.

(15) Can the proposed action be reasonably expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?

The proposed action is not expected to threaten or violate Federal, State, or local law or requirements imposed for the protection of the environment. The proposed action implements U.S. laws and includes prohibitions against actions that undermine or impede enforcement of those laws.

(16) Can the proposed action be reasonably expected to result in beneficial impacts, not otherwise identified and described above?

The proposed action is expected to result in the following beneficial impacts: improved enforcement of U.S. laws; greater consumer confidence related to open access groundfish fishery management; and sustainability of target and non-target species as a result of implementing domestic fleet capacity limits.

DETERMINATION

In view of the information presented in this document and the analysis contained in the attached Environmental Assessment prepared for final regulations to implement recommendations of the PFMC it is hereby determined that the final regulations will not significantly impact the quality of the human environment as described above and in the Environmental Assessment. In addition, all impacts to potentially affected areas, including national, regional and local, have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an Environmental Impact Statement for this action is not necessary.

Assistant Administrator for Fisheries, NOAA

11.0 OPERATIONAL TERMS

Acceptable Biological Catch (ABC): This is a biologically based estimate of the amount of fish that may be harvested from the fishery each year without jeopardizing the resource. It is a seasonally determined catch that may differ from MSY for biological reasons. It may be lower or higher than MSY in some years for species with fluctuating recruitment. The ABC may be modified to incorporate biological safety factors and risk assessment due to uncertainty. Lacking other biological justification, the ABC is defined as the MSY exploitation rate multiplied by the exploitable biomass for the relevant time period.

“A” permit: This is another term for the Council’s limited entry permit program for trawl and fixed gear vessels that was implemented under Groundfish Plan Amendment 6 which took effect in 1994. The limited entry or A permit fishery allocations are determined as part of the biennial management process.

B permit: A proposed new groundfish limited entry program. The program would allow owners of qualified open access vessels to obtain a federal permit to participate in the directed fishery for specified federal groundfish species that are allocated to the open access sector of the Pacific Coast groundfish fishery as part of the biennial specifications and management measures process.

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B species groundfish. This is the group of federal groundfish that B permit vessels would be allowed to prosecute in federal and state waters, exclusive of the RCA and other conservation areas. It includes all federal groundfish exclusive of nearshore species (see below).

Biennial fishing period. This period is defined as a 24-month period beginning January 1 and ending December 31.

Biennial management/regulatory process: The Council sets groundfish harvest levels through a biennial regulatory process. This process establishes harvest “specifications”, which are harvest levels or limits such as Acceptable Biological Catches (ABCs,) optimum yields (OYs,) or allocations for different user groups. Management measures, such as trip limits, closed times and areas, and gear restrictions are also set in the annual regulatory process. Management measures are partnered with the specifications in the annual process because these measures are specifically designed to allow the fisheries to achieve, but not to exceed, the specifications harvest levels. Annual development of specifications and management measures, with regulatory review and implementation by NMFS, is authorized the FMP. Certain management measures have been designated as routine for many of the groundfish species managed under the FMP. The Council annually publishes a list of those management measures designated as routine in its Stock Assessment and Fishery Evaluation (SAFE) Report.

Bottom (or flatfish bottom) trawl. This is a trawl in which the otter boards or the footrope of the net are in contact with the seabed. It includes roller (or bobbin) trawls, Danish and Scottish seine gear, and pair trawls fished on the bottom. Bottom-contact gear by design, or as modified, and through normal use makes contact with the sea floor.

Bycatch. Bycatch means fish which are harvested in a fishery, but which are not sold or kept for personal use and includes economic discards and regulatory discards. Such term does not include fish released alive under a recreational catch and release fishery management program.

C permit. A proposed new groundfish permit that would be issued to vessel owners that may want to take and land incidental amounts of B species groundfish.

Closure. When referring to closure of a fishery, means that taking and retaining, possessing or landing the particular species or species complex is prohibited.

Coastal Pelagic Species (CPS). CPS are schooling fish, not associated with the ocean bottom, that migrate in coastal waters. They usually eat plankton and are the main food source for higher level predators such as tuna, salmon most groundfish and humans. Examples are herring squid, anchovy, sardine and mackerel.

Commercial fishing. Commercial fishing is (1) fishing by a person who possesses a commercial fishing license or is required by law to possess such license issued by one of the states or the federal government as a prerequisite to taking, landing, and/or sale; or (2) fishing which results in or can be reasonably expected to result in sale, barter, trade, or other disposition of fish for other than personal consumption.

Council. Council means the Pacific Fishery Management Council, including its Groundfish Management Team (GMT), Scientific and Statistical Committee (SSC), Groundfish Advisory Subpanel (GAP), and any other committee established by the Council.

Daily trip limit (DTL) fishery. The daily trip limit allowed for the sablefish fishery, unless otherwise specified.

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Directed open access fishery landing: A directed open access fishery landing is one in which directed fishery gear was recorded as used and specified groundfish revenue was >50% of the total revenue from all fishery products on the same state agency landing receipt and recorded in the PacFIN data base of the Pacific States Marine Fisheries Commission.

Endangered Species Act (ESA). An act of federal law that provides for the conservation of endangered and threatened species of fish, wildlife, and plants. Councils are required when preparing FMPs to consult with the NMFS and USFWS to determine whether the fishing under an FMP is likely to jeopardize the continued existence of an ESA-listed species, or to result in harm to its habitat.

Endorsement. A designation on a groundfish permit that authorizes the use of the permit for a particular gear, length of vessel, or in a particular segment of the fishery.

Environmental Assessment (EA). An EA is a concise public document that provides evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact, as provided under the National Environmental Policy Act (NEPA).

Essential fish habitat (EFH). EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.

Exclusive Economic Zone (EEZ). A zone under national jurisdiction of up to 200 nautical miles wide within which the coastal state has the right to explore and exploit, and the responsibility to conserve and manage the living and non-living resources.

Fishery management plan (FMP). A plan, and its amendments, that contains measures for conserving and managing specific fisheries and fish stocks.

Fishing. Fishing means (1) the catching, taking, or harvesting of fish; (2) the attempted catching, taking, or harvesting of fish; (3) any other activity which can reasonably be expected to result in the catching, taking, or harvesting of fish; or (4) any operations at sea in support of, or in preparation for, any activity described above. This term does not include any activity by a vessel conducting authorized scientific research.

Fishing year. The fishing year is defined as January 1 through December 31.

Fishing community. Fishing community means a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economy needs and includes fishing vessel owners, operators, crew, and recreational fishers and United States fish processors that are based in such community.

Fixed gear. Fixed gear (anchored nontrawl gear) includes longline, trap or pot, set net, and stationary hook-and-line gear (including commercial vertical hook-and-line) gears.

Final Regulatory Flexibility Analysis (FRFA). The FRFA includes all the information from the IRFA. Additionally, it provides a summary of significant issues raised by the public, a statement of any changes made in the proposed rule as a result of such comments, and a description of steps taken to minimize the significant adverse economic impact on small entities consistent with stated objectives.

Finding of No Significant Impact (FONSI). A finding of no significant impact (FONSI) is a document that explains why an action that is not otherwise excluded from the NEPA process, and for which an EIS will not be prepared, will not have a significant effect on the human environment.

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Gear. A designation on a permit indicating the gear(s) that a vessel may use in the fishery. Permits may be endorsed for one or more gear types.

Groundfish Advisory Subpanel (GAP). The Council's GAP was established to obtain the input of the people most affected by, or interested in the management of the groundfish fishery. This advisory body is made up of representatives with recreational, trawl, fixed gear, open access, tribal, environmental, and process interests. Their advice is solicited when preparing FMPs, reviewing plans before sending them to the Secretary, reviewing the effectiveness of plans once they are in operation, and developing annual and inseason management recommendations.

Groundfish Management Team (GMT). The GMT prepares groundfish management plans and annual and inseason management recommendations. The GMT consists of scientists and managers with specific technical knowledge of the groundfish fishery.

Groundfish Conservation Area (GCA). This means a geographic area defined by coordinates expressed in degrees latitude and longitude, wherein fishing by a particular gear type or types may be prohibited. GCAs are created and enforced for the purpose of contributing to the rebuilding of overfished Pacific Coast groundfish species. Regulations at §660.390 define coordinates for these polygonal GCAs: Yelloweye Rockfish Conservation Areas, Cowcod Conservation Areas, waters encircling the Farallon Islands, and waters encircling the Cordell Banks. GCAs also include Rockfish Conservation Areas or RCAs, which are areas closed to fishing by particular gear types, bounded by lines approximating particular depth contours. RCA boundaries may and do change seasonally according to the different conservation needs of the different overfished species. Regulations at §§660.390 through 660.394 define RCA boundary lines with latitude/longitude coordinates; regulations at Tables 3–5 of Part 660 set RCA seasonal boundaries. Fishing prohibitions associated with GCAs are in addition to those associated with 660.G 11 June 8, 2007 Essential Fish Habitat Conservation Areas, regulations which are provided at §660.306 and §§660.396 through 660.399. {revised at 71 FR 78638, December 29, 2006}

Gillnet. Gillnet is a single-walled, rectangular net which is set upright in the water.

Harvest guideline (HG). HG is an specified numerical harvest objective which is not a quota. Attainment of a HG does not require closure of a fishery.

Highly migratory species (HMS). These are large

Hook-and-line. Hook-and-line means one or more hooks attached to one or more lines. Commercial hook-and-line fisheries may be mobile (troll) or stationary (anchored).

Hook-and-Line Gear. There is a variety of commercial fishing gear that uses hooks and lines in various configurations to catch finfish. These include longline, vertical hook and line, jigs, handlines, rod and reels, vertical and horizontal setlines, troll lines, cable gear and stick gear.

Initial Regulatory Flexibility Analysis (IRFA). An IRFA is required anytime an agency publishes notice of proposed rule making and the rule may have a significant impact on a substantial number of small entities. It describes the impact of the proposed rule on small entities and includes a description of the action, why it is necessary, the objectives and the legal basis for the action, the small entities that will be impacted by the action, and projected reporting, record-keeping, and other compliance requirements of the proposed rule. Rules that duplicate, overlap, or conflict with the proposed rule are also identified.

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Incidental catch or incidental species. These terms refer to groundfish species caught when fishing for the primary purpose of catching a different species.

Individual fishing quota (IFQ). IFQ means a federal permit under a limited access system to harvest a quantity of fish expressed by a unit or units representing a percentage of the total allowable catch of a fishery that may be received or held for exclusive use by a person.

Limited entry fishery means the fishery composed of vessels registered for use with limited entry permits.

Limited entry gear means longline, trap (or pot), or groundfish trawl gear used under the authority of a valid limited entry permit affixed with an endorsement for that gear.

Limited entry permit means the Federal permit required to participate in the limited entry fishery, and includes any gear, size, or species endorsements affixed to the permit.

Longline. Longline is a stationary, buoyed, and anchored groundline with hooks attached, so as to fish along the seabed.

Magnuson-Steven Act. The Magnuson-Steven Conservation and Management Act or MSA, sometimes known as the "Magnuson-Stevens Act," established the 200-mile fishery conservation zone, the regional fishery management council system, and other provisions of US marine fishery law.

Maximum sustainable yield (MSY). MSY is an estimate of the largest average annual catch or yield that can be taken over a significant period of time from each stock under prevailing ecological and environmental conditions. It may be presented as a range of values. One MSY may be specified for a group of species in a mixed-species fishery. Since MSY is a long-term average, it need not be specified annually, but may be reassessed periodically based on the best scientific information available.

Metric ton (mt). A metric ton is 1,000 kilos or 2,204.62 pounds.

Midwater (pelagic or off-bottom) trawl. Midwater trawl is a trawl in which the otter boards may occasionally contact the seabed, but the footrope of the net remains above the seabed. It includes pair trawls if fished in midwater. A midwater trawl has no rollers or bobbins on the net.

National Marine Fisheries Service (NMFS). A division of the US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA). NMFS is responsible for conservation and management of offshore fisheries and inland salmon. The NMFS Regional Director is a voting member of the Council.

Nearshore groundfish. These are groundfish species that primarily occur in state waters and federal waters less than about 300 ft in depth. The complex includes nearshore rockfish, cabezon and kelp greenling. State management or regulatory programs are in place to protect this important complex of federal groundfish species.

Nontrawl gear. Nontrawl gear means all legal commercial gear other than trawl gear.

Non-target species vessel. Any vessel whose B species revenues during 2004-2006 were \leq 50% for a single species or species group are treated as non-target species vessels. The species categories are: sablefish, shelf rockfish, slope rockfish, lingcod, sharks (federal sharks and rays), and others.

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Open access allocation: The total amount of groundfish available for harvest is determined as part of the biennial groundfish regulatory process. The commercial allocation is divided between the limited entry and open access sectors based on historic landing percentages (see Chapter 11.2.2 of the groundfish plan for more specific information).

Open access fishery means the fishery composed of vessels using open access gear fished pursuant to the harvest guidelines, quotas, and other management measures governing the open access fishery. Any commercial fishing vessel that does not have a limited entry permit and which lands groundfish in the course of commercial fishing is a participant in the open access fishery.

Open access gear means all types of fishing gear except:

- (1) Longline or trap (or pot) gear fished by a vessel that has a limited entry permit affixed with a gear endorsement for that gear.
- (2) Trawl gear.

Open access gear is gear used to take and retain groundfish from a vessel that is not registered for use with a limited entry permit for the Pacific Coast groundfish fishery with an endorsement for the gear used to harvest the groundfish. This includes longline, trap, pot, hook-and-line (fixed or mobile), setnet (anchored gillnet or trammel net, which are permissible south of 38° N. lat. only), spear and non-groundfish trawl gear (trawls used to target nongroundfish species: pink shrimp or ridgeback prawns, and, south of Pt. Arena, CA (38°57.50' N. lat.), California halibut or sea cucumbers). Restrictions for gears used in the open access fisheries are as follows:

- (1) Non-groundfish trawl gear. Non-groundfish trawl gear is any trawl gear other than limited entry groundfish trawl gear as described at §660.381(b) and as defined at §660.302 for trawl vessels with limited entry groundfish permits. Non-groundfish trawl gear is generally trawl gear used to target pink shrimp, ridgeback prawn, California halibut and sea cucumber. Non-groundfish trawl gear is exempt from the limited entry trawl gear restrictions at §660.381(b).
- (2) Fixed gear.
 - (i) Fixed gear (longline, trap or pot, set net and stationary hook-and-line gear, including commercial vertical hook-and-line gear) must be:
 - (ii) Commercial vertical hook-and-line gear that is closely tended may be marked only with a single buoy of sufficient size to float the gear. "Closely tended" means that a vessel is within visual sighting distance or within 0.25 nm (463 m) as determined by electronic navigational equipment, of its commercial vertical hook-and-line gear.
 - (iii) A buoy used to mark fixed gear under paragraph (b)(2)(i)(A) or (b)(2)(ii) of this section must be marked with a number clearly identifying the owner or operator of the vessel. The number may be either: {revised at 71 FR 78638, December 29, 2006}
- (A) If required by applicable state law, the vessel's number, the commercial fishing license number, or buoy brand number; or

Optimum yield (OY). OY means the amount of fish which will provide the greatest overall benefit to the United States, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems, is prescribed as such on the basis of the maximum sustainable yield from the fishery as reduced by any relevant economic, social, or ecological factor; and in the case of an overfished fishery, provides for rebuilding to a level consistent with producing the maximum sustainable yield in such fishery.

Overfished. Overfished describes any stock or stock complex whose size is sufficiently small that a change in management practices is required to achieve an appropriate level and rate of rebuilding. The

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term generally describes any stock or stock complex determined to be below its overfished/rebuilding threshold. The default proxy is generally 25% of its estimated unfished biomass; however, other scientifically valid values are also authorized.

Overfishing. Overfishing means fishing at a rate or level that jeopardizes the capacity of a stock or stock complex to produce MSY on a continuing basis. More specifically, overfishing is defined as exceeding a maximum allowable fishing mortality rate. For any groundfish stock or stock complex, the maximum allowable mortality rate will be set at a level not to exceed the corresponding MSY rate (FMSY) or its proxy (e.g., F35%).

Pacific Coast Groundfish Fishery Management Plan: The Groundfish Plan, which was adopted in 1982, has been amended 18 times. The Plan specifies how the Council develops recommendations for management of the Pacific Coast groundfish fishery.

Partnership is two or more individuals, partnerships, or corporations, or combinations thereof, who have ownership interest in a permit, including married couples and legally recognized trusts and partnerships, such as limited partnerships (LP), general partnerships (GP), and limited liability partnerships (LLP).

Pot and Trap Gear. The words “pot” and “trap” are used interchangeably to mean baited boxes set on the ocean floor to catch various fish and shellfish. They can be circular, rectangular or conical in shape. The pots may be set out individually or fished in stings. On the Pacific Coast, live sablefish, Dungeness crab, spot prawns, rock, box, and hermit crabs, spider crabs, spiny lobster and finfish (California sheephead, cabezon, kelp and rock greenling, California scorpionfish, moray eels, and many species of rockfish) are caught in pots. All pots contain entry ports and escape ports that allow undersized species to escape. Additionally, all pots used must have biodegradable escape panels or fasteners that prevent the pot from holding fish or crab if the pot is lost. All pots are marked at the surface. The markings are set by regulation. Pots fished in a line need to be marked at each terminal end, with a pole and flag, and sometimes, additionally, a light or radar reflector. Dungeness pots must be fished individually and each is marked by a buoy.

Processing or to process. This means the preparation or packaging of groundfish to render it suitable for human consumption, retail sale, industrial uses, or long-term storage, including, but not limited to, cooking, canning, smoking, salting, drying, filleting, freezing, or rendering into meal or oil, but does not mean heading and gutting unless additional preparation is done.

Processor. Processor means a person, vessel, or facility that (1) engages in processing, or (2) receives live groundfish directly from a fishing vessel for sale without further processing.

Prohibited species. Prohibited species are those species and species groups which must be returned to the sea as soon as is practicable with a minimum of injury when caught and brought aboard except when their retention is authorized by other applicable law. Exception may be made in the implementing regulations for tagged fish, which must be returned to the tagging agency, or for examination by an authorized observer.

Quota. Quota means a specified numerical harvest objective, the attainment (or expected attainment) of which causes closure of the fishery for that species or species group. Groundfish species or species groups under this FMP for which quotas have been achieved shall be treated in the same manner as prohibited species.

Recreational fishing. This means fishing for sport or pleasure, but not for sale.

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Regulatory Flexibility Act (RFA). The RFA requires federal agencies to consider the effects of their regulatory actions on small businesses and other small entities and to minimize any undue disproportionate burden.

Regulatory Impact Review (RIR). RIRs are prepared to determine whether a proposed regulatory action is “major.” The RIR examines alternative management measures and their economic impacts.

Scientific and Statistical Committee (SSC). An advisory committee of the Council made up of scientists and economists. The Magnuson-Stevens Act requires the each Council maintain an SSC to assist in gathering and analyzing statistical, biological, economic, social, and other scientific information that is relevant to the management of Council fisheries.

Secretary. The US Secretary of Commerce

Set net. Set net is a stationary, buoyed, and anchored gillnet or trammel net.

Specification is a numerical or descriptive designation of a management objective, including but not limited to: ABC; optimum yield; harvest guideline; quota; limited entry or open access allocation; a setaside or allocation for a recreational or treaty Indian fishery; an apportionment of the above to an area, gear, season, fishery, or other subdivision.

Stacking is the practice of registering more than one limited entry permit for use with a single vessel.

Sustainable Fisheries Act. See Magnuson-Stevens Act, above.

Target fishing. This means fishing for the primary purpose of catching a particular species or species group (the target species).

Target-species vessel. Vessels whose B species revenues during 2004-2006 were >50% for a single species or species group are assigned to that group as follows: sablefish, shelfrockfish, slope rockfish, lingcod, sharks (federal sharks and rays), or other species. All other vessels are treated as Non-target species vessels.

Trammel net. Trammel net is a gillnet made with two or more walls joined to a common float line.

Trap (or pot). Trap is a portable, enclosed device with one or more gates or entrances and one or more lines attached to surface floats.

Trip limits. Trip limits are used in the commercial fishery to specify the maximum amount of a fish species or species group that may legally be taken and retained, possessed, or landed, per vessel, per fishing trip, or cumulatively per unit of time, or the number of landings that may be made from a vessel in a given period of time, as follows:

U.S. Fish and Wildlife Service (USFWS). An agency with the Department of Interior that must be consulted with regard to potential impacts regulations or management plans may have on terrestrial animals and plants, birds, and some marine animals.

Vertical hook-and-line gear (commercial). This is hook-and-line gear that involves a single line anchored at the bottom and buoyed at the surface so as to fish vertically.

Washington/Oregon/California (WOC). The Pacific States that border the Council management area.

12.0 APPENDICES

APPENDIX A: Summary of Findings by the Open Access Permitting Subcommittee of the Strategic Plan Oversight Committee

Incidental Fisheries

Pacific Coast target species and associated federal groundfish data were extracted for PFMC fisheries that targeted non-groundfish species during 1990-2001. Landings data were presented in terms of metric tons and ex-vessel value of fish in the landings. Groundfish were treated as a group and not broken down by species. Most fisheries had very small (<10 mt annual average) groundfish impact. The pink shrimp fishery had by far the greatest groundfish landings and accounted for about 70% of the total groundfish landings by all non-target or incidental fisheries. The fisheries with the highest groundfish landings relative to the target species landings were the California halibut trawl, salmon troll (with halibut on board), Pacific halibut, California prawn trawl and California sheephead fisheries with 13% or greater groundfish landed catch compared to the target species landed catch (**Table 1**).

Directed Fisheries

Analysis of data provided by Hastie (2001) is included in this report for the directed (targeted) open access fishery during 1994-2001. Whether a trip "targeted" groundfish in his analysis was determined using a combination of gear and revenue information from the trip. Only gears that could legitimately target groundfish in open access were included, and of those, only trips were included where groundfish revenue exceeded the revenue from all other species. It showed that the most valuable species or species group in the directed open access fisheries on an average annual basis were in descending order of importance: dead rockfish (\$3.4 million), sablefish (\$1.5 million), live rockfish (\$1.0 million), cabezon (\$0.6 million) and lingcod (\$0.4 million). The value of all other species combined was \$0.3 million. The most abundant species in the catch based on average annual tonnage landed during 1994-2001 were (in descending order of importance): dead rockfish (2,500 tons); sablefish (600 tons) and lingcod (300 tons). All other species combined averaged 400 tons (**Table 2**).

The primary gear types used to catch the more valuable species were: dead rockfish, line gear (68%) and net gear (25%); sablefish, longline gear (70%) and pot gear (19%); live rockfish, in about equal proportions by longline and other line gear; cabezon, by other line gear (45%), longline gear (34%) and pot gear (21%); lingcod, other line gear (52%), longline gear (39%) and net gear (23%; **Table 2**).

The number of vessels that participated in the directed open access fishery during 1994-1999 declined from nearly 1,400 to about 1000. The number of vessels that harvested 80% of the directed open access groundfish catch ranged from 175-234 during 1994-1999. The number of vessels that harvested 90% of the catch ranged from 302-347 during the same time period (**Figure 1**). This same analysis based on groundfish revenues showed similar numbers of vessels (within 26%) landed 80% and 90% of the directed open access fishery revenues during 1994-1999 (Hastie 2001)

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Table 1. Pacific Coast open access non-target groundfish fisheries: Annual target and non-target federal groundfish catch statistics, 1990-2001
(Hastie 2001).

Fishery	Number of Vessels			Target Species (mts)			Groundfish (mts)			Groundfish Proportion		
	AVG	Range		AVG	Range		AVG	Range		AVG	Range	
Pink shrimp	97	69-127		9,766	2,876-16,850		415	94-896		4.4%	1%-8%	
CA prawn trawl	41	16-60		288	37-701		24	5-53		14.3%	2%-30%	
CA prawn pot	30	10-76		33	2-103		1	0-7		4.1%	0%-13%	
CA halibut trawl	25	5-40		68	32-135		25	5-40		39.8%	13%-63%	
Pacific halibut	149	81-210		54	30-97		12	9-23		23.6%	10%-54%	
Dungeness crab (pot)	1,001	800-1,194		10,890	8,274-18,457		7	5-17		0.0%	none	
Salmon Troll (w/o halibut)	1,338	969-2,254		2,206	600-4,256		51	11-149		4.5%	0%-25%	
Salmon Troll (w halibut)	60	7-128		61	0-149		5	0-19		29.1%	3%-153%	
Sea Cucumber	23	13-32		126	31-262		5	0-14		3.4%	0%-8%	
Squid	104	67-144		49,059	2,879-89,858		1	0-1		0.0%	none	
Coastal Pelagic Finfish	174	107-258		4,730	2,015-9,238		0	none		0.0%	none	
CA Sheephead	172	124-245		93	52-140		12	6-16		13.4%	7%-20%	
HMS Troll	530	85-973		6,240	703-11,820		2	0-5		0.0%	none	
HMS Line	25	1-52		69	1-196		0	0-9		1.9%	0%-1%	
HMS Pole	187	91-303		2,350	816-5,200		1	0-1		0.0%	none	
HMS Gillnet	76	9-104		102	1-192		2	0-12		2.5%	0%-8%	
HMS Seine	24	17-35		6,849	885-12,742		0	none		0.0%	none	
CA Gillnet Complex	23	0-54		865	0-1,462		23	0-54		1.9%	0%-4%	
Totals	n/a	n/a		93,849	n/a		586	n/a		0.6%	n/a	

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Table 2. Directed open access gear types that take the most species or species groups of federal groundfish presented as average landed catches and proportion of total landed catch for each species or species group during 1994-2001. Vessel and trip statistics are not presented because of possible gear switching by vessels within and between years (Hastie 2001).

Gear code	Dead Rock 1/			Sablefish			Live Rock 2/			Cabezon			Lingcod			All Others		
	AVG	Prop.		AVG	Prop.		AVG	Prop.		AVG	Prop.		AVG	Prop.		AVG	Prop.	
Mts	450.3	18%		434.4	70%		62.9	45%		26.0	34%		38.9	15%		138.9	59%	
	681.8	20%		1058.4	72%		456.7	44%		201.6	35%		58.4	16%		119.8	41%	
	244.8	unk		159.3	unk		141.5	unk		111.7	unk		170.6	unk		unk	unk	
Other line	1906.6	unk		1632.9	unk		1949.0	unk		1181.3	unk		1091.5	unk		unk	unk	
	1268.6	50%		37.5	6%		66.0	47%		35.0	45%		139.4	52%		15.2	6%	
	1820.1	54%		79.2	5%		505.5	48%		227.8	40%		206.9	58%		59.9	21%	
Troll	921.4	unk		70.3	unk		278.5	unk		273.0	unk		628.7	unk		unk	unk	
	8324.9	unk		276.0	unk		2643.8	unk		2038.1	unk		4349.5	unk		unk	unk	
	98.6	4%		5.8	1%		0.2	0%		0.2	0%		19.5	7%		0.7	0%	
Pot	110.4	3%		9.4	1%		1.7	0%		0.9	0%		23.7	7%		1.1	0%	
	97.1	unk		9.7	unk		9.8	unk		4.6	unk		56.9	unk		unk	unk	
	164.2	unk		20.3	unk		12.3	unk		5.4	unk		113.8	unk		unk	unk	
Net	7.1	0%		119.7	19%		6.9	5%		15.9	21%		2.9	1%		3.6	2%	
	12.9	0%		291.5	20%		57.6	5%		143.0	25%		6.8	2%		21.4	7%	
	45.4	unk		33.3	unk		44.9	unk		36.9	unk		27.3	unk		unk	unk	
Misc.	142.4	unk		605.9	unk		289.7	unk		277.6	unk		138.9	unk		unk	unk	
	643.4	25%		11.6	2%		2.2	2%		0.1	0%		61.0	23%		48.9	21%	
	640.3	19%		10.9	1%		19.5	2%		1.1	0%		54.9	15%		59.2	20%	
Totals	59.8	unk		20.4	unk		8.3	unk		4.4	unk		34.7	unk		unk	unk	
	431.3	unk		113.5	unk		16.0	unk		4.5	unk		213.7	unk		unk	unk	
	81.2	3%		10.3	2%		1.0	1%		0.3	0%		4.9	2%		30.5	13%	
Totals	103.8	3%		13.2	1%		7.4	1%		1.2	0%		5.1	1%		29.1	10%	
	131.4	unk		15.5	unk		18.3	unk		13.0	unk		57.5	unk		unk	unk	
	292.2	unk		37.9	unk		27.8	unk		19.2	unk		100.7	unk		unk	unk	
Totals	2549.3	100%		619.3	100%		139.2	100%		77.5	100%		266.6	100%		237.8	100%	
	3369.1	100%		1462.7	100%		1048.4	100%		575.5	100%		355.8	100%		290.5	100%	

1/ Dead rock includes all rockfish species not including fish in the Live Rock

group.

2/ Differentiated based on average price per pound. Live rock sold for an average of \$2.68-\$4.45/lb compared to \$0.72-\$1.14/lb (Hastie 2001).

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Hastie (2001) found that a total of 3,506 different vessels participated in the directed open access groundfish fishery during 1994-1999. Fifty percent of the vessels fished in only one year and only 155 vessels (4%) fished all six years (**Table 3**). He also found that the directed fishery vessels had widely different tonnage and revenue histories within and between years. Hastie (2001) analyzed a variety of catch history tonnage and revenue data sets and developed some example participation criteria tables that could possibly be used as a basis for converting open access

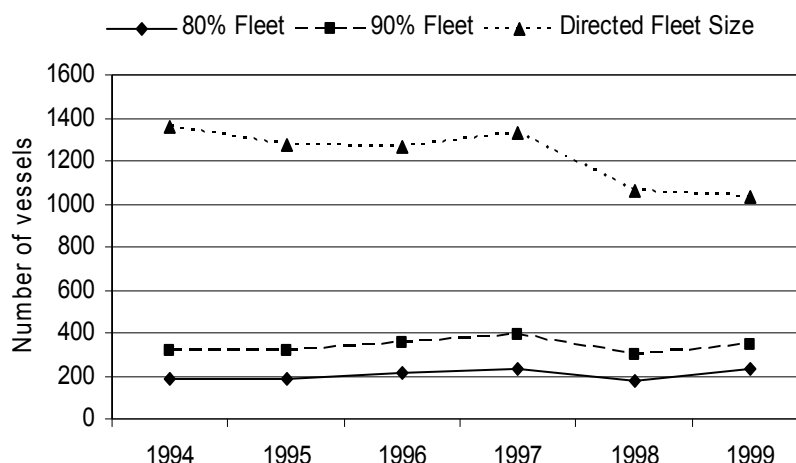


Fig 1. Number of vessels that landed specified proportions of total groundfish tonnage in the directed fishery by year, 1994-1999

directed fishery vessels to limited entry management. He developed several tables showing the effect of various qualifying criteria on directed fishery fleet size. One of his tables showed how qualifying criteria can be constructed, based either on tonnage or value of landed catch, to achieve similar fleet size objectives. In this particular example, the qualifying criteria were shown to create qualifying fleet sizes of about 220 and 139 vessels (**Table 4**). Many changes have occurred in the open access directed fishery in recent years that will probably require different considerations in the selection and analysis of qualifying criteria in order to match current open access fishing capacity to open access fishery resource availability. Reduced shelf rockfish availability and the option of deferring nearshore groundfish management to the states may require data stratification, removal of state-managed species from the data base used for qualification, and the creation of species or gear endorsements in order to balance historic species harvest opportunities with current conditions.

Table 3. Number of annual open-access vessels with targeted landings of groundfish grouped by first year and number of years of participation, 1994-99 (Hastie 2001)

1st yr w/ targeted GF ldgs >0	Number of years targeted GF ldgs >0, 1994-99						Total
	1	2	3	4	5	6	
1994	483	278	176	132	133	155	1,357
1995	256	125	87	47	49		565
1996	242	127	71	64			503
1997	262	109	92				463
1998	217	95					312
1999	306						306
Total	1,766	734	426	243	182	155	3,506

APPENDIX B: Analysis of Revenue-and Weight-based Criteria for Defining Directed and Incidental Open Access Fishery Fishing Trips¹¹

INTRODUCTION

Previous studies of open access groundfish fisheries used gear-type information in combination with landings composition data to infer vessel target fishing strategy (Goen and Hastie 2002; Burden 2005). This approach probably results in a reasonable approximation of prefishing strategy for trips in which the landing was predominately 1) non-groundfish species (e.g., non-groundfish trawl fisheries) or 2) federal groundfish caught with groundfish-specific gear types (long-line or fishpot). Catch composition analysis becomes more problematic in terms of defining pre-fishing harvest strategy when directed fishery open access gear was reportedly used and the mix of non-groundfish and groundfish species is similar. Landing receipt coding errors add to the uncertainty of pre-fish harvest strategy assessments.

The previous studies excluded inland waters catches (e.g., Puget Sound and San Francisco Bay), tribal catches, and catches made with various non-groundfish gear types (e.g., non-groundfish trawl, drift gillnet, crabpot). For landings that used directed fishing gear (hook and line, fish pot and set net), they applied a >50% revenue criterion for differentiating between directed and incidental fishing trips. A more recent analysis of the directed open access fishery used the same gear type criteria but applied a >50% weight-based criterion for differentiating between the two fishing modes (John DeVore 2007). In this paper we examine the efficacy of the revenue-and weight-based approaches for characterizing the directed open access groundfish fishery.

We found that both approaches had similar results for B species groundfish, not including federal sharks (federal sharks and rays). California setnet (a variety of gillnet) vessels that fished for the latter species benefited under the weight-based approach for accruing vessel catch history for possible use in obtaining a proposed directed open access fishery permit (B permit). Both methods were found to be inclusive of >95% of total directed open access fishery landings by weight and value. The recommendation here is to use the revenue-based approach for defining directed fishery landings for use in qualifying for a B permit for the reasons explained below.

METHODS

Our approach to comparing the two methods was to 1) generate and compare data outputs using a common open access fishery extract from the PacFIN data base and 2) compare impacts of the two approaches on a range of qualification criteria contained in A-3, A-4 and A-5. The extract was limited to the period April 1998-September 2006; was exclusive of nearshore groundfish species; and was restricted to landings made with directed open access fishery gear (hook-and-line, bottom troll, fish pot and gillnet (setnet) gear). The data outputs were as follows: 1) groundfish landing frequencies based on 10 percentage point bins for all years and states combined, 2) catch and effort estimates by species, year, and state and 3) numbers of vessels that would have qualified under selected qualification criteria for B permits by port groups and state during 2004-2006. The qualification criteria included in the analysis by alternative were: A-3 with a 713 vessel fleet size goal; A-4 with a 1000 lb minimum landing requirement (or equivalent requirement), and A-5 with a 390 vessel fleet size goal. Each criterion was analyzed using the weight- and revenue-based approaches in combination with two qualification frameworks (that are further analyzed in Appendix E): QF-1 (2004-2006 lbs landed) and QF-3 (1998-2006 lbs landed with a 2004-2006 landing requirement). This provided for a total of six weight- and revenue-based comparisons.

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¹¹ Prepared by LB Boydston and Gerry Kobylinski, California Department of Fish and Game, September 15, 2007 and updated August 18, 2008

RESULTS

Common Data Set Analyses

Landing Frequency Analysis

The revenue based analysis showed that over 92% and 93%, respectively, of B species landings, in terms of mts and revenues, occurred in landings in which fishery revenues were 90% or greater of B species groundfish. For all other 10% revenue groups, B species landing contributions were very small individually ($\leq 2\%$) or collectively ($< 7\%$) compared to the 90% group. The 50% or greater revenue groups were inclusive of 93% by tonnage and 94% by revenue of total B species landings. The trend in results was consistent between the states. It is noteworthy that over 96% of B species landings in Washington by either method were in the 90% revenue category. This probably reflects the relatively high importance of sablefish to that state, and, conversely, the more diverse nature of the open access fisheries in Oregon and California. B species groundfish landings by weight using the revenue method were distributed as follow: 67% in California, 19% in Oregon, and 14% in Washington (**Table B-1; Figure B-1**).

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Table B-1. B species groundfish landings in WOC open access fisheries summarized by 10% revenue category, 1998-2006. Directed fishery gear only. >50% revenue analysis.

State	Revenue category		Totals		Prop. Total	
	from	to	mts	\$\$ (000s)	mts	\$\$
Ca	90%	100%	5,076	12,452	91.6%	94.0%
Or			1,466	4,536	93.2%	92.6%
Wa			1,136	3,139	97.9%	97.2%
Sub-total			7,678	20,127	92.8%	94.2%
Ca	80%	90%	47	120	0.8%	0.9%
Or			6	23	0.4%	0.5%
Wa			1	3	0.1%	0.1%
Sub-total			54	146	0.7%	0.7%
Ca	70%	80%	39	87	0.7%	0.7%
Or			9	32	0.6%	0.7%
Wa			2	6	0.2%	0.2%
Sub-total			50	125	0.6%	0.6%
Ca	60%	70%	29	68	0.5%	0.5%
Or			9	38	0.6%	0.8%
Wa			2	6	0.2%	0.2%
Sub-total			40	112	0.5%	0.5%
Ca	50%	60%	29	62	0.5%	0.5%
Or			8	30	0.5%	0.6%
Wa			4	18	0.3%	0.6%
Sub-total			41	110	0.5%	0.5%
Ca	40%	50%	35	62	0.6%	0.5%
Or			7	24	0.4%	0.5%
Wa			2	7	0.2%	0.2%
Sub-total			44	93	0.5%	0.4%
Ca	30%	40%	38	67	0.7%	0.5%
Or			11	38	0.7%	0.8%
Wa			4	13	0.3%	0.4%
Sub-total			53	118	0.6%	0.6%
Ca	20%	30%	51	76	0.9%	0.6%
Or			14	49	0.9%	1.0%
Wa			4	15	0.3%	0.5%
Sub-total			69	140	0.8%	0.7%
Ca	10%	20%	72	97	1.3%	0.7%
Or			25	81	1.6%	1.7%
Wa			3	11	0.3%	0.3%
Sub-total			100	189	1.2%	0.9%
Ca	>0%	10%	129	150	2.3%	1.1%
Or			17	47	1.1%	1.0%
Wa			3	12	0.3%	0.4%
Sub-total			149	209	1.8%	1.0%
Ca-Total	>0%	100%	5,544	13,240	100.0%	100.0%
Or-Total			1,573	4,900	100.0%	100.0%
Wa-Total			1,160	3,231	100.0%	100.0%
WOC-Total			8,277	21,371	100.0%	100.0%

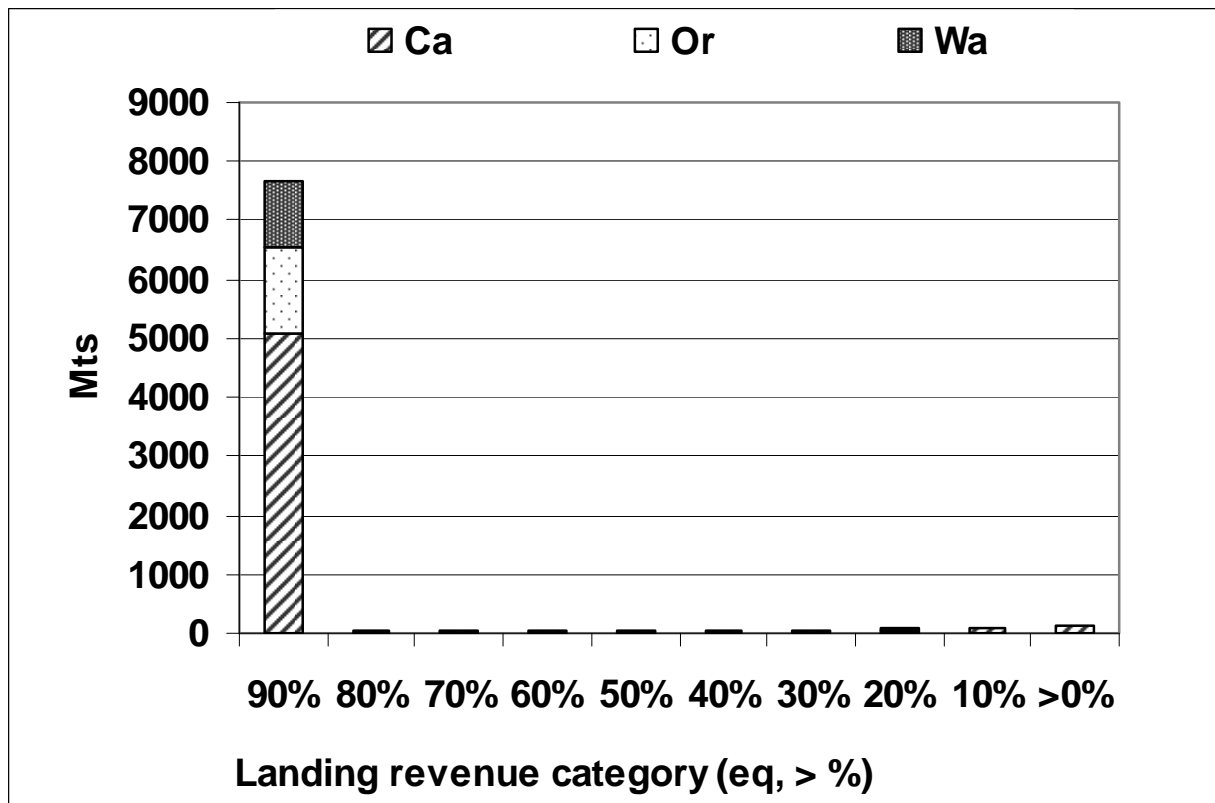


Fig B-1. B species tonnages grouped by landing revenue category and state, 1998-2006 combined landings. >50% revenue analysis.

The weight-based analysis showed slightly higher landing tonnages and revenues in each of the 30%-90% bins (Table B-2, Figure B-2) compared to the revenue-based analysis. Tonnage and revenue in the weight-based 90% bin was 0.5 and 0.2 percentage points, respectively, higher than the comparative data in the revenue-based analysis. Cumulative total tonnage and revenue in the weight-based analysis for bins $\geq 50\%$ were 1.4 and .6 percentage points higher than comparative data in the revenue-based analysis.

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Table B-2. B species groundfish landings in WOC open access fisheries summarized by 10% revenue category, 1998-2006. Directed fishery gear only. >50% weight analysis.

State	Revenue category		Totals		Prop. Total	
	from	to	mts	\$\$ (000s)	mts	\$\$
Ca	90%	100%	5,115	12,483	92.3%	94.3%
Or			1,466	4,534	93.2%	92.5%
Wa			1,137	3,141	98.0%	97.2%
Sub-total			7,718	20,158	93.2%	94.3%
Ca	80%	90%	62	126	1.1%	1.0%
Or			11	40	0.7%	0.8%
Wa			2	7	0.2%	0.2%
Sub-total			75	173	0.9%	0.8%
Ca	70%	80%	51	98	0.9%	0.7%
Or			10	39	0.6%	0.8%
Wa			3	10	0.3%	0.3%
Sub-total			64	147	0.8%	0.7%
Ca	60%	70%	57	95	1.0%	0.7%
Or			10	35	0.6%	0.7%
Wa			3	14	0.3%	0.4%
Sub-total			70	144	0.8%	0.7%
Ca	50%	60%	41	76	0.7%	0.6%
Or			8	29	0.5%	0.6%
Wa			3	11	0.3%	0.3%
Sub-total			52	116	0.6%	0.5%
Ca	40%	50%	43	80	0.8%	0.6%
Or			12	43	0.8%	0.9%
Wa			3	9	0.3%	0.3%
Sub-total			58	132	0.7%	0.6%
Ca	30%	40%	47	75	0.8%	0.6%
Or			13	45	0.8%	0.9%
Wa			3	11	0.3%	0.3%
Sub-total			63	131	0.8%	0.6%
Ca	20%	30%	49	77	0.9%	0.6%
Or			16	54	1.0%	1.1%
Wa			3	10	0.3%	0.3%
Sub-total			68	141	0.8%	0.7%
Ca	10%	20%	43	69	0.8%	0.5%
Or			17	56	1.1%	1.1%
Wa			2	9	0.2%	0.3%
Sub-total			62	134	0.7%	0.6%
Ca	>0%	10%	36	61	0.6%	0.5%
Or			8	24	0.5%	0.5%
Wa			2	7	0.2%	0.2%
Sub-total			46	92	0.6%	0.4%
Ca-Total	>0%	100%	5,544	13,240	100.0%	100.0%
Or-Total			1,573	4,900	100.0%	100.0%
Wa-Total			1,160	3,231	100.0%	100.0%
WOC-Total			8,277	21,371	100.0%	100.0%

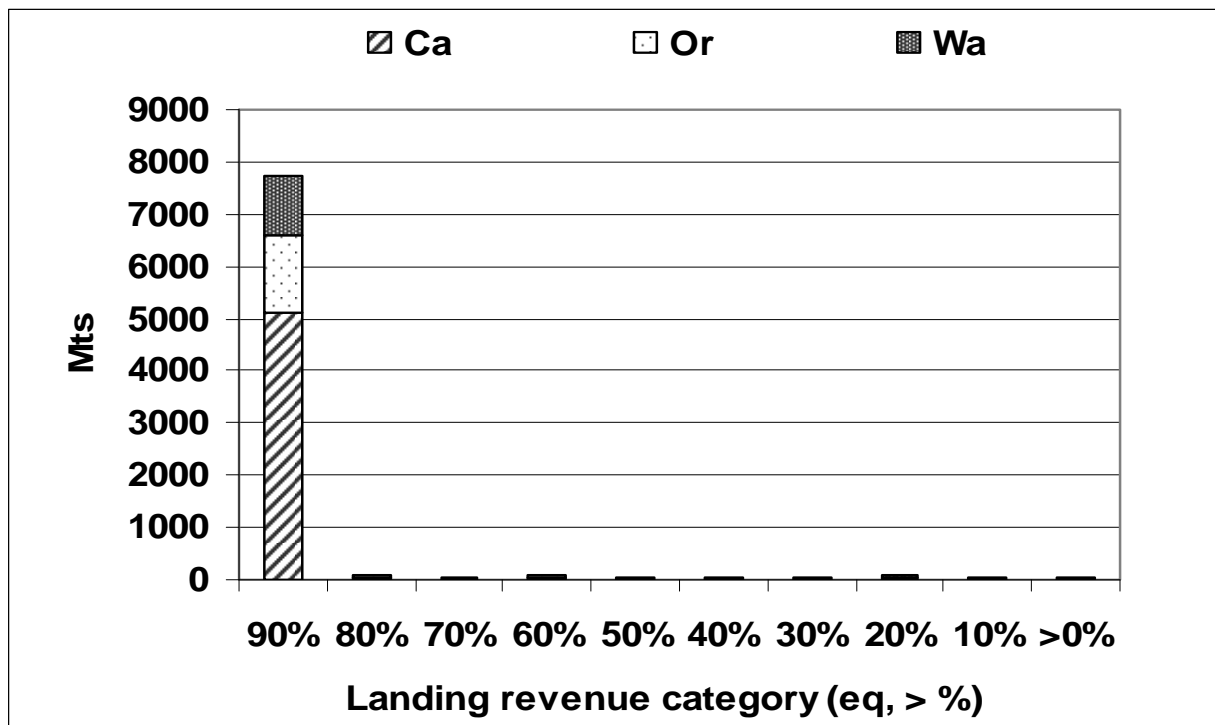


Fig B-2. B species tonnages grouped by landing revenue category and state, 1998-2006 combined landings. >50% weight analysis.

Catch and Effort Analysis

The weight-based criterion for determining directed fishery landings produced almost identical results as the revenue-based approach for sablefish, shelf rockfish, slope rockfish and lingcod ($\leq 1\%$ difference in mt) (Tables B-3 and B-4; Figure B-3). The revenue-based method produced about 19% and 5% less estimated directed fishery landings of sharks and other species, respectively, compared to the weight-based method (Tables B-3 and B-4; Figure B-3). The overall decrease in estimated directed fishery landings of B species groundfish using the revenue-based criterion averaged 13 mt (1%) per year. Nearly all of the tonnage decrease was in the California shark fishery (primarily the southern California setnet fishery). The average number of vessels that made a directed fishery landing was higher under the weight-based approach at 772 compared to 760 ($< 2\%$ difference) for the revenue-based approach. All of the decrease using the revenue-based criterion for all years combined was in California-based vessels (Tables B-3 and B-4).

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Table B-3. Directed B species open access fishery participation and landing statistics by species group, year, state and total, 1998-2006. REVENUE BASED (same as EA Table 2-5)

	Sablefish			Shelf RF			Slope RF			Lingcod			Sharks			Others 1/			Total Directed		
	No.			No.			No.			No.			No.			No.			No.		
	Vsls	mts	\$\$K	Vsls	mts	\$\$K	Vsls	mts	\$\$K	Vsls	mts	\$\$K	Vsls	mts	\$\$K	Vsls	mts	\$\$K	Vsls	mts	\$\$K
1998																					
CA	92	95	219	433	797	1,161	171	192	220	257	46	105	54	25	34	71	29	43	654	1,185	1,782
OR	30	16	45	135	179	272	3	4	6	103	21	47	0	0	0	44	21	38	200	241	409
WA	29	26	79	10	12	9	0	0	0	17	6	7	0	0	0	20	57	65	46	101	160
sum	151	137	343	578	988	1,442	174	197	226	377	73	159	54	25	34	135	107	146	900	1,527	2,351
1999																					
CA	102	177	454	479	264	538	72	17	29	293	40	119	52	25	37	105	49	86	677	572	1,263
OR	15	21	65	132	93	194	8	1	2	125	27	74	0	0	0	58	13	43	180	155	377
WA	28	36	115	7	9	7	0	0	0	14	5	6	2	5	2	15	9	11	44	63	141
sum	145	234	634	618	367	739	80	18	31	432	72	199	54	30	39	178	71	140	901	791	1,781
2000																					
CA	115	299	944	403	96	282	65	9	22	221	20	64	55	22	31	127	81	118	642	527	1,460
OR	34	44	159	103	7	19	1	1	1	89	12	45	2	0	0	0	0	0	154	64	224
WA	32	52	202	9	2	3	2	2	2	12	5	6	1	2	1	2	1	2	49	63	215
sum	181	395	1,305	515	105	304	68	11	25	322	37	115	58	24	32	129	82	120	845	653	1,899
2001																					
CA	112	274	820	301	67	177	41	26	52	244	29	97	49	24	34	96	48	106	518	468	1,286
OR	64	59	199	89	6	15	1	1	1	119	24	82	0	0	0	2	0	0	180	89	296
WA	44	60	218	8	1	1	2	1	1	12	4	5	0	0	0	0	1	1	54	67	225
sum	220	393	1,237	398	73	193	44	28	54	375	57	184	49	24	34	98	49	107	752	624	1,807
2002																					
CA	119	268	798	222	20	72	45	61	133	244	37	132	40	16	24	68	49	80	480	451	1,238
OR	53	50	180	61	4	9	1	0	0	126	27	94	0	0	0	8	0	0	176	81	283
WA	44	65	237	0	1	0	0	1	1	9	3	4	1	4	1	0	1	0	47	74	244
sum	216	383	1,215	283	24	81	46	62	134	379	68	230	41	20	25	76	50	80	703	607	1,765
2003																					
CA	118	313	946	169	9	39	46	82	194	240	33	131	47	28	37	50	55	50	445	520	1,398
OR	96	134	492	52	3	8	13	1	1	123	29	91	0	0	0	0	1	0	202	168	593
WA	64	118	450	0	0	0	0	2	2	4	2	3	1	44	18	0	2	1	68	168	473
sum	216	383	1,215	283	24	81	46	62	134	379	68	230	41	20	25	76	50	80	703	607	1,765
2004																					
CA	92	288	831	189	24	104	48	52	130	215	40	158	43	24	48	60	57	52	402	485	1,323
OR	67	74	225	66	3	7	3	1	1	120	31	97	0	0	0	3	0	0	177	109	330
WA	53	96	326	1	1	1	2	1	1	4	2	3	4	86	38	0	1	1	57	187	369
sum	212	458	1,382	256	27	112	53	55	132	339	73	258	47	110	86	63	58	53	636	781	2,022
2005																					
CA	101	458	1,312	170	21	99	46	31	84	192	36	145	44	22	31	49	39	34	367	608	1,704
OR	107	258	916	54	3	9	4	5	7	150	29	101	2	0	0	2	5	2	232	301	1,035
WA	68	182	678	2	0	1	2	7	8	5	2	4	2	3	2	0	1	1	78	196	693
sum	276	898	2,906	226	25	109	52	42	99	347	68	250	48	25	33	51	45	37	677	1,104	3,432
2006																					
CA	122	280	942	165	21	103	35	33	85	192	27	113	41	23	43	29	15	32	382	399	1,318
OR	132	251	984	42	3	9	3	5	7	135	28	109	0	0	0	2	4	2	241	290	1,111
WA	86	158	612	0	0	0	1	1	1	4	3	5	2	60	31	0	1	0	90	222	649
sum	340	688	2,538	207	25	112	39	39	93	331	57	227	43	83	74	31	20	34	713	911	3,078
AVG																					
CA	108	272	807	281	147	286	63	56	105	233	34	118	47	23	35	73	47	67	507	579	1,419
OR	66	101	363	82	33	60	4	2	3	121	25	82	0	0	0	13	5	9	194	166	518
WA	50	88	324	4	3	2	1	2	2	9	3	5	1	23	10	4	8	9	59	127	352
AVG	224	461	1,494	367	183	349	68	60	110	363	63	205	49	46	46	90	60	85	760	872	2,289

1/ others species includes unspecified rockfish, flatfishes, rays and chimeras

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Table B-4. Directed open access fishery participation and landings statistics by species group and total, 1998-2006. WEIGHT BASED

	Sablefish			Shelf RF			Slope RF			Lingcod			Sharks			Others 1/			Total Directed		
	No.			No.			No.			No.			No.			No.			No.		
	Vsls	mts	\$\$K	Vsls	mts	\$\$K	Vsls	mts	\$\$K	Vsls	mts	\$\$K	Vsls	mts	\$\$K	Vsls	mts	\$\$K	Vsls	mts	\$\$K
1998																					
CA	91	95	219	436	797	1,160	178	192	220	256	46	106	66	33	42	77	34	45	672	1,197	1,791
OR	28	16	45	136	179	272	4	4	6	102	21	47	0	0	0	41	21	38	200	241	409
WA	29	26	80	11	12	9	0	0	0	17	6	7	0	0	0	20	57	65	46	101	160
Total	148	137	344	583	988	1,442	182	196	226	375	73	160	66	33	42	138	112	147	918	1,539	2,361
1999																					
CA	103	177	454	485	265	539	75	17	29	297	41	120	70	42	53	116	54	88	693	595	1,282
OR	15	21	66	130	93	194	12	1	2	129	27	74	0	0	0	54	13	43	182	156	378
WA	26	36	115	7	9	7	0	0	0	14	5	7	6	5	2	14	9	11	44	63	141
Total	144	234	634	622	367	740	87	18	30	440	73	201	76	46	55	184	76	142	919	814	1,801
2000																					
CA	114	299	944	405	96	280	64	8	21	229	20	65	71	35	41	143	87	122	646	546	1,473
OR	34	44	159	104	7	19	1	1	1	91	12	45	2	0	0	1	0	0	151	64	224
WA	32	52	203	10	2	3	3	2	2	12	5	7	1	2	1	5	1	2	48	63	216
Total	180	395	1,305	519	105	302	68	10	24	332	37	116	74	37	42	149	89	124	845	673	1,913
2001																					
CA	110	274	820	301	67	177	40	26	51	250	29	98	65	34	42	112	50	108	532	479	1,295
OR	64	59	201	91	6	15	1	1	1	120	24	82	0	0	0	2	0	0	180	90	298
WA	44	61	219	7	1	1	2	1	1	12	4	5	0	0	0	0	1	1	54	67	226
Total	218	394	1,239	399	73	192	43	28	53	382	57	184	65	34	42	114	51	109	766	636	1,819
2002																					
CA	118	268	798	216	20	71	50	61	132	247	37	133	54	24	33	80	51	81	500	461	1,248
OR	53	49	179	61	4	9	1	0	0	126	28	94	0	0	0	8	0	0	176	81	282
WA	44	65	237	1	1	0	0	1	1	9	3	4	2	4	1	0	1	1	47	75	244
Total	215	383	1,213	278	24	81	51	62	133	382	68	231	56	28	35	88	52	81	723	616	1,773
2003																					
CA	116	313	946	170	9	39	45	82	194	243	33	132	53	38	46	60	56	51	454	530	1,408
OR	96	134	492	56	3	8	13	1	1	123	29	92	0	0	0	0	1	0	202	168	593
WA	64	119	451	0	0	0	0	2	2	4	2	3	1	44	18	0	2	1	69	168	474
Total	276	565	1,889	226	12	47	58	85	197	370	64	227	54	82	64	60	59	52	725	866	2,475
2004																					
CA	90	288	830	186	24	105	45	52	130	218	41	160	51	28	45	71	57	52	412	490	1,323
OR	67	75	228	65	3	7	3	1	1	120	31	98	0	0	0	5	1	0	178	110	333
WA	52	97	329	1	1	1	2	1	1	4	2	3	4	86	38	0	1	1	57	188	372
Total	209	460	1,386	252	28	112	50	55	132	342	73	260	55	114	83	76	59	53	647	788	2,028
2005																					
CA	101	458	1,312	168	21	99	44	31	84	192	36	145	51	31	39	59	41	35	375	618	1,714
OR	108	259	920	55	3	9	4	5	7	151	30	101	1	0	0	5	5	2	234	302	1,039
WA	68	183	681	2	0	1	2	7	8	4	2	4	2	3	2	1	1	1	78	196	696
Total	277	900	2,913	225	25	108	50	43	99	347	68	250	54	34	40	65	47	38	687	1,117	3,449
2006																					
CA	123	280	941	166	22	104	35	33	85	191	27	114	44	26	48	34	16	33	390	404	1,326
OR	132	253	994	43	3	9	3	5	7	136	28	109	0	0	0	3	4	2	242	293	1,121
WA	86	158	614	0	0	0	1	1	1	5	3	5	2	60	31	0	1	0	90	222	651
Total	341	691	2,550	209	25	113	39	39	94	332	58	228	46	86	79	37	20	34	722	918	3,098
AVG																					
CA	107	272	807	281	147	286	64	56	105	236	34	119	58	32	43	84	50	68	519	591	1,429
OR	66	101	365	82	33	60	5	2	3	122	25	82	0	0	0	13	5	10	194	167	520
WA	49	88	325	4	3	2	1	2	2	9	3	5	2	23	10	4	8	9	59	127	353
AVG	223	462	1,497	368	183	349	70	59	110	367	63	206	61	55	54	101	63	87	772	885	2,302

1/ others species includes unspecified rockfish, flatfishes, rays and chimeras

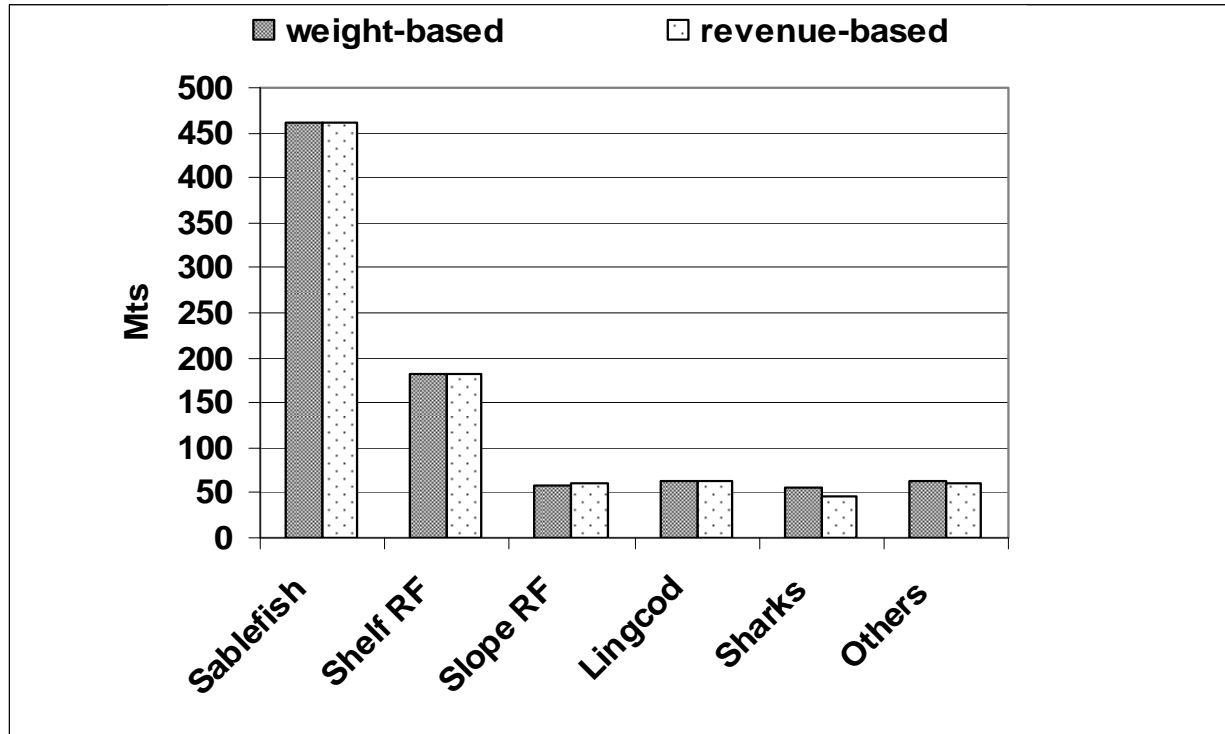


Figure B-3: Estimated average annual directed open access fishery landings by species during 1998-2006 window period years based on >50% weight and > 50% revenue criteria

Vessel Catch History Analysis

The revenue-based criterion created a data base for the window period of 2,587 vessels, 207 from Washington, 661 from Oregon, and 1,719 from California. These were vessels that made at least one landing of B species groundfish using directed fishing gear in which >50% of revenues were of B species groundfish. The weight-based approach created a data base of 2,606 vessels, which consisted of 2,584 vessels in common with the revenue-based approach, 23 new vessels and 4 vessels that made a directed revenue-based landing, but did not make a weight-based directed fishery landing (**Table B-5**). Twenty of the new vessels were from California and three were from Oregon. The 4 vessels that were removed from the weight-based data base were all from California. The origins of vessels using the weight-based approach (compared with the revenue-based approach in parentheses) were as follows: Washington, 207 (no change), Oregon, 664 (4 vessel increase), and California 1,735 (16 vessel increase) (**Table B-5**). The weight-based criterion changed the catch histories of 437 (17%) vessels; 318 (12%) that received increased B species catch history credits (to over 10,000 lbs for four vessels, all California setnet vessels) and 199 (5%) with decreased B species catch history credits (to over 1000 lbs for one vessel) (**Table B-5**).

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Table B-5. Number of vessels that made B species directed fishery landings by specified catch history category (lbs), gear type and state during 1998-2006 using (a) > 50% pounds-based criterion and (b) > 50% revenue-based criterion

Gear type	(a) Pounds-based Criterion						(b) Revenue-based Criterion					
	>0	>500	>1000	>2000	>4000	>10000	>0	>500	>1000	>2000	>4000	>10000
VERT HL	76	25	19	7	6	1	76	25	18	7	6	1
POLE	1,014	396	288	174	103	43	1,005	387	276	167	98	40
OTHER HL	409	211	162	106	69	18	409	211	162	106	69	18
LONG L	626	465	399	332	248	164	623	463	396	332	249	163
JIG	38	29	22	18	14	8	38	29	22	18	14	8
GILLNET	86	63	56	48	37	19	82	55	47	37	24	11
FISHPOT	324	277	252	211	166	107	322	276	252	209	165	107
DIVE	8	6	1	1	0	0	8	6	1	1	0	0
B TROLL	25	18	16	11	9	4	24	18	16	11	9	3
	2,606	1,490	1,215	908	652	364	2,587	1,470	1,190	888	634	351
State	>0	>500	>1000	>2000	>4000	>10000	>0	>500	>1000	>2000	>4000	>10000
WA	207	187	166	140	98	61	207	187	166	140	98	61
OR	664	429	351	259	188	92	661	427	351	258	189	91
CA	1,735	874	698	509	366	211	1,719	857	674	491	348	199
	2,606	1,490	1,215	908	652	364	2,587	1,471	1,191	889	635	351

The weight-based approach increased the number of vessels with directed fishing trips by 1% and increased the number of vessels with catch histories of >10,000 lbs by 4% (Table B-6). The most notable increase was in California setnet (gillnet) vessels, which increased in number in specified catch history categories by from 15% (>500 lbs) to 73% (>10,000 lbs) (Table B-6). There were 52 instances of B species catch history increases of over 1,000 lbs using the weight-based approach, and 36 (69%) of these were California setnet vessels, although setnet vessels accounted for only 3% of the gear-types used by vessels that made at least one directed B species fishery landing during 1998-2006 (Table B-5). California setnet vessels target several non-groundfish species led by California halibut, white seabass, and Pacific angel shark, based on frequency of records¹² made during 1998-2006. Landings of these or other California-managed species were likely supplanted, using the weight-based approach, by several federal groundfish species including soupfin and leopard sharks and skates (Table B-7).

Table B-6. Proportion of vessels by gear type and catch history category (lbs) shown in Table B-5 under "(b) Revenue-based criterion" that met specified catch history levels using "(a) Pounds-based criterion"

Gear	>0	>500	>1000	>2000	>4000	>10000
VERT HL	100%	100%	106%	100%	100%	100%
POLE	101%	102%	104%	104%	105%	108%
OTHER HL	100%	100%	100%	100%	100%	100%
LONG L	100%	100%	101%	100%	100%	101%
JIG	100%	100%	100%	100%	100%	100%
GILLNET	105%	115%	119%	130%	154%	173%
FISHPOT	101%	100%	100%	101%	101%	100%
DIVE	100%	100%	100%	100%		
B TROLL	104%	100%	100%	100%	100%	133% 1/
	101%	101%	102%	102%	103%	104%

1/ only 3 vessels

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¹² Records=landings for individual species, but there may be several species records on the same landing receipt.

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Table B-7. Frequency of California setnet fishery records by market category 1998-2006, truncated at 90% of cumulative landings

ranked by number of records							
Exspec	Market category	Fed?	MT	% mt	cum	# records	% records
222	Halibut, California		1,028.81	29.05%	29.05%	40,071	44.44%
400	Seabass, white		782.54	22.09%	51.14%	7,739	8.58%
159	Shark, soupfin	F	176.32	4.98%	56.12%	4,399	4.88%
165	Shark, Pacific angel		85.29	2.41%	58.53%	4,229	4.69%
153	Shark, leopard	F	37.61	1.06%	59.59%	3,328	3.69%
155	Shark, thresher		301.98	8.53%	68.12%	3,181	3.53%
175	Skate, unspecified	F	39.73	1.12%	69.24%	3,008	3.34%
174	Guitarfish, shovelnose		39.20	1.11%	70.34%	2,347	2.60%
200	Sole, unspecified	F	9.00	0.25%	70.60%	2,327	2.58%
260	Scorpionfish, California	F	11.03	0.31%	70.91%	2,269	2.52%
040	Yellowtail		153.13	4.32%	75.23%	1,994	2.21%
802	Crab, claws		9.74	0.28%	75.51%	1,926	2.14%
280	Bass, giant sea		20.91	0.59%	76.10%	1,365	1.51%
130	Barracuda, California		88.43	2.50%	78.59%	1,253	1.39%
151	Shark, shortfin mako		61.02	1.72%	80.32%	1,242	1.38%
154	Shark, brown smoothhound		12.37	0.35%	80.67%	1,130	1.25%
803	Crab, spider		28.52	0.81%	81.47%	759	0.84%
250	Rockfish, unspecified	F	64.25	1.81%	83.29%	727	0.81%
435	Croaker, white		75.49	2.13%	85.42%	493	0.55%
145	Sheephead, California		5.67	0.16%	85.58%	444	0.49%
051	Mackerel, Pacific		22.04	0.62%	86.20%	426	0.47%
801	Crab, rock unspecified		4.34	0.12%	86.32%	414	0.46%
800	Crab, Dungeness		4.07	0.11%	86.44%	342	0.38%
190	Sablefish	F	16.91	0.48%	86.91%	326	0.36%
231	Flounder, starry	F	2.36	0.07%	86.98%	306	0.34%
195	Lingcod	F	10.68	0.30%	87.28%	282	0.31%
261	Cabezon	F	0.79	0.02%	87.31%	255	0.28%
230	Flounder, unspecified	F	1.34	0.04%	87.34%	253	0.28%
253	Rockfish, bocaccio	F	31.69	0.89%	88.24%	244	0.27%
152	Shark, spiny dogfish	F	35.57	1.00%	89.24%	239	0.27%

Comparison of Revenue- and Weight-based Approaches using Selected Qualification Criteria
The weight- and revenue-based approaches for defining directed fishing trips produced very similar results with regard to the distribution of permits between states for the six qualifying criteria comparisons that used the QF-1 framework (2004-2006 lbs landed). There were minor permit changes (less than 3) between port groups within states in the analyses that used the QF-1 framework, except in the Los Angeles and Santa Barbara areas where the difference was larger. The permits in these areas were highest when the weight-based approach was used (Table B-8). This was due to gillnet vessels qualifying for permits over vessels that used other gear types. However, using the weight based approach qualified slightly more (9; 1.7%) vessels under the 1000 lb-1 criterion than the revenue based approach; and all but three of these was in Southern California. The 1000 lb-1 criterion was replaced by a 2045 or 2044 lb qualification criterion for use with QF-3. This was necessary because of the larger number of years used in the latter framework. The 2045 and 2044 minimum landing requirements would qualify the same number of vessels as the 1000 lb criterion when used with QF-1. The 2045 lb-3 (weight) and 2044 lb-3 (revenue) criteria qualified the same number of vessels as their QF-1 counterpart criteria, but the weight-based criterion resulted in more permitted vessels in the Los Angeles area where the gillnet fishery operates. The weight-based approach shifted 11 permits out of Washington and Oregon to California ports in the 390 vessel goal comparisons that used QF-3. Nearly all of the permit increase was in the Los Angeles and Santa Barbara areas (Table B-8). Inspection of vessel qualification data showed that the

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shift of permits to the Los Angeles and Santa Barbara areas was due to gillnet vessels qualifying for permits over vessels that used other gear types.

Table B-8. B permit distributions under specified criteria using weight- and revenue-based criteria for defining directed trips based on landings data during 2004-2006 by qualifying vessels. Three or more vessel differences in paired comparisons are highlighted

Grp/State	713v-1 (weight) 1/		713v-1 (revenue)		713v-3 (weight)		713v-3 (revenue)		1000 lbs-1 (weight)		1000 lbs-1 (revenue)		2045 lbs-3 (weight) 3/		2044 lbs-3 (rev) 3/		390v-1 (weight)		390v-1 (revenue)		390v-3 (weight)		390v-3 (revenue)	
	vs/s	P 2/	vs/s	P	vs/s	P	vs/s	P	vs/s	P 2/	vs/s	P	vs/s	P	vs/s	P	vs/s	P 2/	vs/s	P	vs/s	P	vs/s	P
SPS	2	0.00	2	0.00	2	0.00	2	0.00	2	0.00	2	0.00	2	0.00	2	0.00	2	0.01	2	0.01	1	0.00	1	0.00
NPS	15	0.02	15	0.02	15	0.02	15	0.02	15	0.03	15	0.03	14	0.02	14	0.02	14	0.04	14	0.04	11	0.03	11	0.03
CWA	47	0.07	47	0.07	48	0.07	48	0.07	46	0.08	46	0.08	39	0.07	39	0.07	32	0.08	33	0.08	21	0.05	24	0.06
CLW	49	0.07	49	0.07	46	0.06	46	0.06	46	0.08	46	0.08	41	0.07	41	0.07	38	0.10	38	0.10	29	0.07	32	0.08
WA	113	0.16	113	0.16	111	0.16	111	0.16	109	0.19	109	0.19	96	0.16	96	0.17	86	0.22	87	0.22	62	0.16	68	0.17
CLO	37	0.05	37	0.05	35	0.05	35	0.05	30	0.05	30	0.05	29	0.05	29	0.05	19	0.05	19	0.05	15	0.04	16	0.04
TLA	29	0.04	31	0.04	23	0.03	23	0.03	21	0.04	21	0.04	14	0.02	14	0.02	10	0.03	10	0.03	8	0.02	9	0.02
NPA	37	0.05	36	0.05	28	0.04	28	0.04	23	0.04	22	0.04	22	0.04	21	0.04	14	0.04	13	0.03	16	0.04	15	0.04
CBA	62	0.09	62	0.09	63	0.09	63	0.09	53	0.09	53	0.09	50	0.09	50	0.09	41	0.11	41	0.11	33	0.08	34	0.09
BRA	75	0.11	75	0.11	79	0.11	79	0.11	66	0.11	66	0.11	67	0.11	68	0.12	43	0.11	43	0.11	46	0.12	49	0.13
OR	240	0.34	241	0.34	228	0.32	228	0.32	193	0.33	192	0.33	182	0.31	182	0.32	127	0.33	126	0.32	118	0.30	123	0.32
CCA	26	0.04	27	0.04	25	0.04	26	0.04	21	0.04	21	0.04	20	0.03	20	0.03	11	0.03	12	0.03	14	0.04	15	0.04
ERA	40	0.06	40	0.06	39	0.05	39	0.05	34	0.06	34	0.06	36	0.06	36	0.06	23	0.06	23	0.06	26	0.07	26	0.07
BGA	62	0.09	64	0.09	66	0.09	68	0.10	55	0.09	55	0.10	60	0.10	60	0.10	48	0.12	48	0.12	49	0.13	49	0.13
BDA	9	0.01	9	0.01	12	0.02	13	0.02	6	0.01	6	0.01	10	0.02	10	0.02	2	0.01	2	0.01	7	0.02	7	0.02
SFA	35	0.05	35	0.05	37	0.05	39	0.05	31	0.05	30	0.05	29	0.05	28	0.05	17	0.04	17	0.04	19	0.05	19	0.05
MNA	58	0.08	59	0.08	61	0.09	63	0.09	49	0.08	49	0.08	50	0.09	50	0.09	30	0.08	31	0.08	36	0.09	37	0.09
MRA	54	0.08	55	0.08	59	0.08	57	0.08	39	0.07	38	0.07	42	0.07	41	0.07	21	0.05	20	0.05	17	0.04	16	0.04
SBA	29	0.04	26	0.04	26	0.04	25	0.04	18	0.03	16	0.03	22	0.04	20	0.03	9	0.02	8	0.02	14	0.04	8	0.02
LAA	25	0.04	22	0.03	27	0.04	20	0.03	15	0.03	11	0.02	20	0.03	14	0.02	3	0.01	4	0.01	13	0.03	8	0.02
SDA	22	0.03	22	0.03	22	0.03	24	0.03	17	0.03	16	0.03	20	0.03	20	0.03	13	0.03	12	0.03	15	0.04	14	0.04
CA	360	0.50	359	0.50	374	0.52	374	0.52	285	0.49	276	0.48	309	0.53	299	0.52	177	0.45	177	0.45	210	0.54	199	0.51
Total	713	1.00	713	1.00	713	1.00	713	1.00	587	1.00	577	1.00	587	1.00	577	1.00	390	1.00	390	1.00	390	1.00	390	1.00

1/ the number following each qualification standard refers to the qualification framework used in the analysis: 1 means QF-1 (2004-2006 lbs landed) and 3 means QF-3 (19989-2006 lbs landed with 2004-2006 landing requirement)

2/ proportion of total

3/ 2045 lbs using QF-3 (weight) produces the same number of vessels as 1000 lbs using QF-1 (weight); 2044 lbs using QF-3 (revenue) produces the same number of vessels as 1000 lbs using QF-1 (revenue)

EXPLANATION FOR USING REVENUE-BASED CRITERION FOR DEFINING B SPECIES FISHING TRIPS

Landings data are used in this and other studies as a proxy for what the fisherman intended to catch. The data presented above support, with one important exception, the use of either of two approaches for defining directed B species fishing trips: (1) revenue-based, wherein trips in which >50% of revenues were of B species groundfish are defined as directed fishing trips and (2) weight-based, wherein trips in which >50% of pounds landed were of B species groundfish are defined as directed fishing trips. The one exception was for landings of B species groundfish made during window period years in the California set net fishery. The California set net fishery primarily targets state-managed species, California halibut in particular, but also catches federal sharks and rays, primarily as bycatch species. The data presented above showed that the weight-based approach identified many set net trips during window period years as targeted federal species trips. These same landings when analyzed using the revenue-based approach showed that the target species were not the federal sharks and rays but were state-managed species, California halibut in particular. The approach in this report for defining directed fishing trips is based on landing revenues and not weight of B species groundfish landed. In part this is because set net gear is considered an open access fishing gear and landings in that fishery are more accurately characterized using the revenue-based approach than the weight-based approach, but also

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because revenue is a better indicator of what the fishermen intended to catch in the context of a commercial operation.

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APPENDIX C: State Limited Entry Program Information

Permit Type by State	Date Implemented	Number of Permits
<i>CALIFORNIA</i>		
Deeper Nearshore Species Fishery Permit	2002	249
Drift gill Net (Shark and Swordfish)	1981	88
Dungeness Crab Vessel	1995	602
General Gill/Trammel Net	1980	166
Herring Gill Net	1976	314
Herring Stamp	1997	274
Lobster Operator	1977	214
Market Squid	2005	86
Market Squid Brail	2005	16
Market Squid Light Boat	2005	59
Nearshore Fishery Permit	2003	193
Nearshore Fishery Trap Endorsement	2003	67
Nearshore Fishery Bycatch Permit	2003	22
Northern Pink Shrimp Trawl Vessel	2001	40
Salmon Vessel	1983	1,389
Sea Cucumber Diving	1983	91
Sea Cucumber Trawl	1997	18
Sea Urchin Diving	1974	323
Southern Rock Crab Trap	2005	141
Spot Prawn Trap Vessel (tier 1, tier 2, tier 3)	2000	30
<i>OREGON (2006 figures)</i>		
Black/Blue Rockfish Permit	2004	80/60 1/
Black/Blue Rockfish with a Nearshore Endorsement	2004	50/72
Coast-wide Bay Clam Dive Permit	2006	39731
Columbia River Gillnet Salmon Permit	1979	200/308
Sardine Permit	2006	26/26
Scallop Vessel Permit	1981	25/31
Sea Urchin Permit	1987	30/27
Ocean Dungeness Crab Permit	1995	No max/433
Ocean Pink Shrimp Vessel Permit	1979	150/142
Ocean Troll Salmon Vessel Permit	1979	1200/1129
South-coast Bay Clam Dive Permit	2006	5/5
Yaquina Bay Roe-Herring Permit	1991	6/6
<i>WASHINGTON</i>		
Salmon Licenses:		
Grays' Harbor-Columbia River Gill Net	1991	74
Puget Sound Gill Net	1991	278
Purse Seine	1991	110
Reefnet	1991	11
Salmon Delivery	1991	4
Single Salmon Delivery	?	?
Troll	1991	184
Willapa Bay-Columbia River Gill Net	1991	230
Herring Licenses:		

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Permit Type by State	Date Implemented	Number of Permits
Dip Bag Net	1994	16
Drag Seine	1994	3
Gill Net	1994	?
Lampara	1994	18
Purse Seine	1994	2
Shellfish Licenses:		
Dungeness Crab (coastal)	1995	264
Dungeness Crab (Puget Sound)	1994	333
Ocean Pink Shrimp Delivery	1994	91
Ocean Pink Shrimp Single Delivery	?	?
Shrimp Pot Puget Sound	2000	24
Shrimp Trawl Puget Sound Fishery	1994	6
Other limited Licenses:		
Sea Cucumber Dive	1994	51
Sea Urchin Dive	1994	37
Whiting (Puget Sound)	1994	1

1/ maximum number of permits that may
be issued/number issued

APPENDIX D: Description of Coastal States' Nearshore Fishery Management and Limited Entry Programs

Washington Nearshore Fishery Management

Washington has prohibited directed commercial fishing for groundfish in state waters since 1995. The open access fishery in Washington is substantially smaller than California and Oregon due to several actions taken to prohibit the take of nearshore species. In 1995, the The Washington Department of Fish and & Wildlife first prohibited the directed non-trawl harvest of groundfish in coastal state waters. This was primarily in response to a developing hook-and-line fishery that was in direct competition with the coastal recreational fishery for black rockfish. Trawling (with a maximum footrope diameter of 5 inches) remained open after 1995 to allow targeting of sand sole and starry flounder, but subsequent analyses demonstrated unacceptable levels of rockfish bycatch and as a result, trawling in coastal state waters was fully prohibited beginning in 2000. The Fish and Wildlife Commission also took action at this time to prohibit the live fish groundfish fishery. Nearshore groundfish allowance is now restricted in the salmon troll fishery, to incidental yellowtail rockfish in the salmon troll fishery only if any fishing occurs within inside the non-trawl RCA (shoreward of 100 fm), and to There are also incidental amounts of open access groundfish landed by pink shrimp trawlers without limited entry groundfish trawl permits. Washington groundfish regulations have left the sablefish DTL fishery and dogfish as the only potentially profitable open access fishing opportunities off of Washington with the sablefish DTL fishery being of primary importance groundfish open access fishery is effectively limited to the sablefish DTL fishery, but can land other groundfish species taken in compliance with federal fishing regulations in the EEZ.

Members of the four groundfish treaty tribes operating off Washington (Makah, Quileute, Hoh, and Quinault) may fish for groundfish within their Usual and Accustomed fishing areas. These areas include both state and federal waters. A tribal vessel's participation in the groundfish fisheries is at the discretion of that vessel owner's tribe and tribal participation in groundfish fisheries would not be managed by this action.

Oregon Nearshore Permit History

During the late 1990, the Oregon nearshore commercial fishery effort increased due to the development of high value-added live-fish markets. By 1999, commercial nearshore fishers were becoming worried that the increase in effort would adversely affect the abundance of some nearshore species. They opened dialog at public meetings to request that Oregon Department of Fish and Wildlife take precautionary measures to limit the growth of the nearshore commercial fishery.

In 2000, the Oregon Fish and Wildlife Commission (OFWC) directed staff to develop a plan to take precautionary measures to limit the growth of nearshore commercial and recreational fisheries and to protect the nearshore resource, because little is known about the status of nearshore fishery stocks.

The plan adopted by the Oregon Fish and Wildlife Commission went into effect on January 1, 2003 and focused on 21 species of nearshore fish (which includes vermilion rockfish and tiger rockfish) that live predominantly in the Oregon territorial sea. This interim plan was adopted in recognition of this increased harvest trend and in anticipation of further growth of the nearshore commercial fishery due to increasing restrictions and area closures for other commercial fisheries. The primary intent of the interim plan was to protect nearshore groundfish populations, which are primarily reef fish, from over harvest.

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Black Rockfish and Blue Rockfish Permit <i>with or without</i> a Nearshore Endorsement	
Black rockfish	Black rockfish, <i>Sebastes melanops</i>
Blue rockfish	Blue rockfish, <i>Sebastes mystinus</i>

Nearshore Fish <i>with</i> a Nearshore Endorsement	
Greenling	Kelp greenling, <i>Hexagrammos decagrammus</i>
	Painted greenling, <i>Oxylebius pictus</i>
	Rock greenling, <i>Hexagrammos lagocephalus</i>
	Whitespotted greenling, <i>Hexagrammos stelleri</i>
Other nearshore rockfish	Black and yellow rockfish, <i>Sebastes chrysomelas</i>
	Brown rockfish, <i>Sebastes auriculatus</i>
	Calico rockfish, <i>Sebastes dalli</i>
	China rockfish, <i>Sebastes nebulosis</i>
	Copper rockfish, <i>Sebastes caurinus</i>
	Gopher rockfish, <i>Sebastes carnatus</i>
	Grass rockfish, <i>Sebastes rastrelliger</i>
	Kelp rockfish, <i>Sebastes atrovirens</i>
	Olive rockfish, <i>Sebastes serranoides</i>
	Quillback rockfish, <i>Sebastes maliger</i>
	Treefish, <i>Sebastes serriceps</i>
	* Tiger rockfish, <i>Sebastes nigrocinctus</i>
	* Vermilion rockfish, <i>Sebastes miniatus</i>
Cabezon	Cabezon, <i>Scorpaenichthys marmoratus</i>
Buffalo sculpin	Buffalo sculpin, <i>Enophrys bison</i>
Brown Irish lord	Brown Irish lord, <i>Hemilepidotus spinosus</i>
Red Irish lord	Red Irish lord, <i>Hemilepidotus hemilepidotus</i>
* You must have a nearshore endorsement to fish for tiger and vermilion rockfish. Landings of these species apply toward each fisher's federal shelf rockfish trip limit and the annual harvest guideline, and not toward the state trip limits or annual landing caps.	

The adoption of the Oregon Commercial Nearshore Interim Management Plan was the first step in the development of a comprehensive plan for Oregon's nearshore fisheries, while fishery managers gather information needed to determine optimum harvest levels for a sustainable resource.

The Oregon interim plan was a result of multiple public meetings and reflects several suggestions received at those meetings. The issues directly addressed under the Oregon Commercial Nearshore Interim Management Plan are:

- The number of commercial participants who will be permitted to target and land selected nearshore species
- The qualification criteria for nearshore commercial permits

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- The areas of fishing commercial nearshore operations
- Legal gears in the commercial nearshore fishery
- Reporting requirements for the commercial participants

The adopted interim plan addressed several goals and objectives for managing Oregon's commercial nearshore fisheries:

- Sustain biological resources at optimal levels
- Minimize the number of commercial nearshore vessels fishing off central and northern coastal waters in areas of high recreational use
- Allow the continuation of the black rockfish open access fishery
- Precautionary reduction in Oregon nearshore rockfish commercial effort by at least 50%
- Develop a cap on landed levels of nearshore species for commercial fisheries

Following the OFWC action, the Oregon Legislature established a separate commercial black rockfish limited entry program for the nearshore fishery during the 2003 legislative session (Oregon Revised Statutes 508.945-508.960). This Legislative action also included the adoption into state law, provisions that were similar to the earlier OFWC administrative rule action to limit permits for nearshore species as described above. The nearshore limited entry was incorporated as an “endorsement” on the black rockfish/blue rockfish limited entry permit for those who qualified earlier under the OFWC action. Implementation of the law began on January 1, 2004.

The Legislatively adopted limited entry plan defined qualification criteria for initial permit issuance and permit renewal criteria for black rockfish/blue rockfish permits. The permits were associated with the vessel and were initially issued to applicants owning a vessel that landed a minimum of 750 pounds of non-trawl caught black rockfish, blue rockfish, or nearshore fish defined under the OFWC plan in any one calendar year between January 1, 1995 and July 1, 2001. Additionally, vessels that had received a nearshore endorsement issued by the OFWC in 2003 were granted a nearshore endorsement in legislation.

Under the new law, Oregon limited entry permits for the commercial harvest of black rockfish and blue rockfish were issued to 142 of the 214 vessels that qualified. Seventy two of the 214 vessels that qualified for the commercial black rockfish and blue rockfish limited entry permit failed to purchase the permit; some fishers were no longer fishing commercially. Nearshore endorsements (for nearshore rockfish other than black rockfish and blue rockfish, cabezon, and greenling) were granted to 73 of the 142 vessels that had been issued permits for the black rockfish and blue rockfish limited entry program. In addition, state landing caps and cumulative trip limits (more restrictive than federal trip limits) for black rockfish and blue rockfish, other nearshore rockfish, cabezon, and greenling were enacted following the implementation of the limited entry program.

Initial target goals of not less than 80 black rockfish/blue rockfish permits and of which not less than 50 of those include a nearshore endorsement were established by the OFWC. This level of effort was consistent with the goal of reducing the 2002 fleet size by approximately 50% (note: 142 vessels landed nearshore fish in 2002; approximately 100 of those vessels had at least one landing of which nearshore fish comprised 50% or more of the landing signifying targeting of nearshore fish). The final Legislative limited entry plan provides for a lottery of black rockfish/blue rockfish permits and nearshore endorsements at the time the permit number reaches the above mentioned thresholds, if determined warranted by the OFWC. The target participation goals will be evaluated prior to developing a federal limited entry program.

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Oregon has conversed with the affected industries and communities through public meetings and has made changes to the commercial nearshore fishery capacity goals since the original program was implemented.

Changes to the commercial nearshore fishery capacity goals include:

- Oregon landing caps have been implemented. These are more restrictive than the Federal limits for the species included in the state nearshore species list
- Cumulative commercial trip limits are now set more restrictive than Federal levels
- Season length is set by the OFWC in December for the following year (In-season adjustments to the cumulative trip limits are implemented by rule by the OFWC to sustain the fishery through the desired season duration without exceeding the landing caps)
- Gear restrictions: pot gear prohibited (except as permitted by the state commercial nearshore limited entry permit endorsement) and dive gear prohibited. Additional in-season gear restrictions considered

- **Commercial Black Rockfish Zones**

Oregon landings of black rockfish with all commercial gear except trawl are limited to 200 pounds per vessel per trip in the following areas (defined by latitude in Oregon regulations):

- Tillamook Head to Cape Lookout
- Cascade Head to Cape Perpetua
- From a point approximately 8-1/2 miles north of the Coos bay north jetty to a point about 4-1/2 miles south of the Bandon south jetty
- Mack Arch to Oregon-California border
- Size limits:
 - China, Copper, Grass, & Quillback Rockfish —12 inches
 - Greenling—12 inches
 - Cabezon—16 inches
- Logbooks required. Logbooks were implemented in 2003 by the OFWC, and legislatively mandated in 2004.
- Rockfish Conservation Area - Federal regulation compliance

ODFW is implementing the *Oregon Nearshore Strategy* and, as part of implementation, is currently developing a comprehensive Nearshore Fisheries Management Plan (NFMP) for the state of Oregon. The NFMP is to serve as a guide and plan of action for the state's management of nearshore commercial and recreational fisheries. The first phase of the NFMP has been focused on developing a management framework and is scheduled to be completed by summer 2007. The second phase of the NFMP will be a revision of the Interim Management Plan focused on developing a Fishery Management Strategy for the commercial black rockfish/blue rockfish/nearshore groundfish limited entry fishery. Beginning in summer 2007, ODFW will be undergoing a public process to review and revise the commercial black rockfish/blue rockfish/nearshore groundfish limited entry fishery, with an anticipated completion date of fall of 2008. This may result in revisions to the details of the nearshore commercial fishery harvest and season requirements.

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Status of Oregon Black rockfish/Blue Rockfish permits and Nearshore endorsements:

	2003	2004	2005	2006	2007
# of B/B permits with NS endorse issued	73	73	73	72	71
# of B/B permits with NS endorse USED	73	73	72	71	NA*
# of B/B permits without NS endorse issued		69	62	60	56
# of B/B permits without NS endorse USED		62	60	56	NA*

* Permits are not renewed (showing use) until April 30th, 2008

References:

1. Oregon Revised Statutes 508.945 through 508.960
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3. Fact Sheet, Oregon Department of Fish and Wildlife – New Commercial Black Rockfish/Blue Rockfish Nearshore Fishery Limited Entry Permit (final 12/10/03 (corrected 6/1/04))
(http://www.dfw.state.or.us/MRP/regulations/commercial_fishing/blackrf/blackblue_factsheet121003.pdf)
4. ODFW. 2005. *Oregon Nearshore Strategy*. Salem: Oregon Department of Fish and Wildlife.
<http://www.dfw.state.or.us/MRP/nearshore/document.asp>.
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Newport: Oregon Department of Fish and Wildlife, Marine Resources Program.

California Nearshore Permit History

California’s nearshore fishery has undergone many changes over the last decade. In 1999, commercial licensing changed with the requirement that a nearshore permit be required by any person landing the following nearshore species: black-and-yellow, gopher, kelp, China, and grass rockfishes, CA scorpionfish, kelp and rock greenlings, CA sheephead, and cabezon. This licensing requirement was set as the initial step in a permitting program and did not restrict participation. This process was followed by the “Nearshore Fishery Permit Moratorium; Renewal; Restricted Access” in 2002 which made it possible to renew the previously issued permit but disallowed any new entry/permitting. This regulation stated that the moratorium would expire on March 31, 2002 unless extended by the Fish and Game Commission (Commission). In addition, a December 31, 1999 control date was established for the purpose of developing a restricted access nearshore fishery. Only those possessing a valid Nearshore Fishery Permit as of the control date would be considered in a future restricted access nearshore fishery.

In 2002, the newly adopted CDFG Nearshore Fishery Management Plan (FMP) identified the need to restrict the nearshore fishery due to overcapitalization. During the FMP scoping process many aspects of the fishery were considered to ensure that a successful restricted access program was developed. The

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Commission submitted a policy report to the CDFG in which it voiced the credence of developing and utilizing a restricted access program as a fishery management tool. As a result, in 2003 California implemented a Restricted Access Fishery Permit Program.

Beginning in 2003, the moratorium was reconstructed into what is now the current “Nearshore Fishery Restricted Access Program”. This full restricted access program was implemented for the shallow nearshore species to promote the ecological and economic sustainability of the fishery to be consistent with the Marine Life Management Act and Fish & Game Commission policies. The purpose was to reduce the number of participants and move closer to a statewide capacity goal set by the Commission at 61 participants. Transferable and non-transferable “Nearshore Fishery Permits” were issued based on historical fishery participation and were regional:

1. North Coast Region: OR/CA border to 40° 10’
2. North-Central Coast Region: 40° 10’ to Año Nuevo
3. South-Central Coast Region: Año Nuevo to Point Conception
4. South Coast Region: Point Conception to CA/Mexico border

One of the requirements of the restricted access policy was establishment of a capacity goal. The nearshore plan analysis determined that 61 vessels would reduce the fishing fleet to reduce over-capitalization and increase sustainability. Title 14 of the California Code of Regulations (CCR) Section 150.01 states, “Until the number of permits in a regional management area equals or falls below the capacity goal for that regional management area a permit may only be transferred if one additional transferable permit for the same regional management area is surrendered to the department for cancellation at the same time the application for the transfer is submitted to the department” This strategy has allowed for the yearly decrease in the number of permittees at a total rate of 13% since implementation in 2003.

Table B-1. Regional capacity goals as defined in CCR, Title 14, section 150.

Shallow Nearshore Fishery Permit Regions	Capacity Goal
North Coast	14
North-Central Coast	9
South-Central Coast	20
South Coast	18
Non-transferable for all regions	0
Total	61

Also in 2003, a non-transferable statewide “Deeper Nearshore Species Fishery Permit” was first required to take black, blue, brown, calico, copper, olive, quillback, and treefish rockfishes. This permit, like the nearshore permit, also prevented further expansion of the fishery. The following table documents the issuance level of the nearshore and the deeper permits before and since the restricted access implementation. Additionally it documents the number of permittees that have utilized the permit to land the appropriate species group.

As part of the nearshore restricted access permit program, a Nearshore Fishery Bycatch Permit was provided. This program allowed permittees with vessels using trawl or entangling nets to take and possess small amounts of shallow nearshore species as bycatch. Bycatch permits are non-transferable and allow permittees to take 25 pounds of nearshore species per trip in the south-central region and 50 pounds

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of nearshore species per trip in the south region. Permit holders are subject to all state and federal cumulative trip limits as defined in regulations.

Table B-2. Total number of permits issued and actual number or permits used

	1999	2000	2001	2002	2003	2004	2005	2006
# of NS permits issued	1,128	1,060	753	504	-----	-----	-----	-----
# of shallow issued	-----	-----	-----	-----	227	208	202	195
# of deeper issued	-----	-----	-----	-----	292	275	257	247
					S- 167	S-158	S- 145	S-149
# permits USED	-----	-----	-----	-----				
					D-182	D-184	D-173	D-173

APPENDIX E: Analysis of Qualification Criteria: Allocative, Biological and Economic Implications¹³

Introduction

A range of alternatives is being considered regarding federal permitting of open access groundfish fisheries. Three of the five alternatives propose to limit the number of vessels that would initially be allowed to target (directly fish for) specified groundfish species. Two of the latter alternatives have initial fleet size goals associated with them, while the third alternative limits the initial fleet size based on the number of vessels meeting one (or more) minimum qualification standards (see **Chapter 2** for details of the alternatives).

Open access fishery participation differs between states and ports. In some ports, the majority of vessels participate only occasionally, often not making open access landings in two consecutive years. In other ports, there may be a core group of regular open access participants who are active in the fishery throughout the year and on a year-to-year basis. Chapter 4 brings together the results of the analyses presented in this appendix.

Fishing regulation changes over time or regulation differences between areas can affect the ability of vessels in some areas to harvest fish compared to vessels in areas with less restrictive regulations. Washington prohibits directed commercial fishing in state waters while fishermen in all three states have to deal with large area closures aimed at protecting sensitive or overfished fish species. No areas of the coast have been denied open access groundfish fishing opportunity, which has increased fishing effort in the open fishing areas. The number of vessels that have made directed B species¹⁴ landings in the WOC area has increased in recent years (**Table 2-1**).

The open access directed fishery has changed over time from one that harvested large amounts of shelf rockfish to one that now primarily harvests sablefish off of all three states and B species groundfish in association with nearshore species off of Oregon and California. Some vessels no longer participate in the fishery while several new vessels have joined the fleet in recent years. Trends in fishing effort have varied between states and ports over time, likely related to fishing regulation changes aimed at protecting overfished groundfish species, market and operating expense changes, or fluctuations in other fisheries such as salmon and Dungeness crab. The selection of base years for permit qualification is an important decision because it determines, along with associated landings or participation criteria, which vessels will be eligible for permit qualification. A variety of landings criteria have been used in implementing permit programs in other fisheries. Some of these are considered here for use in determining which vessels should be eligible for a directed fishery or B permit. The selection of permit qualification criteria has allocative as well as biological and economic implications. The following analyses are aimed at describing and evaluating the impacts of current permit qualification criteria relative to the issues outlined in **Chapter 4**

¹³ Updated by LB Boydston and Gerry Kobylinski, California Department of Fish and Game August 4, 2008

¹⁴ B species groundfish include all federal groundfish species excluding nearshore rockfish, cabezon, kelp greenling and California scorpionfish

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Methods

The vessel qualification criteria contained in the B permit alternatives, A-3, A-4 and A-5, used two or more of the following fishery standards: (1) one or more years of recent fishery participation; (2) one or more years of long-term fishery participation; and (3) ability to contribute to fishery landings based on weight of fish landed or frequency of fishery participation. The rationales for using these standards are explained in **Table E-1**.

Table E-1. Participation standards used in developing B permit qualification criteria

Standard	Rationale	Action
1: Recent year participation	Vessel owner recently dependent on fishery	Use recent year data for permit qualification
2: Long-term directed fishery participation	Shows historic dependence on the fishery	Use data from earlier window period years for permit qualification
3: Ability to contribute fishery landings	Shows vessel ability to harvest fish	Establish fishery contribution metrics that show vessel owner dependence on B species directed fishery.

Vessel-specific catch history data were downloaded from the PacFIN data base to desktop computers for use in determining vessel qualification relative to the 31 qualification criteria (QC) contained in the three B permit alternatives (A-3, A-4 and A-5) (**Table E-2**). Only data for vessels that made a directed B species groundfish landing using open access fishing gear during the widow period (April 1998-September 2006) were included. The data downloaded for each vessel landing included: vessel identification number, port group where landed, and pounds and ex-vessel value of B species groundfish landed. Associated fishery landings data, including pounds and ex-vessel value by specified species groups, were extracted and included in the data base for each vessel for the window period years of 2004-2006. Data were then organized for each vessel on an annual basis and each vessel was assigned to (1) a port group and (2) target species group, which were determined as follows:

Port group: PSMFC standard port groups were used to determine geographic locations where vessel landings were made. Vessels were assigned to port groups based on location where the *most* deliveries were made in the last year of B species directed fishery participation (thus, neither pounds nor ex-vessel value was used in this determination).

Target-Species Vessel Group: Vessels were assigned to target-species vessel groups based on B species revenues received during 2004-2006. The target species groups were: sablefish, shelf rockfish, slope rockfish, lingcod, sharks (federal sharks and rays), and other species. Vessels were assigned to species groups based on receipt of >50% of B species revenues from a single group. Vessels that could not be assigned to a species group were placed in a non-target species vessel group.

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Table E-2. B permit qualification criteria contained in alternatives 1-5

Alternative	Standard	Framework(s) to use for analysis	Abbrev
1 & 2	n/a	n/a	n/a
3 (a)	top 680 vessels	cum lbs, 2004-2006 (QF-1)	680v-1
	top 680 vessels	cum lbs, 1998-2006 (QF-2)	680v-2
	top 680 vessels	cum lbs, 1998-2006, w/ 2004-2006 trip (QF-3)	680v-3
3 (b)	top 713 vessels	QF-1, QF-2 and QF-3	713v-1, 2, 3
4	≥ 47,900 lbs	QF-3	47.9K-3
	≥ 36,100 lbs	QF-3	36.1K-3
	≥ 21,800 lbs	QF-3	21.8K-3
	≥ 14,400 lbs Group 1	QF-3	14.4K-3
	≥ 6,100 lbs	QF-3	6.1K-3
	≥ 3,500 lbs	QF-3	3.5K-3
	≥ 1,600 lbs	QF-3	1.6K-3
	≥ 1 lb	QF-1 or QF-3	1lb-1
	≥ 1 trip 1/	QF-1 or QF-3	1trip-1
	≥ 1 trip in two yrs	trips per year, 2004-2006 (QF-4)	2 in 3 yrs-4
	≥ 100 lbs	max lbs, any yr, 2004-2006 (QF-5)	100 max-5
	≥ 500 lbs Group 2	QF-5	500 max-5
	≥ 1000 lbs	QF-5	1000 max-5
	≥ 2000 lbs	QF-5	2000 max-5
	≥ 100 lbs	QF-1 and QF-3	100 lbs-1, 3
	≥ 500 lbs Group 3	QF-1 and QF-3	500 lbs-1, 3
	≥ 1000 lbs	QF-1 and QF-3	1000 lbs-1, 3
	≥ 2000 lbs	QF-1 and QF-3	2000 lbs-1, 3
5	top 390 vessels	QF-1, QF-2 and QF-3	390v-1, 2, 3

1/ Not analyzed separately; impact is the same as ≥ 1 lb

Microsoft spreadsheet software (Excel) was used to sort, filter and compile vessel landings data based on the parameters specified in the five qualification framework (QFs) contained in alternatives A-3, A-4 and A-5 (Table E-2). Each QF included a base period and unit of measure (metric). The base periods were inclusive of all or some window period years while the metrics used were either pounds landed or frequency of landings (trips) made during specified years. A qualification standard (QS) was specified as part of each QC. These were units of measure or a vessel ranking objective used to determine specifically which vessels would qualify (and not qualify) for permits. QSs and QFs are the adjustable and fixed elements, respectively, of each QC. The model runs for each QC produced listings of vessels that would qualify and not qualify for permits and their associated commercial fishery landings data.

Hindcast analysis was used to assess fishery impacts of QC outputs. The base years for these analyses were 2004-2006. Data prior to 2004 were not used because of major regulation differences in earlier years compared to 2004-2006 and those that can be expected in near term future years. These differences included (i) implementation of nearshore groundfish management programs off Oregon and California starting in 2003 (Appendix D), (ii) the creation of large area groundfish closures to protect overfished or sensitive fish species off of all three states starting in 2002 (Appendix G), and the adoption of more restrictive trip limits for shelf rockfish since 2000 (Table 1-2). Also, 2004-2006 were the years used to compute the initial fleet size goal in A-3 and represented the most recent years of increased B permit species vessel activity in the WOC area (Figure 2-1).

The data sets produced for qualifying and non-qualifying vessels under each QC included: (i) number of vessels, pounds and revenues of B species groundfish and all other commercial species (associated species; e.g., salmon crab) landed, (ii) number of vessels by port group and state, (iii) ex-vessel revenues by port group and state, and (iv) number of permits by target-species group, port group and state.

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Community impacts of the QCs were analyzed using income multipliers generated by the Fisheries Economic Assessment Model (FEAM) for non-trawl groundfish fisheries, which were differentiated by species category (see following table). A description of FEAM is found in Jensen 1996 and a recent update to the model is described in Davis 2003. Appendix D of the 2005-06 Groundfish EIS includes a further discussion of income impact estimating methodology.

Community impact multipliers

Non-trawl	Washington	Oregon	California
Lingcod	2.01	1.69	1.65
Rockfish	2.20	1.76	1.62
Sablefish	1.82	1.73	1.85
Sharks (PFMC)	4.19	6.74	2.43
Other species	assumed same as rockfish		
Non-target	assumed same as rockfish		

The above are estimates for personal income impacts from lingcod, rockfish (and perch), sablefish, sharks and other species (including non-target vessel landings) for non-trawl gears in 2003. An example of interpreting the results is, on average, in California for every \$1 of ex-vessel revenue generated from sablefish catch, there is \$1.85 income generated to the West Coast economy. These estimates are useful to show that there are monetary contributions to the economy from commercial fishing beyond ex-vessel revenue; however, it must be cautioned that the model does make various assumptions and therefore should not be seen as absolute, but as estimates. Further, the number of landings and price for a given year will have an effect on the multipliers obtained.

The selection of a preferred QF is an important part of the public review, regulatory, and permit program implementation process. The five QFs described in **Table E-2** were analyzed using a single set of qualification standards that was developed for this report. This was done to be consistent in the application of a single set of qualification standards across all frameworks and to cover a wide range of harvest reduction scenarios possibly resulting from B permit issuance. The analysis helps to explain some of the impact differences in QCs seen in QC model run outputs. The standards used were based on retaining the following proportions of B species directed fishery landings in the WOC area during 2004-2006: 50%, 80%, 90%, and 95%. Vessels were ranked from high to low in each analysis based on QF parameters except for QF-4, which used landing frequency for permit qualification, independent of pounds landed.

The distribution of permits by target-species vessel group was analyzed for three qualification criteria that used a single qualification framework: total B species pounds landed during 2004-2006 (QF-1).

Limited entry (permit) management has the potential for reduced fishery discards stemming from enhanced trip and cumulative landing limits. Trip limit overages and high grading can be associated with restrictive trip limits. The possibility for increased trip and cumulative landing limits under the alternatives are discussed in **Section 4**. Other potential benefits associated with B permit management would accrue in the form of 1) improved fish handling techniques, 2) increased level of fisherman regulation compliance and 3) increased cooperation with fishery sampling programs. *These are recognized attributes of limited entry management, but are not readily quantifiable in terms of future fishery yield (in pounds or revenues) or reduced level of regulation enforcement or fishery monitoring required for effective fishery management.*

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Results

Qualification Framework Comparisons

Under QF-4 a total of 595 vessels would qualify for permits based on 2004-2006 fishery participation data. The qualifying vessels landed a total of 88% of the WOC B species directed fishery groundfish during 2004-2006 (**Table E-3a; Figure E-1**). A total of 67 Washington vessels (11%) met this criterion compared to 192 and 336 for Oregon and California, respectively (32% and 56%, respectively) (**Table E-3b**). The other frameworks (Q-1, Q-2, Q-3 and Q-5) used weight-based metrics, which allowed for harvest retention analysis for all landings made during 2004-2006.

Table E-3a. Minimum landing metrics (pounds) for permit qualification and number of vessels that landed specified proportions of B species groundfish during 2004-2006 using qualification frameworks 1-5 and vessel ranking based on framework parameters except as noted

QF-1			QF-2		QF-3		QF-4 1/		QF-5	
2004-2006 lbs			1998-2006 lbs		1998-2006 lbs w/04-06 trip		active 2 yrs, 04-06		max yr, 04-06	
P 2/	metric	# vsls	metric	# vsls	metric	# vsls	metric	# vsls	metric	# vsls
50%	26,918	67	40,449	106	40,449	82	n/a	n/a	14,895	70
80%	7,571	201	10,472	338	10,472	248	n/a	n/a	5,473	206
90%	3,207	332	4,737	569	4,737	394	n/a	595 3/	1,991	344
95%	1,594	466	2,573	799	2,573	530			1,097	481

1/ vessel ranking not used for this analysis

2/ Proportion of B species harvested during 2004-2006

3/ 88%

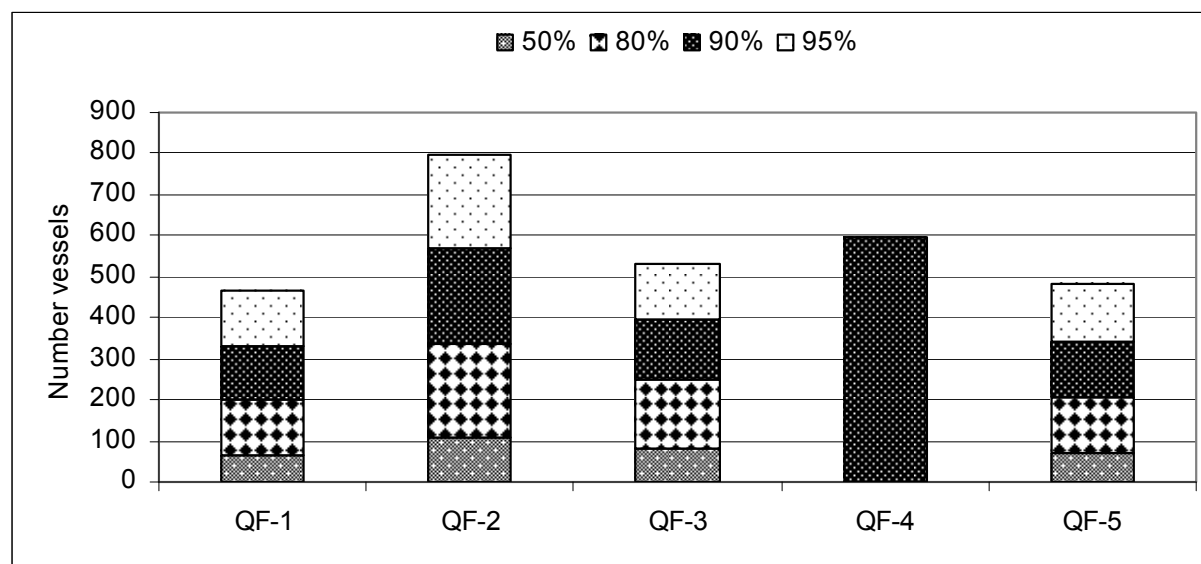


Figure E-1: Number of vessels that landed specified proportions of B species landings in the WOC area during 2004-2006 that would qualify for B permits under QF-1, 2, 3, 4 and 5. Vessels were ranked from high to low based on framework parameters except for QF-4, which is explained in the text.

Analysis of these latter frameworks showed that QF-2 required substantially more vessels than the other frameworks (29%-51% compared to QF-3) to meet the specified harvest levels, followed in order by QF-3, QF-5, and QF-1 (**Table E-3a; Figure E-1**). The higher number of vessels required under QF-2 was because a relatively high proportion of vessels (23%-34% depending on framework) that would qualify for permits did not participate in the fishery during 2004-2006. Most of these were California vessels (**Table E-3b**). QF-3 required more vessels than QF-5 by 10%-20% depending on harvest level, while QF-5 and QF-1 were within 2%-4% of each other (**Table E-3a**). The relatively high number of vessels under

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QF-3 compared to QF-1 and QF-5 is because some of the vessels that would be permitted under QF-3 had lower catch histories during 2004-2006 than some of the vessels that did not qualify for permits.

Table E-3b. Number of vessels by qualification framework and state that landed specified proportions of WOC B species groundfish using vessel ranking based on framework parameters except as noted

P 2/	state	QF-1	QF-2		QF-3	QF-4 1/	QF-5
		# vsls	# vsls	no 04-06	# vsls	# vsls	# vsls
50%	WA	16	15	0	15	n/a	15
	OR	15	17	2	15	n/a	15
	CA	36	74	22	52	n/a	40
	sum	67	106	24	82	n/a	70
80%	WA	47	59	10	49	n/a	48
	OR	59	86	17	69	n/a	63
	CA	95	193	63	130	n/a	95
	sum	201	338	90	248	n/a	206
90%	WA	80	93	24	69	67	87
	OR	101	161	36	125	192	104
	CA	151	315	115	200	336	153
	sum	332	569	175	394	595 3/	344
95%	WA	95	124	34	90		105
	OR	155	235	65	170		155
	CA	216	440	170	270		221
	sum	466	799	269	530	n/a	481
100%	WA	126	207	81	126		126
	OR	345	661	316	345		345
	CA	632	1719	1087	632		632
	sum	1103	2587	1484	1103	n/a	1103

1/ Vessel ranking not used

2/ Proportion of 2004-2006 B species landings

3/ 88%

Washington permit proportions were highest under QF-1 at the 50% and 90% retention levels (23%-24%) and QF-5 at the 90% and 95% levels (22%-25%). The Washington proportion was maximal across all frameworks at the 90% retention level (Table E-3b). Oregon proportions were highest under QF-1 in two comparisons (22%-33%), under QF-5 in one comparison (31%) and under QF-3 in one comparison (32%). The Oregon proportion was maximal across all frameworks at the 95% retention level (Table E-3b). California received proportionately more permits under QF-2 (55%-70%) followed by QF-3 (51%-63%). The California proportion was maximal across all frameworks at the 50% retention level (53%-70%), followed by the 80% level (47%-57%) (Table E-3b).

Potential Fishery Impact: Qualifying Vessels

The number of vessels that would qualify for B permits under the qualification criteria contained in A-3, A-4 and A-5 ranged from 65 to 1,103 vessels. Two of the alternatives would permit every vessel that made a B species groundfish landing during 2004-2006 (1 lb; 1 trip) and two others would permit more vessels that made a directed fishery landing in any year during 2004-2006 (100 max-5; 100 lbs-1). The two most restrictive criteria would qualify 65 and 95 vessels (47.9K-3; 36.1K-3, respectively) (Table E-4a, Figure E-2).

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Table E-4a. Landings data from 2004-2006 for vessels that would qualify for B permits under criteria contained in A-3, A-4 and A-5. 1/

		Directed fishery metrics						Associated fishery metrics				Total fishery metrics			
		# vsls	Active	BGF	BGF	Total	Total	Total	BGF	Total	BGF	Total	BGF		
Altern	QS-QF 2/		04-06	mt	P 3/	000s	P 3/	mt	P 4/	000s	P 4/	mt	P	000s	P
A-1 & A-2	n/a	1,103	1,103	2,796	1.00	\$8,531	1.00	42,720	0.94	\$116,160	0.93	45,516	1.00	\$124,692	1.00
		2,587	1,103	2,796	1.00	\$8,531	1.00	42,720	0.94	\$116,160	0.93	45,516	1.00	\$124,692	1.00
		1,103	1,103	2,796	1.00	\$8,531	1.00	42,720	0.94	\$116,160	0.93	45,516	1.00	\$124,692	1.00
A-3	680v-1	680	680	2,757	0.99	\$8,379	0.98	34,350	0.93	\$87,443	0.91	37,106	1.00	\$95,822	1.00
	680v-2	680	468	2,602	0.93	\$7,797	0.91	33,105	0.93	\$79,296	0.91	35,707	1.00	\$87,094	1.00
	680v-3	680	680	2,736	0.98	\$8,297	0.97	34,576	0.93	\$90,679	0.92	37,313	1.00	\$98,976	1.00
	713v-1	713	713	2,765	0.99	\$8,408	0.99	35,560	0.93	\$91,229	0.92	38,324	1.00	\$99,637	1.00
	713v-2	713	486	2,618	0.94	\$7,855	0.92	33,940	0.93	\$82,002	0.91	36,558	1.00	\$89,857	1.00
	713v-3	713	713	2,748	0.98	\$8,340	0.98	35,238	0.93	\$93,038	0.92	37,987	1.00	\$101,377	1.00
A-4	47.9K-3	65	65	746	0.27	\$2,170	0.25	1,352	0.64	\$5,793	0.73	2,097	1.00	\$7,963	1.00
	36.1K-3	95	95	896	0.32	\$2,697	0.32	2,322	0.72	\$9,584	0.78	3,218	1.00	\$12,281	1.00
	21.8K-3	139	139	1,068	0.38	\$4,781	0.56	9,220	0.90	\$30,917	0.87	10,288	1.00	\$35,698	1.00
Grp 1	14.4K-3	211	211	1,467	0.52	\$4,781	0.56	9,220	0.86	\$30,917	0.87	10,687	1.00	\$35,698	1.00
	6.1K-3	343	343	2,315	0.83	\$6,696	0.78	22,183	0.91	\$49,278	0.88	24,498	1.00	\$55,974	1.00
	3.5K-3	474	474	2,609	0.93	\$7,826	0.92	26,852	0.91	\$66,144	0.89	29,461	1.00	\$73,970	1.00
	1.6K-3	629	629	2,713	0.97	\$8,206	0.96	32,829	0.92	\$85,012	0.91	35,542	1.00	\$93,218	1.00
	1lb-1	1,103	1,103	2,796	1.00	\$8,531	1.00	42,720	0.94	\$116,160	0.93	45,516	1.00	\$124,692	1.00
	1 trip-1	1,103	1,103	2,796	1.00	\$8,531	1.00	42,720	0.94	\$116,160	0.93	45,516	1.00	\$124,692	1.00
Grp 2	2 in 3 yrs-4	595	595	2,460	0.88	\$7,519	0.88	25,925	0.91	\$62,334	0.89	28,385	1.00	\$69,853	1.00
	100 max-5	939	939	2,792	1.00	\$8,518	1.00	40,105	0.93	\$108,351	0.93	42,898	1.00	\$116,869	1.00
	500 max-5	655	655	2,796	1.00	\$8,344	0.98	34,018	0.92	\$85,684	0.91	36,814	1.00	\$94,028	1.00
	1000 max-5	499	499	2,669	0.95	\$8,044	0.94	29,197	0.92	\$70,448	0.90	31,866	1.00	\$78,492	1.00
	2000 max-5	343	343	2,514	0.90	\$7,458	0.87	23,811	0.90	\$51,241	0.87	26,325	1.00	\$58,699	1.00
	100 lbs-1	950	950	2,793	1.00	\$8,520	1.00	40,165	0.93	\$108,568	0.93	42,958	1.00	\$117,089	1.00
Grp 3	500 lbs-1	701	701	2,762	0.99	\$8,399	0.98	35,269	0.93	\$90,280	0.91	38,031	1.00	\$98,679	1.00
	1000 lbs-1	577	577	2,720	0.97	\$8,241	0.97	30,975	0.92	\$76,617	0.90	33,696	1.00	\$84,858	1.00
	2000 lbs-1	420	420	2,619	0.94	\$7,853	0.92	24,999	0.91	\$56,742	0.88	27,618	1.00	\$64,595	1.00
	100 lbs-3	1,003	1,003	2,794	1.00	\$8,525	1.00	41,071	0.94	\$111,828	0.93	43,865	1.00	\$120,353	1.00
	500 lbs-3	827	827	2,777	0.99	\$8,455	0.99	38,140	0.93	\$100,928	0.92	40,916	1.00	\$109,383	1.00
	1000 lbs-3	727	727	2,753	0.98	\$8,359	0.98	35,530	0.93	\$94,131	0.92	38,283	1.00	\$102,490	1.00
A-5	2000 lbs-3	581	581	2,686	0.96	\$8,107	0.95	31,350	0.92	\$79,666	0.91	34,036	1.00	\$87,774	1.00
	390v-1	390	390	2,590	0.93	\$7,751	0.91	23,886	0.90	\$53,194	0.87	26,476	1.00	\$60,945	1.00
	390v-2	390	286	2,330	0.83	\$6,802	0.80	13,449	0.85	\$48,021	0.88	15,779	1.00	\$54,822	1.00
	390v-3	390	390	2,510	0.90	\$7,463	0.87	23,636	0.90	\$55,005	0.88	26,146	1.00	\$62,469	1.00

1/ Abbreviations: QS=qualification standard (see Table E-2); QF=qualification framework; BGF=B species groundfish; P=proportion

2/ QF1=2004-2006 base yrs; QF2=1998-2006 base yrs; QF3=1998-2006 base yrs and active in 2004-2006; QF4=trips per yr during 2004-2006; QF5=max lbs in any year during 2004-2006

3/ proportion of B species groundfish landed 4/ proportion of total fishery landings

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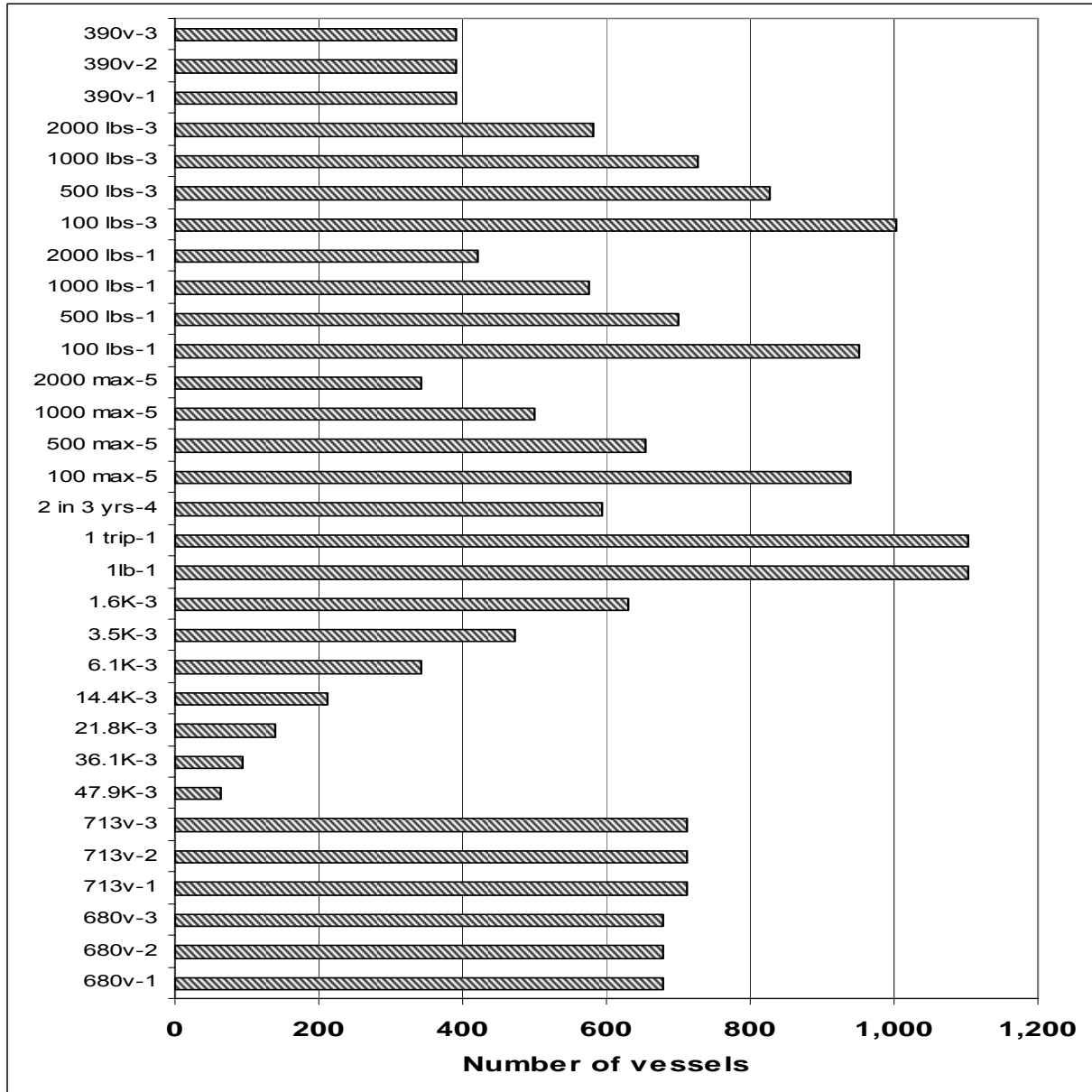


Figure E-2: Number of vessels that would qualify for permits under criteria contained in A-3, A-4 and A-5

B species revenues received by vessels that would qualify for B permits, expressed as a proportion of total B species revenues received during 2004-2006, ranged from 25% (47.9K-3) to 100% (1lb-1; 1trip-1). Twenty-two criteria (of 31) would award B permits to vessels that landed $\geq 90\%$ of total B species groundfish revenues that were received during 2004-2006, and all except four (47.9K-3, 36.1K-3, 21.8K-3, and 14.4K-3) would award permits to vessels that landed $\geq 78\%$ (Table E-4a; Figure E-3).

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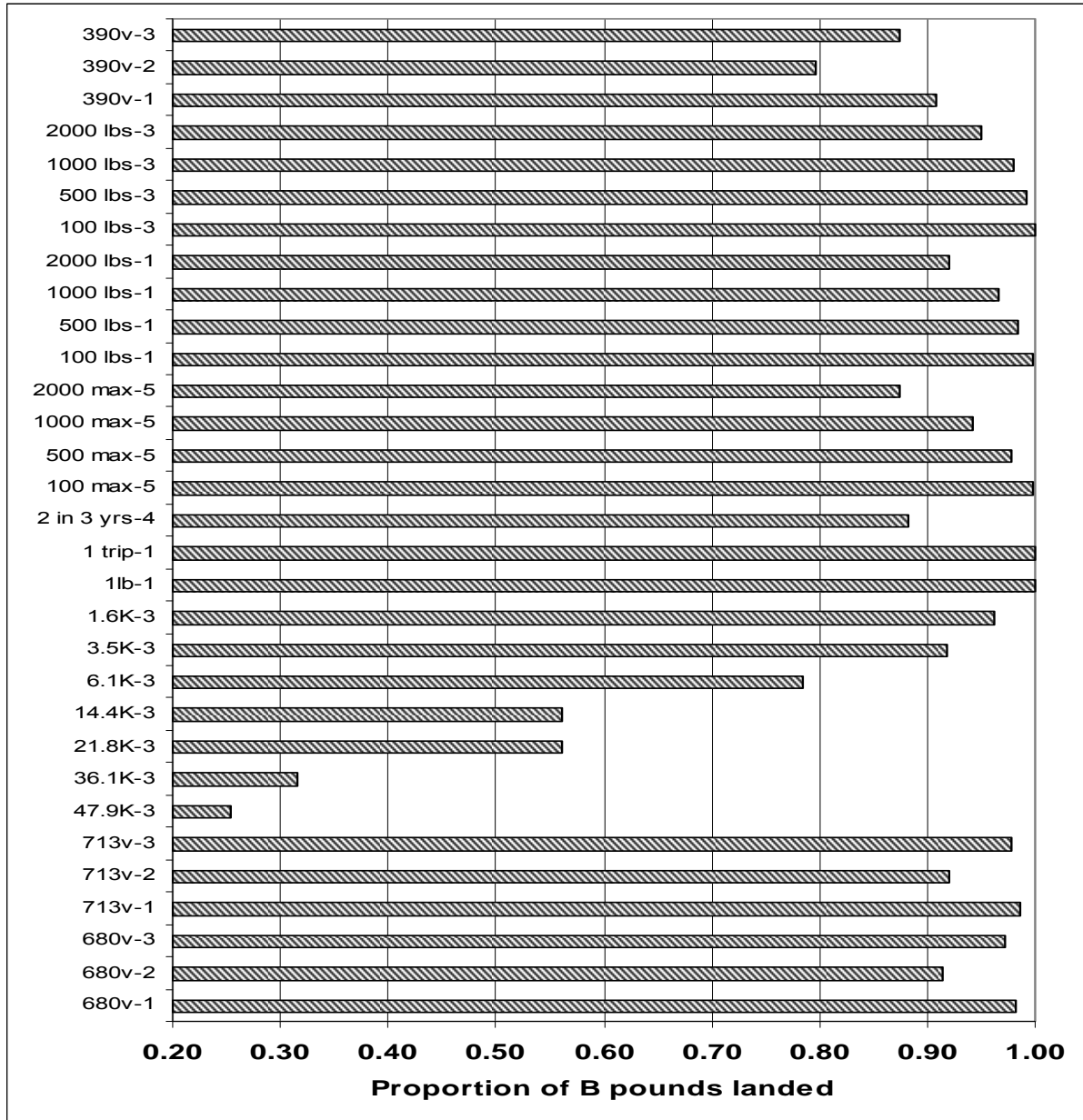


Figure E-3. Proportion of total B species groundfish revenues that were received by vessels that would qualify for B permits by qualification criterion

The proportion of total commercial fishery revenues received during 2004-2006 that were derived from associated species (non-B species groundfish) by vessels that would qualify for B permits was $\geq 87\%$ under all criteria except two, which were 73% and 78% (47.9K-3 and 36.1K-3, respectively) (Table E-4a; Figure E-4).

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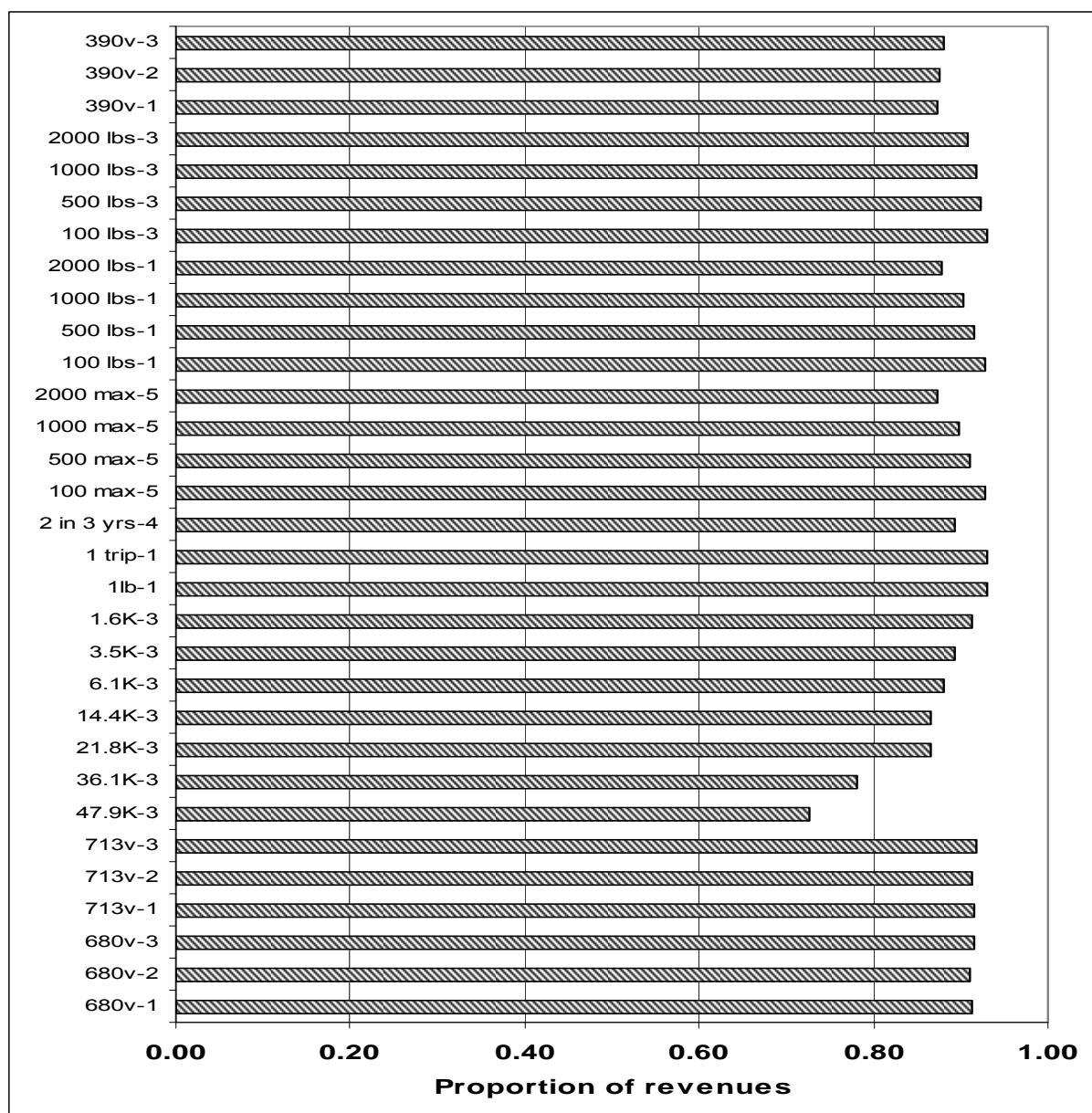


Figure E-4: Proportion of total commercial fishery revenues received by vessels that would qualify for B permits during 2004-2006 that was of associated species (non-B species groundfish) by qualification criterion.

Potential Fishery Impacts: Non-qualifying Vessels

The number of vessels that would not qualify for permits was influenced by the years used for qualification. Criteria that required vessel participation during 2004-2006 had the potential to qualify no more than 1,103 vessels, while those that used the entire window period had the potential to qualify up to 2,587 vessels (**Table E-4b**). Thus the range in number of vessels that would not qualify for B permits under the B permit criteria was quite wide: from 2,197 (390v-2) to zero (1 lb-1; 1 trip-1) (**Table E-4b; Figure E-5**).

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Table E-4b. Landings data from 2004-2006 for vessels that would not qualify for B permits under criteria contained in A-3, A-4 and A-5. 1/

		Directed fishery metrics							Associated fishery metrics				Total fishery metrics			
		Active	BGF	BGF				Total	Total	Total	BGF	Total	BGF			
Altern	QS-QF 2/	# vsls	04-06	mt	P 3/	000s	P 3/	mt	P 4/	000s	P 4/	mt	P	000s	P	
A-1 & A-2	n/a	1,103	1,103	2,796	1.00	\$8,531	1.00	42,720	0.94	\$116,160	0.93	45,516	1.00	\$124,692	1.00	
		2,587	1,103	2,796	1.00	\$8,531	1.00	42,720	0.94	\$116,160	0.93	45,516	1.00	\$124,692	1.00	
		1,103	1,103	2,796	1.00	\$8,531	1.00	42,720	0.94	\$116,160	0.93	45,516	1.00	\$124,692	1.00	
A-3	680v-1	423	423	39	0.01	\$152	0.02	8,370	1.00	\$28,717	0.99	8,410	1.00	\$28,870	1.00	
	680v-2	1,907	635	194	0.07	\$734	0.09	9,615	0.98	\$36,864	0.98	9,809	1.00	\$37,598	1.00	
	680v-3	423	423	59	0.02	\$234	0.03	8,144	0.99	\$25,481	0.99	8,203	1.00	\$25,715	1.00	
	713v-1	390	390	31	0.01	\$123	0.01	7,160	1.00	\$24,931	1.00	7,191	1.00	\$25,054	1.00	
	713v-2	1,874	617	178	0.06	\$676	0.08	8,780	0.98	\$34,158	0.98	8,958	1.00	\$34,835	1.00	
	713v-3	390	390	48	0.02	\$192	0.02	7,482	0.99	\$23,123	0.99	7,529	1.00	\$23,315	1.00	
A-4	47.9K-3	1,038	1,038	2,050	0.73	\$6,361	0.75	41,368	0.95	\$110,367	0.95	43,418	1.00	\$116,729	1.00	
	36.1K-3	1,008	1,008	1,900	0.68	\$5,834	0.68	40,398	0.96	\$106,576	0.95	42,298	1.00	\$112,410	1.00	
	21.8K-3	964	964	1,728	0.62	\$3,751	0.44	33,500	0.95	\$85,243	0.96	35,228	1.00	\$88,994	1.00	
Grp 1	14.4K-3	892	892	1,329	0.48	\$3,751	0.44	33,500	0.96	\$85,243	0.96	34,829	1.00	\$88,994	1.00	
	6.1K-3	760	760	481	0.17	\$1,836	0.22	20,537	0.98	\$66,882	0.97	21,018	1.00	\$68,718	1.00	
	3.5K-3	629	629	187	0.07	\$705	0.08	15,868	0.99	\$50,017	0.99	16,055	1.00	\$50,722	1.00	
	1.6K-3	474	474	83	0.03	\$325	0.04	9,891	0.99	\$31,149	0.99	9,974	1.00	\$31,474	1.00	
	1lb-1	0	0	0	0.00	\$0	0.00	45,516	1.00	\$124,692	1.00	45,516	1.00	\$124,692	1.00	
	1 trip-1	0	0	0	0.00	\$0	0.00	45,516	1.00	\$124,692	1.00	45,516	1.00	\$124,692	1.00	
Grp 2	2 in 3 yrs-4	508	508	336	0.12	\$1,012	0.12	16,795	0.98	\$53,827	0.98	17,130	1.00	\$54,839	1.00	
	100 max-5	163	163	4	0.00	\$13	0.00	2,614	1.00	\$7,810	1.00	2,618	1.00	\$7,823	1.00	
	500 max-5	448	448	0	0.00	\$188	0.02	8,702	1.00	\$30,476	0.99	8,702	1.00	\$30,664	1.00	
	1000 max-5	604	604	127	0.05	\$488	0.06	13,522	0.99	\$45,712	0.99	13,649	1.00	\$46,200	1.00	
	2000 max-5	760	760	282	0.10	\$1,073	0.13	18,909	0.99	\$64,920	0.98	19,190	1.00	\$65,993	1.00	
	100 lbs-1	154	154	3	0.00	\$11	0.00	2,555	1.00	\$7,592	1.00	2,558	1.00	\$7,603	1.00	
	500 lbs-1	402	402	34	0.01	\$133	0.02	7,451	1.00	\$25,880	0.99	7,485	1.00	\$26,013	1.00	
	1000 lbs-1	526	526	76	0.03	\$290	0.03	11,744	0.99	\$39,543	0.99	11,820	1.00	\$39,833	1.00	
	2000 lbs-1	683	683	177	0.06	\$679	0.08	17,721	0.99	\$59,418	0.99	17,898	1.00	\$60,097	1.00	
Grp 3	100 lbs-3	100	100	2	0	\$6	0.00	1,649	1	\$4,332	1.00	1,651	1.00	\$4,339	1.00	
	500 lbs-3	276	276	19	0.01	\$77	0.01	4,580	1.00	\$15,232	1.00	4,599	1.00	\$15,309	1.00	
	1000 lbs-3	376	376	43	0.02	\$172	0.02	7,190	0.99	\$22,030	0.99	7,233	1.00	\$22,202	1.00	
	2000 lbs-3	522	522	110	0.04	\$424	0.05	11,370	0.99	\$36,494	0.99	11,480	1.00	\$36,918	1.00	
	390v-1	713	713	206	0.07	\$780	0.09	18,834	0.99	\$62,967	0.99	19,040	1.00	\$63,747	1.00	
	390v-2	2,197	817	466	0.17	\$1,730	0.20	29,270	0.98	\$68,140	0.98	29,737	1.00	\$69,870	1.00	
A-5	390v-3	680	680	286	0.10	\$1,068	0.13	19,084	0.99	\$61,155	0.98	19,370	1.00	\$62,223	1.00	

1/ Abbreviations: QS=qualification standard (see Table E-2); QF=qualification framework; BGF=B species groundfish; P=proportion

2/ QF1=2004-2006 base yrs; QF2=1998-2006 base yrs; QF3=1998-2006 base yrs and active in 2004-2006; QF4=trips per yr during 2004-2006; QF5=max lbs in any year during 2004-2006

3/ proportion of B species groundfish landed 4/ proportion of total fishery landings

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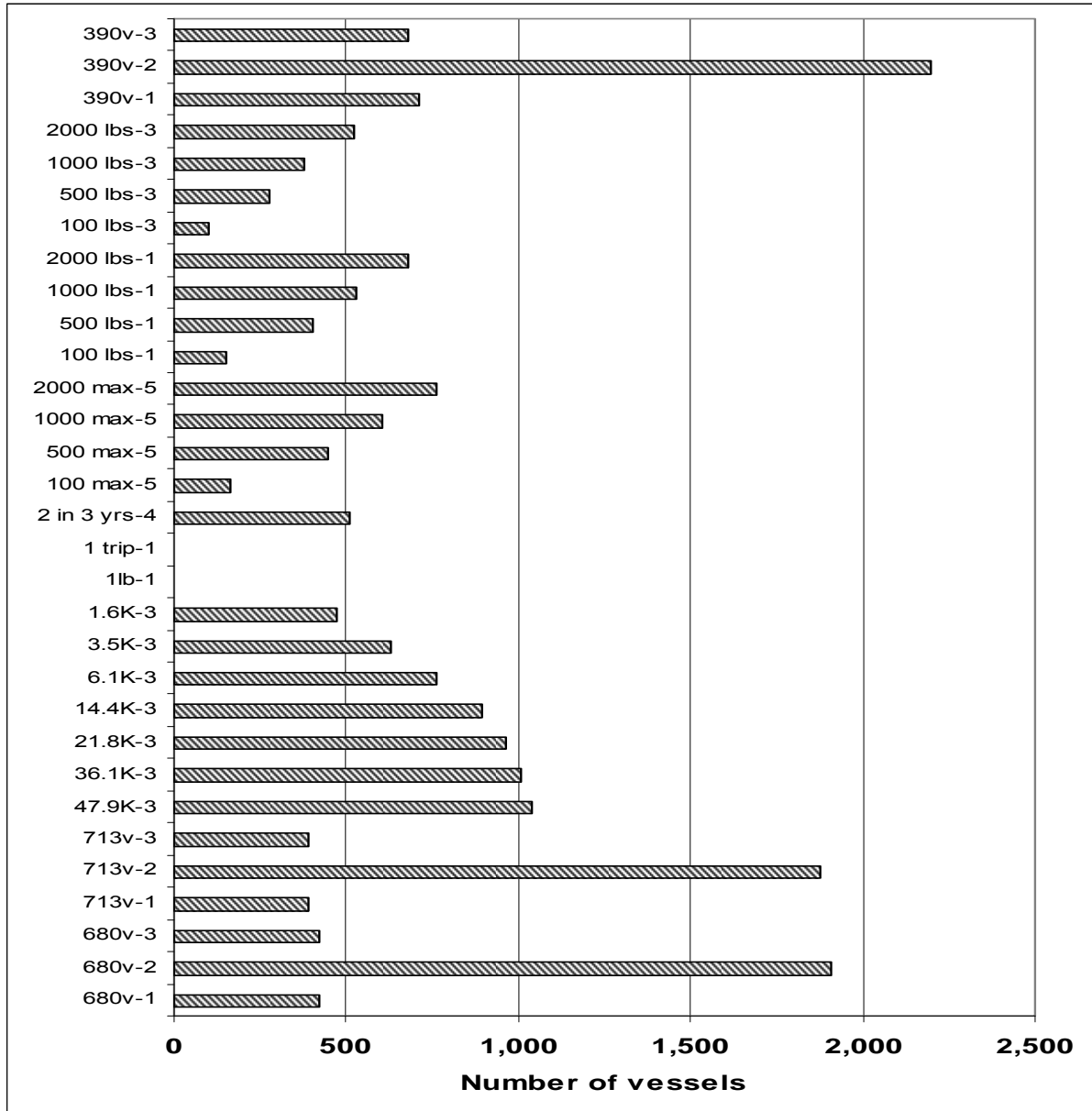


Figure E-5. Number of vessels that would not qualify for B permits under qualification criteria contained in A-3, A-4 and A-5

The B species revenues received by vessels that would not qualify for B permits, expressed as a proportion of total B species revenues received by all vessels during 2004-2006, ranged from zero % (1 lb-1; 1 trip-1) to 75% (47.9K-3). Twenty-two (of 31) criteria would award permits to vessels that landed \leq 10% of the total B species groundfish revenues that were received during 2004-2006 (Table E-4b; Figure E-6).

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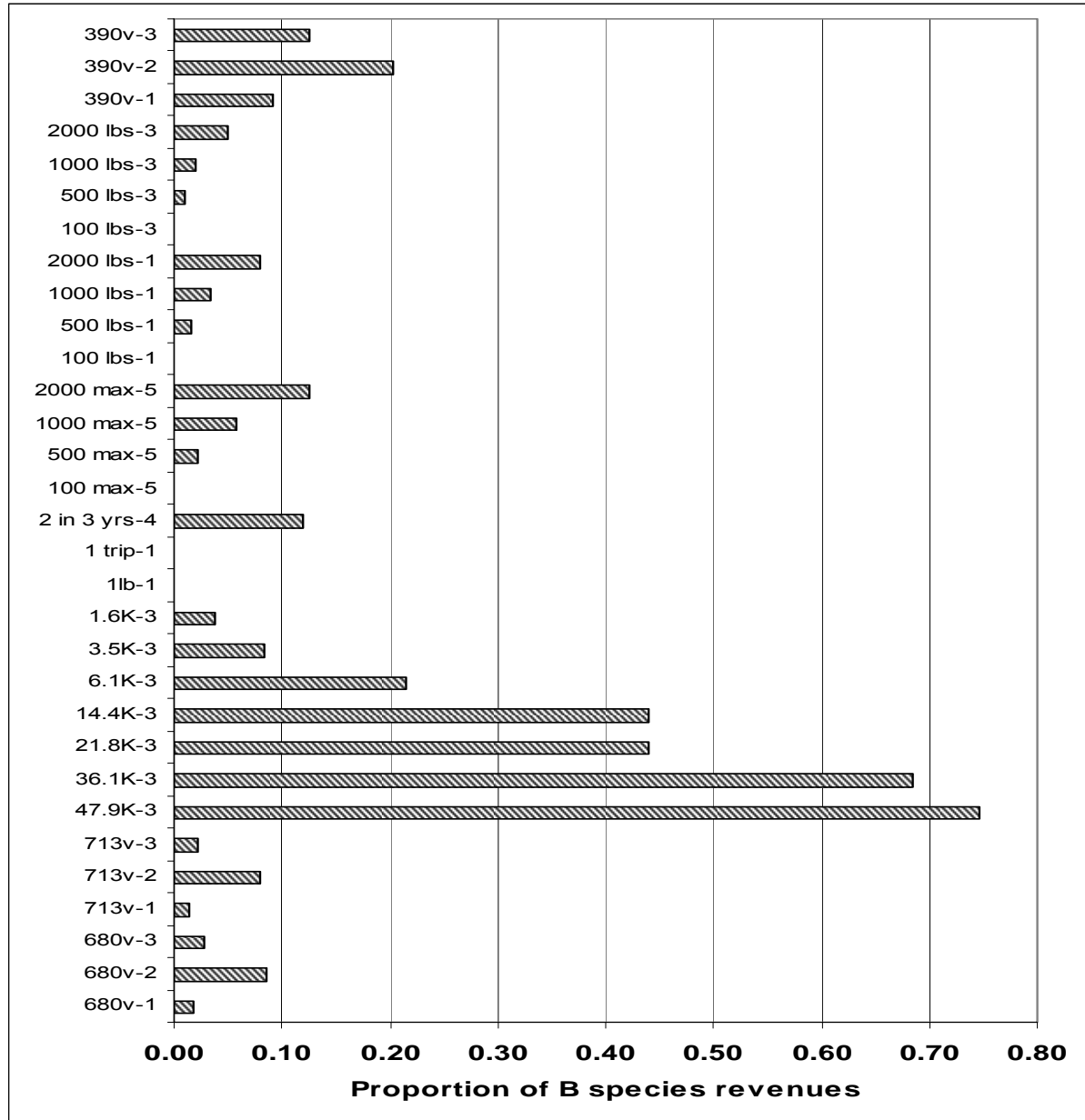


Figure E-6. Proportion of the B species groundfish revenues that were received by vessels that would not qualify for B permits by qualification criterion

The proportion of total commercial fishery revenues received by vessels that would not qualify for B permits that were of associated (non B species groundfish) species ranged from 95% (the two most restrictive criteria, 47.9K-3 and 36.1K-3) to 100% (the least restrictive criteria, 1lb-1 and 1 trip-1) (Table E-4b; Figure E-7).

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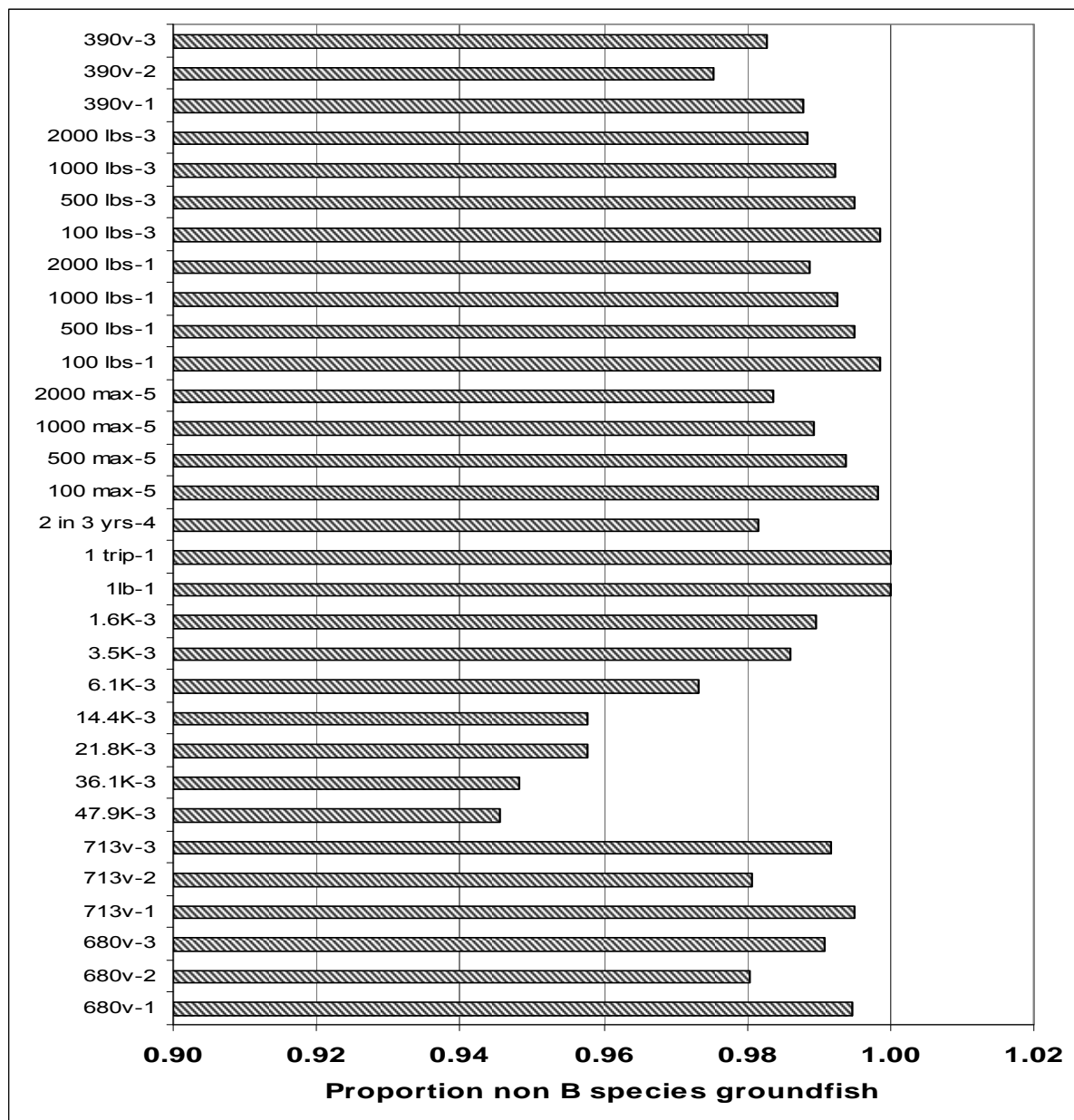


Figure E-7. Commercial fishery revenues received during 2004-2006 by vessels that would not qualify for B permits that were of associated (non-B species groundfish), by qualification criterion

Fishery Impact Summary and Discussion

A wide range in number of vessels that would qualify and not qualify for B permits is possible under the 31 qualification criteria contained in A-3, A-4 and A-5. The range in qualifying vessels, using specified years from within the window period, is from 65-1,103 with a median value of 581 (Table 4a). The proportion of B species groundfish that was landed by directed fishery vessels during 2004-2006 that would qualify for permits was from 25% to 100% with a median value of 95% (thus 5% was the median proportion for non-qualifying vessels) (Table 4a). Six criteria would have reduced 2004-2006 directed B species fishery revenues by non-qualifying vessels by over 20% and would have resulted in the permitting of 65-390 vessels (Table 4b). The proportion of total commercial fishery revenues during 2004-2006 that was received by vessels that would qualify for B permits and that was comprised of non-B species groundfish (hence, non-groundfish and nearshore groundfish) ranged from 87%-93% with a median value

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of 91% (**Table 4a**). The comparative figures for non-qualifying vessels were 98%-100% with a median value of 99% (**Table 4b**). *These data showed a very low dependence of B species directed fishery vessels on B species groundfish for their total commercial fishery income during 2004-2006.*

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Distribution of Permits

A-3 and A-5 have specified initial fleet size goals. Each of these was analyzed using QF-1, QF-2 and QF-3. In these comparisons, California received the highest proportion of permits using QF-2, ranging from 54% to 56%. Washington and Oregon proportions were highest under QF-1, ranging from 16% to 22% and 32% to 34%, respectively. The QF-3 framework results were intermediate for all three states (**Table E-5; Figure E-8**).

Table E-5. B permit distributions under qualification criteria contained in alternatives 3 and 5

Group	Alternative 5						Alternative 3(a)						Alternative 3(b)					
	390v-1		390v-2		390v-3		680v-1		680v-2		680v-3		713v-1		713v-2		713v-3	
	vsIs	P 1/	vsIs	P	vsIs	P	vsIs	P	vsIs	P	vsIs	P	vsIs	P	vsIs	P	vsIs	P
SPS	2	0.01	1	0.00	1	0.00	2	0.00	2	0.00	2	0.00	2	0.00	2	0.00	2	0.00
NPS	14	0.04	14	0.04	11	0.03	15	0.02	22	0.03	15	0.02	15	0.02	23	0.03	15	0.02
CWA	33	0.08	27	0.07	24	0.06	47	0.07	42	0.06	47	0.07	47	0.07	45	0.06	48	0.07
CLW	38	0.10	25	0.06	32	0.08	49	0.07	41	0.06	45	0.07	49	0.07	42	0.06	46	0.06
WA	87	0.22	67	0.17	68	0.17	113	0.17	107	0.16	109	0.16	113	0.16	112	0.16	111	0.16
CLO	19	0.05	14	0.04	16	0.04	37	0.05	29	0.04	35	0.05	37	0.05	31	0.04	35	0.05
TLA	10	0.03	4	0.01	9	0.02	27	0.04	12	0.02	21	0.03	31	0.04	14	0.02	23	0.03
NPA	13	0.03	14	0.04	15	0.04	33	0.05	23	0.03	27	0.04	36	0.05	25	0.04	28	0.04
CBA	41	0.11	29	0.07	34	0.09	60	0.09	58	0.09	60	0.09	62	0.09	64	0.09	63	0.09
BRA	43	0.11	42	0.11	49	0.13	74	0.11	78	0.11	78	0.11	75	0.11	80	0.11	79	0.11
OR	126	0.32	103	0.26	123	0.32	231	0.34	200	0.29	221	0.33	241	0.34	214	0.30	228	0.32
CCA	12	0.03	11	0.03	15	0.04	24	0.04	23	0.03	24	0.04	27	0.04	24	0.03	26	0.04
ERA	23	0.06	29	0.07	26	0.07	39	0.06	41	0.06	36	0.05	40	0.06	41	0.06	39	0.05
BGA	48	0.12	49	0.13	49	0.13	61	0.09	72	0.11	64	0.09	64	0.09	76	0.11	68	0.10
BDA	2	0.01	16	0.04	7	0.02	8	0.01	26	0.04	12	0.02	9	0.01	26	0.04	13	0.02
SFA	17	0.04	20	0.05	19	0.05	34	0.05	35	0.05	35	0.05	35	0.05	36	0.05	39	0.05
MNA	31	0.08	53	0.14	37	0.09	55	0.08	79	0.12	59	0.09	59	0.08	81	0.11	63	0.09
MRA	20	0.05	8	0.02	16	0.04	51	0.08	27	0.04	56	0.08	55	0.08	32	0.04	57	0.08
SBA	8	0.02	11	0.03	8	0.02	23	0.03	21	0.03	24	0.04	26	0.04	21	0.03	25	0.04
LAA	4	0.01	14	0.04	8	0.02	20	0.03	24	0.04	17	0.03	22	0.03	24	0.03	20	0.03
SDA	12	0.03	9	0.02	14	0.04	21	0.03	25	0.04	23	0.03	22	0.03	26	0.04	24	0.03
CA	177	0.45	220	0.56	199	0.51	336	0.49	373	0.55	350	0.51	359	0.50	387	0.54	374	0.52
Total	390	1.00	390	1.00	390	1.00	680	1.00	680	1.00	680	1.00	713	1.00	713	1.00	713	1.00

P=proportion of total

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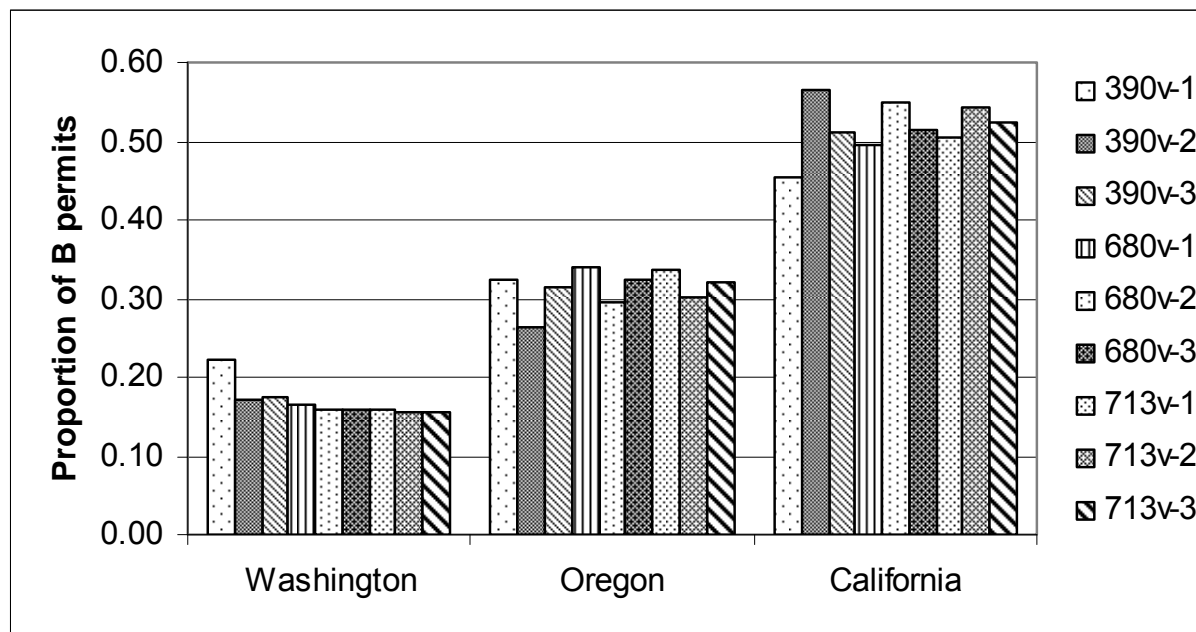


Figure E-8: Distribution of B permits between states under the qualification criteria contained in A-3 and A-5.

A wide range of qualification criteria were included under A-4 (Table E- 2). In these comparisons, the California proportion of permits was highest with the higher qualification standards and under QF-3. The overall range for California under A-4 criteria was from 44% to 71%. The Washington proportions generally increased with each increasing maximum year or cumulative year criterion, while California proportions generally decreased. Oregon proportions were stable or slightly downward trended under these latter criteria (Tables E-6, E-7, E-8; Figures E-9, E-10, E-11).

Table E-6: B permit proportions by port group and state under group # 1 criteria contained in A-4

	47.9K-3		36.1K-3		21.8K-3		14.4K-3		6.1K-3		3.5K-3		1.6K-3		11b-1	
Group	vsIs	P	vsIs	P	vsIs	P	vsIs	P	vsIs	P	vsIs	P	vsIs	P	vsIs	P
SPS	1	0.02	1	0.01	1	0.01	1	0.00	1	0.00	2	0.00	2	0.00	2	0.00
NPS	2	0.03	4	0.04	7	0.05	7	0.03	10	0.03	13	0.03	14	0.02	19	0.02
CWA	4	0.06	6	0.06	10	0.07	15	0.07	21	0.06	31	0.07	43	0.07	52	0.05
CLW	3	0.05	6	0.06	10	0.07	18	0.09	28	0.08	37	0.08	43	0.07	53	0.05
WA	10	0.15	17	0.18	28	0.20	41	0.20	60	0.18	83	0.18	102	0.16	126	0.11
CLO	1	0.02	1	0.01	3	0.02	8	0.04	14	0.04	23	0.05	32	0.05	45	0.04
TLA	0	0.00	0	0.00	0	0.00	3	0.01	7	0.02	12	0.03	18	0.03	50	0.05
NPA	0	0.00	0	0.00	2	0.01	7	0.03	12	0.04	18	0.04	23	0.04	51	0.05
CBA	2	0.03	5	0.05	8	0.06	13	0.06	29	0.09	42	0.09	57	0.09	90	0.08
BRA	6	0.09	14	0.15	19	0.14	27	0.13	42	0.12	60	0.13	73	0.12	109	0.10
OR	9	0.14	20	0.21	32	0.23	58	0.28	104	0.30	155	0.33	203	0.32	345	0.31
CCA	0	0.00	0	0.00	4	0.03	7	0.03	13	0.04	17	0.04	23	0.04	37	0.03
ERA	7	0.11	7	0.07	11	0.08	17	0.08	25	0.07	28	0.06	36	0.06	46	0.04
BGA	20	0.31	25	0.26	30	0.21	35	0.17	46	0.13	54	0.11	61	0.10	87	0.08
BDA	0	0.00	0	0.00	0	0.00	3	0.01	7	0.02	9	0.02	12	0.02	28	0.03
SFA	2	0.03	3	0.03	5	0.04	6	0.03	17	0.05	22	0.05	30	0.05	76	0.07
MNA	12	0.18	14	0.15	19	0.14	26	0.12	32	0.09	41	0.09	55	0.09	98	0.09
MRA	2	0.03	3	0.03	4	0.03	5	0.02	11	0.03	24	0.05	49	0.08	104	0.09
SBA	0	0.00	0	0.00	0	0.00	1	0.00	6	0.02	12	0.03	22	0.03	63	0.06
LAA	1	0.02	1	0.01	2	0.01	3	0.01	7	0.02	11	0.02	15	0.02	59	0.05
SDA	2	0.03	5	0.05	5	0.04	7	0.03	13	0.04	18	0.04	21	0.03	34	0.03
CA	46	0.71	58	0.61	80	0.57	110	0.53	177	0.52	236	0.50	324	0.52	632	0.57
Total	65	1.00	95	1.00	140	1.00	209	1.00	341	1.00	474	1.00	629	1.00	1,103	1.00

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Table E-7: B permit distributions under group #2 qualification criteria contained in A-4

Grp/State	2 in 3 yrs-4		100 max-5		500 max-5		1000 max-5		2000 max-5	
	vsIs	P 2/	vsIs	P	vsIs	P	vsIs	P	vsIs	P
SPS	2	0.00	2	0.00	2	0.00	2	0.00	2	0.01
NPS	8	0.01	18	0.02	15	0.02	15	0.03	12	0.03
CWA	29	0.05	51	0.05	47	0.07	43	0.09	34	0.10
CLW	28	0.05	50	0.05	49	0.07	45	0.09	39	0.11
WA	67	0.11	121	0.13	113	0.17	105	0.21	87	0.25
CLO	17	0.03	44	0.05	37	0.06	28	0.06	20	0.06
TLA	32	0.05	43	0.05	22	0.03	17	0.03	4	0.01
NPA	18	0.03	47	0.05	33	0.05	19	0.04	11	0.03
CBA	47	0.08	81	0.09	59	0.09	50	0.10	38	0.11
BRA	78	0.13	92	0.10	70	0.11	48	0.10	31	0.09
OR	192	0.32	307	0.33	221	0.34	162	0.32	104	0.30
CCA	24	0.04	36	0.04	24	0.04	17	0.03	10	0.03
ERA	24	0.04	43	0.05	39	0.06	33	0.07	22	0.06
BGA	63	0.11	78	0.08	59	0.09	51	0.10	44	0.13
BDA	7	0.01	18	0.02	8	0.01	5	0.01	1	0.00
SFA	28	0.05	58	0.06	32	0.05	25	0.05	14	0.04
MNA	52	0.09	79	0.08	53	0.08	41	0.08	30	0.09
MRA	72	0.12	87	0.09	45	0.07	27	0.05	11	0.03
SBA	23	0.04	44	0.05	22	0.03	11	0.02	6	0.02
LAA	25	0.04	37	0.04	18	0.03	8	0.02	3	0.01
SDA	18	0.03	31	0.03	21	0.03	14	0.03	11	0.03
CA	336	0.56	511	0.54	321	0.49	232	0.46	152	0.44
Total	595	1.00	939	1.00	655	1.00	499	1.00	343	1.00

1/ qualification framework number shown in parentheses (see Table E-2 for details).

2/ proportion of total

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Table E-8. B permit distributions under group # 3 qualification criteria contained in alternative 4

Grp/State	100 lbs-1		500 lbs-1		1000 lbs-1		2000 lbs-1		100 lbs-3		500 lbs-3		1000 lbs-3		2000 lbs-3	
	vsls	P 2/	vsls	P	vsls	P	vsls	P	vsls	P 2/	vsls	P	vsls	P	vsls	P
SPS	2	0.00	2	0.00	2	0.00	2	0.00	2	0.00	2	0.00	2	0.00	2	0.00
NPS	18	0.02	15	0.02	15	0.03	14	0.03	18	0.02	17	0.02	15	0.02	14	0.02
CWA	51	0.05	47	0.07	46	0.08	36	0.09	51	0.05	48	0.06	48	0.07	39	0.07
CLW	50	0.05	49	0.07	46	0.08	39	0.09	50	0.05	49	0.06	46	0.06	42	0.07
WA	121	0.13	113	0.16	109	0.19	91	0.22	121	0.12	116	0.14	111	0.15	97	0.17
CLO	44	0.05	37	0.05	30	0.05	22	0.05	45	0.04	39	0.05	35	0.05	30	0.05
TLA	46	0.05	29	0.04	21	0.04	12	0.03	47	0.05	33	0.04	26	0.04	14	0.02
NPA	47	0.05	36	0.05	22	0.04	15	0.04	48	0.05	39	0.05	28	0.04	21	0.04
CBA	81	0.09	61	0.09	53	0.09	41	0.10	83	0.08	72	0.09	63	0.09	51	0.09
BRA	93	0.10	75	0.11	66	0.11	46	0.11	101	0.10	86	0.10	83	0.11	68	0.12
OR	311	0.33	238	0.34	192	0.33	136	0.32	324	0.32	269	0.33	235	0.32	184	0.32
CCA	37	0.04	26	0.04	21	0.04	15	0.04	37	0.04	30	0.04	26	0.04	20	0.03
ERA	43	0.05	40	0.06	34	0.06	25	0.06	43	0.04	41	0.05	39	0.05	36	0.06
BGA	78	0.08	63	0.09	55	0.10	50	0.12	79	0.08	72	0.09	69	0.09	60	0.10
BDA	18	0.02	9	0.01	6	0.01	2	0.00	21	0.02	14	0.02	13	0.02	10	0.02
SFA	58	0.06	34	0.05	30	0.05	18	0.04	62	0.06	46	0.06	40	0.06	28	0.05
MNA	79	0.08	57	0.08	49	0.08	34	0.08	87	0.09	71	0.09	64	0.09	51	0.09
MRA	91	0.10	54	0.08	38	0.07	23	0.05	98	0.10	74	0.09	59	0.08	41	0.07
SBA	45	0.05	25	0.04	16	0.03	9	0.02	51	0.05	37	0.04	26	0.04	20	0.03
LAA	38	0.04	20	0.03	11	0.02	4	0.01	49	0.05	30	0.04	21	0.03	14	0.02
SDA	31	0.03	22	0.03	16	0.03	13	0.03	31	0.03	27	0.03	24	0.03	20	0.03
CA	518	0.55	350	0.50	276	0.48	193	0.46	558	0.56	442	0.53	381	0.52	300	0.52
Total	950	1.00	701	1.00	577	1.00	420	1.00	1003	1.00	827	1.00	727	1.00	581	1.00

1/ qualification framework number shown in parentheses (see Table E-2 for details).

2/ proportion of total

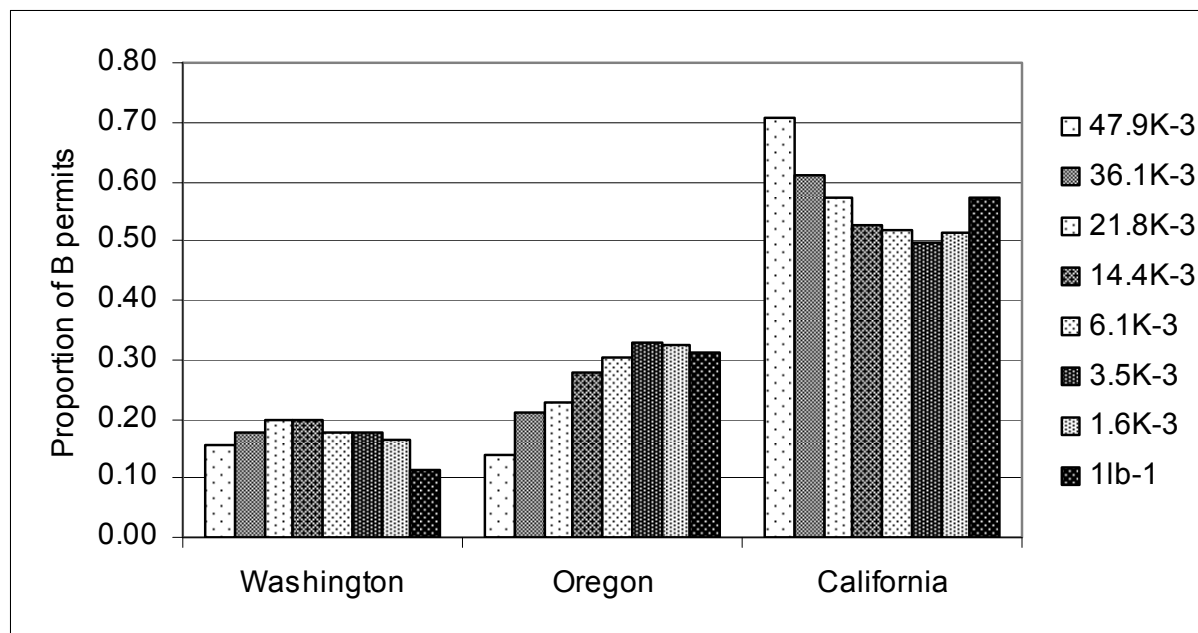


Figure E-9. Distribution of permits between states under specified A-4 criteria (group #1) based on 2004-2006 landings by qualifying vessels

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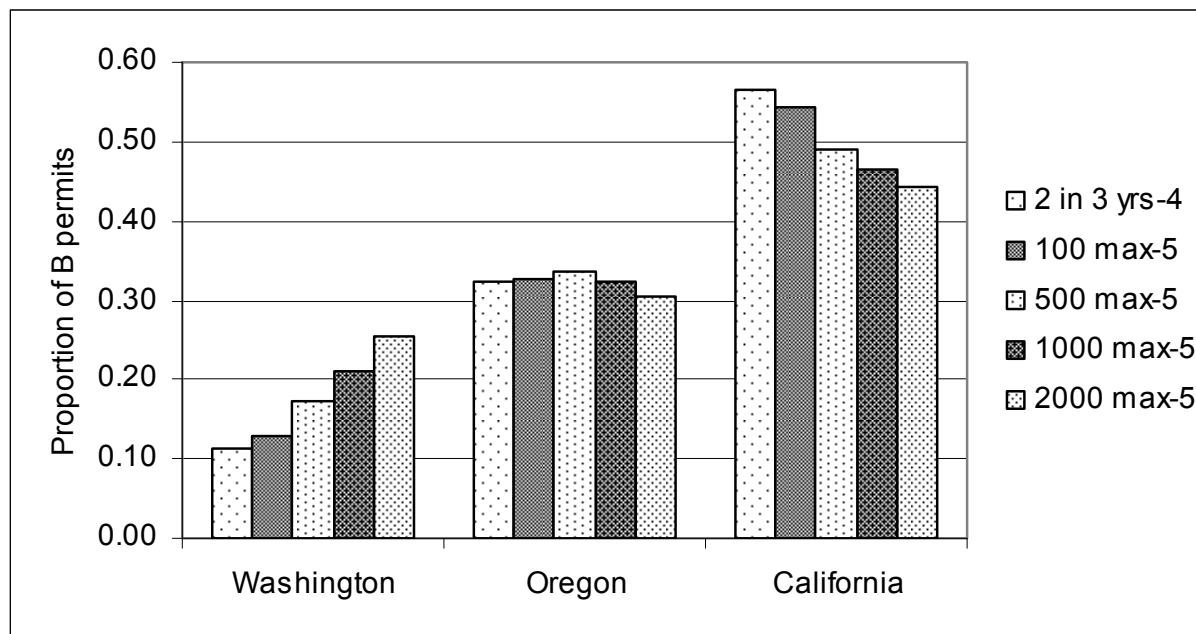


Figure E-10. Distribution of permits between states under specified A-4 criteria (group #2) based on 2004-2006 landings by qualifying vessels

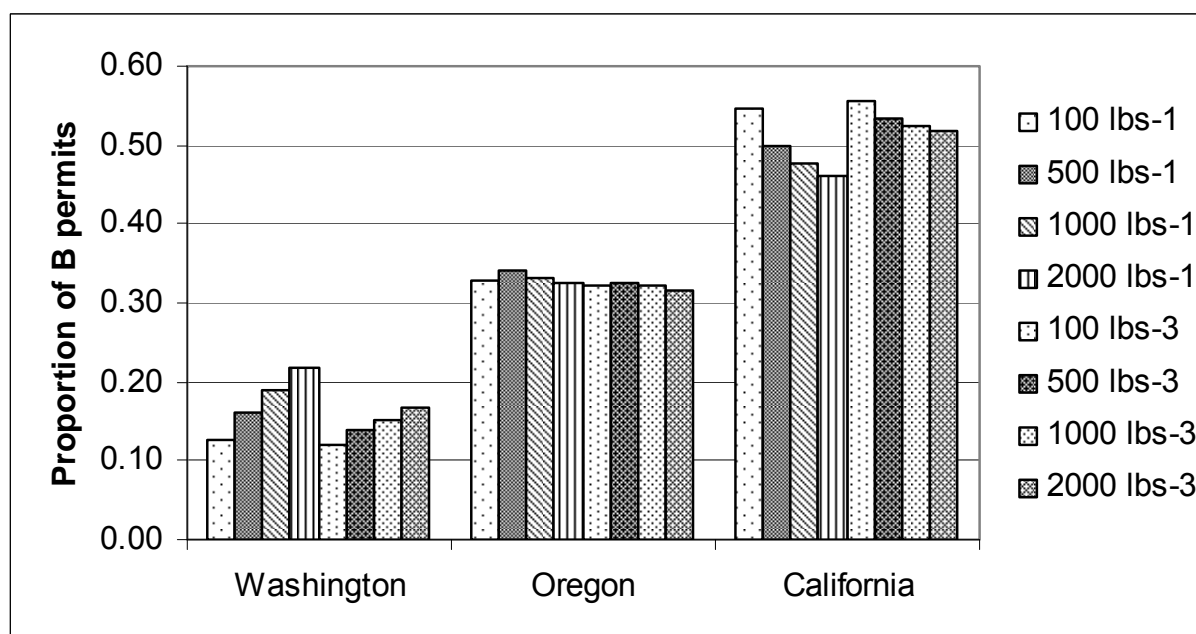


Figure E-11. Distribution of permits between states under specified A-4 criteria (group #3) based on 2004-2006 landings by qualifying vessels

Summary of Qualification Criteria Impacts to States

The relative proportion of permits that would potentially be issued to vessels from the respective states is substantially affected by the qualification criteria contained in A-3, A-4 and A-5. The qualification framework used had variable impact depending on state, which are discussed below.

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Washington

Washington would receive a relatively high proportion of permits under 390v-1 and could receive a relatively low proportion (11%-20%) under A-4 criteria, depending on qualification standard and framework used (Table E-9). The Washington proportion was relatively similar at 16%-17% under all other qualification standards not including A-4 criteria, which could be as low as 13% depending on standard (Table E-9). Generally, Washington vessels received a higher proportion of permits that used 2004-2006 as the base years for permit qualification and also criteria that used high standards for permit qualification.

Oregon

Oregon vessels would receive a relatively high proportion of permits (34%) under QF-1 and QF-5 and the standards contained in A-3 (Table E-9). Oregon vessels would also receive a relatively high proportion of permits under A-4 criteria that used the QF-1 framework. Oregon vessels would receive as few as 14% of permits under one of the standards in A-4 that used the QF-3 framework (Table E-9). Generally, Oregon vessels would receive a higher proportion of permits that used 2004-2006 as the base years for qualification and standards that have relatively low qualification requirements

California

California vessels received their highest proportion of permits under criteria that used QF-2, QF-3 and QF-4 (50%-71%) and their lowest, with minor overlap, under QF-1 (45%-50%). The California proportions under A-4 criteria were as high as 54% (100-lb-5 criterion). Generally, California vessels received a higher proportion of permits that used 1998-2006 as the base years for permit qualification or criteria that had low qualification standards.

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Table E-9. Summary of potential qualification criteria impacts on B permit distributions (proportions)

Frame	Base yrs	Metric	Altern	Standard	WA	OR	CA	Reference
QF-1	04-06	cum lbs	3	680, 713 vsls	.16-.17	0.34	.49-.50	Tab E-5
			4	1, 100, 500, 1000, 2000	.13-.22	.32-.34	.46-.55	Tab E-8 1/
			5	390 vsls	0.22	0.32	0.45	Tab E-5
QF-2	98-06	cum lbs	3	680, 713 vsls	0.16	.29-.30	.54-.55	Tab E-5
			4	none applied	na	na	na	
			5	390 vsls	0.17	0.26	0.56	Tab E-5
QF-3	98-06 w/ 04-06 trip	cum lbs	3	680, 713 vsls	0.16	.32-.33	.51-.52	Tab E-5
			4	1 lb-47.9K lbs	.11-.20	.14-.34	.50-.71	Tab E-6 & E-82/
			5	390 vsls	0.17	0.32	0.51	Tab E-5
QF-4	04-06	1 trip in 2 of 3 yrs	3	680, 713 vsls	(595) 4/	(595) 4/	(595) 4/	Tab E-7
			4	2 in 3 yrs	0.11	0.32	0.56	Tab E-7
			5	390 vsls	na	na	na	
QF-5	04-06	max lbs, any yr	3	680, 713 vsls	0.17 5/	0.34 5/	0.49 5/	Tab E-7
			4	100, 500, 1000, 2000	.13-.25	.30-.32	.44-.54	Tab E-7 3/
			5	390 vsls	0.25 6/	0.30 6/	0.44 6/	Tab E-7

1/ WA proportion increased with lbs required; OR was relatively stable at all levels; CA proportion declined with lbs required.

2/ WA proportion increased thru 21.8K then declined; OR increased thru 3.5K then declined; CA declined thru 3.5K then increased.

3/ WA proportion increased with lbs required; OR increased thru 500 lb then declined; CA declined with lbs required

4/ maximum number of permits possible under this framework

5/ based on 500 lb standard, which qualified 655 vessels

6/ based on 2000 lb standard, which qualified 343 vessels

na=not analyzed

Potential Impacts of Criteria to Port Groups

The port group analysis was based on pounds landed by vessels that would qualify for permits expressed as a proportion of total pounds landed by all vessels (qualifying and non-qualifying) by port group and state during 2004-2006. All of the qualification criteria contained in A-3, A-4 and A-5 were included in the analysis except those that would qualify less than 390 or more than about 713 vessels. The pounds landed by port group and state were developed based on port assignments for individual vessels (port group where most trips were made in the most recent year of fishery participation) and not on actual pounds landed at individual port groups. The calculated data sets do not exactly agree with the actual pounds landed because of port group switching by vessels both between and within years. However, the differences were <2% for states and <8% for port groups, with two exceptions: S. Puget Sound and Bodega Bay port groups, which had relatively small landings (Tables E-10, E-11 and 3-15).

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Table E-10. Estimated pounds landed during 2004-2006 by state and port group for vessels that would qualify under selected qualification criteria contained in A-3 and A-5

State/Port	Total lbs	A-3						A-5		
	n/a	680-1	680-2	680-3	713-1	713-2	713-3	390-1	390-2	390-3
SPS	41,626	41,626	41,626	41,626	41,626	41,626	41,626	41,626	37,349	37,349
NPS	404,733	403,996	399,077	403,996	403,996	402,424	403,996	402,424	388,179	391,752
CWA	337,657	336,502	305,962	335,667	336,502	307,182	336,848	314,700	266,215	281,893
CLW	557,771	557,396	534,741	553,995	557,396	538,299	555,131	542,539	474,970	519,157
WA	1,341,786	1,339,520	1,281,406	1,335,283	1,339,520	1,289,531	1,337,600	1,301,289	1,166,713	1,230,152
CLO	191,728	189,829	166,226	187,408	189,829	171,868	187,408	165,073	130,167	147,748
TLA	68,508	62,698	41,944	57,623	64,783	45,498	59,433	41,584	18,802	35,920
NPA	100,279	95,809	75,117	88,356	97,462	75,117	89,411	73,461	41,154	64,516
CBA	415,212	408,786	371,182	404,923	409,797	378,144	406,946	385,299	300,074	354,180
BRA	738,986	733,455	710,175	730,795	733,995	710,206	731,816	691,849	636,768	685,269
OR	1,514,713	1,490,578	1,364,644	1,469,105	1,495,866	1,380,833	1,475,014	1,357,266	1,126,964	1,287,632
CCA	77,213	72,939	61,272	71,655	74,482	61,272	72,747	56,012	41,000	56,476
ERA	294,304	292,971	275,942	288,956	293,552	275,942	292,398	271,606	250,828	272,880
BGA	1,333,164	1,326,721	1,315,361	1,325,973	1,328,229	1,316,481	1,328,958	1,310,474	1,274,437	1,303,859
BDA	20,773	17,497	15,207	18,257	18,038	15,207	18,500	9,460	9,825	11,728
SFA	173,006	166,044	148,374	164,105	166,527	148,374	166,281	144,951	117,271	138,951
MNA	823,762	815,454	786,237	811,822	817,528	788,946	815,476	782,796	759,914	777,708
MRA	218,029	205,170	166,344	205,167	207,266	173,142	205,591	168,099	122,366	148,078
SBA	71,812	64,497	50,817	62,502	66,050	50,817	62,943	47,562	32,633	44,349
LAA	80,487	74,757	63,650	69,505	75,732	63,650	71,632	58,283	55,540	60,965
SDA	214,903	211,737	207,441	210,555	212,272	208,342	211,662	201,298	178,461	200,681
CA	3,307,452	3,247,786	3,090,644	3,228,497	3,259,676	3,102,172	3,246,187	3,050,540	2,842,274	3,015,674
Total	6,163,951	6,077,884	5,736,694	6,032,885	6,095,062	5,772,536	6,058,802	5,709,095	5,135,951	5,533,458

Table E-11. Estimated pounds landed during 2004-2006 by state and port group for vessels that would qualify under selected qualification criteria contained in A-4

State/Port	Total lbs	Group 2				Group 3					
	n/a	2 in 3 yrs-4	500 max-5	1000 max-5	2000 max-5	500 lbs-1	1000 lbs-1	2000 lbs-1	500 lbs-3	1000 lbs-3	2000 lbs-3
SPS	41,626	41,626	41,626	41,626	41,626	41,626	41,626	41,626	41,626	41,626	41,626
NPS	404,733	257,971	403,996	403,996	394,487	403,996	403,996	402,424	404,493	403,996	402,424
CWA	337,657	287,974	336,502	331,511	317,058	336,502	335,505	321,484	336,848	336,848	324,236
CLW	557,771	494,297	557,396	553,916	544,543	557,396	555,131	544,543	557,396	555,131	549,145
WA	1,341,786	1,081,867	1,339,520	1,331,050	1,297,713	1,339,520	1,336,257	1,310,077	1,340,363	1,337,600	1,317,431
CLO	191,728	134,140	189,829	181,217	167,331	189,829	183,971	171,677	190,230	187,408	181,449
TLA	68,508	58,027	58,756	52,234	20,921	63,812	58,502	45,817	64,938	61,793	48,350
NPA	100,279	63,374	95,566	83,653	65,615	97,462	87,010	77,531	98,112	89,411	81,663
CBA	415,212	341,806	407,757	398,376	374,484	409,315	403,340	385,299	412,082	406,946	394,679
BRA	738,986	699,671	729,772	698,517	652,314	733,995	727,084	698,406	735,313	735,065	717,362
OR	1,514,713	1,297,018	1,481,681	1,413,997	1,280,664	1,494,413	1,459,908	1,378,730	1,500,675	1,480,623	1,423,502
CCA	77,213	66,401	72,774	65,063	49,771	73,985	70,708	62,427	75,220	72,747	66,775
ERA	294,304	253,102	292,613	287,533	266,464	293,552	288,692	276,092	293,918	292,398	288,956
BGA	1,333,164	1,280,613	1,325,495	1,315,766	1,297,311	1,327,755	1,322,108	1,314,762	1,330,827	1,329,182	1,323,898
BDA	20,773	15,415	17,497	14,150	6,281	18,038	15,829	9,460	19,204	18,500	15,614
SFA	173,006	122,424	164,625	155,979	135,025	166,044	163,109	147,034	169,173	166,764	156,942
MNA	823,762	796,482	813,135	800,336	778,710	816,532	810,718	789,140	820,061	816,513	803,207
MRA	218,029	197,337	200,448	179,158	137,497	206,769	195,713	174,403	212,775	206,452	191,831
SBA	71,812	46,136	63,512	52,678	40,506	65,575	59,050	49,652	68,285	63,349	57,591
LAA	80,487	71,784	73,054	64,071	55,886	74,757	67,645	58,283	77,222	72,564	66,518
SDA	214,903	195,050	211,483	204,599	197,031	212,272	207,463	203,416	213,800	211,662	209,461
CA	3,307,452	3,044,743	3,234,636	3,139,333	2,964,482	3,255,278	3,201,034	3,084,668	3,280,486	3,250,130	3,180,792
Total	6,163,951	5,423,629	6,055,836	5,884,380	5,542,859	6,089,211	5,997,199	5,773,475	6,121,523	6,068,354	5,921,725

It is likely that most or all of the pounds contributed by non-qualifying vessels during 2004-2006 would have been harvested by qualifying vessels through in-season regulation adjustments or landed incidental to fishing for non-groundfish or nearshore groundfish species by non-qualifying vessels. However, comparison of landing proportions between port groups and states may indicate areas of the coast where it would have been more difficult to make up for lost landings by non-qualifying vessels during 2004-2006.

The analyses for each alternative follow.

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A-3 Analysis

Washington landings were 96% or greater under all qualification criteria, and individual port group landings were 91% or greater (Table E-12a). Oregon landings were 90% or greater under all criteria (Table E-12a). The port groups of Tillamook and Newport had landings of 61%-75% under 680v-2 and 713-2 (Table E-12a). Landings under 680v-3 and 713v-3 were 84%-89% for these same port groups. California landings were 93% or greater under all A-3 criteria (Table E-12a). The ports groups of Crescent City, Bodega Bay, Morro Bay, Santa Barbara and Los Angeles had landings of 71%-79% under 680v-2 and 713v-2. Landings were 86%-89% for these same ports under 680v-3 and 713v-3. One port group, Bodega Bay, had 84% of total landings under 680v-1.

A-5 Analysis

Washington landings were lowest under 390v-2 at 87% and highest under 390v-1 at 97% (Table E-12a). Two Washington port groups, Washington Coast and Columbia River, had landings of 79% & 85%, respectively, under 390v-2 and one port had landings of 83% under 390v-3. Oregon landings ranged from 74% under 390v-2 to 90% under 390v-1 (Table E-12a). Tillamook and Newport had landings of 27% & 41%, respectively, under 390v-2; 52% & 64%, respectively, under 390v-3; and 61 & 73%, respectively, under 390v-1. Oregon-Columbia River had landings ranging from 68%-86% under A-5 criteria.

A-4 Analyses

2 in 3 yrs-4

The states' landing proportions for Washington, Oregon and California under this criterion were 81%, 86% and 92%, respectively (Table E-12b). The port groups of N. Puget Sound, Oregon-Columbia River, Newport, Bodega Bay, San Francisco and Santa Barbara had landing proportions in the range of 63% to 74% (Table E-12b). Only one port group, S. Puget Sound, had 100% of landings under this criterion. All other port groups were in the range of 91% to 96% (Table E-12b).

500 max-5

The states' landing proportions under this criterion were 100% for Washington and 98% each for Oregon and California (Table E-12b). Three port groups, Tillamook, Bodega Bay and Santa Barbara, had landings in the range of 84%-88%. All other port group landings were in the range of 91%-100% (Table E-12b).

1000 max-5

The states' landing proportions for Washington, Oregon and California under this criterion were 99%, 93% and 95%, respectively (Table E-12b). Three port groups, Tillamook, Bodega Bay and Santa Barbara, had landing ranges of 68%-76%; three other port groups, Newport, Crescent City, Morro Bay, and Los Angeles, had landing ranges of 80%-84%. All other port groups had landing ranges of from 90% to 100% (Table E-12b).

2000 max-5

The Oregon proportion under this criterion was 85% compared to 90% for California and 97% for Washington. Two port groups, Tillamook and Bodega Bay had landings of only 31% and 30%, respectively. The port groups of Newport, Crescent City, San Francisco, Morro Bay, and Los Angeles had landings in the range of 64%-78% (Table E-12b).

500 lbs-1

All states and port groups had 91% or greater landings under this criterion with one exception: Bodega Bay which had 87% of 2004-2006 landings (Table E-12b).

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1000 lbs-1

The states' proportions under this criterion were in the range of 96% (Oregon) to 100% (Washington). The port group most impacted was Bodega Bay at 76%. Tillamook, Newport, Santa Barbara had landings in the range of 82%-87%. All other port groups were in the range of 90%-100% (Table E-12b).

2000 lbs-1

The Oregon and California proportions under this criterion were 91% and 93% respectively, while the Washington proportion was 98%. The Bodega Bay proportion was only 46%. Tillamook, Newport, Santa Barbara and Los Angeles port groups were in the range of 67%-77% and Crescent City, San Francisco and Morro Bay were in the range of 81%-85%. All other port groups were 90% or greater (Table E-12b).

500 lbs-3

The state and port group proportions under this criterion were very close to the 500 lbs-1 criterion except Bodega Bay was 92% rather than 87% (Table E-12b). (This is because more vessels qualify for permits when the entire window period and the same pounds for qualification are used, which is the situation for alternatives that use QF-1 and QF-3).

1000 lbs-3

The state and port group proportions under this criterion were six or more percentage points higher than the 1000 lbs-1 criterion, except for Bodega Bay which was 13 points higher under this criterion (Table E-12b). (This is because more vessels qualify for permits when the entire window period and the same pounds for qualification are used, which is the situation for alternatives that use QF-1 and QF-3).

2000 lbs-3

Most port groups had higher proportions under this criterion compared to the 2000 lbs-1 criterion (Table E-12b). (This is because more vessels qualify for permits when the entire window period and the same pounds for qualification are used, which is the situation for alternatives that use QF-1 and QF-3).

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Table E-12a. Proportion of total pounds landed during 2004-2006 for port groups and states for vessels that would qualify under qualification criteria in A-3 and A-5

State/Port	Total lbs	A-3						A-5		
	n/a	680v-1	680v-2	680v-3	713v-1	713v-2	713v-3	390v-1	390v-2	390v-3
SPS	100%	100%	100%	100%	100%	100%	100%	100%	90%	90%
NPS	100%	100%	99%	100%	100%	99%	100%	99%	96%	97%
CWA	100%	100%	91%	99%	100%	91%	100%	93%	79%	83%
CLW	100%	100%	96%	99%	100%	97%	100%	97%	85%	93%
WA	100%	100%	96%	100%	100%	96%	100%	97%	87%	92%
CLO	100%	99%	87%	98%	99%	90%	98%	86%	68%	77%
TLA	100%	92%	61%	84%	95%	66%	87%	61%	27%	52%
NPA	100%	96%	75%	88%	97%	75%	89%	73%	41%	64%
CBA	100%	98%	89%	98%	99%	91%	98%	93%	72%	85%
BRA	100%	99%	96%	99%	99%	96%	99%	94%	86%	93%
OR	100%	98%	90%	97%	99%	91%	97%	90%	74%	85%
CCA	100%	94%	79%	93%	96%	79%	94%	73%	53%	73%
ERA	100%	100%	94%	98%	100%	94%	99%	92%	85%	93%
BGA	100%	100%	99%	99%	100%	99%	100%	98%	96%	98%
BDA	100%	84%	73%	88%	87%	73%	89%	46%	47%	56%
SFA	100%	96%	86%	95%	96%	86%	96%	84%	68%	80%
MNA	100%	99%	95%	99%	99%	96%	99%	95%	92%	94%
MRA	100%	94%	76%	94%	95%	79%	94%	77%	56%	68%
SBA	100%	90%	71%	87%	92%	71%	88%	66%	45%	62%
LAA	100%	93%	79%	86%	94%	79%	89%	72%	69%	76%
SDA	100%	99%	97%	98%	99%	97%	98%	94%	83%	93%
CA	100%	98%	93%	98%	99%	94%	98%	92%	86%	91%
Total	100%	99%	93%	98%	99%	94%	98%	93%	83%	90%

Table E-12b. Proportion of total pounds landed during 2004-2006 for port groups and states for selected qualification criteria in A-4

Grp	Total lbs	Group 2				Group 3					
	n/a	2 in 3 yrs-4	500 max-5	1000 max-5	2000 max-5	500 lbs-1	1000 lbs-1	2000 lbs-1	500 lbs-3	1000 lbs-3	2000 lbs-3
SPS	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
NPS	100%	64%	100%	100%	97%	100%	100%	99%	100%	100%	99%
CWA	100%	85%	100%	98%	94%	100%	99%	95%	100%	100%	96%
CLW	100%	89%	100%	99%	98%	100%	100%	98%	100%	100%	98%
WA	100%	81%	100%	99%	97%	100%	100%	98%	100%	100%	98%
CLO	100%	70%	99%	95%	87%	99%	96%	90%	99%	98%	95%
TLA	100%	85%	86%	76%	31%	93%	85%	67%	95%	90%	71%
NPA	100%	63%	95%	83%	65%	97%	87%	77%	98%	89%	81%
CBA	100%	82%	98%	96%	90%	99%	97%	93%	99%	98%	95%
BRA	100%	95%	99%	95%	88%	99%	98%	95%	100%	99%	97%
OR	100%	86%	98%	93%	85%	99%	96%	91%	99%	98%	94%
CCA	100%	86%	94%	84%	64%	96%	92%	81%	97%	94%	86%
ERA	100%	86%	99%	98%	91%	100%	98%	94%	100%	99%	98%
BGA	100%	96%	99%	99%	97%	100%	99%	99%	100%	100%	99%
BDA	100%	74%	84%	68%	30%	87%	76%	46%	92%	89%	75%
SFA	100%	71%	95%	90%	78%	96%	94%	85%	98%	96%	91%
MNA	100%	97%	99%	97%	95%	99%	98%	96%	100%	99%	98%
MRA	100%	91%	92%	82%	63%	95%	90%	80%	98%	95%	88%
SBA	100%	64%	88%	73%	56%	91%	82%	69%	95%	88%	80%
LAA	100%	89%	91%	80%	69%	93%	84%	72%	96%	90%	83%
SDA	100%	91%	98%	95%	92%	99%	97%	95%	99%	98%	97%
CA	100%	92%	98%	95%	90%	98%	97%	93%	99%	98%	96%
Total	100%	88%	98%	95%	90%	99%	97%	94%	99%	98%	96%

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Summary of Potential Qualification Criteria Impacts to Port Groups

Some port groups were more sensitive than others to permit issuance using the qualification criteria contained in A-3, A-4 and A-5. The qualification framework included with each criterion was particularly important. QF-4, which was created for the 2 in 3 yrs-4 criterion, had inconsistent impacts compared to the other frameworks. N. Puget Sound, for example, was relatively unaffected by any of the other criteria but was substantially affected under QF-4 (Tables E-12a and E-12b). This indicates the vessels participated in the fishery less often than vessels in other port groups (but had relatively large catch histories). Conversely, Bodega Bay, a port group that was heavily impacted under several other criteria, was relatively unaffected by this criterion. QF-2 which was used with 390v-2, 680v-2 and 713v-2, had relatively high landing impacts to the following port groups (in descending order of impact): Tillamook, Newport, Santa Barbara, Bodega Bay, Crescent City and Morro Bay (Table E-12a). QF-1 appeared to have relatively balanced impacts, based on criteria that used the same qualification standards, compared to QF-3 and QF-5 (Tables E-12a and E-12b).

Potential Target-Species Vessel Group Impacts

Fleet Size Reduction Impacts

The criteria used in the analysis of fleet size reduction impacts to target-species vessel groups were 713v-1, 1000 lb-1, and 390v-1. Under the least restrictive alternative, 713v-1, the qualifying vessels were mostly sablefish and lingcod vessels, which numbered 400 and 192, respectively (Table E-13; Figure E-12). The number of qualifying vessels by state was: Washington, 113 (16%), Oregon, 241 (34%), and California, 359 (50%). The Washington fleet was comprised of 105 (93%) sablefish vessels. The Oregon fleet was mostly (64%) sablefish vessels, but also included 84 (35%) lingcod vessels (Table E-13). California sablefish and lingcod vessels numbered 141 (39%) and 106 (30%), respectively. The California fleet also included several other kinds of target-species vessel groups including shelf rockfish, slope rockfish, sharks, and other species. California also had 18 non-target species vessels (Table E-13).

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Table E-13. Estimated distribution of vessels during 2004-2006 by port group, state and target species group that would have qualified for B permits under selected qualification standards and using a common qualification framework (QF-1)

Criterion 1/	Species	SPS	NPS	CWA	CLW	WA	CLO	TLA	NPA	CBA	BRA	OR	CCA	ERA	BGA	BDA	SFA	MNA	MRA	SBA	LAA	SDA	CA	Total
713 vsls-1 (472 lbs)	Lingcod	0	2	0	0	2	0	21	8	12	43	84	19	7	18	6	13	13	27	3	0	0	106	192
	Shelf RF	0	0	0	0	0	0	3	0	0	0	3	0	0	0	2	1	8	8	9	1	5	34	37
	Sablefish	2	7	47	49	105	37	7	28	50	32	154	7	32	46	1	13	32	3	0	2	5	141	400
	Slope RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	5	1	6	22	22
	Sharks	0	5	0	0	5	0	0	0	0	0	0	0	1	0	0	6	0	0	6	10	3	26	31
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	7	1	12	12
	Non-target	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	2	4	6	1	1	3	18	19
Total		2	15	47	49	113	37	31	36	62	75	241	27	40	64	9	35	59	54	26	22	23	359	713
1000 lbs-1 (1000 lbs)	Lingcod	0	2	0	0	2	0	11	4	7	34	56	15	3	12	5	10	8	16	0	0	0	69	127
	Shelf RF	0	0	0	0	0	0	3	0	0	0	3	0	0	0	1	0	6	5	6	0	3	21	24
	Sablefish	2	7	46	46	101	30	7	18	46	32	133	5	30	43	0	12	29	3	0	2	4	128	362
	Slope RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	4	1	5	19	19
	Sharks	0	5	0	0	5	0	0	0	0	0	0	0	1	0	0	6	0	0	4	4	3	18	23
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3	0	6	6
	Non-target	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	2	4	5	1	1	1	15	16
Total		2	15	46	46	109	30	21	22	53	66	192	21	34	55	6	30	49	38	16	11	16	276	577
390 vsls-1 (2370 lbs)	Lingcod	0	2	0	0	2	0	7	2	3	14	26	8	2	8	2	3	0	7	0	0	0	30	58
	Shelf RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	0	2	7	7
	Sablefish	2	6	33	38	79	19	3	11	38	29	100	3	21	40	0	9	27	3	0	2	4	109	288
	Slope RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	3	1	3	15	15
	Sharks	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	2	7	12
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
	Non-target	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	2	2	1	1	0	1	8	9
Total		2	14	33	38	87	19	10	13	41	43	126	12	23	48	2	17	31	20	8	4	12	177	390

1/ lbs landed during 2004-2006 to qualify for a permit shown in parentheses

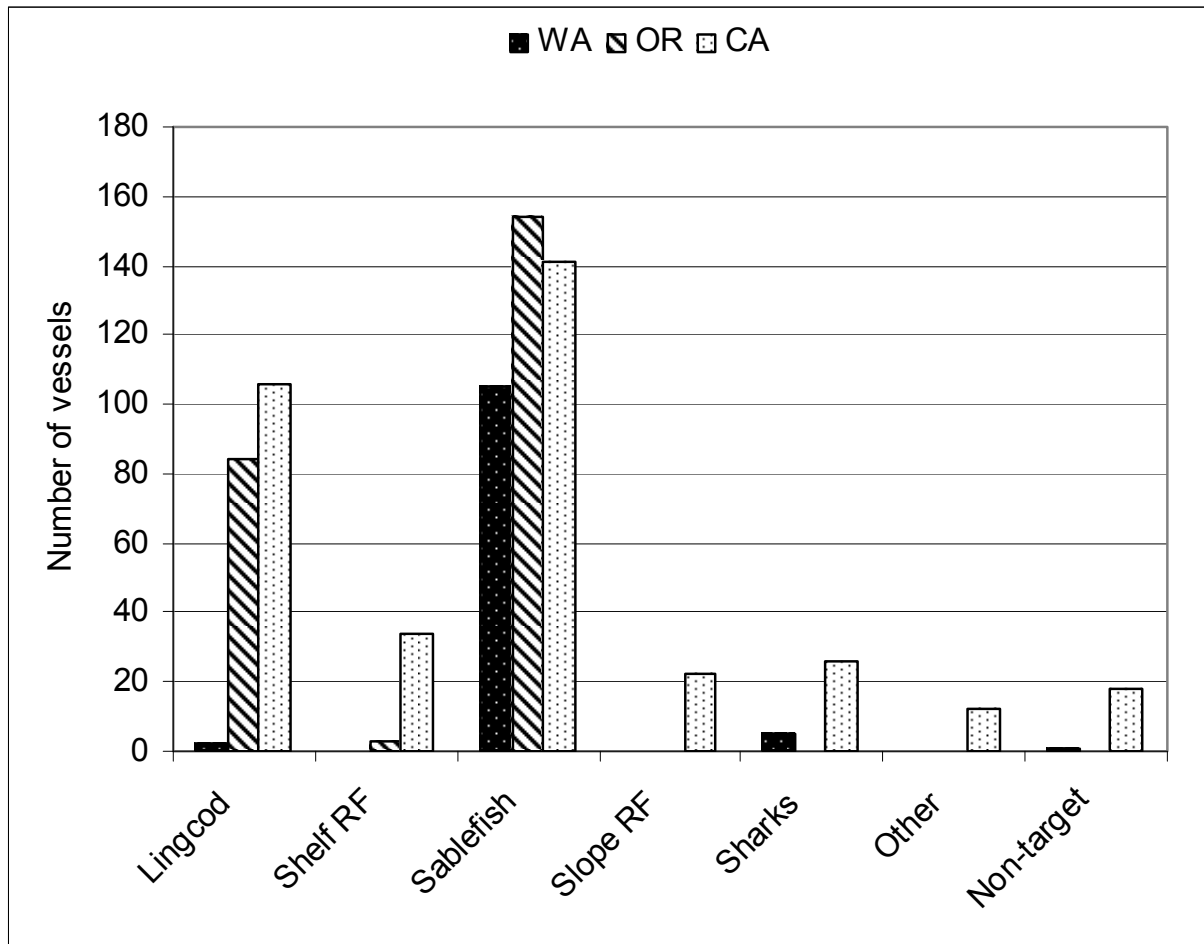


Figure E-12. Distribution of vessels by target-species vessel group during 2004-2006 that would qualify for permits under 713 v-1

Under criterion 1000 lb-1, the number of qualified vessels declined by 19%, from 713 to 577 vessels. However, the sablefish vessel decline was only 9.5% (from 400 to 362 vessels) (Table E-13; Figure E-13). Larger reductions occurred for lingcod (34%), shelf rockfish (37%) and other species vessels (50%) (Table E-13). The reason for the larger reductions in the latter vessel groups was that they generally had lower catch histories of B species groundfish compared to sablefish vessels during 2004-2006 (see Table 3-10 for vessel group catch history statistics).

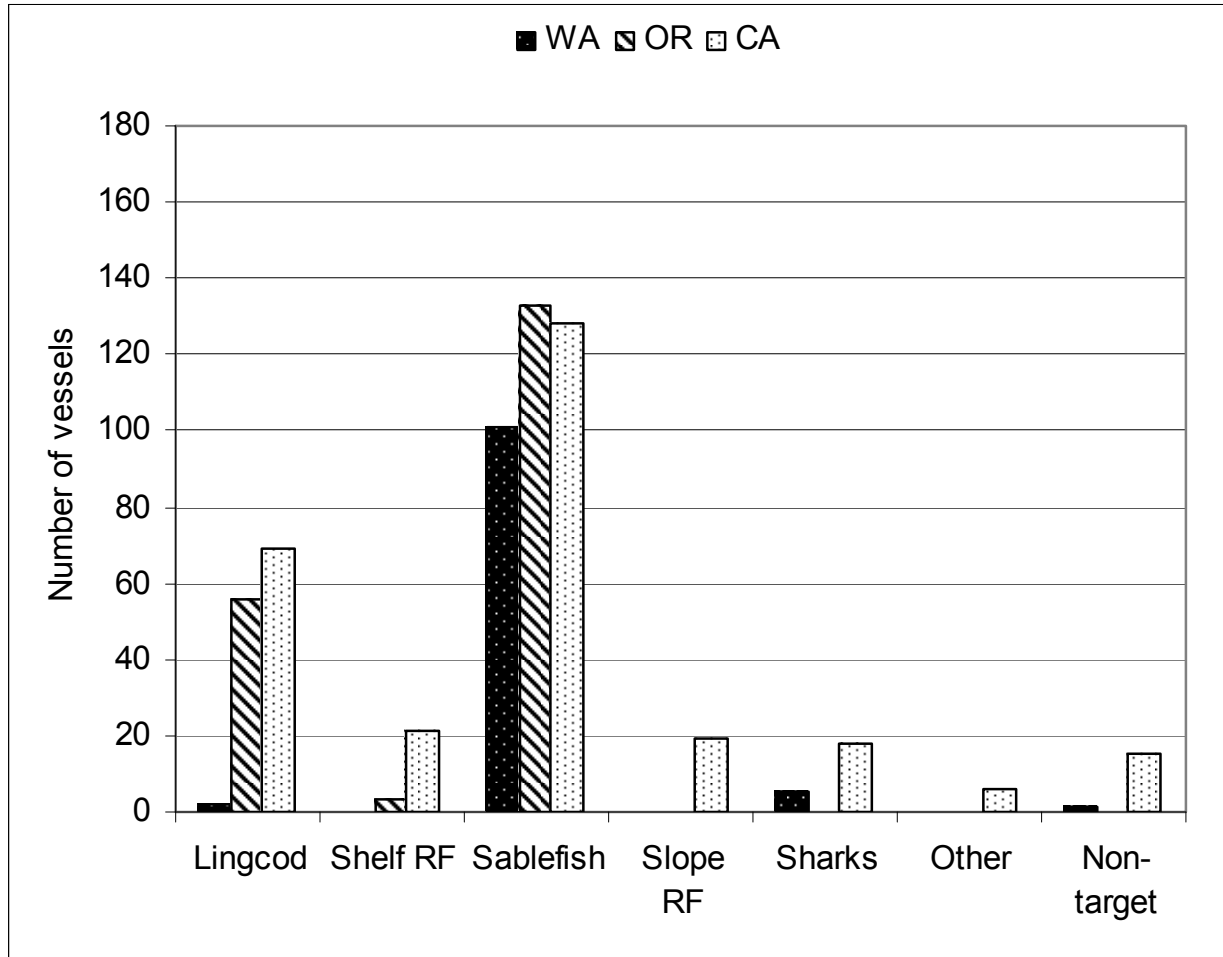


Figure E-13. Distribution of vessels by target species group during 2004-2006 that would qualify for permits under criterion 1000 lbs-1

Under the 390v-1 criterion the fleet was reduced an additional 32%, from 577 to 390 vessels (**Table E-13**). Here again, the sablefish fleet reduction was lower at 20% (362 to 288 vessels) compared to 54% for lingcod vessels, 71% for shelf rockfish vessels, and 48% for shark vessels (**Table E-13; Figure E-14**). The larger reductions in the latter vessel groups was because they generally had lower catch histories of B species groundfish during 2004-2006 compared to sablefish vessels (see **Table 3-10** for vessel group catch history statistics).

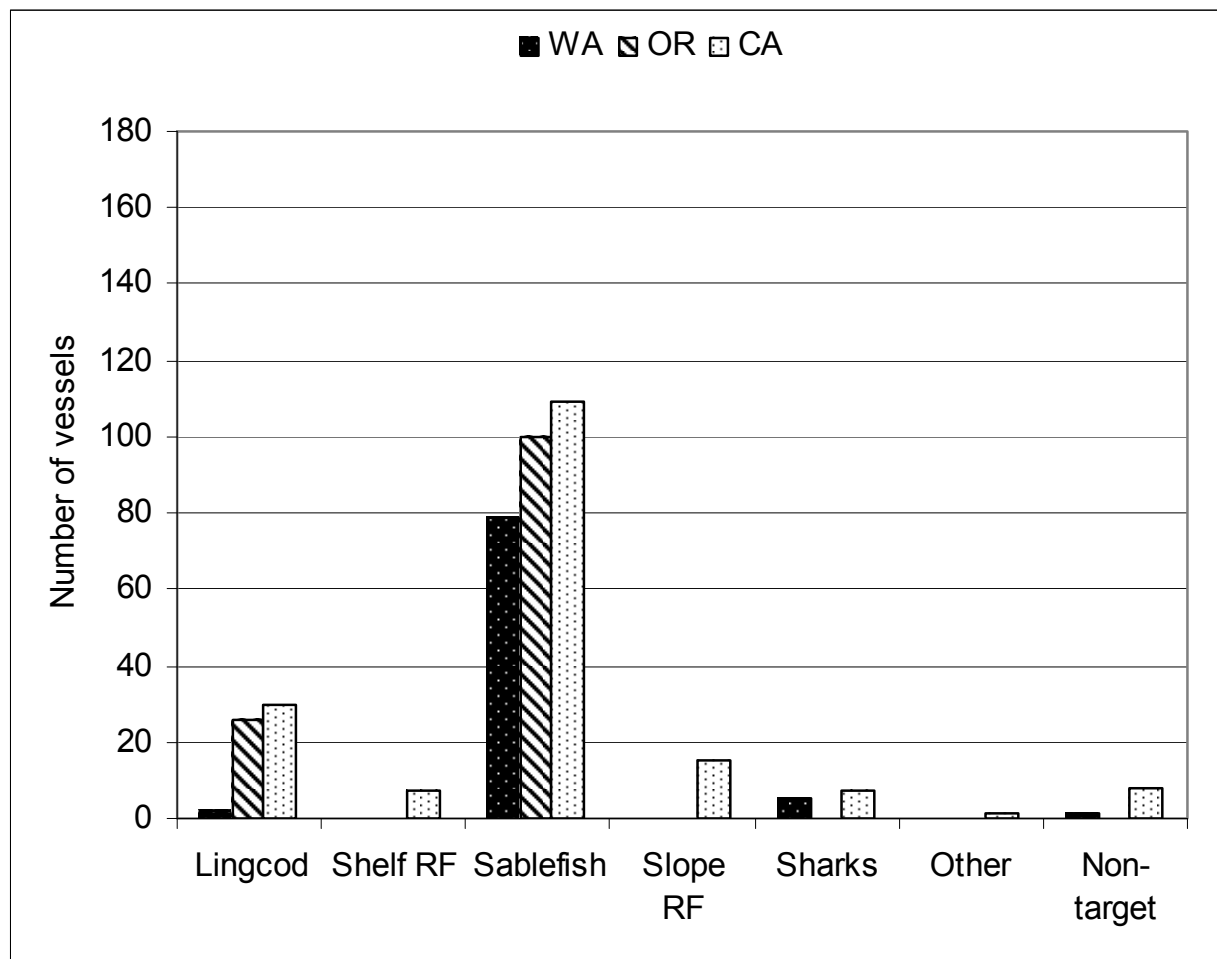


Figure E-14. Distribution of vessels by target species group during 2004-2006 that would qualify for permits under criterion 390v-1

Potential Qualification Framework Impacts to Target-Species Vessel Groups

Qualification framework impacts to target-species vessel groups were analyzed by comparing impacts under 713v-1 and 390v-1 criteria (presented in the previous section), which used QF-1, with impacts to vessel groups under 713v-3 and 390v-3 criteria, which used Q-3.

The major difference between 713v-1 and 713v-3 was that more (18, 2.5%) permits would have been issued to lingcod, shelf rockfish and shark vessels under the latter criterion compared to the former criterion during 2004-2006 (Tables E-13 and E-14; Figure E-15). Under 713v-1 more permits (18, 2.5%) would have been issued to sablefish, slope rockfish, other species, and non-target species vessels. The lingcod, shelf rockfish and shark vessels that would have benefited under 713v-3 were California-based; while the sablefish vessels under 713v-1 were Washington- and Oregon- based. The California sablefish fleet was the same under either criterion (Tables E-13 and E-14).

Under 390v-3 compared to 390v-1, 26 more (6.7%) permits would have gone to lingcod, shelf rockfish, shark, and other species vessels. Under 390v-1 the permit swing would have favored sablefish and slope rockfish vessels. Here again California vessels would have benefited the most under 390v-3, which used the QF-3 framework not including California sablefish and slope rockfish vessels, which would have received more permits under 390v-1 (Tables E-13 and E-14; Figure E-16). Oregon and Washington

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would have qualified more vessels overall and for individual target-species groups under 390v-1 compared to 390v-3.

Table E-14. Estimated distribution of vessels during 2004-2006 by port group, state and target species group that would have qualified for B permits under selected qualification standards and using qualification framework QF-3: 1998-2006 lbs landed with at least one landing during 2004-2006.

Standard 1/	Species	SPS	NPS	CWA	CLW	WA	CLO	TLA	NPA	CBA	BRA	OR	CCA	ERA	BGA	BDA	SFA	MNA	MRA	SBA	LAA	SDA	CA	Total
713 vsls-3 (1055 lbs)	Lingcod	0	2	0	0	2	0	14	5	16	44	79	19	5	20	10	15	13	27	4	0	0	113	194
	Shelf RF	0	0	0	0	0	0	3	0	0	3	6	0	0	1	3	2	10	13	7	3	6	45	51
	Sablefish	2	7	48	46	103	35	6	23	47	32	143	6	33	46	0	13	33	3	0	3	4	141	387
	Slope RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	4	1	7	21	21
	Sharks	0	5	0	0	5	0	0	0	0	0	0	0	1	0	0	7	0	0	7	7	6	28	33
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	5	0	10	10
	Non-target	0	1	0	0	1	0	0	0	0	0	0	1	0	1	0	2	4	5	1	1	1	16	17
Total		2	15	48	46	111	35	23	28	63	79	228	26	39	68	13	39	63	57	25	20	24	374	713
390 vsls-3 (4861 lbs)	Lingcod	0	2	0	0	2	0	7	3	2	17	29	12	1	8	5	5	5	8	0	0	0	44	75
	Shelf RF	0	0	0	0	0	0	0	0	0	3	3	0	0	0	2	0	1	1	2	0	3	9	12
	Sablefish	1	5	24	32	62	16	2	12	32	29	91	2	24	41	0	9	28	1	0	2	3	110	263
	Slope RF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	3	1	4	14	14
	Sharks	0	3	0	0	3	0	0	0	0	0	0	0	1	0	0	3	0	0	1	2	3	10	13
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	4	4
	Non-target	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	2	2	0	1	1	1	8	9
Total		1	11	24	32	68	16	9	15	34	49	123	15	26	49	7	19	37	16	8	8	14	199	390

1/ The lbs landed during 1998-2006 to qualify for a permit shown in parentheses

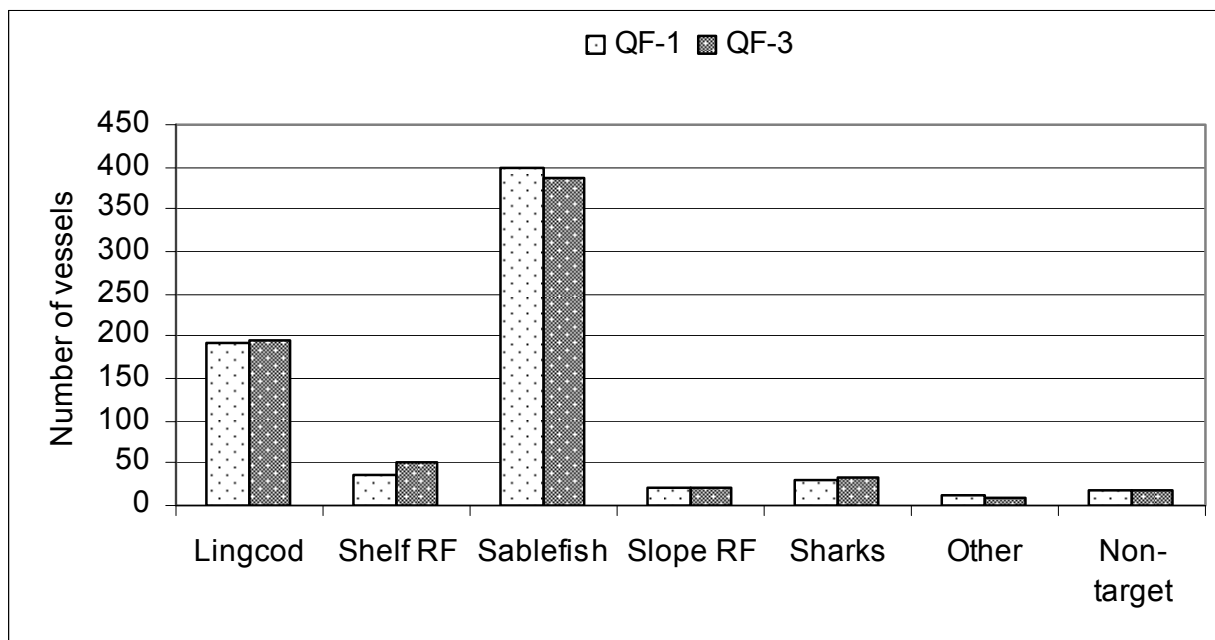


Figure E-15. Distribution of permits among target species vessel groups based on 2004-2006 landings data for the WOC area to produce an initial fleet size of 713 vessels and using QF-1 and QF-3 qualification frameworks.

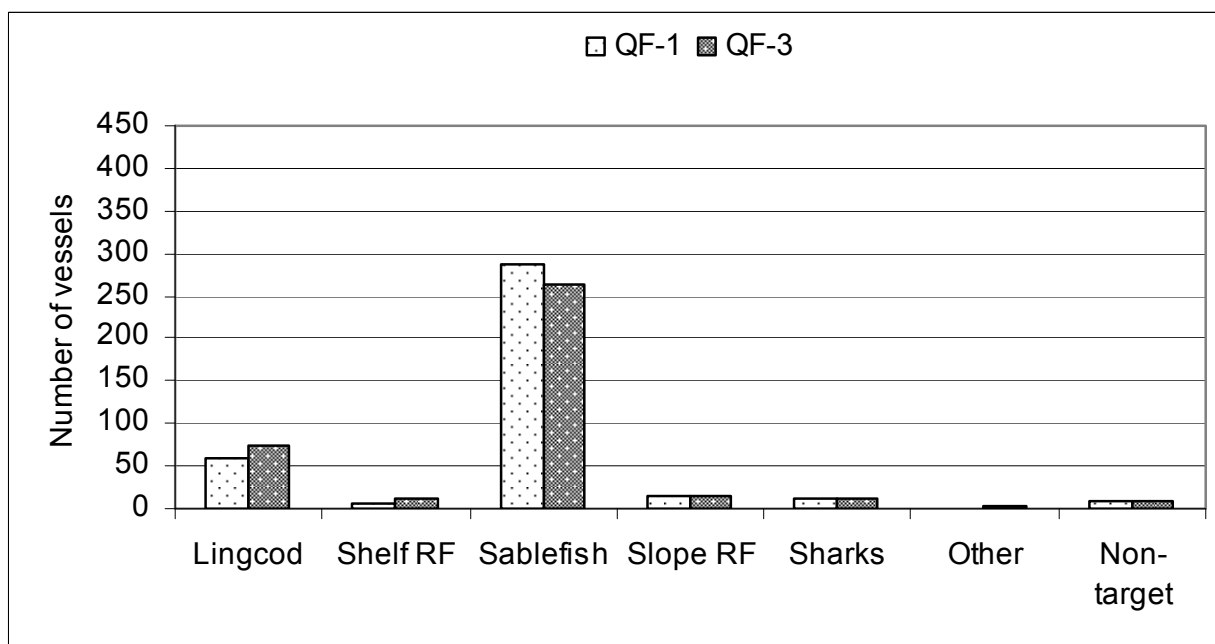


Figure E-16. Distribution of permits among target species vessels based on 2004-2006 landings data for the WOC area to produce an initial fleet size of 390 vessels and using QF-1 and QF-2 qualification frameworks.

Summary of Potential Impacts of Qualification Criteria to Target-Species Vessel Groups
Catch history differences between target-species vessel groups explains why some groups are more susceptible to permit non-qualification than others based on pounds landed frameworks (all except QF-4). It also explains why some port groups (hence states) are more susceptible to permit non-qualification than

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others. Port groups that support large sablefish fleets are more likely to receive permits under any of the qualification criteria that are based on pounds landed (which does not include the 2 in 3 yrs-4 criterion) than those that have a large presence of target lingcod and shelf rockfish vessels.

State and target-species vessel group statistical data show that sablefish vessels in all three states, California slope rockfish vessels, and Washington shark vessels had median B species catch histories during 2004-2006 in the range of 3,140 lbs to 32,595 lbs (**Table E-15; Figure E-17**). For comparison, lingcod vessel median catch histories of B species groundfish during 2004-2006 were 430 lbs in California and 571 lbs in Oregon (Washington had a unique situation in which their lingcod vessels had a median B species catch history of 2,074 lbs, but there were only four of them). Shelf rockfish vessels in Oregon and California had median catch histories of only 37 and 277 lbs, respectively, while California shark, California other species, and California non-target vessels had median B species histories of 488 lbs, 131 lbs, and 1,421 lbs, respectively.

Table E-15. Target and B species vessel catch history statistics for 2004-2006 by target-species vessel group and state

	Sablefish fleet			Shelf RF fleet			Slope RF fleet			Lingcod fleet		
	vsis	target lbs	B lbs	vsis	target lbs	B lbs	vsis	target lbs	B lbs	vsis	target lbs	B lbs
WA	114			0			2			4		
lbs/vsl		8,413	8,771		0	0		78	104		2,007	2,117
median		4,079	4,438		0	0		78	104		1,971	2,074
high		43,202	43,912		0	0		89	134		4,056	4,152
low		26	26		0	0		67	73		31	167
OR	178			9			0			158		
lbs/vsl		7,020	7,533		419	646		0	0		961	1,063
median		3,083	3,140		37	37		0	0		556	571
high		56,684	63,208		1,501	2,217		0	0		4,319	5,538
low		41	41		4	4		0	0		12	14
CA	155			114			27			224		
lbs/vsl		14,229	18,005		566	738		5,751	7,051		761	1,002
median		7,026	9,380		213	277		3,192	3,780		385	430
high		69,416	127,668		9,038	12,967		38,300	40,880		4,975	6,908
low		16	1,594		3	3		42	42		5	5
	Shark fleet			Other species fleet			Non-target fleet 2/			Totals for all fleets		
	vsis	target lbs	B lbs	vsis	target lbs	B lbs	vsis	target lbs	B lbs	vsis	target lbs	B lbs
WA	5			0			1			126		
lbs/vsl		57,634	59,762		0	0		0	34,379		10,043	10,649
median	10,000	32,063	32,595		0	0		0	34,379		3,750	4,214
high		175,190	183,801		0	0		0	34,379		175,190	183,801
low		3,347	3,347		0	0		0	34,379		26	26
OR	0			0			0			345		
lbs/vsl		0	0		0	0		0	0		4,073	4,390
median		0	0		0	0		0	0		1,235	1,302
high		0	0		0	0		0	0		56,684	63,208
low		0	0		0	0		0	0		4	4
CA	52			36			24			632		
lbs/vsl		2,793	2,889		36	454		0	7,676		4,535	5,233
median		427	488		131	131		0	1,421		579	702
high		64,070	64,088		5,337	5,337		0	127,668		69,416	127,668
low		9	14		1	1		0	15		1	1

1/ each vessel was assigned to a species group based on a >50% revenue criterion

2/ vessels that landed did not land >50% of revenues on a single species group were placed in this category

3/ number of vessels and lbs landed in B species directed trips are shown in this row including the proportion of the total landed of each species that were made by each tar

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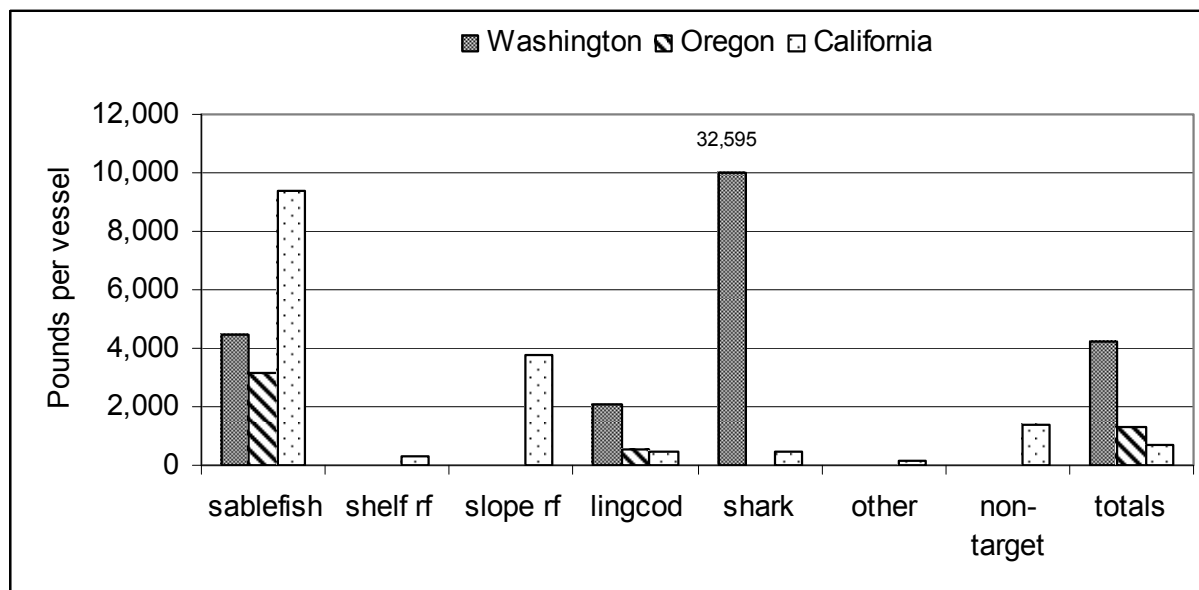


Figure E-17. Median pounds per vessel during 2004-2006 by target-species vessel group and state

Regulation differences for the different species were the likely causes of the small catch histories of the lingcod and shelf rockfish vessels (which historically were much larger than they have been in recent years). During 2004-2006, lingcod and shelf rockfish vessels could land no more than 300 lbs and 425 lbs, respectively, in any month, while sablefish vessels could land a monthly equivalent of 2,500 lbs north of the Conception Management Area and 4,200 lbs in the Conception area. Shark vessels were virtually unrestricted during 2004-2006 (Table 1-2).

Qualification framework also affects permit issuance to target-species vessel groups. QF-3 which uses catch history data back to 1998 in combination with a 2004-2006 landing requirement will qualify slightly more shelf rockfish and lingcod vessels (3%-7% depending on criterion) than frameworks that restrict qualification to landings during 2004-2006. This is because some target shelf rockfish and lingcod vessels have more robust B species catch histories when data back to 1998 are included for permit qualification. Conversely, sablefish and slope rockfish vessels receive slightly more permits when qualification criteria only include landings data for 2004-2006.

Potential Economic Impacts of Qualification Criteria

Total revenues received by WOC directed B species fishing vessels in 2004-2006 totaled about \$8.5 million, about half of which (51%) was received by California-based vessels and the remainder by Oregon- (29%) and Washington-based (20%) vessels. Sablefish was by far the most valuable species to the fishermen overall, accounting for 81% of total revenues. Lingcod was the second highest in terms of total ex-vessel revenues at 8% (Table E-16). The estimated total impact¹⁵ of the fishery to the West Coast economy was estimated to be about \$15.5 million, with about 51% attributable to California-based vessels, 27% to Oregon-based vessels, and 22% to Washington-based vessels. Sablefish had the greatest impact, representing about 81% of the total. Lingcod had the second highest impact at about 8% of the total (Table E-16).

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¹⁵ The word "impact" is used in terms of personal income impact on the economy, which goes beyond fishermen's income.

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Table E-16. Ex-vessel revenues and estimated West Coast economic impact of directed B species groundfish fishery in 2004-2006 by target-species vessel group and state (000s)

	WA		OR		CA		Totals	
	Rev	Impacts	Rev	Impacts	Rev	Impacts	Rev	Impacts
Lingcod	\$6.19	\$12.44	\$263.84	\$445.89	\$445.39	\$734.89	\$715.42	\$1,193.22
Shelf RF	\$0.00	\$0.00	\$7.89	\$13.88	\$162.82	\$263.76	\$170.71	\$277.65
Sablefish	\$1,623.22	\$2,954.25	\$2,161.44	\$3,739.30	\$3,155.33	\$5,837.36	\$6,939.99	\$12,530.91
Slope RF	\$0.09	\$0.21	\$0.00	\$0.00	\$231.73	\$375.40	\$231.82	\$375.61
Sharks	\$78.47	\$328.81	\$0.00	\$0.00	\$122.78	\$298.35	\$201.25	\$627.16
Other	\$0.00	\$0.00	\$0.00	\$0.00	\$43.98	\$71.24	\$43.98	\$71.24
Non-target	\$15.17	\$33.38	\$0.00	\$0.00	\$213.10	\$345.22	\$228.27	\$378.60
Total	\$1,723.14	\$3,329.08	\$2,433.17	\$4,199.07	\$4,375.12	\$7,926.24	\$8,531.44	\$15,454.39

The potential economic impacts of the qualification criteria contained in A-3, A-4 and A-5 were analyzed based on estimated economic impacts of vessels that would have qualified for B permits during 2004-2006 compared to total estimated impacts (Table E-16). The A-4 criteria were restricted to those that would qualify between 390 and 713 vessels. The analysis was done by state and target-species vessel group. Landing revenue data used in the analysis appear in Tables E-17 and E-18. These data were expanded to produce personal income impact estimates based on the expansion factors listed in the Methods section.

No attempt was made in the analysis to redistribute fish from non-qualifying vessels to qualifying vessels, which would have been possible through inseason regulation adjustments, or to estimate incidental catch allowances by non-qualifying vessels that take B species groundfish incidental to fishing for nearshore species or non-groundfish species. The Council and NMFS may allow for incidental landings by non-B permit vessels under the authority of a C permit or a nearshore permit off Oregon and California. Thus, the estimates produced here represent worse-case scenarios.

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Table E-17. Estimated revenues received during 2004-2006 by target species group and state under A-3 and A-5 qualification criteria (000s)

QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total
390v-1	Lingcod	\$5.8	\$141.0	\$233.6	\$380.4	713v-1	Lingcod	\$5.8	\$240.1	\$391.5	\$637.4	713v-3	Lingcod	\$5.8	\$245.0	\$406.5	\$657.3
	Shelf RF	\$0.0	\$0.0	\$76.5	\$76.5		Shelf RF	\$0.0	\$7.2	\$132.2	\$139.4		Shelf RF	\$0.0	\$7.2	\$135.8	\$143.1
	Sablefish	\$1,557.4	\$2,034.7	\$3,091.6	\$6,683.7		Sablefish	\$1,620.3	\$2,148.2	\$3,146.7	\$6,915.3		Sablefish	\$1,620.3	\$2,152.4	\$3,148.9	\$6,921.7
	Slope RF	\$0.0	\$0.0	\$217.9	\$217.9		Slope RF	\$0.0	\$0.0	\$230.3	\$230.3		Slope RF	\$0.0	\$0.0	\$230.3	\$230.3
	Sharks	\$78.5	\$0.0	\$101.0	\$179.4		Sharks	\$78.5	\$0.0	\$118.2	\$196.7		Sharks	\$78.5	\$0.0	\$119.0	\$197.5
	Other	\$0.0	\$0.0	\$9.2	\$9.2		Other	\$0.0	\$0.0	\$35.5	\$35.5		Other	\$0.0	\$0.0	\$38.0	\$38.0
Non-target		\$15.2	\$0.0	\$189.1	\$204.3	Non-target		\$15.2	\$0.0	\$209.3	\$224.5	Non-target		\$15.2	\$0.0	\$210.7	\$225.9
Total		\$1,656.9	\$2,175.7	\$3,918.9	\$7,751.5	Total		\$1,719.8	\$2,395.5	\$4,263.8	\$8,379.1	Total		\$1,719.8	\$2,404.7	\$4,289.4	\$8,413.9
390v-2	Lingcod	\$5.8	\$29.8	\$106.7	\$142.3	713v-2	Lingcod	\$5.8	\$160.5	\$262.7	\$429.0	713v-3	Lingcod	\$5.8	\$173.2	\$268.1	\$447.2
	Shelf RF	\$0.0	\$0.5	\$54.7	\$55.2		Shelf RF	\$0.0	\$0.6	\$85.2	\$85.8		Shelf RF	\$0.0	\$0.6	\$85.2	\$85.8
	Sablefish	\$1,337.1	\$1,761.3	\$2,957.4	\$6,055.8		Sablefish	\$1,529.3	\$2,025.1	\$3,096.0	\$6,650.3		Sablefish	\$1,536.9	\$2,039.9	\$3,100.9	\$6,677.8
	Slope RF	\$0.0	\$0.0	\$176.5	\$176.5		Slope RF	\$0.0	\$0.0	\$219.8	\$219.8		Slope RF	\$0.0	\$0.0	\$220.8	\$220.8
	Sharks	\$76.9	\$0.0	\$96.0	\$172.8		Sharks	\$77.7	\$0.0	\$108.2	\$185.9		Sharks	\$78.5	\$0.0	\$108.2	\$186.7
	Other	\$0.0	\$0.0	\$22.6	\$22.6		Other	\$0.0	\$0.0	\$25.1	\$25.1		Other	\$0.0	\$0.0	\$25.1	\$25.1
Non-target		\$15.2	\$0.0	\$161.4	\$176.5	Non-target		\$15.2	\$0.0	\$186.2	\$201.3	Non-target		\$15.2	\$0.0	\$196.8	\$211.9
Total		\$1,434.9	\$1,791.6	\$3,575.3	\$6,801.8	Total		\$1,627.9	\$2,186.1	\$3,983.3	\$7,797.3	Total		\$1,636.4	\$2,213.7	\$4,005.2	\$7,855.3
390v-3	Lingcod	\$5.8	\$113.5	\$230.9	\$350.2	713v-3	Lingcod	\$5.8	\$219.2	\$377.5	\$602.5	713v-3	Lingcod	\$5.8	\$225.8	\$390.9	\$622.4
	Shelf RF	\$0.0	\$0.6	\$60.6	\$61.2		Shelf RF	\$0.0	\$7.8	\$129.1	\$136.9		Shelf RF	\$0.0	\$7.8	\$132.4	\$140.2
	Sablefish	\$1,448.2	\$1,944.9	\$3,050.1	\$6,443.3		Sablefish	\$1,613.5	\$2,128.7	\$3,141.3	\$6,883.5		Sablefish	\$1,617.1	\$2,131.0	\$3,148.2	\$6,896.3
	Slope RF	\$0.0	\$0.0	\$209.5	\$209.5		Slope RF	\$0.0	\$0.0	\$227.1	\$227.1		Slope RF	\$0.0	\$0.0	\$228.9	\$228.9
	Sharks	\$76.9	\$0.0	\$102.9	\$179.8		Sharks	\$78.5	\$0.0	\$116.2	\$194.7		Sharks	\$78.5	\$0.0	\$116.5	\$195.0
	Other	\$0.0	\$0.0	\$22.6	\$22.6		Other	\$0.0	\$0.0	\$28.1	\$28.1		Other	\$0.0	\$0.0	\$32.4	\$32.4
Non-target		\$15.2	\$0.0	\$181.4	\$196.5	Non-target		\$15.2	\$0.0	\$209.2	\$224.4	Non-target		\$15.2	\$0.0	\$209.2	\$224.4
Total		\$1,546.0	\$2,059.0	\$3,858.0	\$7,463.0	Total		\$1,712.9	\$2,355.8	\$4,228.4	\$8,297.1	Total		\$1,716.6	\$2,364.5	\$4,258.5	\$8,339.7

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Table E-18. Estimated revenues received during 2004-2006 by target species group and state under A-4 qualification criteria that limit the fleet size to between 390 and 713 vessels (000s)

QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total
500 lbs-1 (701 vsls)	Lingcod	\$5.8	\$242.1	\$396.5	\$644.4	1.6K-3 (629 vsls)	Lingcod	\$6.1	\$240.0	\$397.4	\$643.5	2000 lbs-3 (581 vsls)	Lingcod	\$5.8	\$209.9	\$357.2	\$572.9
	Shelf RF	\$0.0	\$7.2	\$135.3	\$142.5		Shelf RF	\$0.0	\$5.7	\$128.2	\$133.9		Shelf RF	\$0.0	\$5.7	\$118.8	\$124.5
	Sablefish	\$1,620.3	\$2,151.5	\$3,148.9	\$6,920.8		Sablefish	\$1,404.3	\$1,817.5	\$2,941.4	\$6,163.1		Sablefish	\$1,597.0	\$2,107.0	\$3,136.8	\$6,840.8
	Slope RF	\$0.0	\$0.0	\$230.3	\$230.3		Slope RF	\$0.0	\$0.0	\$193.9	\$193.9		Slope RF	\$0.0	\$0.0	\$225.4	\$225.4
	Sharks	\$78.5	\$0.0	\$118.2	\$196.7		Sharks	\$50.8	\$0.0	\$113.4	\$164.2		Sharks	\$78.5	\$0.0	\$114.7	\$193.2
	Other	\$0.0	\$0.0	\$38.0	\$38.0		Other	\$0.0	\$0.0	\$14.8	\$14.8		Other	\$0.0	\$0.0	\$25.2	\$25.2
1000 lbs-1 (577 vsls)	Non-target	\$15.2	\$0.0	\$210.7	\$225.9	2000 lbs-3 (581 vsls)	Non-target	\$15.2	\$0.0	\$190.6	\$205.7	2000 lbs-3 (581 vsls)	Non-target	\$15.2	\$0.0	\$209.2	\$224.4
	Total	\$1,719.8	\$2,400.9	\$4,278.0	\$8,398.6		Total	\$1,476.4	\$2,063.2	\$3,979.7	\$7,519.3		Total	\$1,698.4	\$2,322.6	\$4,187.3	\$8,206.3
	Lingcod	\$5.8	\$211.8	\$355.8	\$573.4		Lingcod	\$5.8	\$226.3	\$374.0	\$606.0		Lingcod	\$5.8	\$186.9	\$339.9	\$532.6
	Shelf RF	\$0.0	\$7.2	\$114.5	\$121.8		Shelf RF	\$0.0	\$7.2	\$126.6	\$133.8		Shelf RF	\$0.0	\$2.8	\$101.9	\$104.7
	Sablefish	\$1,614.4	\$2,124.7	\$3,137.2	\$6,876.4		Sablefish	\$1,620.3	\$2,148.5	\$3,147.7	\$6,916.6		Sablefish	\$1,583.5	\$2,089.8	\$3,132.9	\$6,806.2
	Slope RF	\$0.0	\$0.0	\$227.5	\$227.5		Slope RF	\$0.0	\$0.0	\$230.3	\$230.3		Slope RF	\$0.0	\$0.0	\$225.1	\$225.1
2000 lbs-1 (420 vsls)	Sharks	\$78.5	\$0.0	\$113.4	\$191.9	2000 lbs-3 (581 vsls)	Sharks	\$78.5	\$0.0	\$115.8	\$194.3	2000 lbs-3 (581 vsls)	Sharks	\$78.5	\$0.0	\$113.5	\$192.0
	Other	\$0.0	\$0.0	\$26.6	\$26.6		Other	\$0.0	\$0.0	\$38.0	\$38.0		Other	\$0.0	\$0.0	\$25.1	\$25.1
	Non-target	\$15.2	\$0.0	\$208.2	\$223.4		Non-target	\$15.2	\$0.0	\$209.3	\$224.5		Non-target	\$15.2	\$0.0	\$206.7	\$221.8
	Total	\$1,713.9	\$2,343.7	\$4,183.4	\$8,241.0		Total	\$1,719.8	\$2,382.0	\$4,241.7	\$8,343.5		Total	\$1,683.0	\$2,279.4	\$4,145.1	\$8,107.5
	Lingcod	\$5.8	\$153.9	\$260.3	\$420.0		Lingcod	\$5.8	\$234.2	\$396.4	\$636.3		Lingcod	\$5.8	\$188.0	\$282.7	\$436.5
	Shelf RF	\$0.0	\$2.2	\$79.7	\$82.0		Shelf RF	\$0.0	\$7.8	\$134.0	\$141.8		Shelf RF	\$0.0	\$0.6	\$85.2	\$85.8
2000 lbs-1 (420 vsls)	Sablefish	\$1,571.8	\$2,052.0	\$3,100.1	\$6,724.0	2000 lbs-3 (581 vsls)	Sablefish	\$1,617.1	\$2,133.5	\$3,148.2	\$6,898.8	2000 lbs-3 (581 vsls)	Sablefish	\$1,535.1	\$2,031.0	\$3,096.0	\$6,662.1
	Slope RF	\$0.0	\$0.0	\$224.1	\$224.1		Slope RF	\$0.0	\$0.0	\$228.9	\$228.9		Slope RF	\$0.0	\$0.0	\$220.8	\$220.8
	Sharks	\$78.5	\$0.0	\$61.2	\$139.6		Sharks	\$78.5	\$0.0	\$117.6	\$196.1		Sharks	\$77.7	\$0.0	\$108.2	\$185.9
	Other	\$0.0	\$0.0	\$9.2	\$9.2		Other	\$0.0	\$0.0	\$32.8	\$32.8		Other	\$0.0	\$0.0	\$25.1	\$25.1
	Non-target	\$15.2	\$0.0	\$196.6	\$211.8		Non-target	\$15.2	\$0.0	\$209.2	\$224.4		Non-target	\$15.2	\$0.0	\$186.2	\$201.3
	Total	\$1,671.2	\$2,208.2	\$3,931.3	\$7,810.7		Total	\$1,716.6	\$2,375.5	\$4,267.1	\$8,359.2		Total	\$1,633.8	\$2,199.6	\$3,984.3	\$7,817.6

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Potential A-3 and A-5 Criteria Impacts

A-3 and A-5 criteria that were based on QF-1 had the lowest personal income impacts, followed by QF-3 (Tables E-19 and E-20). QF-2 was lower by 7-10 percentage points (7-10 pts) compared to QF-1 standards (Tables E-19 and E-20). This was because some vessels that qualified for permits under the QF-2 framework made no landings during 2004-2006, as discussed in previous sections (see Table E-3b for actual numbers). QF-3 reductions were less than QF-1 reductions for the same standards by 1-3 pts because some vessels that would have qualified had lower catch histories during 2004-2006 than some vessels that would not qualify under the QF-3 framework. There were very small differences overall (1 pt) between the 680 and 713 vessel goal alternatives (Tables E-19 and E-20).

The sablefish reduction under the 390 vessels goal was 4-9 pts below the 713 vessel goal, but the reductions were much greater for lingcod (38-43 pts), shelf rockfish (18-46 pts) and other species (6-66 pts) vessels in these same comparisons. Shark and non-target species vessel reductions were only slightly greater (6-15 pts) than the sablefish reductions in these comparisons (Tables E-19 and E-20).

Potential A-4 Criteria Impacts

2 in 3 yrs-4 Criterion

This criterion qualified 585 vessels but had greater negative economic impact than any of the other criteria except for 390v-3, which qualified fewer (33%) vessels overall and included vessels that did not participate in the fishery during 2004-2006. The sablefish impact was higher under this criterion by 8 pts compared to criteria that would qualify as few as 420 vessels (Tables E-19, E-20, E-21 and E-22).

500 lbs-1, 1000 lbs-1 and 2000 lbs-1 Criteria

These criteria used the same qualification framework (QF-1) but had different qualification standards. These criteria would have qualified 701, 577 and 420 vessels during 2004-2006, respectively. The decrease in overall economic impact ranged from 2 pts (500 lbs-1) to 8 pts (2000 lbs-1), while the comparative sablefish impact range was from 1 pt (500lbs-1) to 3 pts (2000 lbs-1). The impacts to lingcod, shelf rockfish and other species vessels were much greater under these criteria (and to all others) than it was to sablefish vessels (Tables E-21 and E-22).

500 max-5

The overall impact of this criterion were close (≤ 1 pt) to those of the 500 lbs-1 criterion. For target-species vessel groups, the impacts were very similar (≤ 1 pt) to the 500 lbs-1 criterion for sablefish, slope rockfish, sharks, other species and non-target vessels, but were slightly higher (5-6 pts) for lingcod and California shelf rockfish vessels (Tables E-21 and E-22).

1000 lbs-3, 1.6K-3, 2000 lbs-3 and 3.5K-3

These four criteria used the same qualification framework, QF-3, but had different qualification standards. The number of vessels that would have qualified for permit issuance in 2004-2006 under these criteria were: 727, 629, 581 and 474, respectively. The overall economic impact reductions ranged from 2 pts (1000 lbs-3) to 8 pts (3.5K-3). The impacts to target-species vessel groups were consistent with the other analyses presented in this section: sablefish, slope rockfish, sharks, and non-target vessels would have been the least affected under these criteria while lingcod, shelf rockfish and other species vessels would have been most affected (Tables E-21 and E-22).

Summary of Economic Impact Analyses and Discussion

The economic analysis used vessel-specific 2004-2006 landings data and species- and state-specific economic impact expansion factors to estimate potential economic impacts of all or some of the qualification criteria contained in A-3, A-4, and A-5. The criteria that used the QF-2 framework (1998-2006 lbs landed) had the highest potential for negative impact of any of the criteria analyzed because

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those criteria would qualify vessels that did not participate in the fishery during 2004-2006. The 2 in 3 yrs-4 criterion would have qualified a mid-range number of vessels (595) but the potential negative economic impact was high (12 pts) compared to all other criteria--even those that would have qualified fewer vessels. The range in potential negative economic impacts among the remaining criteria was from 12 pts (390v-3) to 1 pt (713v-1; 500 max-5) with a median value of 3 pts.

The analysis did not attempt to (1) redistribute fish from non-qualifying vessels to qualifying vessels, which would have been possible through inseason regulatory adjustment, or (2) to estimate the amount and value of fish that non-qualifying vessels would have been allowed to harvest incidental to fishing for nearshore groundfish or non-groundfish species. Incidental fishing for B species groundfish under the authority of a C permit or an Oregon or California nearshore permit is a provision under A-3, A-4 and A-5. It would allow nearshore fishermen of Oregon and California to continue to land lingcod and shelf rockfish (species that co-occur with nearshore species) in small quantities, which is already the case for these species due to overfished groundfish concerns.

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Table E-19. Estimated West Coast economic impacts based on B species revenues received during 2004-2006 by target species group and state under A-3 and A-5 qualification criteria (000s)

QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total
390v-1	Lingcod	\$12	\$238	\$385	\$635	713v-1	Lingcod	\$12	\$406	\$646	\$1,063	713v-2	Lingcod	\$12	\$293	\$414	\$729
	Shelf RF	\$0	\$0	\$124	\$124		Shelf RF	\$0	\$13	\$214	\$227		Shelf RF	\$0	\$13	\$220	\$233
	Sablefish	\$2,835	\$3,520	\$5,719	\$12,074		Sablefish	\$2,949	\$3,716	\$5,821	\$12,487		Sablefish	\$2,949	\$3,724	\$5,826	\$12,498
	Slope RF	\$0	\$0	\$353	\$353		Slope RF	\$0	\$0	\$373	\$373		Slope RF	\$0	\$0	\$373	\$373
	Sharks	\$329	\$0	\$245	\$574		Sharks	\$329	\$0	\$287	\$616		Sharks	\$329	\$0	\$289	\$618
	Other	\$0	\$0	\$15	\$15		Other	\$0	\$0	\$58	\$58		Other	\$0	\$0	\$62	\$62
390v-2	Non-target	\$33	\$0	\$306	\$340	713v-3	Non-target	\$33	\$0	\$339	\$372	713v-3	Non-target	\$33	\$0	\$341	\$375
	Total	\$3,208	\$3,758	\$7,148	\$14,115		Total	\$3,323	\$4,135	\$7,739	\$15,196		Total	\$3,323	\$4,151	\$7,782	\$15,255
	Lingcod	\$12	\$50	\$176	\$238		Lingcod	\$12	\$271	\$433	\$716		Lingcod	\$12	\$293	\$442	\$747
	Shelf RF	\$0	\$1	\$89	\$90		Shelf RF	\$0	\$1	\$138	\$139		Shelf RF	\$0	\$1	\$138	\$139
	Sablefish	\$2,433	\$3,047	\$5,471	\$10,952		Sablefish	\$2,783	\$3,503	\$5,728	\$12,014		Sablefish	\$2,797	\$3,529	\$5,737	\$12,063
	Slope RF	\$0	\$0	\$286	\$286		Slope RF	\$0	\$0	\$356	\$356		Slope RF	\$0	\$0	\$358	\$358
390v-3	Sharks	\$322	\$0	\$233	\$555	713v-3	Sharks	\$326	\$0	\$263	\$588	713v-3	Sharks	\$329	\$0	\$263	\$592
	Other	\$0	\$0	\$37	\$37		Other	\$0	\$0	\$41	\$41		Other	\$0	\$0	\$41	\$41
	Non-target	\$33	\$0	\$261	\$295		Non-target	\$33	\$0	\$302	\$335		Non-target	\$33	\$0	\$319	\$352
	Total	\$2,801	\$3,098	\$6,553	\$12,452		Total	\$3,154	\$3,776	\$7,260	\$14,190		Total	\$3,171	\$3,823	\$7,297	\$14,291
	Lingcod	\$12	\$192	\$381	\$584		Lingcod	\$12	\$370	\$623	\$1,005		Lingcod	\$12	\$382	\$645	\$1,038
	Shelf RF	\$0	\$1	\$98	\$99		Shelf RF	\$0	\$14	\$209	\$223		Shelf RF	\$0	\$14	\$215	\$228
390v-3	Sablefish	\$2,636	\$3,365	\$5,643	\$11,643	713v-3	Sablefish	\$2,937	\$3,683	\$5,811	\$12,431	713v-3	Sablefish	\$2,943	\$3,687	\$5,824	\$12,454
	Slope RF	\$0	\$0	\$339	\$339		Slope RF	\$0	\$0	\$368	\$368		Slope RF	\$0	\$0	\$371	\$371
	Sharks	\$322	\$0	\$250	\$572		Sharks	\$329	\$0	\$282	\$611		Sharks	\$329	\$0	\$283	\$612
	Other	\$0	\$0	\$37	\$37		Other	\$0	\$0	\$46	\$46		Other	\$0	\$0	\$52	\$52
	Non-target	\$33	\$0	\$294	\$327		Non-target	\$33	\$0	\$339	\$372		Non-target	\$33	\$0	\$339	\$372
	Total	\$3,003	\$3,557	\$7,042	\$13,602		Total	\$3,310	\$4,067	\$7,678	\$15,055		Total	\$3,317	\$4,082	\$7,729	\$15,128

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Table E-20. Proportions of estimated directed B species fishery economic impacts during 2004-2006 contributed by vessels that would qualify for B permits under A-3 and A-5 qualification criteria (000s) by target species group and state

QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total
390v-1	Lingcod	94%	53%	52%	53%	680v-1	Lingcod	94%	91%	88%	89%	713v-1	Lingcod	94%	93%	91%	92%
	Shelf RF	0%	0%	47%	45%		Shelf RF	0%	92%	81%	82%		Shelf RF	0%	92%	83%	84%
	Sablefish	96%	94%	98%	96%		Sablefish	100%	99%	100%	100%		Sablefish	100%	100%	100%	100%
	Slope RF	0%	94%	94%	94%		Slope RF	0%	99%	99%	99%		Slope RF	0%	99%	99%	99%
	Sharks	100%	82%	82%	92%		Sharks	100%	96%	96%	98%		Sharks	100%	97%	97%	99%
	Other		21%	21%	21%		Other		81%	81%	81%		Other		87%	87%	87%
	Non-target	100%		89%	90%		Non-target	100%		98%	98%		Non-target	100%		99%	99%
	Total	96%	90%	90%	91%		Total	100%	98%	98%	98%		Total	100%	99%	98%	99%
390v-2	Lingcod	94%	11%	24%	20%	680v-2	Lingcod	94%	61%	59%	60%	713v-2	Lingcod	94%	66%	60%	63%
	Shelf RF	7%	7%	34%	32%		Shelf RF	0%	7%	52%	50%		Shelf RF	0%	7%	52%	50%
	Sablefish	82%	81%	94%	87%		Sablefish	94%	94%	98%	96%		Sablefish	95%	94%	96%	96%
	Slope RF	0%	76%	76%	76%		Slope RF	0%	95%	95%	95%		Slope RF	0%	95%	95%	95%
	Sharks	98%	89%	78%	89%		Sharks	99%	88%	88%	94%		Sharks	100%	88%	94%	94%
	Other		51%	51%	51%		Other		57%	57%	57%		Other		57%	57%	57%
	Non-target	100%		76%	78%		Non-target	100%		87%	88%		Non-target	100%		92%	93%
	Total	84%	74%	83%	81%		Total	95%	90%	92%	92%		Total	95%	91%	92%	92%
390v-3	Lingcod	94%	43%	52%	49%	680v-3	Lingcod	94%	83%	85%	84%	713v-3	Lingcod	94%	86%	88%	87%
	Shelf RF	7%	7%	37%	36%		Shelf RF	0%	99%	79%	80%		Shelf RF	0%	99%	81%	82%
	Sablefish	89%	90%	97%	93%		Sablefish	99%	98%	100%	99%		Sablefish	100%	99%	100%	99%
	Slope RF	0%	90%	90%	90%		Slope RF	0%	98%	98%	98%		Slope RF	0%	99%	99%	99%
	Sharks	98%	84%	84%	91%		Sharks	100%	95%	95%	97%		Sharks	100%	95%	98%	98%
	Other		51%	51%	51%		Other		64%	64%	64%		Other		74%	74%	74%
	Non-target	100%		85%	86%		Non-target	100%		98%	98%		Non-target	100%		98%	98%
	Total	90%	85%	89%	88%		Total	99%	97%	97%	97%		Total	100%	97%	98%	98%

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Table E-21. West Coast economic impacts based on revenues received during 2004-2006 by target species group and state under A-4 qualification criteria that limit the fleet size to between 390 and 713 vessels (000s)

QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total
	Lingcod	\$12	\$409	\$654	\$1,075		Lingcod	\$12	\$406	\$656	\$1,074		Lingcod	\$12	\$355	\$589	\$956
	Shelf RF	\$0	\$13	\$219	\$232		Shelf RF	\$0	\$10	\$208	\$218		Shelf RF	\$0	\$10	\$193	\$203
	Sablefish	\$2,949	\$3,722	\$5,826	\$12,497		Sablefish	\$2,556	\$3,144	\$5,442	\$11,142		Sablefish	\$2,906	\$3,645	\$5,803	\$12,355
500 lbs-1 (701 vsls)	Slope RF	\$0	\$0	\$373	\$373	2 in 3 yrs-4	Slope RF	\$0	\$0	\$314	\$314	1.6K-3	Slope RF	\$0	\$0	\$365	\$365
	Sharks	\$329	\$0	\$287	\$616	(595 vsls)	Sharks	\$213	\$0	\$276	\$488	(629 vsls)	Sharks	\$329	\$0	\$279	\$608
	Other	\$0	\$0	\$62	\$62		Other	\$0	\$0	\$24	\$24		Other	\$0	\$0	\$41	\$41
	Non-target	\$33	\$0	\$341	\$375		Non-target	\$33	\$0	\$309	\$342		Non-target	\$33	\$0	\$339	\$372
	Total	\$3,323	\$4,144	\$7,762	\$15,229		Total	\$2,814	\$3,560	\$7,227	\$13,602		Total	\$3,280	\$4,010	\$7,609	\$14,899
	Lingcod	\$12	\$358	\$587	\$957		Lingcod	\$12	\$382	\$617	\$1,011		Lingcod	\$12	\$316	\$561	\$888
	Shelf RF	\$0	\$13	\$186	\$198		Shelf RF	\$0	\$13	\$205	\$218		Shelf RF	\$0	\$5	\$165	\$170
	Sablefish	\$2,938	\$3,676	\$5,804	\$12,418		Sablefish	\$2,949	\$3,717	\$5,823	\$12,489		Sablefish	\$2,882	\$3,615	\$5,796	\$12,293
1000 lbs-1 (577 vsls)	Slope RF	\$0	\$0	\$369	\$369	500 max-5	Slope RF	\$0	\$0	\$373	\$373	2000 lbs-3	Slope RF	\$0	\$0	\$365	\$365
	Sharks	\$329	\$0	\$276	\$604	(655 vsls)	Sharks	\$329	\$0	\$281	\$610	(581 vsls)	Sharks	\$329	\$0	\$276	\$605
	Other	\$0	\$0	\$43	\$43		Other	\$0	\$0	\$62	\$62		Other	\$0	\$0	\$41	\$41
	Non-target	\$33	\$0	\$337	\$371		Non-target	\$33	\$0	\$339	\$372		Non-target	\$33	\$0	\$335	\$368
	Total	\$3,312	\$4,046	\$7,601	\$14,960		Total	\$3,323	\$4,112	\$7,700	\$15,135		Total	\$3,256	\$3,936	\$7,538	\$14,730
	Lingcod	\$12	\$260	\$430	\$701		Lingcod	\$12	\$396	\$654	\$1,061		Lingcod	\$12	\$284	\$433	\$729
	Shelf RF	\$0	\$4	\$129	\$133		Shelf RF	\$0	\$14	\$217	\$231		Shelf RF	\$0	\$1	\$138	\$139
	Sablefish	\$2,861	\$3,550	\$5,735	\$12,146		Sablefish	\$2,943	\$3,691	\$5,824	\$12,458		Sablefish	\$2,794	\$3,514	\$5,728	\$12,035
2000 lbs-1 (420 vsls)	Slope RF	\$0	\$0	\$363	\$363	1000 lbs-3	Slope RF	\$0	\$0	\$371	\$371	3.5K-3	Slope RF	\$0	\$0	\$358	\$358
	Sharks	\$329	\$0	\$149	\$477	(727 vsls)	Sharks	\$329	\$0	\$286	\$615	(474 vsls)	Sharks	\$326	\$0	\$263	\$588
	Other	\$0	\$0	\$15	\$15		Other	\$0	\$0	\$53	\$53		Other	\$0	\$0	\$41	\$41
	Non-target	\$33	\$0	\$319	\$352		Non-target	\$33	\$0	\$339	\$372		Non-target	\$33	\$0	\$302	\$335
	Total	\$3,234	\$3,814	\$7,139	\$14,188		Total	\$3,317	\$4,100	\$7,744	\$15,161		Total	\$3,165	\$3,799	\$7,262	\$14,225

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Table E-22. Proportions of estimated directed B species fishery economic impacts during 2004-2006 contributed by vessels that would qualify for B permits under A-4 criteria that would qualify between 390 and 713 vessels by target species group and state

QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total	QC	Species	WA	OR	CA	Total
500 lbs-1 (701 vsis)	Lingcod	94%	92%	89%	90%	2 in 3 yrs-4 (595 vsis)	Lingcod	99%	91%	89%	90%	1.6K-3 (629 vsis)	Lingcod	94%	80%	80%	80%
	Shelf RF		92%	83%	84%		Shelf RF		72%	79%	78%		Shelf RF		72%	73%	73%
	Sablefish	100%	100%	100%	100%		Sablefish	87%	84%	93%	89%		Sablefish	98%	97%	99%	99%
	Slope RF	0%		99%	99%		Slope RF	0%		84%	84%		Slope RF	0%		97%	97%
	Sharks	100%		96%	98%		Sharks	65%		92%	78%		Sharks	100%		93%	97%
	Other			87%	87%		Other			34%	34%		Other			57%	57%
1000 lbs-1 (577 vsis)	Non-target	100%		99%	99%	500 max-5 (655 vsis)	Non-target	100%		89%	90%	2000 lbs-3 (581 vsis)	Non-target	100%		98%	98%
	Total	100%	99%	98%	99%		Total	85%	85%	91%	88%		Total	99%	95%	96%	96%
	Lingcod	94%	80%	80%	80%		Lingcod	94%	86%	84%	85%		Lingcod	94%	71%	76%	74%
	Shelf RF		92%	70%	71%		Shelf RF		92%	78%	78%		Shelf RF		35%	63%	61%
	Sablefish	99%	98%	99%	99%		Sablefish	100%	99%	100%	100%		Sablefish	98%	97%	99%	98%
	Slope RF	0%		98%	98%		Slope RF	0%		99%	99%		Slope RF	0%		97%	97%
2000 lbs-1 (420 vsis)	Sharks	100%		92%	96%	1000 lbs-3 (727 vsis)	Sharks	100%		94%	97%	3.5K-3 (474 vsis)	Sharks	100%		92%	96%
	Other			61%	61%		Other			87%	87%		Other			57%	57%
	Non-target	100%		98%	98%		Non-target	100%		98%	98%		Non-target	100%		97%	97%
	Total	99%	96%	96%	97%		Total	100%	98%	97%	98%		Total	98%	94%	95%	95%
	Lingcod	94%	58%	58%	59%		Lingcod	94%	89%	89%	89%		Lingcod	94%	64%	59%	61%
	Shelf RF		28%	49%	48%		Shelf RF		99%	82%	83%		Shelf RF		7%	52%	50%
	Sablefish	97%	95%	98%	97%		Sablefish	100%	99%	100%	99%		Sablefish	95%	94%	98%	96%
	Slope RF	0%		97%	97%		Slope RF	0%		99%	99%		Slope RF	0%		95%	95%
	Sharks	100%		50%	76%		Sharks	100%		96%	98%		Sharks	99%		88%	94%
	Other			21%	21%		Other			75%	75%		Other			57%	57%
	Non-target	100%		92%	93%		Non-target	100%		98%	98%		Non-target	100%		87%	88%
	Total	97%	91%	90%	92%		Total	100%	98%	98%	98%		Total	95%	90%	92%	92%

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Discussion

The one framework element that is critical to continued participation by some recent fishery participants is a recent year landing requirement. Many vessels have high cumulative landings during the window period, but have dropped out of the fishery in recent years. These vessels represent potentially latent fishing effort, the permitting of which could result in non-active permits becoming active or transferred, depending on adopted transfer conditions, to other vessels whose owners would likely be interested in using their new permits. QF-2 permitting of non-active vessels is shown to exclude vessels that have been active in the fishery in recent years, but that have small catch histories by comparison to vessels that have long catch histories.

Some of the qualification criteria under A-4 have the potential to substantially reduce the directed fishery fleet size, while others would permit more vessels than participated in any one year during 2004-2006. Thus the analysis of several issues was confined to those criteria that permitted between 390 and 713 vessels. The 390 fleet size goal under QF-2 could substantially reduce landings at some Oregon and California port groups based on 2004-2006 landings data. The degree to which regulation adjustments can be used to make up for landings by non-qualifying vessels is difficult to project. The geographic distribution of the non-qualifying vessels would be important because some port groups may be affected more than others. Regulation adjustment to allow permitted vessels to take fish formerly landed by non-permitted vessels could result in some ports receiving windfall landing increases. Species formerly landed by non-permitted vessels is another important consideration. Vessels that targeted lingcod, shelf rockfish and species in the “other” category are less likely as a group to receive B permits because of their much lower catch histories compared to vessels that targeted sablefish, slope rockfish and sharks. However, vessels and ports that continue to target the former groups and receive permits may not benefit from increased landing limits for those species because of concerns for overfished groundfish species.

A change in harvest opportunity for B species groundfish would, for some species, likely be met with increased trip or cumulative landing limits for the permitted vessels. The loss of B permit groundfish opportunity by non-qualified vessels was determined to be very small in comparison with the harvest by these same vessels of non-B species (associated species) groundfish. The amount of effort increase in other fisheries to cover this loss would be from <1% to 5% depending on qualification criteria.

The decision of which criterion to use for permit issuance should take into consideration the allocative as well as biological and economic impacts. The criteria used in this analysis were shown to affect the distribution of permits between states and ports to varying degrees based on qualification standard and base years used for qualification. The Groundfish Strategic Plan (2000) provides the following guidance with regard to the selection of a qualification criterion (paraphrased):

The Plan calls for reduction in the number of open access fishery participants by requiring a limited entry permit for the directed take and commercial landing of groundfish. Permit eligibility would depend upon meeting minimum landing requirements based on historical catches and recent directed groundfish harvest. The objective in selecting a particular quantity or frequency of landings from a minimum landing requirement should be to identify those fishery participants who are economically most dependent on and committed to a particular fishery. Theoretically those who are less dependent and committed should fall below the minimum landing requirement. The Council may consider a number of different options for a minimum landing requirement. For example, one option for consideration could be a landing of 1,000 lbs or more of groundfish in a directed fishery in any qualifying year.

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The data show that any qualification criterion that uses B species landing history during 2004-2006 to qualify vessels for B permits will have differential impacts on vessels depending on the vessel's target species strategy. Regulations during 2004-2006 had a major influence on the ability of vessels to land B species groundfish, lingcod and rockfish in particular. Demand for particular species of fish also influenced vessel targeting. Regulations only allowed for the maximum landing per vessel of 300 lbs of lingcod and 425 lbs of shelf rockfish per month during 2004-2006. Sharks and rays could be taken in larger quantities but demand and markets for those fish were probably much lower or more limited than they were for other B species groundfish. However, vessels that do not qualify for B permits will likely still be able to land B species groundfish when taken incidental to fishing for non-groundfish species and/or nearshore groundfish. The allowance for species such as lingcod and shelf rockfish may be no different for C permit vessels than may be for B permit vessels because of concerns for co-mingled overfished groundfish species.

Focus group meetings in California supported the use of a “nominal” set of qualification criteria for B permit issuance, the definition of which appeared to be related to the catch history of the individual fisherman: those with large catch histories tended to be more supportive of higher catch history credentials. A wide range of qualification criteria are included in the alternatives.

The fishermen have a stake in the outcome of this decision process. The optimal fleet size is one that accrues benefits to the fishery participants in the form of potential increased landing limits and fishing opportunity, which may be possible for such species as sablefish and in some areas slope rockfish. Management should also benefit from the decision in the form of increased cooperation with regulation enforcement and fishery sampling and reduced fishery discards stemming from trip limit overages and high grading.

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PFMC Groundfish EIS 2005-2006

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APPENDIX F: Groundfish and Non-groundfish Species Biological Characteristics, Life History Traits, and Stock Status Information

F-1 Overfished Groundfish Stocks

Bocaccio

Bocaccio (*Sebastes paucispinis*) is a rockfish species that ranges from the Gulf of Alaska to central Baja California, Mexico. Bocaccio are historically most abundant in waters off central and southern California. The southern bocaccio stock is most prevalent at the 54–82 fm depth zone. Bocaccio are found in a wide variety of habitats, often on or near bottom features, but sometimes over muddy bottoms. They are found both nearshore and offshore. Larvae and small juveniles are pelagic, while adults are commonly found in eelgrass beds, or congregated around floating kelp beds. Bocaccio are ovoviviparous; parturition occurs during January to April off Washington, November to March off Northern and Central California, and October to March off Southern California. Males mature at 3–7 years, with about half maturing in 4–5 years. Females mature at 3–8 years, with about half maturing in 4–6 years. Maximum age of bocaccio was radiometrically determined to be at least 40 years. Natural mortality rate as a key unknown for estimating stock status, recent assessments have used a value of 0.15. Larval bocaccio eat phytoplankton, copepods and euphausiids. Adults are almost exclusively piscivorous. Bocaccio are preyed upon by sharks, salmon, other rockfishes, lingcod, albacore, and various marine mammals. Adult bocaccios are often caught with chilipepper rockfish.

There are two separate Pacific Coast bocaccio populations. The southern stock exists south of Cape Mendocino and the northern stock north of 48° N latitude in northern Washington. The northern stock of bocaccio has not been assessed. Bocaccio have long been an important component of California rockfish fisheries. Catches increased to high levels in the 1970s and early 1980s as relatively strong year-classes recruited to the stock. The 1996 assessment indicated the stock was in severe decline. NMFS formally declared the stock depleted in March 1999. MacCall *et al.* (1999) confirmed it and estimated spawning output of the southern stock to be 2.1% of its unfished biomass. The assessment in 2002 also included data for southern California. Although relative abundance increased slightly from the previous assessment, potential productivity appeared lower than previously thought. The 2003 bocaccio assessment differed greatly from the 2002 assessment. It was affected by additional data that suggested an increasing abundance. The results had substantial effects on the rebuilding outlook for bocaccio. It was suggested the stock could rebuild to BMSY within 25 years while sustaining an OY of approximately 300 mt in 2004.

The 2003 assessment was updated in 2005. The assessment used the original Stock Synthesis model (SS1) and new data sets, which suggested an increasing upwards trajectory for the stock. The updated base-case model forecasts a slow increase in biomass, with depletion increasing from a value of 10.7% to approximately 20% over ten years. Recent management has shown substantial improvement in performance. A bocaccio rebuilding plan was adopted by the Council at its April 2004. The rebuilding plan established a target rebuilding year of 2027. A new bocaccio stock assessment was scheduled for 2007. Initial plans were to convert the model to SS2 and do an extensive bocaccio assessment in 2007, but a variety of uncertainties resulted in a revision of the work plan. The 2007 assessment became an update to the 2003 assessment, and the SS1 model was used. The results show spawning biomass to be at 12.7% of its unfished level. The model shows strong year classes in 1999 and 2003, and possibly 2004 and 2005. Within the scope of this assessment, there were no unresolved problems or uncertainties.

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Canary Rockfish

Canary rockfish (*Sebastes pinniger*) range from southeastern Alaska to northern Baja California, Mexico, primarily in waters 91–183 m. There is a major population concentration of canary rockfish off Oregon. Adults are associated with pinnacles and sharp drop-offs and are most abundant above hard bottoms. Canary rockfish off the Pacific Coast exhibit a spawning period from September through March, probably peaking in December and January off Washington and Oregon. Canary rockfish are ovoviviparous; females reach sexual maturity at roughly eight years of age. Very little is known about the early life history strategies of canary rockfish. Larvae develop into juveniles around nearshore rocky reefs, where they may congregate for up to three years. Since 1990, stock assessments have assumed a base natural mortality rate of 0.06. Adult canary rockfish are often caught with bocaccio, yelloweye, and yellowtail rockfishes. Young-of-the-year feed on copepods, amphipods, and euphausiids. Adult canary rockfish feed primarily on euphausiids, shrimp, cephalopods, and mesopelagic fishes.

Canary rockfish have long been an important component of rockfish fisheries. The Council began to recommend increasingly restrictive regulations after an assessment in 1994 indicated fishing rates were too high. The canary rockfish stock dropped below B40% in about 1980. A 1999 stock assessment showed the stock had declined below the depleted level for both areas. The stock was declared depleted in January 2000. The first rebuilding analysis used results from the northern area assessment to project rates of potential stock recovery. The stock was found to have extremely low productivity. Rates of recovery were highly dependent upon the level of recent recruitment, which were uncertain. In 2002, a coastwide assessment of canary rockfish was conducted, treating the stock as a single unit. This was a departure from the methodologies of past assessments. A critical uncertainty in past and current canary rockfish assessments is the lack of older, mature females in surveys.

A full canary rockfish assessment was done in 2005. The 2005 assessment was based on two equally plausible assessment models. The approved canary rockfish rebuilding analysis blended the two models. The SB0 was estimated to be 34,798 mt, resulting in a depletion level of 5.7%. In the alternate model, SB0 is estimated to be 33,872 mt, with a depletion level of 11.3%. A new rebuilding analysis was also completed in 2005. Using the combined two models, the analysis estimated SB0 to be 34,155 mt of female spawning biomass at the beginning of 2005 (corresponding to a depletion level of 9.4%). In this analysis, it was noted that following the constant harvest rate established under the canary rockfish rebuilding plan would produce an OY of 43 mt in 2007 and has a 57.4% probability of rebuilding by 2074. A canary rockfish rebuilding plan was adopted by the Council in June 2003. A new stock assessment was completed for canary rockfish in 2007. The results show spawning biomass to be at 11.8% of its unfished level. The canary rockfish recruitment has shown a decline over the last 50 years, closely tracking the decline in spawning stock biomass. Recent recruitments have generally been low, with 1999 and 2001 producing the largest estimated recruitments in the last decade. Recent management actions appear to have curtailed the rate of removal such that overfishing has not occurred since 1999. In recent years, the total mortality has been near the OY, but well below the ABC.

Cowcod

Relatively little is known about cowcod (*Sebastes levis*), a large species of rockfish that ranges from Ranger Bank and Guadalupe Island in central Baja California to Mendocino County, California, and may infrequently occur as far north as Newport, Oregon. Cowcod are most abundant in waters off central and southern California. They range from 22–491 m in depth and are considered to be parademersal (transitional between a midwater pelagic and benthic species). Adults are commonly found at depths of 180 m to 235 m and juveniles are mostly found at shallower depths. MacGregor (1986) found that larval cowcod are almost exclusively found in Southern California and may occur many miles offshore. Juveniles occur over sandy bottom areas, adult cowcod are primarily found over high relief rocky areas. They are generally solitary. Cowcod can live to be at least 55 years old. Maximum size is 94 cm (37 in) and 13 kg (28.5 lb). The instantaneous rate of natural mortality is believed to be 0.08. Average size at age

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of mature females is similar to males. Females reach 90% of their maximum expected size by 40 years. Cowcod are ovoviviparous, and large females may produce up to three broods per season. Spawning peaks in January in the Southern California Bight. Little is known about ecological relationships between cowcod and other organisms. Small cowcod feed on planktonic organisms such as copepods. Juveniles eat shrimp and crabs, and adults eat fish, octopus, and squid.

While cowcod are not a major component of the groundfish fishery, they are highly desired by both recreational and commercial fishers. The cowcod stock in the Conception area was first assessed in 1998. Abundance indices decreased approximately tenfold between the 1960s and the 1990s, based on commercial passenger fishing vessel logs. Recreational and commercial catch also declined substantially from peaks in the 1970s and 1980s, respectively. NMFS declared cowcod in the Conception and Monterey management areas depleted in January 2000, after Butler et al. (1999) estimated the 1998 spawning biomass to be at 7%. Closed areas located in the Southern California Bight were established in 2002 to reduce cowcod mortality. A cowcod rebuilding analysis was completed in 2003 which validated the assumption that non-retention regulations and area closures had been effective in decreasing cowcod fishing mortality.

The 2005 cowcod assessment considered only the cowcod population in Southern California Bight. The 2005 assessment used only two data sources, the CPFV time series and the visual survey estimate data. The model was developed in SS2. There was considerable uncertainty around the assumed steepness value and the overall results of the assessment itself. It estimated that the 2005 spawning biomass was 18% of unfished levels, within a range of 14–21% depending on the value assumed for steepness, a considerably more optimistic result than the 1999 assessment. The rebuilding analysis estimated a new target of 2074. A cowcod rebuilding plan was adopted by the Council in April 2004 and submitted for incorporation in the groundfish FMP under Amendment 16-3. The rebuilding plan established a target rebuilding year of 2090. A stock assessment update was completed for cowcod in 2007 for areas south of Point Conception, California. The results of the 2007 assessment show a spawning biomass of 4.1–27.3% of its unfished level, with a base case of 4.6%.

Darkblotched Rockfish

Darkblotched rockfish (*Sebastes crameri*) are found from Santa Catalina Island off Southern California to the Bering Sea. They are most abundant from Oregon to British Columbia, primarily on the outer shelf and upper slope. Young-of-the-year recruit to bottom at depths ranging from 55–200 m after spending up to five months as pelagic larvae and juveniles in offshore waters. Adults occur primarily in depths of 50–400 m. Adults are often found on mud near cobble or boulders. Maximum age of darkblotched rockfish is 64 years, and maximum size is 58 cm (23 in) and 2.3 kg (5.1 lb). Fertilization and parturition occur from December to March off Oregon and California. Little is known about ecological relationships between darkblotched rockfish and other organisms. Pelagic juveniles feed on planktonic organisms such as copepods. Adults are often caught with other fish such as Pacific ocean perch and splitnose rockfish. Midwater animals such as euphausiids and amphipods dominate the diet of adult fish.

Darkblotched rockfish has always been caught primarily with commercial trawl gear, as part of a complex of slope rockfish. Domestic landings rose from the late 1970's until the late 1980's, although limits on rockfish catch were first instituted in 1983. In recent years, progressive steps have been taken to reduce the catch of darkblotched rockfish, following the declaration of its depleted status in 2001. Management goals for darkblotched rockfish were exceeded from 1997 through 2002. An assessment in 1996 produced an ABC calculation for darkblotched, from 1997 through 2000, but that amount was combined with yields for other species for purposes of managing a complex of species. Separate ABCs and OYs for darkblotched have been specified since 2001.

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A completed assessment in 2000 that employed a more extensive length-based stock synthesis modeling than had been used in the previous (1996) assessment. This assessment determined the stock was at 14–31% of its unfished level. More than any other issue of uncertainty, the historical foreign catch compositions had the greatest influence. The assumption that 10% of foreign catch was comprised of darkblotched was accepted, leading to the conclusion that the spawning stock biomass was 22% of its unfished level. NMFS declared darkblotched rockfish to be depleted in 2001; the same year, the Council adopted a rebuilding analysis for the stock. Later, more data sets were incorporated into the assessment, resulting in a downward revision of the estimated recruitment and abundance. The minimum time to rebuild in the absence of fishing was estimated to be 14 years with a median rebuilding year of 2014. The maximum time to rebuild was 47 years (2047). An assessment update for darkblotched rockfish, completed in 2003, suggested that the stock had not changed significantly from the previous assessment, but there was evidence of strong recent recruitment. The spawning stock biomass was determined to be at 11% of its unfished level. The 2005 assessment (Rogers 2006) was a full assessment that data from a large number of sources, allowing for the estimation of landings back to 1928. The major sources of uncertainty in this stock assessment include natural mortality, age-length relationship, and steepness. The 1999 year class is the strongest since the 1980. The estimated spawning stock biomass depletion at the beginning of 2005 was 16% of unfished biomass. A darkblotched rockfish rebuilding plan was first adopted by the Council in June 2003. The rebuilding plan established a target rebuilding year of 2030 and the harvest control rule of $F = 0.027$. The harvest control rule was changed beginning in 2004 via a regulatory amendment to $F = 0.032$, and was used to set annual darkblotched OYs in 2004–2006. A stock assessment update was completed for darkblotched rockfish in 2007 for US Vancouver, Columbia, Eureka & Monterey INPFC areas. The results of the 2007 assessment show a spawning biomass of 22.4% of its unfished level.

Pacific Ocean Perch (POP)

Pacific Ocean perch (POP, *Sebastes alutus*) are found from La Jolla, California to the western boundary of the Aleutian Archipelago, but are common from Oregon northward. They primarily inhabit waters of the upper continental slope, and usually are at 100–450 m depth. POP are generally associated with gravel, rocky, or boulder type substrate. Larvae and juveniles are pelagic; subadults and adults are benthopelagic. Adults form large schools. They are slow-growing and long-lived; the maximum age has been estimated at about 98 years. They can grow up to about 54 cm and 2 kg. POP are carnivorous; larvae eat small zooplankton, small juveniles eat copepods, larger juveniles feed on euphausiids, and adults eat shrimps, and small fish.

Intense fishing pressure by foreign fleets occurred from 1966 to 1975 and the POP resource off the Pacific Coast was depleted before implementation of the groundfish FMP in 1982. The Council decided to limit harvest beginning in 1979. A 20-year rebuilding plan for POP was adopted in 1981. In addition to trip limits, the Council significantly lowered the OY for POP. While continuing stock decline was abated, rebuilding was not achieved as the stock failed to increase in abundance.

The 1998 assessment estimated POP female spawning biomass in 1997 to be at 13% of its unfished level, thereby confirming that the stock was depleted. NMFS formally declared POP depleted in March 1999. The Council adopted and NMFS enacted more conservative management measures in 1999 as part of a redoubled rebuilding effort. A 2000 POP assessment suggested the stock was more productive than originally thought. A revised POP rebuilding analysis was completed and adopted by the Council in 2001. This analysis estimated a minimum target of 12 years and a maximum target of 42 years. It was noted in the rebuilding analysis that the ongoing retrospective analysis of historic foreign fleet catches was likely to change projections of POP rebuilding. The 2003 POP assessment incorporated updated survey and fishery data including the retrospective of foreign fleet catches. The assessment covered areas from southern Oregon to the Canadian border. The overall conclusion was that the stock was relatively stable at approximately 28% of its unfished biomass. Of all the changes and additions to the data, the

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historical catch estimates had the greatest effect. The 2005 assessment was an update and used the same model as in the 2003 assessment, a forward projection age-structured model. The assessment incorporated new data and changes to the data used in the previous assessment. As was the case in the previous assessment, a number of sources of uncertainty are explicitly accounted for. The assessment estimated spawning biomass depletion at the start of 2005 equal to 23.4% and a 2007 ABC equal to 746 mt. The 2005 rebuilding analysis re-estimated the minimum target to be 2015. A Pacific ocean perch rebuilding plan (with a target year 2027) was adopted by the Council in June 2003 and approved by NMFS in January 2004. The 2003 assessment and rebuilding analysis was used to amend the harvest control rule (to $F = 0.0257$) and set annual POP OYs for the 2004-2006 period. The 2007 Pacific Ocean Perch assessment shows that the stock is rebuilding in conformance with the revised rebuilding plan. The estimated spawning stock biomass depletion at the beginning of 2007 was 24.5–39.5% of unfished biomass.

Widow Rockfish

Widow rockfish (*Sebastes entomelas*) range from Albatross Bank off Kodiak Island to Todos Santos Bay, Baja California, Mexico. They occur over hard bottoms along the continental shelf and prefer rocky banks, seamounts, ridges near canyons, headlands, and muddy bottoms near rocks. Adults form dense, irregular, midwater and semi-demersal schools deeper than 100 m at night and disperse during the day. All life stages are pelagic, but older juveniles and adults are often associated with the bottom. All life stages are fairly common from Washington to California. Widow rockfish are ovoviviparous; mating occurs from late fall-early winter. Larval release occurs from December through February off California, and from February through March off Oregon. Age and size at sexual maturity varies by region and sex, generally increasing northward and at older ages and larger sizes for females. Most are mature in eight years. The maximum age of widow rockfish is 28 years. Widow rockfish are carnivorous; adults feed on small pelagic crustaceans, midwater fishes, salps, shrimp, and small squids.

Widow rockfish are an important commercial species from British Columbia to central California, particularly since 1979, when Oregon fisherman demonstrated the ability to make large catches at night using midwater trawl gear. Williams *et al.* (2000) assessed the coastwide stock of widow rockfish in 2000. The revised rebuilding analysis was adopted by the Council in June 2001. It reported the stock to be at 23.6% of the unfished level in 1999.

The 2003 assessment concluded that the widow rockfish stock size was at 24.65% of the unfished biomass, but indicated that stock productivity was considerably lower than previously thought. Data sparseness was a significant problem in this widow rockfish assessment. A full assessment was completed in 2005 for widow rockfish. In addition to including data updates, this assessment added an index of relative abundance. The base model estimated that spawning biomass declined steadily since the early 1980s and that spawning output in 2004 was 31% of the unexploited level. The 2005 rebuilding analysis indicated that the stock was much closer to reaching a rebuilt biomass than previously estimated: under the current rebuilding analysis the minimum target is estimated to be 2013, compared 2026 in the 2003 analysis. Using estimates from the 2003 widow rockfish rebuilding analysis, the Council adopted a rebuilding plan in April 2004 that established a target rebuilding year of 2038. A stock assessment update was completed for widow rockfish in 2007; the results show a spawning biomass of 35.5% of its unfished level. Recruitment was especially low in the 1990s. Stock biomass decreased from 1980 to 2001, but has increased since. Widow rockfish stock is currently not being overfished, and the stock is rebuilding. It is estimated that the stock will recover to the target of 40% of unfished spawning output in 2009. The biomass will not fall below the target biomass if future catches remain at or below 2000 mt/year.

Yelloweye Rockfish

Yelloweye rockfish (*Sebastes ruberrimus*) range from the Aleutian Islands, Alaska, to northern Baja California, Mexico, and are common from Central California northward to the Gulf of Alaska.

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Yelloweye rockfish occur in water 25–550 m deep with a majority of catches occurring from 50 m to 400 m. Yelloweye rockfish are bottom dwelling, generally solitary, rocky reef fish, found either on or just over reefs. They also reportedly occur around steep cliffs and offshore pinnacles. Yelloweye rockfish are ovoviviparous and give birth in June off Washington. The age of first maturity is estimated at six years and all are estimated to be mature by eight years. They can grow to about 36 inches, and 114 years old. Yelloweye rockfish are a large predatory reef fish that usually feed close to the bottom. They have a widely varied diet, including fish, crabs, shrimps and snails, rockfish, cods, and other fishes. Quillback and Yelloweye rockfish have many trophic features in common.

The first yelloweye rockfish stock assessment was conducted in 2001. This assessment incorporated two area assessments: one from Northern California and the other from Oregon. The assessment concluded yelloweye rockfish stock biomass in 2001 was at about 7% of unexploited biomass in Northern California and 13% of unexploited biomass in Oregon. The assessment revealed a 30-year declining biomass trend in both areas with the last large recruitment event occurring in the late 1980s. Methot *et al.* (2003) showed a much more optimistic outcome than the previous assessment, largely due to the incorporation of Washington fishery data. While the depleted status of the stock was confirmed (24% of unfished biomass), there was evidence of higher stock productivity than originally assumed. The 2003 assessment also treated the stock as a coastwide assemblage. A yelloweye rockfish assessment was completed in 2005. While the assessment was scheduled to be an update, it turned into a full assessment by adding a new modeling platform. The assessment of the stock used the SS2 model, updated all data sources in the previous model, and also included new data sets. Further revisions in the assessment included reducing natural mortality, and increasing steepness. The assessment model treated the Pacific Coast population of yelloweye rockfish in two different ways: as a single coastwide stock and as separate and distinct sub-populations. The Council selected the coastwide model from the 2006 assessment with a biomass of 17.7% of the unfished level. The rebuilding analysis re-estimated other parameters: maximum target increased to 2096 with a harvest control rule of $F=0.0101$, and a projected OY in 2007 of 12.6 mt. The Yelloweye assessment can be categorized as quite data poor; it relies primarily on recreational CPUE information with varying data gaps. Very little fishery independent information exists. In 2004, a yelloweye rebuilding plan was adopted by the Council and established a target rebuilding year of 2058. A coastwide stock assessment update was completed for yelloweye rockfish in 2007. New data was added and errors were uncovered in the previous assessment. The biggest update was a change in the natural mortality estimate with new and better information available. Unfortunately, the results of the 2007 assessment show spawning biomass has decreased since the 2005 assessment to 16.4% of its unfished level. Total catches of Yelloweye rockfish have been below the specified OYs and ABCs since individual specifications were first established for this species in 2002. However, the stock is depleted and is not rebuilding as quickly as hoped.

F-2 Precautionary Zone Groundfish Stocks

Cabazon

Cabazon (*Scorpaenichthys marmoratus*) are distributed along the entire Pacific Coast of the continental United States. They range from central Baja California north to Sitka, Alaska. Cabazon are primarily a nearshore species found intertidally and among rocks, out to depths of greater than 100 m. Cabazon are known to spawn in recesses of natural and manmade objects, and males are reported to show nest-guarding behavior. Spawning appears to be a seasonal; it begins off California in winter and proceeds northward to Washington by spring. Spawning off California peaks in January and February while spawning in Puget Sound occurs from November to August. The young of the year spend 3–4 months as pelagic larvae and juveniles.

The status and future prospects of cabazon were first assessed in 2003. The assessment delineated two stocks (north and south) at the Oregon-California border. Due to the lack of data on the northern population, the assessment focused on only the southern population. As with most nearshore groundfish

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stocks, this assessment lacked a fishery independent index of abundance, and consequently relied on recreational CPUE indices and information about larval abundance. The 2003 depletion level of cabezon off California was estimated at 34.7%. In the 2005 assessment, the California cabezon stock was further divided north and south of Point Conception into the northern California substock (NCS) and the southern California substock (SCS). Historically, the recreational fishery has been the primary source of removals of cabezon in California; however commercial catches have become a major source of removals in the last ten years because of the developing live-fish fishery. Recreational removals were reconstructed back to 1916, when the commercial fishery began. When investigating the uncertainty, the authors determined that excluding the mean weight value for the recreational manmade fleet for 2000 led to a major reduction in the status of the SCS; the use of this data point may be the most important uncertainty of the SCS assessment. This leads to an estimated depletion level of 40.1 % (NCS) and 28.3% (SCS). Although the assessment provides information on two substocks within California, cabezon are managed on a coastwide basis for the state. The assessment authors noted that regional management is an important consideration for relatively sedentary nearshore reef species such as cabezon.

Petrale Sole

Petrale sole (*Eopsetta jordani*) are found from Cape Saint Elias, Alaska to Coronado Island, Baja California, Mexico. The range may possibly extend into the Bering Sea, but the species is rare north and west of southeast Alaska and in the inside waters of British Columbia. Nine separate breeding stocks have been identified, although stocks intermingle on summer feeding grounds. Of these nine, one occurs off British Columbia, two off Washington, two off Oregon, and four off California. Adults are found from the surf line to 550 m depth, but their highest abundance is deeper than 300 m. Adults migrate seasonally between deepwater winter spawning areas to shallower spring feeding grounds. They show an affinity to sand, sandy mud, and occasionally muddy substrates. Spawning occurs in large aggregations in the winter. Eggs are pelagic and juveniles and adults are demersal. Larvae settle after six months to the bottom of the inner continental shelf. Petrale sole tend to move into deeper water with increased age and size. Petrale sole begin maturing at three years. Half of males mature by seven years (29 cm to 43 cm) and half of the females are mature by eight years (>44 cm). Larvae are planktivorous. Small juveniles eat mysids, sculpins, and other juvenile flatfishes. Large juveniles and adults eat shrimps and other decapod crustaceans, as well as euphausiids, pelagic fishes, ophiuroids, and juvenile petrale sole. Petrale sole competes with other large flatfishes. It has the same summer feeding grounds as lingcod, English sole, rex sole, and Dover sole.

Petrale sole are harvested almost exclusively by bottom trawls in the United States Pacific Coast groundfish fisheries from Cape Flattery off northern Washington, to Point Conception off southern California. Recent petrale sole catch statistics exhibit marked seasonal variation, with substantial portions of the annual harvest taken from the spawning grounds in December and January. Petrale sole off the U.S. Pacific Coast have been managed historically using a coastwide ABC which represents the sum of ABCs calculated for the four INPFC areas. In 2005, an assessment of the petrale sole stock in U.S. waters off California, Oregon, and Washington was completed. Petrale sole in the Eureka, Monterey and Conception INPFC areas (the Southern assessment area) are assessed separately from those in the U.S. Vancouver and Columbia areas (the Northern assessment area). Although genetic information and stock structure are not well known for this species, the available data support the use of two separate assessment areas. Petrale sole in the north was estimated to be at 34% of unfished spawning stock biomass in 2005. In the south, the stock was estimated to be at 29% of unfished spawning stock biomass. Both stocks were estimated to have been below the Pacific Council's depleted threshold of 25% of unfished biomass from the mid-1970s until very recently. Petrale sole in both areas showed large recent increases in stock size, which is consistent with the strong upward trend in the shelf survey biomass index.

Sablefish

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Sablefish, or black cod, (*Anoplopoma fimbria*) are distributed in the northeastern Pacific ocean from the southern tip of Baja California, northward to the north-central Bering Sea and in the Northwestern Pacific ocean from Kamchatka, southward to the northeastern coast of Japan. Although few studies have critically evaluated issues regarding the stock structure of this species, it appears there may exist at least three different stocks of sablefish along the Pacific Coast of North America: (1) south of Monterey Bay (2) northern California to Washington; and (3) northeastern Pacific ocean, distributed off British Columbia, Canada and in the Gulf of Alaska. Adults are found as deep as 1,900 m, but are most abundant between 200 m and 1,000 m. Adults and large juveniles commonly occur over sand and mud in deep marine waters. Spawning occurs annually in the late fall through winter in waters greater than 300 m. Sablefish are oviparous with external fertilization. Eggs hatch in about 15 days and are demersal until the yolk sac is absorbed. Older juveniles and adults are benthopelagic. Older juveniles and adults inhabit progressively deeper waters. Estimates indicate that most females are mature at 5-6 years (24 inches) and most males are mature at 5 years (20 inches). Sablefish larvae prey on copepods. Pelagic juveniles feed on small fishes and cephalopods—mainly squids. Demersal juveniles eat small demersal fishes, amphipods, and krill. Adult sablefish feed on fishes and octopus. Sablefish compete with many other co-occurring species for food, mainly Pacific cod and spiny dogfish.

Formal stock assessments of sablefish began in 1984. Since 1982, the sablefish fishery has been managed intensively, with limited-entry and open-access programs used in various manners to limit catches. In 2001, two assessments were completed and reviewed by a STAR Panel. The two assessments were in agreement, and the Council adopted the NMFS assessment for management purposes. The assessment indicated a decline in biomass since the late 1970s due to the fishing down of the unfished stock and an unexpected decline in recruitment during the early 1990s, and the possibility that sablefish recruitment may be linked to environmental factors. The Council recommended a new assessment be done in 2002; which confirmed reports of a large 1999 year class, and possibly a large 2000 year class. The 2005 assessment made several changes to the format used in the previous assessment. The 2005 assessment found that spawning stock biomass has steadily declined since 1900. As a result, the stock biomass projections indicate a short-term increase, followed by a continued decline. The 2005 depletion was estimated to be 34.3%. The 2007 sablefish assessment showed that the stock has increased since the last assessment; the stock is estimated to be 38.6% depleted relative to initial unfished biomass. The stock has increased in abundance, driven largely by strong 1999 and 2000 year classes, which are now fully recruited to the fishery.

F-3 Non-overfished Groundfish Stocks

Arrowtooth flounder, Bank rockfish, Black rockfish, Blackgill rockfish, California Scorpionfish, Chilipepper rockfish, Dover sole, English sole, Gopher rockfish, Lingcod, Longnose skate, Longspine thornyhead, Pacific Whiting, Shortbelly rockfish, Shortspine thornyhead, Splitnose rockfish, Starry flounder, Yellowtail rockfish.

Arrowtooth Flounder

Arrowtooth flounder (*Atheresthes stomias*) range from the southern coast of Kamchatka to the northwest Bering Sea and Aleutian Islands to San Simeon, California. Arrowtooth flounder is the dominant flounder species on the outer continental shelf from the western Gulf of Alaska to Oregon. Eggs and larvae are pelagic; juveniles and adults are demersal. Juveniles and adults are most commonly found on sand or sandy gravel substrates, but occasionally occur over low-relief rock-sponge bottoms. Arrowtooth flounder exhibit a strong migration from shallow water summer feeding grounds on the continental shelf to deep water spawning grounds over the continental slope. Depth distribution may vary from as little as 50 m in summer to more than 500 m in the winter. Arrowtooth flounder are oviparous with external fertilization. Spawning may occur deeper than 500 m off Washington. Larvae eat copepods, their eggs, and copepod nauplii. Juveniles and adults feed on crustaceans and fish. Arrowtooth flounder exhibit two feeding peaks, at noon and midnight.

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The Pacific Coast stock of arrowtooth flounder was last assessed in 1993. A full assessment was completed in 2007, passed the STAR Panel review, and awaits acceptance by the Pacific Fisheries Management Council at the September 2007 meeting. The new assessment added abundance indices and length-composition and age data from various sources. The main source of uncertainty was estimates of severe depletion in the 1950's and 1960's, historical catch estimates, and the fixed values for natural mortality and steepness. The results show a spawning biomass of 79% of its unfished level. The outcome of this assessment will inform the 2009–10 management specifications process.

Bank Rockfish

Bank rockfish (*Sebastes rufus*) are found from Newport, Oregon, to central Baja California, Mexico, most commonly from Fort Bragg southward. Bank rockfish occur offshore from depths of 31–247 m. Observations of commercial catches indicate juveniles occupy the shallower part of the species range. Bank rockfish are a midwater, aggregating species and are found over hard bottoms, over high relief or on bank edges, and along the ledge of Monterey Canyon. Spawning occurs from December to May. Peak spawning of bank rockfish in the Southern California Bight occurs in January, and a month later in Central and Northern California. Off California, bank rockfish are multiple brooders. Females grow to a larger maximum size (50 cm) than males (44 cm), but grow at a slightly slower rate. Bank rockfish are midwater feeders, eating mostly gelatinous planktonic organisms such as tunicates, but also preying on small fishes and krill.

Bank rockfish was semi-assessed in 2000 south of 40°30' N. Lat. The data was limited in the assessment, and the outcome was indeterminate. Some evidence in the 2000 assessment shows the stock has been declining, but the results were untrustworthy.

Black Rockfish

Black rockfish (*Sebastes melanops*) are found from Southern California to the Aleutian Islands and they occur most commonly from San Francisco northward. Black rockfish occur from the surface to greater than 366 m; but are common at depths less than 54 m. Off California, black rockfish are found along with blue, olive, kelp, black-and-yellow, and gopher rockfishes. Off Oregon, larger fish seem to be found in deeper water (20–50 m). Black rockfish off the northern Washington coast exhibit no significant movement. However, fish appear to move from the central Washington coast southward to the Columbia River. Movement displayed by black rockfish off the northern Oregon coast is primarily northward to the Columbia River. Black rockfish larvae and young juveniles are pelagic, but are benthic at larger sizes. Black rockfish have internal fertilization and annual spawning. Parturition occurs from February through April off British Columbia, January through March off Oregon, and January through May off California. Spawning areas are unknown, but spawning probably occurs offshore. Black rockfish can live to be more than 20 years in age. The maximum length attained by the black rockfish is 60 cm. In the north, they primarily prey on anchovies and smelt, and zooplankton such as salps, mysids, and crab megalops. Off Central California, juveniles eat copepods and zoea, while adults prey on juvenile rockfish, euphausiids, and amphipods during upwelling periods.

The most recent black rockfish assessment was completed in 2003 and pertains to the southern stock (Oregon and California). Previous assessments have been completed for the northern stock (Cape Falcon to the US-Canada border). The base model assumed cumulative landings of black rockfish from all fisheries was 17,100 mt from 1945 to 1977. The northern California-Oregon stock of black rockfish was concluded to be in healthy condition; its 2002 spawning output, estimated to be at 49% of its unexploited spawning level. In 2007, full stock assessments were completed for both the northern and southern stocks. The northern stock was shown to be healthy, with an estimated spawning output of 43.8%. The southern stock of black rockfish was concluded to be in healthy condition as well; its spawning output, estimated to be at 75% of its unexploited spawning level.

Blackgill Rockfish

Blackgill rockfish, also known as Blackmouth rockfish (*Sebastes melanostomus*) are found in deeper waters, ranging from 87–768 m, but are most abundant from 300–600 m. Adults are usually associated with rocky outcrops. They range from Washington to central Baja California but are relatively rare off Oregon and Washington. Juveniles circulate in the plankton for up seven months and likely disperse over long distances before settling to the bottom. This prolonged pelagic phase is consistent with the hypothesis of a single biological population or stock. As with other species of *Sebastes*, fertilization is internal and females give birth to fully formed planktonic larvae during the winter. Off southern California, the peak month for gravid (pregnant) females is February. The planktonic phase is prolonged with settlement to the bottom usually occurring after 3–4 months. Literature suggests that juvenile blackgill rockfish settle to the bottom at depths greater than 185 m. Immature blackgill rockfish probably move onto rocky outcrops as they reach sexual maturity.

Blackgill rockfish are a part of the *Sebastes* complex often referred to as “remaining rockfish” because they are managed as a group without species-specific estimates of ABCs and harvest guidelines. Blackgill rockfish landings can be attributed almost entirely to the commercial fishery in California. The first assessment for blackgill rockfish was conducted in 1998. That assessment assumed a unit stock in southern and central California. The dynamics of the simple model were tuned to average mortality rates from catch curves and landings data. Fishery selectivity was assumed to mirror maturity at size/age; trends in fishable/mature biomass were then estimated. Although blackgill rockfish has been formally assessed, it is still managed as part of the southern *Sebastes* complex; aggregate ABCs and OYs are established from this complex using the harvest targets of some component individual species, such as blackgill rockfish. In 2005 a stock assessment of blackgill rockfish was completed. This assessment expanded the geographic range to include the Monterey and Conception INPFC areas, where over 90% of the landings have occurred. The assessment is based on catch and length composition data from commercial fisheries and indices of relative abundance and size composition from the AFSC shelf trawl survey and the AFSC slope survey. The modeling approach, SS2, takes advantage of fishery and survey length compositions to explicitly estimate selectivity. The base model estimated depletion to be 52.3% of the unfished spawning biomass, within a range of 36–67% depending upon the assumed natural mortality rate.

California Scorpionfish

California scorpionfish (*Scorpaena guttata*), is a generally benthic species found from central California to the Gulf of California in depths between the intertidal and about 170 m. California scorpionfish generally inhabit rocky reefs, but in certain areas and seasons they aggregate over sandy or muddy substrate. Catch rate analysis and tagging studies show that most, California scorpionfish migrate to deeper water to spawn during May-September. California scorpionfish are quite mobile and may not be permanently tied to a particular reef. California scorpionfish spawn from May through August, peaking in July. The species is oviparous, producing floating, gelatinous egg masses. Few California scorpionfish are mature at 1 year of age, but over 50% are mature by age two and most are mature by age three. The species feeds on a wide variety of foods, including crabs, fishes, octopi, isopods and shrimp, but juvenile *Cancer* crabs are the most important prey.

Before the 2005 assessment, no assessment had been carried out for California scorpionfish. Only the stock off of southern California has been assessed. Data used in the model (SS2 version) included commercial and recreational landings, a fishery dependent CPUE statistic determined from analysis of CPFV logbook trip data from 1980-1999, a fishery independent index of abundance, and length-frequency data. The base case assessment estimated the 2005 biomass to be at 80% of its unfished level.

Chilipepper Rockfish

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Chilipepper rockfish (*Sebastes goodei*) are found from Magdalena Bay, Baja California, Mexico, to as far north as the north Pacific Coast of Vancouver Island, British Columbia. Chilipepper have been taken as deep as 425 m, but nearly all in survey catches were taken between 50–350 m. Adults and older juveniles usually occur over the shelf and slope; larvae and small juveniles are generally found near the surface. In California, chilipepper are most commonly found associated with deep, high relief rocky areas and along cliff drop-offs, as well as on soft bottoms. Chilipepper are ovoviparous and eggs are fertilized internally. Chilipepper school by sex just prior to spawning. In California, spawning occurs from September to April with the peak occurring during December to January. Females are larger than males, and mature at 2–5 years with 50% mature at 3–4 years. Females may attain an age of about 27 years, whereas the maximum age for males is about 12 years. Larval and juvenile chilipepper eat all life stages of copepods and euphausiids, adults prey on large euphausiids, squid, and small fishes such as anchovies, lanternfish, and young Pacific whiting. Chilipepper are found with widow rockfish, greenspotted rockfish, and swordspine rockfish.

Chilipepper rockfish were last assessed in 1998, at which time the stock was estimated to be at 46–61% of unfished biomass. Due to constraints of co-occurring depleted species, the catch of chilipepper rockfish has been reduced to incidental levels. A new stock assessment was completed for chilipepper rockfish in 2007. The relative depletion level was reported as healthy, at 71%. According to the base model result, the spawning biomass has more than doubled in a relative short time period (8 years), due primarily to a strong 1999 year class and reduced chilipepper harvest levels in recent years.

Dover Sole

Dover sole (*Microstomus pacificus*) are distributed from the Navarin Canyon in the northwest Bering Sea and westernmost Aleutian Islands to San Cristobal Bay, Baja California, Mexico. Dover sole are a dominant flatfish on the continental shelf and slope from Washington to Southern California. Adults are demersal and are found from 9–1,450 m, with highest abundance below 200–300 m. Adults and juveniles show a high affinity toward soft bottoms of fine sand and mud. Dover sole are considered to be a migratory species. Spawning occurs from November through April off Oregon and California at or near the bottom. Dover sole are oviparous and fertilization is external. Larvae are planktonic and settlement to benthic living occurs mid-autumn to early spring off Oregon, and February through July off California. Dover sole larvae eat copepods, eggs, and nauplii, as well as other plankton. Juveniles and adults eat polychaetes, brittlestars, and small benthic crustaceans.

Dover sole have been the target of trawl operations along the Pacific Coast of North America since the 1940s. Almost all of the harvests have been taken by groundfish trawl, and in particular as part of the Dover sole, shortspine thornyhead, longspine thornyhead, and sablefish (DTS) trawl fishery. The 1997 Dover sole stock assessment treated the entire population from the Monterey area through the U.S./Vancouver area as a single stock. The 1997 model projected an increase in spawning biomass through the year 2000 due to an exceptionally large 1991 year class. Dover sole were next assessed in 2001, resulting in an estimated spawning stock size of 29% of the unexploited biomass. Although there was no clear trend in abundance, stocks steadily declined from the 1950s until the mid-1990s. The 1991 year class was a strong one. The Council adopted an ABC of 8,510 mt and an OY of 7,440 mt in 2005 and 2006. A Dover sole reassessment was done in 2005 which indicated the stock was above target levels and had an increasing abundance trend. The final base model estimated the unexploited spawning stock biomass to be slightly less than 300,000 mt and spawning biomass at the start of 2005 was estimated to be 63%. The estimated increases in biomass since the mid-1990s are due primarily to strong year classes in 1990–1991, and 1997 and 2000.

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English Sole

English sole (*Parophrys vetulus*) are found from Nunivak Island in the southeast Bering Sea and Agattu Island in the Aleutian Islands, to San Cristobal Bay, Baja California Sur, Mexico; at depths greater than 250 m. Adults and juveniles prefer soft bottoms composed of fine sands and mud and eelgrass habitats. English sole use nearshore coastal and estuarine waters as nursery areas. Adults make limited migrations. Tagging studies have identified separate stocks based on this species' limited movements and meristics. Spawning occurs over soft-bottom mud substrates from winter to early spring, depending on the stock. Juveniles and adults are demersal. Small juveniles settle in the estuarine and shallow nearshore, but are less common south of Point Conception. Some females mature at 3 years (26 cm), but all females over 35 cm in length are mature. Males mature at 2 years (21 cm). Larvae are planktivorous. Juveniles and adults are carnivorous, eating small crustaceans and polychaetes, clam siphons, and other benthic invertebrates.

English sole have been captured by the bottom trawl fishery operating off the western coast of North America for over a century. Stewart (2006) found that peak catches from the southern area occurred in the 1920s. Landings have generally declined since the mid 1960s and have been at nearly historical lows in recent years. The 1993 assessment used an earlier version of the Stock Synthesis program. The assessment considered the female portion of the stock off Oregon and Washington during the years 1977–1993. The English sole spawning biomass was found to be increasing, and it was concluded that the fishery was sustainable. The 2005 assessment of English sole modeled a single coastwide stock. The assessment found that English sole spawning biomass has increased rapidly over the last decade. There was a period of poor recruitments from the mid 1970s to the mid 1990s, which left the stock at nearly historically low levels. However, strong year classes were estimated for 1995, 1996, and 1999. The data indicate that the 1999 year class may be the largest. The conclusion that current spawning biomass exceeded the target level was robust; 91.5% of the unfished level. The 2007 updated assessment used revised catch data from 1981–2006 and a new recruitment bias-correction procedure, resulting in higher estimates of recent years class strength and higher estimates of initial unfished, spawning biomass. The 2006 stock size is estimated at 116% of initial unfished biomass, which is projected to decrease as recent strong year classes diminish in the population.

Gopher Rockfish

The geographical range of gopher rockfish (*Sebastes carnatus*) is reported from Eureka, California to Punta San Roque, Baja California, although they are rare north of central California. Gopher rockfish have been observed from the intertidal to depths of 264 ft, but adults are usually found at depths between 40 and 120 ft. Gopher rockfish prefer to occupy rocky habitats of nearshore kelp forests. They are found on the same reefs as kelp, blue, and olive rockfishes. Like other *Sebastes*, gophers have internal fertilization. Females release larvae from January through May, peaking in March. After 30-90 days, larvae settle out of the plankton into kelp canopies. Survival and subsequent recruitment of gophers are highly variable from year to year. They reach a maximum recorded length of 17 inches. Males grow at a slightly faster rate and reach maximum size at a younger age than females. Maximum age of gopher rockfish is 35 years, but few fish have been estimated older than 20 years. Movement of adult gopher rockfish is limited and their home range is usually rather small. Gopher rockfish primarily feed at night on benthic crustaceans such as shrimp and small crabs, smaller fishes, gastropods and cephalopods. Juveniles prey mostly on zooplanktors such as cyprids (barnacles).

The Gopher rockfish stock was assessed for the first time in 2005. Although the distribution of gopher rockfish extends south into the Southern California Bight, the assessment was restricted to the stock north of Pt. Conception. The assessment is based on landings and length composition data from commercial and recreational fisheries. These data sources were used to estimate population trends from 1965 to 2004. There are no fishery-independent indices of stock biomass for gopher rockfish. Results indicate an upward trend in gopher rockfish biomass since the 1980s and estimates of 2005 abundance ranged

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between 60–110% of unfished stock size. The assessment is considered uncertain due to its poor data quality. Gopher rockfish, therefore, will continue to be managed from within the southern minor nearshore rockfish species complex, but the information provided in the stock assessment will be used to inform the harvest specifications set for that complex. Gopher rockfish cannot be managed separately from other nearshore rockfish species without significantly increasing bycatch.

Lingcod

Lingcod (*Ophiodon elongatus*), a top order predator of the family Hexagrammidae, ranges from Baja California, Mexico, to Kodiak Island. Lingcod are demersal at all life stages. Adult lingcod prefer two main habitat types: slopes of submerged banks 10–70 m below the surface with seaweed, kelp, and eelgrass beds and channels with swift currents that flow around rocky reefs. Juveniles prefer sandy substrates in estuaries and shallow subtidal zones. As the juveniles grow they move to deeper waters. Mature males may live their whole lives associated with a single rock reef. Spawning generally occurs over rocky reefs in areas of swift currents. After the females leave the spawning grounds, the males remain in nearshore areas to guard the nests until the eggs hatch. Hatching occurs in April off Washington, but as early as January and as late as June at the geographic extremes of the lingcod range. Males begin maturing at about two years (50 cm), whereas females mature at three plus years (76 cm). The maximum age for lingcod is about 20 years. Lingcod are a visual predator, feeding primarily by day. Larvae are zooplanktivores. Small demersal juveniles prey upon copepods, shrimps, and other small crustaceans; while larger juveniles shift to clupeids and other small fishes. Adults feed on demersal fishes, squids, octopi, and crabs.

Lingcod have been a target of commercial fisheries since the early 1900's in California. Recreational fishermen have targeted lingcod since the 1920's in California. Historically the catches of lingcod have been greater in the commercial sector than in the recreational sector, this pattern has been reversed since the late 1990's. In 1997, United States scientists assessed the size and condition of the portion of the stock in the Columbia and Vancouver areas, and concluded the stock had fallen to below 10% of its unfished size. The Council responded by imposing substantial harvest reductions coastwide. In 1999, scientists assessed the southern portion of the stock and concluded the condition of the southern stock was similar to the northern stock, thus confirming the Council had taken appropriate action. Based on these assessments, the lingcod stock was declared depleted in 1999. Jagielo et al. (2000) conducted a coastwide lingcod assessment and determined the total biomass increased in 2000. In addition, the assessment concluded previous aging methods portrayed an older population; whereas new aging efforts showed the stock to be younger and more productive. The ABC and OY were increased in 2001 on the basis of the new assessment. A revised rebuilding analysis of coastwide lingcod was adopted by the Council in September 2001. A coastwide assessment update was completed in 2003 and approved by the Council in March 2004 for use in setting harvest specifications for the 2005–2006 biennium. Separate age-structured assessment models were constructed for northern areas and southern areas. Results from these two models were combined to obtain coastwide estimates: that lingcod had achieved the rebuilding objective in the north, but not in the south. The spawning biomass at the start of 2004 was just below B40%, not yet rebuilt. The lingcod rebuilding plan was adopted by the Council and incorporated into the groundfish FMP under Amendment 16-2 with a target rebuilding year of 2009. The 2005 assessment used the SS2 program and, as in previous lingcod assessments, constructed two separate models of the stock by areas. The uncertainties within the assessment included sparseness of data. On a coastwide basis, the lingcod population was concluded to be fully rebuilt, in 2005. The spawning biomass was estimated to be 64% of its unfished level (87% in the north and 24% in the south). Given that the lingcod stock is managed on a coastwide basis, the Council announced the lingcod stock to be fully rebuilt in 2005, four years earlier than the target rebuilding year.

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Longnose Skate

The distribution of the longnose skate (*Raja rhina*) is limited to the eastern Pacific Ocean between 61° N Lat. and 28° N Lat. It is found as far north as Navarin Canyon in the Bering Sea and Unalaska Island in Alaska to as far south as Cedros Island, Baja California in Mexico at depths of 25–684 m. There is probably a high degree of genetic mixing within the population. As a result, the longnose skate population off the United States was modeled as a single stock in the 2007 assessment. The life history is characterized by late maturity, low fecundity and slow growth to large body size. The longnose skate is oviparous, and probably lays eggs throughout the year. After fertilization, the female forms a leathery egg case (about 10×6 cm) that surrounds one or more eggs. After several months the female deposits the egg case onto the sea floor where the eggs incubate for several months. When the yolk is depleted and the juvenile fully formed, it hatches. On average, longnose skate mature at ages ranging from six to nine years. The life span of this species is not well known, although individuals up to 23 years of age have been found. Longnose skates attain a maximum length of about 145 cm.

The longnose skate is grouped with other unrelated species (“Other Fish”) for the purposes of specifying annual ABCs and OYs. Combined landings of species within this category are typically well below the specified OY. As a result, landings of species in this category are not actively monitored throughout the year, nor have they been subject to trip-limit management. They are taken mostly as bycatch in commercially important trawl fisheries. Little is known about the species composition of Pacific Coast skate fisheries, particularly prior to 1990. The 2007 Longnose skate assessment is the first for this species. The spawning stock is estimated to be 66% of initial, unfished biomass. Projected depletion rates under the most likely catch scenario indicate the stock will remain above the 40% depletion level for the next 10 years. The magnitude of historical catches and the catchability of the longnose skate were major sources of uncertainty.

Longspine Thornyhead

Longspine thornyhead (*Sebastolobus altivelis*) are found from the southern tip of Baja California, Mexico, to the Aleutian Islands, but are north of San Diego. Juvenile and adult longspine thornyhead are demersal and occupy benthic habitats. Off Oregon and California, longspine thornyhead mainly occur at depths of 400 m to 1,400 plus m, most between 600 m and 1,000 m. Juveniles settle on the continental slope at about 600 m to 1,200 m. Longspine thornyhead live on soft bottoms, do not school nor aggregate. Longspine thornyhead are oviparous and are multiple spawners, releasing two to four batches per season (February and March). Juveniles occur in midwater but after settling, they are strictly benthic. Longspine thornyhead can grow to 38 cm and live more than 40 years. Longspine thornyhead reach the onset of sexual maturity at 17 cm to 19 cm total length. Longspine thornyhead are ambush predators, consuming fish fragments, crustaceans, bivalves, and polychaetes. Pelagic juveniles prey largely on herbivorous euphausiids.

Longspine thornyhead are exploited in the limited entry deep-water trawl fishery operating on the continental slope that also targets shortspine thornyhead, Dover sole and sablefish (the DTS fishery). A very small proportion of longspine landings is due to non-trawl gears. Longspine and shortspine thornyhead make up a single market category, however they have been managed under separate harvest specifications since 1992. The thornyhead fishery developed in Northern California during the 1960s. The fishery then expanded north and south, and the majority of the landings of longspine thornyhead have since been in the Monterey, Eureka, and Columbia INPFC areas. Longspine thornyhead were assessed in 2005; the previous assessment was conducted in 1997. The model assumed one coastwide stock. Results from the base model show the spawning biomass in 2005 was approximately 71% of unfished spawning biomass, but this estimate is highly uncertain.

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Pacific Whiting

Pacific whiting (*Merluccius productus*), also known as Pacific hake, are a semi-pelagic cod-like fish that range from Sanak Island in the western Gulf of Alaska to Magdalena Bay, Baja California Sur, Mexico. They are most abundant in the California Current System; however, smaller populations occur in several larger semi-enclosed inlets. The highest densities of Pacific whiting are usually between 50 m and 500 m. Pacific whiting school at depth during the day, then move to the surface and disband at night for feeding. Coastal stocks spawn off Baja, California from December through March, peaking in late January; then the mature adults begin moving northward and inshore following food supply. Whiting reach as far north as southern British Columbia by fall. They then begin a southern migration to spawning grounds further offshore. Pacific whiting are oviparous with external fertilization. Hatching occurs in five days to six days; juveniles move to deeper water as they get older. Females mature at three years to four years (34 cm to 40 cm) and nearly all males are mature by three years (28 cm). All life stages feed near the surface late at night and early in the morning. Larvae eat calanoid copepods. Juveniles and small adults feed chiefly on euphausiids. Large adults also eat amphipods, squid, herring, smelt, and crabs.

The history of the coastal whiting fishery is characterized by rapid changes brought about by the development of foreign fisheries in 1966, joint-venture fisheries in the early 1980s, and domestic fisheries in 1990s. The coastwide whiting stock is assessed annually by a joint technical team of scientists. The 2001 assessment incorporated 2001 hydroacoustic survey data and showed the spawning stock biomass declined substantially. The stock assessment estimated the biomass was 0.7 million mt, and the female spawning biomass was less than 20% of the unfished level. This was substantially lower than indicated in the 1998 assessment. Therefore, NMFS declared the whiting stock depleted in April 2002. The stock was projected to be near 25% of the unfished biomass in 2002 and above the “depleted cut-off” in 2003. The 2004 whiting stock assessment, incorporated new data from the 2003 hydroacoustic survey, estimated the spawning stock biomass at the beginning of 2004 between 47% and 51% of unfished biomass; the stock was declared rebuilt. Furthermore, recalculations showed that the stock approached, but never fell below, the threshold. The 2005 whiting stock assessment considered two alternative and equally plausible models based on the value for the catchability coefficient (q) for the hydroacoustic survey. Under the base model, which the Council adopted, the 2004 coastwide depletion level was estimated to be 0.50. Unlike the 2005 assessment, the 2006 assessment was based on the SS2 model. The assessment considered two alternative and equally plausible models based on the value for the catchability coefficient (q) for the hydroacoustic survey, $q=1$ and $q=0.69$. The Council adopted 2006 ABC and OY values based on the base model that was more conservative. The base model estimated the depletion level of the coastwide stock to be 31%. The assessment reinforced the importance of the 1999 year class, and as this class dies off, the spawning biomass is predicted to decline for almost any level of harvest.

Shortbelly Rockfish

Shortbelly rockfish (*Sebastes jordani*) are found from San Benito Islands, Baja California, Mexico, to La Perouse Bank, British Columbia. The habitat of the shortbelly rockfish is wide ranging. Shortbelly rockfish inhabit waters from 50 m to 350 m in depth on the continental shelf and upper slope. Adults commonly form very large schools over smooth bottoms near the shelf break. During the day shortbelly rockfish are found near the bottom in dense aggregations. At night they are more dispersed. Shortbelly rockfish are viviparous, bearing advanced yolk sac larvae. Shortbelly rockfish spawn off California during January through April. Larvae metamorphose to juveniles at 27 mm. A few shortbelly rockfish mature at age two, while nearly all are mature by age four. They live to be about ten years old with the maximum recorded age being 22 years. Shortbelly rockfish feed primarily on various life stages of euphausiids and calanoid copepods.

The 2007 stock assessment update incorporated new data sets like CalCOFI larval abundance. Unfortunately, data were inadequate to provide a meaningful estimate of steepness, data sets do not exist

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before 1975, and there is a lack of fishery-independent data. The resulting depletion level of the stock in 2005 was 73% of the averaged unfished level. The results demonstrate that the biomass of shortbelly rockfish has fluctuated substantially over time, with major declines apparent between the 1950s and 1960s, and from the early 1990s to the present. The model clearly suggests a long period of poor recruitment through most of the 1990s.

Shortspine Thornyhead

Shortspine thornyhead (*Sebastolobus alascanus*) are found from northern Baja California, Mexico, to the Bering Sea and occasionally to the Commander Islands north of Japan. They are common from Southern California northward. Shortspine thornyhead inhabit areas over the continental shelf and slope. Shortspine thornyhead mainly occur in depths between 100–1,400 m off Oregon and California, most commonly between 100–1,000 m. Spawning occurs in February and March off California. Shortspine thornyhead are thought to be oviparous, although there is no clear evidence to substantiate this. Larvae are pelagic for about 12 months to 15 months. During January to June, juveniles settle onto the continental shelf and then move into deeper water as they become adults. They begin to mature at five years; all are mature by 28 years. Individuals are reported to live to over 100 years of age. Benthic individuals are ambush predators and eat a variety of invertebrates such as shrimps, crabs, and amphipods, as well as fishes and worms.

Shortspine thornyhead are a major component of the deepwater fishery on the continental slope, especially the trawl fishery for Dover sole, thornyheads, and sablefish. The two thornyhead species are often difficult to distinguish, and historical landings data combine the two into a single category; even though the species have been managed under separate specifications since 1992. The assessment of shortspine thornyhead in 1997 covered the area from Central California to the United States/Canada border, but the results were inconclusive. In 1998, two separate stock assessments were prepared and accepted by the Council. A synthesis of these two assessments was used to set the harvest specifications 1999 and 2000; and estimated 1999 depletion at 32%. The 2001 assessment was extended south to Point Conception. There were a range of uncertainties in the 2001 assessment, mainly estimated biomass. The authors concluded the 2001 spawning biomass ranged between 25–50 % of unexploited spawning biomass. The authors also concluded that the trend in stock biomass was increasing and the stock was not depleted. The 2005 assessment extended the southern border of the assessment area from Pt. Conception to the Mexican border. Because of the sparseness and quality of the data, natural mortality, steepness and the catchability coefficient were all fixed. The STAR Pane noted that the biomass levels should be considered with caution. The assessment estimated the spawning biomass for 2005 to be 63% of unfished level, with a weakly falling trend. It was also noted that there could be regional management concerns with this stock because the assessment OY is coastwide.

Splitnose Rockfish

Splitnose rockfish (*Sebastes diploproa*) occur from Prince William Sound, Alaska to San Martin Island, Baja California, Mexico. Splitnose rockfish occur from shallow water to 800 m, with most survey catches occurring in depths of 100 m to 450 m. Benthic splitnose rockfish associate with mud habitats. Young occur in shallow water, often at the surface under drifting kelp. Splitnose rockfish have a pelagic larval stage, a prejuvenile stage, and a benthic juvenile stage. Splitnose rockfish are ovoviviparous and release yolk sac larvae. They may have two parturition seasons, or may possibly release larvae throughout the year. In general, the main parturition season get progressively shorter and later toward the north. Splitnose rockfish growth rates are faster in the north. Off California, 50% maturity occurs at 21 cm, or five years of age, whereas off British Columbia 50% of individuals are mature at 27 cm. Adults can achieve a maximum size of 46 cm. Females have been aged to 81 years. Adult splitnose rockfish off Southern California feed on midwater plankton, primarily euphausiids; they are primarily nocturnal. Juveniles feed mainly on planktonic organisms.

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Splitnose rockfish was semi-assessed north of 40°30' N. Lat. This species has been on a list of possible stock assessments for sometime, and a full assessment is needed.

Starry Flounder

Starry flounder (*Platichthys stellatus*) have a very broad geographic distribution and have been recorded from Los Angeles to the Aleutian Islands, although they are rare south of Point Conception. Starry flounder are found commonly in nearshore waters, especially in the vicinity of estuaries. Most individuals occur in waters less than 80 m, although specimens have been collected off the continental shelf (>350 m). They are most often found on gravel, sand, and mud substrata. Spawning occurs primarily during the winter months of December and January; it may occur somewhat later in the year (February-April) off British Columbia and Washington. Egg/larval development apparently takes about 2–3 months to occur. Offspring principally remain within the estuaries until age 2. Reproductive maturity occurs at 2 years for males and 3 years for females, when the fish are 28 cm and 35 cm, respectively. Tagging studies have shown that fish are relatively sedentary; however there is little information on regional variation in stock structure. Starry flounder consume crabs, shrimps, worms, clams and clam siphons, other small mollusks, small fish, and nemertean worms.

The United States Pacific Coast starry flounder stock was first assessed in 2005. The assessment is based on the assumption of separate biological populations north and south of the CA/OR border. Unlike most other groundfish stock assessments, no age- or length-composition data are directly used in the assessment. Both the northern and southern populations are estimated to be healthy (44% of SB0 in Washington-Oregon and 62% in California), although the status of this data-poor species remains fairly uncertain. One of the most significant areas of uncertainty is the estimate of natural mortality rate, which was quite high.

Yellowtail Rockfish

Yellowtail rockfish (*Sebastes flavidus*) range from San Diego, California, to Kodiak Island, Alaska. The center of yellowtail rockfish abundance is from Oregon to British Columbia. Yellowtail rockfish are a common, demersal species abundant over the middle shelf. Yellowtail rockfish are most common near the bottom. Adults are considered semi-pelagic or pelagic. Adult yellowtail rockfish occur along steeply sloping shores or above rocky reefs, but they can be found above mud with cobble, and sand habitats. Yellowtail rockfish form large (sometimes greater than 1,000 fish) schools and can be found alone or in association with other rockfish. Yellowtail rockfish are viviparous and mate from October to December. Parturition peaks in February and March and from November to March off California. Young-of-the-year pelagic juveniles often appear in kelp beds beginning in April and live in and around kelp. Male yellowtail rockfish are 34 cm to 41 cm in length (5–9 years) at 50% maturity, females are 37 cm to 45 cm (6–10 years). Yellowtail rockfish are long-lived and slow-growing; the oldest recorded individual was 64 years old. They have a high growth rate relative to other rockfish species. Large juveniles and adults eat fish (small Pacific whiting, Pacific herring, smelt, anchovies, lanternfishes), along with squid, krill, and other planktonic organisms (euphausiids, salps, and pyrosomes).

Until the late 1990's, yellowtail rockfish were harvested as part of a directed midwater trawl fishery. However because it co-occurs with several other rockfishes, including canary and widow rockfish, yellowtail rockfish fishing opportunity has been substantially curtailed. Since the end of 2002, there have been no landings limits that provide directed mid-water fishing opportunities for yellowtail rockfish in non-tribal trawl fisheries. The last full assessment of the northern stock areas was conducted in 2000, and it was then updated in 2003. The Council manages the United States fishery as two stocks separated at Cape Mendocino, California. The stock assessment of yellowtail rockfish was most recently updated in 2005. As in the past, the 2005 update assessment includes only the northern stock. Since 1995 the spawning biomass has remained above 40% of unfished levels.

F-4 Unassessed Groundfish Stocks

Aurora rockfish, big skate, black-and-yellow rockfish, blue rockfish, bronzespotted rockfish, brown rockfish, butter sole, calico rockfish, California skate, China rockfish, copper rockfish, curlfin sole, dusky/dark rockfish, finescale codling, flag rockfish, flathead sole, freckled rockfish, grass rockfish, greenblotched rockfish, greenspotted rockfish, greenstriped rockfish, harlequin rockfish, honeycomb rockfish, kelp greenling, kelp rockfish, leopard shark, Mexican rockfish, olive rockfish, Pacific cod, Pacific grenadier, Pacific sanddab, pink rockfish, quillback rockfish, ratfish, redbanded rockfish, redstripe rockfish, rex sole, rock sole, rosethorn rockfish, rosy rockfish, rougheyeye rockfish, sand sole, sharpchin rockfish, shortraker rockfish, silvergray rockfish, soupfin shark, spiny dogfish, speckled rockfish, squarespot rockfish, starry rockfish, striptail rockfish, swordspine rockfish, tiger rockfish, treefish, vermilion rockfish, yellowmouth rockfish.

Aurora Rockfish

Aurora rockfish (*Sebastes aurora*) are found from Langara Island, British Columbia to Isla Cedros, Baja California. Aurora rockfish are common offshore and occupy upper slope habitats. They range in depth from 125–893 m, with nearly 96% occurring from 300–500 m. Larvae are pelagic and occur from 110 to 170 km from shore. In a study conducted in the California Bight, Moser et al. (2000) reported that aurora rockfish larvae collected by plankton tows were almost exclusively in waters over the continental shelf at depths less than 200 m. Adults and juveniles are found in soft- and hard-bottom habitats on the continental slope/basin. Aurora rockfish spawn during March through May off northern and central California and in June off British Columbia. Aurora rockfish transform from pelagic larvae to pelagic juveniles at about 13 mm standard length, and they transform from pelagic juveniles to benthic juveniles at about 38 mm standard length. They settle to benthic habitats at about 3–4 months of age. They have been aged up to about 75 years. Aurora rockfish are a minor component of trawl catches from deep, soft-bottom habitats, and are sometimes taken in sablefish traps. They are only occasionally taken in sport fisheries.

Big Skate

Big skates (*Raja binoculata*) are found from the eastern Bering Sea to Cabo Falsa, southern Baja California, Mexico, but are uncommon south of Point Conception. Big skates are relatively abundant in northern and central California, but are not common south of Point Conception. The big skate occupies inner and outer shelf areas, particularly on soft bottom. Juveniles are associated with soft bottom sediments. Big skates have a low rate of fecundity. The egg case is unique among skates because it can measure up to 30 cm in length and can contain up to 7 eggs per case with an average of 3–4. There is no conclusive evidence of egg-laying seasonality or how long the embryos stay in the egg before hatching. Egg cases of big skates are deposited on the bottom. The big skate is a long-lived species that grows and matures slowly. Off central California, some males may mature by age 6, but most are mature by age 10–11. Most females were mature by age 12. They probably live to be 20–30 years of age. Big skate can reach 2.4 m in length, but skates longer than 1.8 m are uncommon. Big skate adults feed on crustaceans, small benthic fishes, polychaete worms, and mollusks. Juveniles consume primarily polychaete worms and mollusks. Coastal trawl fleets account for the majority of the catch off the Pacific Coast, although they are generally taken as bycatch in other fisheries. Only the pectoral fins, or “wings,” are bought commercially. Big skates are also occasionally taken by recreational fishers, particularly in Monterey Bay and San Francisco Bay.

Black-and-yellow Rockfish

Black-and-yellow rockfish (*Sebastes chrysomelas*) are found from Cape Blanco, Oregon to central Baja California and are common central California southward to about Point Conception. Black-and-yellow rockfish are morphologically indistinguishable from gopher rockfish (*S. carnatus*), but they have different color patterns and inhabit different depths. Black-and-yellow rockfish occur from the intertidal zone down to 37 m, but are most common in waters less than 18 m in kelp beds and rocky areas. Pelagic

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juveniles spend only a short period in the nearshore water column. Juvenile black-and-yellow rockfish live in the surface kelp canopy. Once assuming a bottom residence, young apparently sequester in cracks and holes. Adults are demersal, sedentary residents. Black-and-yellow rockfish defend their territories from all but very small fish. Black-and-yellow rockfish reach sexual maturity at 3–4 years, at sizes of about 135 mm. Mating occurs from late January to early February. Females then carry eggs internally until hatching, which occurs from March to May. Planktonic larvae settle in their adult habitats in early summer. Black-and-yellow rockfish grow to 39 cm and have been aged to 30 years. Small black-and-yellow rockfish eat zooplankton such as copepods and crab larvae and larger ones eat crabs, shrimp, and occasionally fish and octopi. Black-and-yellow rockfish are commonly taken by recreational fishers, divers, and charter vessels. They are commonly caught by fishers from shore. Black-and-yellow rockfish are taken commercially primarily in central California in the live-fish fishery.

Blue Rockfish

Blue rockfish (*Sebastes mystinus*) are found from Punto Santo Tomas, Baja California to at least Sitka, Alaska. Blue rockfish range in depth from the intertidal to 549 m, but adults are usually taken over rocky depths of 25 to 90 m. They are not caught in large numbers south of the Channel Islands or north of Eureka, California. Blue rockfish adults show a strong affinity for kelp forests. North of Point Conception, they will school with olive and black rockfish; in the south they are found schooling with kelp bass, olive rockfish, blacksmith, and halfmoon. In southern California, mating begins in November and continues through early spring. Blue rockfish may give birth twice in a breeding season. Embryonic development is internal, and larvae are born at about 3.5 mm. Larvae and young juveniles are pelagic, whereas older juveniles, subadults, and adults are semi-demersal or demersal. Larvae live in the surface waters for several months. Young blue rockfish (3.5–4 cm) settle in nearshore rocky habitats. It is estimated that 50% of males are mature at age 5 and 50% of females at age 6. Nearly all are mature by age 11. Females tend to be larger than males after maturation, and females and males can live as old as 41 and 44 years, respectively. Tunicates, hydroids, jellyfishes, salps, crustaceans such as krill and pelagic red crab, and larval and juvenile fishes are the main prey items of the blue rockfish. Algae are also a significant component of their diet during the summer months. Blue rockfish is a popular species for recreational anglers, especially off Oregon and California. Small catches are made in commercial fisheries with a variety of methods, including midwater trawl, hook and line, and traps, although catches are increasing with a new fishery for live rockfish. The first stock assessment for Blue rockfish was completed in 2007 for the area north of Point Conception to the California-Oregon boarder. The STAR Panel has yet to report on the assessment, and the Council will decide on the assessment's merit for management purposes at the mop-up later this year (2007). Preliminary reports show a healthy stock, although the major uncertainty lies with catch estimates. The model is not in SS2, another issue addressed by the SSC.

Bronzespotted Rockfish

Bronzespotted rockfish (*Sebastes gilli*) occur from Punta Colnett, Baja California, Mexico to Eureka, California. Bronzespotted rockfish were historically relatively common in deeper waters of southern California, from 200–290 m. Adults are collected at depths of 75–413 m and inhabit high-relief rocky outcrops. A few young-of-the-year have been seen in a boulder field at 252 m. The maximum size is reported as 27.8 inches. A single adult measured at 61.2 cm and an estimated age of 47 years has been reported. Size at maturity is unknown. Little is known about their reproduction, growth, and diet. Bronzespotted rockfish are only occasionally taken in commercial and recreational fisheries off California.

Brown Rockfish

Brown rockfish (*Sebastes auriculatus*) are found from San Hipolito, Baja California to southeastern Alaska. They are most common in south and central Puget Sound, and from central California to southern California. Brown rockfish are common in shallow water and occur from the surface to 135 m,

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commonly in depths less than 53 m. Juveniles are pelagic, in deeper water in the winter. Brown rockfish are bottom dwellers, frequently living on low-profile hard bottom. They aggregate near sand-rock interfaces and rocky bottoms of artificial and natural reefs, near oil platforms and sewer pipes. Movements of greater than 3 km are rare for brown rockfish and they are said to have a strong homing tendency. They have a broad tolerance to temperature and salinity. Brown rockfish mate in March and April in the north (Oregon and Washington). In this area they are carrying young in May and probably give birth in June. The spawning season is longer off central California, at least from December to July. Also, off California females spawn more than once per season. Brown rockfish can grow to a length of 55 cm. Brown rockfish have been aged at 34 years. Some evidence indicates that females grow larger than males. Off Oregon, all gopher rockfish are mature at 38 cm (10 years). Brown rockfish eat small fishes, crabs, shrimp, isopods, and polychaetes. As juveniles they feed on small crustaceans, amphipods, and copepods. Brown rockfish are commonly taken by recreational fishers in Puget Sound, and off central to southern California. They are also caught from private boats, piers, and shore; divers also take a few. Brown rockfish are a valuable hook-and-line species for the commercial live-fish fishery along the central California coast.

Butter Sole

Butter sole (*Isopsetta isolepis*) are found from the south Bering Sea and Aleutian Islands south to Ventura, southern California. Butter sole are common in shallow water, occasionally as deep as 425 m. They are found on muddy or silty bottoms, usually in coastal waters. They utilize shallow water off the Oregon coast as a site of benthic recruitment and early growth. Spawning of butter sole occurs at the same time as English sole. The young of these species avoid competition for habitat by segregating: butter sole larvae move offshore and English sole larvae move into bays and estuaries. Off British Columbia, butter sole spawn at depths of 27.2–63.3 m. Their eggs are planktonic. Juveniles hatch and then settle in May through August over a broad depth range, 9–60 m. Butter sole adults can reach a maximum size of 55 cm; the maximum age of butter sole is 11 years. Butter sole feed mainly on amphipods, cumaceans, and decapods. Larger fish consume larger prey. Butter sole are taken in the trawl fishery off Oregon but are not of great commercial importance.

Calico Rockfish

Calico rockfish (*Sebastes dalli*) are found from Sebastian Viscaino Bay, Baja California, northward to San Francisco; they are most common south of Pt. Conception. Calico rockfish are common throughout southern California. Adults can be found from depths of 18–256 m, but prefer water 60–89 m deep. Calico rockfish are benthic. At rest, calico rockfish seek crevices on the bottom, rarely swimming more than 2 m above the bottom. Adults are also associated with areas of high- and low-relief, including artificial reefs. Juvenile calico rockfish are found in areas of soft sand-silt sediment, at sand-rock interfaces, and on artificial reefs, or intertidally. Calico rockfish are single brooders and release their pelagic larvae from January through May with a peak in February in the Southern California Bight. For males, length at first maturity is 7 cm (3 years), half are mature at 9 cm, and all are mature at 14 cm. For females, length at first maturity is 9 cm and all are mature at 10 cm. The maximum length for calico rockfish is 20 cm. They have been aged to 12 years. Juvenile calico rockfish feed on zooplankton such as copepods, barnacle larvae, and larval fish. Adults feed on larger crustaceans, such as euphausiids, copepods, and crabs; and on fishes, gammarid amphipods, bivalves, and cephalopods.

California Skate

California skates (*Raja inornata*) range from the Strait of Juan de Fuca, Canada, southward to Cedros Island, central Baja California, Mexico. They are also found in the Gulf of California. The California skate is common inshore and in shallow bays (18 m of water or less), but it has been taken as deep as 1600 m. Their common depth range is 17–671 m. California skates typically inhabit inshore muddy bottoms. Juveniles are associated with soft bottom sediments. California skates lay egg cases. When the eggs of California skates are laid, they are done so in a distinctive smooth surfaced, leathery case. California

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skates are long-lived, and grow and mature slowly. Their lifespan is estimated at 20–30 years. Females and males reach sexual maturity at approximately 52 cm in length and attain a maximum total length of 76 cm, whereas males are sexually mature at about 47 cm and reach a length of 60 cm. The California skate feeds on shrimp and probably other invertebrates, such as polychaete worms. California skate have little commercial value, although the coastal trawl fleets account for the majority of catch off the Pacific Coast in the form of bycatch. In California, the leading areas for skate landings are San Francisco and Monterey.

China Rockfish

China rockfish (*Sebastes nebulosus*) occur from Kodiak Bay, western Gulf of Alaska, to southern California. China rockfish occur both inshore and along the open coast from 3–128 m. They are most commonly found in waters between 18–92 m. The juveniles are pelagic, but the adults are sedentary, associated with rocky reefs or cobble. They are residential, and generally are found resting on the bottom or hiding in crevices and kelp beds. They occupy progressively deeper waters in the southern portion of their range. Juveniles inhabit shallow subtidal waters during summer and early fall and are associated with kelp beds. Spawning occurs from January to July throughout most of its range, with a January peak. Parturition occurs in April and May. Male and female China rockfish mature at the same size: half are mature at 28 cm and all are mature at 30 cm. Off central California, the smallest sexually mature female was 26 cm, and the smallest sexually mature male was 34 cm. China rockfish grow to 45 cm and reach an age of 79 years. China rockfish larvae are planktivores. They eat invertebrate eggs and nauplii, and copepods; juveniles eat crustaceans, such as barnacle larvae. China rockfish are moderately important in the sport catch. They are taken by party and private vessels from central California to southeastern Alaska and are occasionally speared by divers. China rockfish are valuable to the commercial rockfish fishery with most of the catch by hook-and-line gear.

Copper Rockfish

Copper rockfish (*Sebastes caurinus*) are found from the western Gulf of Alaska, east of Kodiak Island, southward to central Baja California. They are relatively abundant in Puget Sound, common throughout the San Juan Islands and the Strait of Juan de Fuca, and are abundant in southern and central California. Adult copper rockfish occur in nearshore waters, reportedly from the surface to 183 m. They are usually found in waters shallower than 20 m. Larval and small juvenile copper rockfish are pelagic for several months to a year, and are associated with kelp. Off British Columbia, copper rockfish were observed with quillback rockfish. Once adults find a good reef, many do not seem to move about much. Copper rockfish spawn once per year. In Puget Sound, eggs mature by February. Fertilization occurs from March to May off Washington. Off central California, male copper rockfish may be sexually mature at 3 years of age (30 cm); all are mature by 7 years (40 cm). All females are mature off central California by 8 years (41 cm). In Puget Sound sexual maturity occurs at age 4. Parturition occurs from April to June in Puget Sound, from February to April south of British Columbia, and from March to July in Alaska. Gravid females were observed in February and March off the central California coast. Young are pelagic as larvae; they remain so until 40–50 mm. Copper rockfish are slow-growing and live to 55 years. They can grow to 66 cm in length. Copper rockfish are opportunistic carnivores. Juveniles feed primarily on planktonic crustaceans. Larger crustaceans form a major part of their diet as they grow. Squid and octopi are also important food items. Crustaceans, followed by fish and mollusks, are the most important food groups of adult copper rockfish. Copper rockfish are moderately important in the recreational catch from southern California northward to at least southeastern Alaska; adults are commonly taken by party and private vessels and young are occasionally taken from piers, jetties, and rocky shores. Copper rockfish are part of the commercial catch off California, taken primarily by hook and line, and, previously, gill nets.

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Curlfin sole

Curlfin sole, or curlfin turbot, (*Pleuronichthys decurrens*) are found along the Pacific Coast of North America from the Bering Sea south to Punta San Juanico, Baja California. Curlfin sole have been taken between 7 and 349 m, but most occur shallower than 90 m. They are found on soft bottoms. They spawn from late April to August. Eggs are pelagic; the yolk is clear and transparent and contains no oil globule. Curlfin sole eggs hatch slightly less than 7 days (160 hrs) after fertilization. Of flatfishes, curlfin sole are the largest at hatching and attain the largest size before transformation. The maximum size of adult curlfin sole is 37 cm. As adults, females are generally larger than males. Curlfin sole feed primarily on polychaete worms, nudibranchs, echiurid proboscises, crustacean eggs, and brittle star fragments. For curlfin sole from the central Oregon coast (73 m), the diet consisted entirely of polychaetes. The curlfin sole is moderately important in the California trawl fishery and is reported under the general grouping of “turbot.” It comprises a minor incidental catch within other California commercial and sport fisheries. Landings off Oregon are also small, with total yearly landings rarely over 10,000 lbs.

Dusky/Dark Rockfish

The two distinct forms of dusky rockfish, that were previously recognized as forms (lightcolored and darkcolored), were recently reclassified as two species: *S. variabilis* (dusky rockfish) and *S. ciliatus* (renamed as dark rockfish). The dusky rockfish is commonly found in deep water along the continental shelf. The dark rockfish is commonly in shallow waters. The range of dusky rockfish is from the western Bering Sea to the central coast of Oregon. Dark rockfish are distributed from Johnstone Strait, British Columbia, through southeast Alaska to the Bering Sea. Dark rockfish are found nearshore (5–160 m), and usually off the bottom. Dusky rockfish are found from depths of 12–675 m, and most commonly at depths of 100–300 m in boulder-rubble substrata. Juvenile dark rockfish are found associated with rocks and among algae. Female and male dusky rockfish in the western Gulf of Alaska were reported to be reproductively mature during the summer, but during the same time period dark rockfish were found to be immature. Dusky rockfish can reach 59 cm in length. Maximum ages are 49–59 years. The maximum length of dark rockfish was reported to be 47 cm. The most prominent prey for dusky rockfish appears to be euphausiids, although larvae, ephalypods, shrimp, and hermit crabs are also eaten. Dusky rockfish are caught almost exclusively with otter trawls (NMFS et al. 1998) in offshore waters, whereas, dark rockfish are frequently caught in nearshore waters with jigs. Dusky rockfish are among the most highly concentrated of the rockfish species in the Gulf of Alaska; outside these concentrations, this species is rarely caught.

Finescale Codling

Finescale codling, or Pacific flatnose, (*Antimora microlepis*) occur from Shikoku Island, Japan, through the southeastern Bering Sea, to the Gulf of California. They are mesobenthal-bathybenthal, with a reported depth range of 175–3048 m. In survey data for the North Pacific, they were taken at depths up to 1275 m, most often on the bathybenthal slope between 800 and 850 m. Nearly all survey catches were at depths of more than 350 m. Sexes apparently segregate by depth, with males occurring shallower, and females deeper. Males are much smaller than females. Males are probably not larger than about 35 cm, females attain at least 63.5 cm. This species has not been aged. Pacific flatnose probably feed on benthic macrofauna, especially crustaceans, squid, and fish. There is no directed fishery for finescale codling.

Flag Rockfish

Flag rockfish (*Sebastes rubrivinctus*) are found from Heceta Bank, Oregon to central Baja California. Flag rockfish reported north of Oregon may have been misidentified and are probably redbanded rockfish. Flag rockfish occur at depths up to 302 m, and are most common between 30 and 183 m. Young flag rockfish are found in the shallower part of their range. Pelagic juveniles are commonly found near the water surface often associated with drifting algae mats and plant debris, often many miles from the coast. Juveniles are also associated with rocky reefs. Adult flag rockfish are solitary, bottom-dwelling reef fish. They are often found among large white anemones. Almost any hard bottom seems acceptable to the flag

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rockfish; for example, they commonly live near sewer outfalls off southern California and have been detected in submarine canyons. Flag rockfish spawn from March to June off southern California, July to August off northern California, and from April to May off Oregon. Juveniles first appear in August and leave the kelp mats in January and February. Half of all flag rockfishes mature by 38 cm. A 41-cm flag rockfish is probably about 18 years old and a 32-cm fish is probably about 12 years old. Adults can grow to a maximum of 44 cm, but 41 cm is more common. Maximum age is estimated to be 38 years. Flag rockfish eat mostly bottom dwellers, such as crabs, shrimp, and occasionally fish and octopus. Flag rockfish are a moderately important sportfish, in both party- and private-vessel catch, along both central and southern California. They are occasionally taken by hook-and-line commercial fishermen.

Flathead sole

Flathead sole (*Hippoglossoides elassodon*) are found on the Pacific Coast of North America from Monterey Bay, central California northward through the Gulf of Alaska and across the Bering Sea. Flathead sole commonly inhabit the continental shelf in water as deep as 1,050 m, but usually occur less than 366 m. Flathead sole are mesobenthic, with larger individuals occurring in deeper waters. Flathead sole inhabit soft, silty or muddy bottoms. They also occur on mud mixed with gravel or sand. Eggs are fertilized externally. Flathead sole spawn from May to June at 40–70 fathoms. The larvae and eggs of the flathead sole are part of the zooplankton community. The eggs incubate for 7.2–20.9 days. During the day, larvae concentrate at 5–10 m. At twilight they appear to descend somewhat, but still have peak densities at 5–10 m. Flathead sole metamorphose and settle to the bottom beginning in late summer. Males and females may mature as young as 2–3 years in Puget Sound, but not until 6 years in the Bering Sea. Males live to 17 years and females to 21 years. Flathead sole feed on a wide variety of small mobile prey both on and off the bottom. Dominant prey items vary with area and season. They are opportunistic predators and are considered to be piscivorous. In North American trawl catches, flathead sole is uncommon or incidental from Point Reyes, California to Cape Spencer, Alaska. They were of limited commercial use in the past, but are becoming more important.

Grass Rockfish

Grass rockfish (*Sebastes rastrelliger*) are found from Playa Maria Bay, Baja California to Yaquina Bay, Oregon, although they are most common south of southern Oregon. The grass rockfish is a common, nearshore rockfish. Among rockfishes, they have one of the shallowest and narrowest depth ranges. They are found from the intertidal zone to 56 m, frequently less than 15 m. Tide pools usually contain only juveniles. Young-of-the-year grass rockfish recruit to hard substrata, including artificial reefs. Adults and older juveniles are most commonly found in kelp beds off California. Grass rockfish are common in rocky areas, along jetties, in kelp, and in eelgrass. Larvae are released from January to March, with the peak release occurring in January. Both sexes of grass rockfish begin to mature at 22 cm and are fully mature at 28 cm; these lengths correspond to ages 2–5 years for males and 3–5 years for females. Adult grass rockfish can grow to a maximum of 56 cm total length and can live to be at least 23 years of age. Larval grass rockfish are daytime feeders that prey upon nauplii eggs, invertebrate eggs, and copepods. Juveniles and adults prey upon crustaceans, but the adults also eat other fishes (such as juvenile surfperches, white croaker, and midshipmen), crabs, shrimp, cephalopods, and gastropods. The adults are nighttime feeders. Throughout coastal California, grass rockfish are a relatively common part of the shore, pier, and small-vessel catch, and are also taken by divers. Party vessels fishing near shore for bass and shallow-water rockfish also catch substantial numbers. Grass rockfish have become an important component of the live-fish fishery.

Greenblotched Rockfish

Greenblotched rockfish (*Sebastes rosenblatti*) are found from Ranger Bank, Baja California, to Punta Delgada, northern California, although they are most common southward from Central California. Greenblotched rockfish occupy a depth range of 55–491 m, although adults prefer depths of 61–396 m. Juvenile greenblotched rockfish are generally shallower than adults. Larvae are pelagic; juveniles and

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adults are benthic. Adults and older juveniles are usually found near high relief rocks, caves, and crevices, and occasionally found in mixtures of mud and rock, mud and boulders, oil platforms, and mud and cobble, with the fish lying on mud. Greenblotched rockfish spawn multiple broods, that is two or more times per season. Smaller mature females are most likely single brooders. Greenblotched rockfish spawn from December to July, and the peak spawning month is April. Size at first maturity of male greenblotched rockfish is 23 cm; half are mature at 30 cm; and all are mature at 32 cm. Size at first maturity of females is 16 cm; half are mature at 28 cm, and all are mature at 34 cm (Love et al. 1990). There is no size difference between male and female greenblotched rockfish, which can grow to 48 cm. In one study greenblotched rockfish were aged to 50 years. Juvenile and adult greenblotched rockfish prey upon plankton such as euphausiids and tunicates, as well as small fishes (e.g., hake, anchovies, and lanternfishes), and squid. Off Southern California, juveniles feed almost exclusively upon copepods and amphipods. Greenblotched rockfish are uncommon in the commercial and recreational fishery of California (Lea 1992).

Greenspotted Rockfish

Greenspotted rockfish (*Sebastes chlorostictus*) range from Copalis Head, Washington, southward to southern Baja California and are abundant as far north as Monterey Bay, California. Greenspotted rockfish are common, benthic inhabitants in waters 90–363 m deep. Adult greenspotted rockfish prefer waters 49–201 m deep. Greenspotted rockfish spend most of their time on or near the bottom, often in caves and crevices. Juveniles are often associated with rock outcrops, and are also associated with soft-bottom habitats and oil platforms. Adult greenspotted rockfish are mostly caught over high-relief rocky reefs, but they are also common on soft bottoms. Solitary greenspotted rockfish are commonly found in association with large sea anemones. Spawning occurs in April off Oregon, from April to September off northern and central California, and from April to July off southern California. Spawning peaks in May off northern and central California, and in April off southern California. Male rockfish may mate more than once per season. Greenspotted rockfish are known to be multiple brooders, that is, females spawn two or more broods per season. Smaller mature females are single brooders. Greenspotted rockfish reach a maximum size of 47.2 cm. Greenspotted rockfish can reach more than 21 years of age. They are benthic feeders that prey primarily on planktonic euphausiids and pelagic tunicates, as well as small fishes (e.g., juvenile rockfishes and hake, anchovies, and lanternfishes) and squid. Greenspotted rockfish are important in commercial and sport catches. They are taken from party and private vessels in southern and central California.

Greenstriped Rockfish

Greenstriped rockfish (*Sebastes elongatus*) are found from Cedros Island, Baja California to Green Island in the Gulf of Alaska; however, they are most common between British Columbia and Punta Colnett in northern Baja California. Greenstriped rockfish is a deep-water species that can inhabit waters 52–828 m, although it is commonly encountered inshore and offshore. Most catches occur in 100–250 m depth. Recruitment of juvenile greenstriped rockfish to soft bottom habitats occurs in shallower depths, primarily in 60–100 m. Juveniles have also been observed associated with artificial reefs and oil platforms. Greenstriped rockfish are widely distributed on rocky as well as soft bottoms. They are associated with both high and low relief reefs. They co-occur with greenspotted rockfish on deep reefs. Greenstriped rockfish are primarily sedentary. Greenstriped rockfish are multiple brooders, that is, they spawn two or more times per season. The peak spawning month for greenstriped rockfish off the southern California Bight is April (ranging from January to July). Off central and northern California, May is the peak spawning month (ranging from May to July). Newly released greenstriped rockfish larvae are about 5 mm in length. Adults can grow to 38 cm. Maximum age has been estimated at 54 years. Off California males grow faster and females grow slower than in other areas of their range. There is no size difference between the sexes once they are finished growing (Love et al. 1990). Males reach the size of 50% maturity at 18 cm total length and 100% maturity at 26 cm total length; females reach the size of 50% maturity at 19 cm total length and 100% maturity at 25 cm total length. Juvenile and adult greenstriped

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rockfish prey upon planktonic prey such as euphausiids, copepods, and pelagic tunicates, as well as small fishes (e.g., hake, anchovies, and lanternfishes), shrimp, and squid. Greenstriped rockfish are of importance to recreational and commercial fishers. They are commonly caught on baited hooks, but are most often trawled. Although not considered a good food fish, greenstriped rockfish are commonly used by southern Californian fishers as bait for cowcod and bocaccio.

Harlequin Rockfish

Harlequin rockfish (*Sebastes variegatus*) have been reported from the central Oregon coast to the southeastern Bering Sea and the Aleutian Islands. Recently their southern range was extended with one specimen taken off La Push, Washington, and one off Newport, Oregon (Orr and Baker 1996). Catches reported off the Cobb Seamount and Bodega Bay are questionable. Harlequin rockfish inhabit the inner shelf-mesobenthic (outer shelf) zone at depths up to 558 m. Adults are generally found in waters 100–350 m deep, whereas, juveniles are found in waters as shallow as 6 m. Adults are found over high-relief substrata, including seamounts. Harlequin rockfish are a sedentary benthic species. However, the idea that harlequin rockfish may have moved from nearshore areas to the Cobb Seamount (520 km away), either in the pelagic larval state, or as juveniles or adults has been suggested. The maximum size attained by the harlequin rockfish is 37 cm. It takes a harlequin rockfish over 10 years to reach a length of 25 cm. The average age of harlequin rockfish caught off the Cobb Seamount is 15 years old. Harlequin rockfish from the coastal waters of British Columbia reach the age of 43 years.

Honeycomb Rockfish

Honeycomb rockfish (*Sebastes umbrosus*) are found from Point Pinos (central California) to Punta San Juanico, Baja California. They tend to most abundant between Point Dume, California to Punta San Roque (southern Baja California). The honeycomb rockfish is rare north of Point Conception, but is common in southern California. The honeycomb rockfish is a shallow water species, found on or near the bottom, most often between 45–60 m. However, they range in depth from 30–270 m. Young recruit to hard substrata and high-relief reefs (>1 m), and in some cases to soft bottoms, at depths between 27–54 m. Adult movement is probably not extensive. Honeycomb rockfish spawn from March to July, probably peaking in April. Honeycomb rockfish usually do not get much larger than 20 cm. They mature in 3–5 years and may begin to mature as early as 10 cm standard length. There is no size difference between the sexes. The maximum age is reported as 31 years. Honeycomb rockfish are taken in the sport fishery, primarily off southern California.

Kelp Greenling

Kelp greenling (*Hexagrammos decagrammus*) are relatively common all along the Pacific Coast of North America from the Aleutian Islands to southern California off La Jolla. They are not commonly found south of Point Conception. Adults, spawning adults, and large juveniles are abundant in coastal waters and in inland seas, such as Puget Sound. Larvae and small juveniles are pelagic. Large juveniles are demersal. Adults are demersal and not commonly found below 20 m, although they may range down to 52 m. Adults inhabit rocky reefs of shallow nearshore areas. Kelp greenling show a very high affinity to rocky banks near dense algae or kelp beds, or in kelp beds. Spawning occurs in the fall in Puget Sound, peaking in October and November. In the Gulf of Alaska, spawning is earlier in the fall. Kelp greenling in California waters spawn in late fall to early winter. Fertilized eggs are laid on or between rocks, or in algae beds and guarded by males. Incubation time is estimated at about 20 days. Larvae are 7–8 mm at hatching and immediately move to open seas for about one year, and return as demersal juveniles. Female kelp greenling grow faster and larger than do males. Male and female kelp greenling mature at 3–5 years. The maximum age is 12 years. Pelagic kelp greenling larvae and juveniles feed on copepods and copepod nauplii, amphipods, brachyuran larvae, euphausiids, and larval fish. Adult kelp greenling feed on just about anything. The kelp greenling has not been a commercially important species (Hart 1973, Love 1996), although it is becoming important in the live-fish fishery. Kelp greenling supports a popular sport fishery, mainly north of central California (Love 1996). They are captured from rocky banks, piers,

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and private and charter vessels, and are targeted by spear-fishing divers. The first and only assessment of kelp greenling was completed in 2005. Although the assessment covered both California and Oregon, the Council adopted only the Oregon substock assessment for use in management. Due to the considerable uncertainty associated with the assessment, the Council decided not to set independent harvest specifications for kelp greenling. The assessment treated the stock as two completely independent substocks divided at the California-Oregon border. There are substantial differences between the two assessments with respect to assessment period, model assumptions, results, and uncertainties. The estimate of depletion for the Oregon sub-stock (the current biomass is at 49% of its unfished) is more certain than estimates of absolute abundance, which are highly imprecise. For the California sub-stock, substantial uncertainty could not be resolved regarding growth and natural mortality rates, as well as the shape of the selectivity pattern for the shore mode fishery. Due to these factors, it was not possible to formulate a model for California.

Kelp Rockfish

Kelp rockfish (*Sebastes atrovirens*) are found from Albion in northern California to Bahia San Carlos in central Baja California, but are abundant from northern California to central Baja California. Kelp rockfish inhabit shallow waters. Most live at depths of 18–24 m, although they occur from 3–58 m. As adults, kelp rockfish are primarily residential in kelp forests and are considered parademersal. Older kelp rockfish frequently occur on or near the bottom in rocky areas and also in midwater areas around giant kelp plants. During winter storms they may migrate into slightly deeper water or retire to rock caves, otherwise they rarely move from place to place. Kelp rockfish are ovoviviparous and their eggs are fertilized internally. Spawning ranges from late winter through summer, usually from May to June. Larvae of the kelp rockfish are planktonic. Juvenile kelp rockfish settle out of plankton into kelp beds in the summer from April to August (earliest in southern California and Baja California). Kelp rockfish grow to a maximum of 42 cm and live to a maximum of 15 years. The length at 50% sexual maturity is 26 cm (4–5 years) and 100% sexual maturity is 30 cm (6–7 years). Kelp rockfish are carnivorous and eat a variety of prey, most of which are free-swimming. They are most active at night and will sometimes chase food slightly away from the plant habitat. Older kelp rockfish prey primarily on benthic invertebrates and small fishes. Kelp rockfish are commonly caught by recreational anglers fishing at shallow depths in kelp beds and occasionally from piers and rocky shores. As an example, kelp rockfish are more abundant in skiff catches at Monterey than at Santa Cruz because Monterey has a more abundant kelp forests. Kelp rockfish are important in the sport-diver catch, particularly from Santa Barbara to central California. Infrequently, commercial fisheries take kelp rockfish in traps and gill nets, but kelp rockfish are important in the live-fish fishery off California.

Leopard Shark

Leopard sharks (*Triakis semifasciata*) are found from southern Oregon to Baja California, Mexico including the Gulf of California. A coastal species, the leopard shark is most abundant in northern California bays and estuaries and along southern California beaches. Other habitats of the leopard shark include flat, sandy areas, mud flats, sandy and muddy bottoms strewn with rocks near rocky reefs, and kelp beds. It is common in littoral waters and around jetties and piers. It is also known to congregate around warm-water outfalls of power plants. The leopard shark occurs in polyhaline-euhaline waters. Leopard sharks are most common on or near the bottom in waters less than 20 m deep, but have been caught as deep as 91 m. Estuaries and shallow coastal waters appear to be used as pupping and feeding/rearing grounds. Neonate pups occur in and just beyond the surf zone in areas of southern California, such as Santa Monica Bay, and they are also found near eel grass beds in other bays, such as San Francisco Bay and Humboldt Bay. Leopard sharks have a gestation period of 10–12 months. Mating occurs soon after the females give birth, probably in April and May. Females give birth to 7–36 pups from March to August. Young develop inside the mother but do not receive nourishment from her yolk. Leopard sharks are born as juveniles ranging in size from 18–20 cm at parturition. The maximum recorded length of a leopard shark is 180 cm, but most do not exceed 160 cm. Females may take 10–15

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years to reach maturity, while males take 7–13 years. Maximum age is reported to be 30 years. They may form large nomadic schools that may be mixed with gray or brown smoothhounds, sevengill shark, bat rays, or spiny dogfish. The leopard shark utilizes several major food sources without depending upon one, and feeding habits are dependent upon the size of the shark. Juveniles and adults are carnivorous, opportunistic, benthic littoral feeders. Small sharks in Elkhorn Slough are known to feed almost entirely on crabs and in San Francisco Bay, on crabs and shrimp. Leopard sharks 90–120 cm in length feed mostly on echinuroid worms. Sharks 120–130 cm feed on crabs, clam siphons, fishes, and fish eggs. Most leopard sharks are caught as part of the recreational fishery. They are also targeted by small-scale commercial line fisheries, especially in San Francisco Bay.

Mexican Rockfish

Mexican rockfish (*Sebastes macdonaldi*) occur from Point Sur, California, southward as far as Cape San Lucas, Baja California, and eastward in the Gulf of California. Adult Mexican rockfish are found at depths of 76–350 m. Larvae and juveniles (60–100 mm) are found in 80–100 m of water. Larval Mexican rockfish have been captured as far as 185 km offshore. Adults are commonly found at 91–238 m, inhabit rock outcrops, and have been observed near deep oil platforms. Mexican rockfish spawn in highest densities beginning in April, but the peak spawning time is later in the southern parts of its range. Larvae are extruded at approximately 4–5 mm. Larvae become pelagic juveniles by 15 mm and are demersal by about 60 mm. There is little or no information on age, growth, or diet. Mexican rockfish are occasionally taken in sport and commercial fisheries off California.

Olive Rockfish

Olive rockfish (*Sebastes serranoides*) occur from southern Oregon to Islas San Benito in central Baja California. They are abundant from Santa Barbara northward to northern California, and around the Northern Channel Islands. Olive rockfish appear to be very rare off much of both southern California and Baja California. Olive rockfish occur from surface/intertidal waters to 174 m deep. Most commonly they occur in waters less than 30 m. Olive rockfish co-occur with blue rockfish and kelp bass in areas of reef and giant kelp. Adult olive rockfish are a midwater fish, almost always living over hard, high relief (such as reefs, wrecks, oil platforms, or pipes). Sometimes olive rockfish are observed well off the bottom, in or near kelp or over rocky reefs. Olive rockfish prefer clear-water areas of dense kelp and are rarely caught or seen over sandy substrata. Olive rockfish are active, fast-swimming, streamlined predators, usually found in the water column, but occasionally hovering over or resting upon rocky substrata. The age at first maturity ranges from 3 to 8 years, most maturing by age 6. Olive rockfish spawn once per season, usually from January to March (with a peak in January or February). Olive rockfish larvae are pelagic for 3–6 months before they settle out. Beginning in April, newly settled olive rockfish appear in kelp beds. They can grow to 61 cm and live to be 30 years old. Females grow faster than males, beginning at age 5 when 50% of males are mature. Larval olive rockfish are planktivorous and are known to feed on nauplii, invertebrate eggs, and copepods. Juveniles feed on crustaceans (such as calanoid copepods, zoea larvae, and barnacle cypriots), juvenile fishes, polychaetes, octopi, and squid. Adults and subadults rockfish feed primarily on midwater organisms rather than on substrata-orientated prey. Olive rockfish are important in the party- and private-vessel sport fishery. Divers also spear a substantial number and juveniles are readily taken from piers. Occasionally olive rockfish are found in the commercial fishery, taken primarily by hook and line.

Pacific Cod

Pacific cod (*Gadus macrocephalus*) are widely distributed in the coastal north Pacific, from the Bering Sea to Southern California in the east, and to the Sea of Japan in the west. Adult Pacific cod occur as deep as 875 m, but the vast majority occurs between 50–300 m. Along the Pacific Coast, Pacific cod prefer shallow, soft bottom habitats in marine and estuarine environments, although adults have been found associated with coarse sand and gravel substrates. Larvae and small juveniles are pelagic; large juveniles and adults are parademersal. Adult Pacific cod are not considered to be a migratory species.

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There is, however, a seasonal bathymetric movement from deep spawning areas of the outer shelf and upper slope in fall and winter to shallow middle-upper shelf feeding grounds in the spring. Pacific cod have external fertilization with spawning occurring from late fall to early spring. Their eggs are demersal. Half of females are mature by three years (55 cm) and half of males are mature by two years (45 cm). Juveniles and adults are carnivorous and feed at night on whatever prey species is most abundant. Larval feeding is poorly understood. The closest competitor of the Pacific cod for resources is the sablefish.

Pacific Grenadier

Pacific grenadier (formerly known as Pacific rattail) (*Coryphaenoides acrolepis*) are found in the northeast Pacific from off Japan to the Bering Sea, and to Baja California. Grenadiers are among the most abundant fishes of the continental slope and abyssal waters worldwide. They are found at depths from 155–3825 m, and most commonly between 600 and 2500 m in the Northeast Pacific Ocean. Newly metamorphosed fish off Oregon settle out of the water column in 500 m or less (Stein 1980). As they grow, juveniles move to deeper water. Pacific grenadiers occur in highest densities on the sandy bottoms of the abyssal plains of the northeast Pacific. Ripe females have been observed in September, October, and April, and they implied the possibility of two spawning seasons per year. Off southern California, spawning occurs mostly from late winter to early spring, although spent females are found throughout the year. Fertilization is external. Larvae hatch at about 2 mm total length and are pelagic, occurring in the upper 200 m of the water column. Metamorphosis occurs at about 10 mm total length. Female grenadiers mature at about 650 mm total length; males mature as small as 480 mm total length. Female grenadiers grow faster and reach a larger average size than do males. Maturity is reached in about 10 years or more, based on estimated size at maturity. Stomach contents of grenadier fishes are usually evacuated between capture and retrieval of the fish, so analysis of stomach contents is difficult. Evidence suggests they eat cephalopods, other demersal fishes (often other macrourids) and sinking food particles of dead nekton. The food and feeding of larvae and juveniles is not known. A commercial fishery is developing for grenadiers and they are marketed primarily as grenadiers. Most catches are made with trawl gear, but hook and line (longline) is also effective. Incidental catches of grenadiers in deepwater trawl fisheries are often used in livestock feeds.

Pacific Sanddab

Pacific sanddab (*Citharichthys sordidus*) are found from Cape Lucas, Baja California, to the eastern Gulf of Alaska. Pacific sanddab inhabit the shallow sublittoral zone of Puget Sound, and the inner continental shelf along the Pacific Coast. Adults are found in estuaries and coastal waters to as deep as 549 m, but the highest abundance is found in waters less than 150 m deep. Eggs and larvae are pelagic; juveniles and adults are demersal. Juveniles are primarily found in shallow coastal waters, bays, and estuaries. Small juveniles prefer substrata of silty sand, whereas adults prefer sand and coarser sediments and low-relief rock bottoms, but are occasionally associated with mud. Spawning occurs from late winter through summer. In Puget Sound, spawning begins in February and continues through spring, peaking in March and April. Off California, spawning takes place July through September, peaking in August. Female sanddab may spawn twice per season. Embryonic development is indirect and external. Larvae are pelagic and planktonic. This pelagic stage may last up to 271 days before settlement to benthic living occurs. In Puget Sound, 50% of the species is mature by age 2 (both sexes). In California, 50% of sanddab are mature by 3 years. Pacific sanddab may reach 13 years of age. Both sexes grow at the same rate for the first four years, after which females grow faster. Juveniles and adults are carnivorous. Unlike many sympatric species, Pacific sanddab are mainly pelagic feeders. The main food items of large sanddab are crab larvae, squids, octopi, and northern anchovy. Smaller sanddab eat euphausiids, amphipods, copepods, shrimp, mysids, and some small fishes. Pacific sanddab are taken commercially in the bottom trawl fishery. Off Oregon, they rank about fifth among the flatfish in annual landings. Pacific sanddab are a targeted recreational species; they may be caught by hook and line from boats or piers.

Pink Rockfish

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Pink rockfish (*Sebastes eos*) occur from southern Baja California, near Isla Guadalupe northward to the central Oregon coast. Pink rockfish are common in waters, from 45 to 366 m. Adults have been observed in boulder fields, resting on soft bottom sediments. Adults have also been reported near rocky bottoms on the shelf, slope, and in canyons; whereas, juveniles have been reported inhabiting primarily soft bottom sediments. Adult pink rockfish grow to 56 cm. Pink rockfish are taken in commercial fisheries and occasionally in sport fisheries off California.

Quillback Rockfish

Quillback rockfish (*Sebastes maliger*) are found from the northern Channel Islands in southern California to the Gulf of Alaska. They are common in the Strait of Georgia, San Juan Islands, and Puget Sound, and from southeastern Alaska to northern California. Quillback rockfish are a common, shallow-water benthic species. They are taken from subtidal depths to 275 m, but they occur mainly from 9–147 m. Young quillback rockfish occur along the shores at depths less than 60 m and adults usually in deeper waters to 140 m. Quillback rockfish are solitary reef-dwellers, living close to or on the bottom. Quillback rockfish live among rocks or sometimes on coarse sand or pebbles next to reefs. The larvae of quillback rockfish are planktonic. Mating probably occurs in March in Puget Sound and parturition in May. Over their geographic range, they spawn from April to July, with a peak early in the season. Larvae are planktonic. After about 1–2 months in the plankton, they begin to settle near shore. Quillback rockfish can grow to 61 cm and live to 95 years. Growth rates differ along its range; off southeastern Alaska a 12-year-old is 31 cm, and 50% of quillback rockfish mature at 31 cm; whereas off California a 12-year-old would only be 18 cm, and 50% mature at 23 cm. Quillback rockfish consume a wide range of prey taxa, but are more dietary generalists than other rockfish species. Off British Columbia, quillback rockfish feed on herring and demersal and pelagic crustaceans. They feed primarily during mid-day. Quillback rockfish are important in the sport and commercial fisheries. From Oregon to southeastern Alaska, quillback rockfish are an important part of the inshore sport fishery and are taken by party and private vessels and divers.

Ratfish (Spotted Ratfish)

Spotted ratfish (*Hydrolagus collieri*) are found from western Gulf of Alaska to Sebastian Vizcaino Bay, Baja California, and in the northern part of the Gulf of California. In the North Pacific, spotted ratfish are considered a middle-shelf-mesobenthic species and have been reported at depths of 0–971 m. In survey data, they most frequently occur between 100–150 m. Spotted ratfish are a common demersal fish in larger estuaries throughout its range, especially from early winter to late spring. Generally, spotted ratfish is a deepwater species that prefers low-relief rocky bottoms. Spotted ratfish also prefer exposed gravel and cobble as a habitat and are not common on sand or over boulders. Spotted ratfish are oviparous and fertilization is internal. Spawning occurs at all times throughout the year, but seems to peak from late summer to early fall. Spotted ratfish produce only two egg cases per year. Fertilized egg capsules are diamond-shaped, and are about 125 mm long at extrusion. The egg case hangs by capsular filaments from the mother's oviducts for 4–6 days before being deposited on rocks or placed in sand where it completes development and hatches. Full development of the egg may take up to a year. Larval stages are completed in the egg, and the hatched spotted ratfish resembles a small adult. Females grow faster and reach a larger mean size than do males. Female spotted ratfish may reach 100 cm in length. Common foods are isopod-like fishes, mollusks, squid, nudibranchs, opisthobranchs, annelids, and small crustaceans. On more than one occasion, a spotted ratfish was found with a stomach full of seaweed. There is no directed fishery for spotted ratfish in the northeast Pacific, but they are taken quite often as bycatch in bottom trawls. Spotted ratfish are not sought by recreational fishers, but are caught occasionally while fishing for other demersal species.

Redbanded Rockfish

Redbanded rockfish (*Sebastes babcocki*) range from the Bering Sea (Zhemchug Island)--Aleutian Islands to San Diego, California. They are uncommon south of San Francisco. Redbanded rockfish can occur as

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shallow as 49 m and as deep as 625 m and most occur from 150 to 400 m. Adults and juveniles occur over soft substrata. They are associated with hard-bottom substrata, generally in crevices between boulders, although occasionally they are observed over mixtures of mud, cobble, and pebbles. Redbanded rockfish occur in the same group as darkblotched and splitnose rockfish, shortspine thornyhead, and Pacific ocean perch. Off Oregon, redbanded rockfish give birth to young March through September. Off Oregon, 50 % of the males and females mature at 23 cm and 28 cm, respectively, whereas, off British Columbia, 50% of both male and female redbanded rockfish mature at 19 years (42 cm). Redbanded rockfish grow to 65.5 cm in length and 106 years of age. Off California, they are occasionally taken in sport and commercial fisheries.

Redstripe Rockfish

Redstripe (*Sebastes proriger*) rockfish occur from southern Baja California to the Bering Sea. Redstripe rockfish inhabit the outer shelf and upper slope. They have been reported between 12–425 m in depth, but are most common between 150–275 m. Adults are semi-demersal, while larvae and juveniles are pelagic to semi-demersal. Young redstripe rockfish can occur in estuaries. Adult and juvenile redstripe rockfish are generally found slightly off the bottom over both high- and low-relief rocky areas, the interface between sand and rock. Off Oregon, larvae are released between April and July, but later off northern and central California, during July through September. Larvae are released during July in Puget Sound. Extruded larvae are between 3 and 7 mm in length. The length at 50% maturity of this species is 28–29 cm for both sexes in Puget Sound. Redstripe rockfish may grow to reach 61 cm, and reach the age of 55 years. Larvae and juveniles of this species were found to feed primarily on copepods, their eggs, and copepod nauplii, as well as all stages of euphausiids. Food of adult redstripe rockfish also consists of small fish such as anchovies, herring, and early stages of other groundfish, as well as squid. Off California, redstripe rockfish are occasionally taken in sport fishers and are an important component of the commercial trawl fishery (Lea 1992, Love et al. 2002).

Rex Sole

Rex sole (*Glyptocephalus zachirus*) are found from the western Bering Sea southward to Cedros Island, Baja California. Rex sole is a middle shelf-mesobenthic species, occurring in depths from 0–850 m. Most catch occur from 50–450 m. The sediment at their preferred depths consists of sand and mud. Rex sole are abundant on sandy, muddy, and gravelly bottoms along much of their range. When inactive, rex sole are buried in the sediments. Rex sole may utilize the outer continental shelf-upper slope region for a nursery during early benthic life. Spawning off northern Oregon occurs from January to June, with a peak in March through April. They have pelagic eggs and larvae. The pelagic larval stage of rex sole usually lasts for about 1 year. Females grow faster, are larger, and live longer than males. Off Oregon, 50% of male rex sole mature at 16 cm (3 years), and females mature at 24 cm (5 years). Rex sole are a slow-growing species and live to 24 years. They can grow to 61 cm. Rex sole feed almost exclusively on benthic invertebrates. Small rex sole feed mainly on amphipods and other crustaceans. Large rex sole prey chiefly on polychaetes. Rex sole are not usually caught by sport fishers, but they are an important food fish and are trawled for commercially. Among flatfish species in the commercial trawl fishery off of Oregon, landings of rex sole rank about fourth.

Rock Sole

Three species of rock sole are recognized: an Asian species (*Lepidopsetta mochigarei*), in and near the Sea of Japan; a northern species (*L. polyxystra*), from Puget Sound to the Kuril Islands; and a southern species (*L. bilineata*), from Baja California to the far southeasterly extreme of the Bering Sea. Adult rock sole are found intertidally to as deep as 732 m, but they are uncommon below 300 m. Juveniles and adults are demersal and found primarily in shallow water bays and over the continental shelf. They overwinter on the edge of the continental slope at depths of 125–275 m and occupy the shelf during the summer at depths of 18–80 m. The preferred sediment consists of sand or a combination of sand/mud or sand/gravel. Rock sole are sedentary. Spawning occurs from winter through early spring, depending on

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location of the stock. In Puget Sound, spawning occurs from December to April, peaking in March. In southern California, spawning occurs from November to March, peaking in February. In the Bering Sea, spawning occurs from March to June, peaking in April. Embryonic development is indirect and external. The eggs hatch in 6–18 days. Metamorphosis occurs at 17–20 mm. Juveniles move into deeper waters with increased size. In Puget Sound, female rock sole mature in 3–4 years at 32–33 cm, and males mature at 2 years. After 2–3 years, females grow faster than males and reach a larger average size. Growth of both sexes decreases after 8 years. Female rock sole may live up to 18 years at 49 cm, and males up to 17 years at 40 cm fork length. Larvae are planktivorous. Juveniles and adults are carnivorous, feeding during the daylight hours. Juveniles consume mobile prey, such as cumaceans, carideans, and gammarid amphipods. Adults feed on more sedentary foods, such as polychaetes, echiuroids, mollusks, and echinoderms. *L. polyxystra* are among the most abundant groundfish species in the Bering Sea. Rock sole are commonly taken by recreational anglers from boats, but most of this catch is incidental to other benthic fishes.

Rosethorn Rockfish

Rosethorn rockfish (*Sebastes helvomaculatus*) range from Guadalupe Island, Baja California, to the Gulf of Alaska. Prior to 1971, rosethorn rockfish may have been confused with rosy rockfish because they are similar in appearance. Rosethorn rockfish occur in water 25–549 m deep and are generally categorized with other deep-water rockfishes. Most occur from 100–350 m. Rosethorn rockfish also occur in Puget Sound. Adults are generally found in muddy areas adjacent to boulders, cobble, or rock; occasionally they are found in rocky areas without mud, and in association with sea lilies. Parturition of rosethorn rockfish occurs during May and June in northern and central California, and primarily in June from Oregon to British Columbia. Young rosethorn rockfish are pelagic until about 40–60 mm standard length. Small larvae (<10 mm) are taken only in July and August. Pelagic juveniles are captured in August, September, and November. Off California, male rosethorn rockfish first mature at age 7 and all are mature by age 10. For females, the age of first maturity is 5 years; half are mature at age 8 and all are mature at age 10. Rosethorn rockfish can grow to a maximum length of 33 cm and they can reach an age of 87 years. Off central California, principal prey items are euphausiids and other crustaceans. They are of minor importance to commercial fisheries and are somewhat uncommon in sport catches.

Rosy Rockfish

Rosy rockfish (*Sebastes rosaceus*) are reported from Strait of Juan de Fuca near Puget Sound to Bahia Toirugas in southern Baja California. This species has also been observed near the Cobb Seamount off the coast of Washington. Rosy rockfish have been taken from 7–262 m, however adults are common between 30 and 46 m. Juveniles are found from 30–61 m and recruit to rocky areas. Adult rosy rockfish are solitary, bottom-dwelling rockfish, found over hard, high relief and low relief among rocks and sand. Both juveniles and adults are sometimes associated with oil platforms. Spawning occurs in southern California from January to September, peaking in May, and takes place farther north from April to July, peaking in June. Rosy rockfish are multiple brooders. Off southern California, 50% of rosy rockfish are mature by 15 cm and all are mature by 20 cm. Off central and northern California, 50% of rosy rockfish are mature at 20 cm and all are mature by 25 cm. Rosy rockfish have been reported to reach 36 cm, but individuals over 25 cm are rare. They have been aged to 14 years and it is likely they live longer. Estimated age of first maturity is 4 years, and all are mature by 8 years. Rosy rockfish primarily eat small, bottom-dwelling animals, such as shrimp and crabs. Rosy rockfish are commonly caught aboard sport fishing party and private vessels in southern and central California. They are occasionally taken in the commercial hook-and-line fishery for rockfish (Love 1996).

Rougheye Rockfish

Rougheye rockfish (*Sebastes aleutianus*) are reported from the Aleutian Islands to San Diego, California. They are also found in Pacific waters off Japan to California, and Japan to Navarin Canyon in the Bering Sea. Rougheye rockfish are common in offshore waters and are rare in nearshore waters. Rougheye

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rockfish occur from 25–875 m deep, but most occur between 50–450 m. Rougheye rockfish are sometimes found in small schools. Rougheye rockfish are found on the bottom. Off California, young rougheye rockfish recruit to soft substrata. Rougheye rockfish larvae are released during May off Oregon and from February to June Off British Columbia. Also off British Columbia, the sizes at 50% maturity are 40 cm for males and 47 cm for females, and are about 20 years old. Rougheye rockfish can grow to 97 cm in length and reach the age of approximately 200 years. Rougheye rockfish are piscivorous, but also prey upon shrimps, crabs and other crustaceans. Rougheye rockfish are commercially captured from central California northward through the Bering Sea. They are commonly caught with Pacific ocean perch and shortraker rockfish at higher latitudes.

Sand Sole

Sand sole (*Psettichthys melanostictus*) occur from Redondo Beach, southern California to as far north as the Alaskan Peninsula and the Bering Sea. Sand sole are considered an inner shelf-outer shelf species. Adults and older juveniles occur between 1–325 m, but nearly all occur at depths shallower than 150 m. Eggs, larvae, and small juveniles are pelagic; older juveniles and adults are demersal. Adults are found year-round in some estuaries. Sand sole show a high affinity to shallow waters with sandy and muddy substrata. Sand sole are not considered to be a migratory species. Spawning occurs in winter and spring. In Puget Sound, the spawning season is January through April, peaking in February. In Bellingham Bay, spawning peaks in March. In northern British Columbia, spawning peaks in late April. On the Pacific Coast of Vancouver Island, spawning peaks in July. Embryonic development is indirect and external. The planktonic eggs hatch in 3.5–7 days. Larvae hatch at 2.8 mm; the yolk sac is absorbed in 10–12 days. Larvae begin metamorphosis into juveniles between 23 and 27 mm. All females were mature by age 3 and males by age 2. These ages correspond to 20 cm for males, and 28 cm for females. Sand sole may attain 10 years of age. Larvae and small juveniles feed on copepods. Juveniles feed on small crustaceans such as mysids and crangons, worms, and mollusks. Adults feed mainly on speckled sanddabs, herring, anchovies, crustaceans, worms, and mollusks. Sand sole are of minor commercial importance off the Pacific Coast, although they occur in relatively high abundance. Sand sole are captured by means of demersal trawl and, among flatfish species in the Oregon commercial fishery, their landings rank approximately sixth. Sand sole are not targeted recreationally, but are taken incidentally to other fish species.

Sharpchin Rockfish

Sharpchin rockfish (*Sebastes zacentrus*) occur from San Diego, California, to Semisopochnoi Island in the Aleutian Islands, Alaska. More specifically, they commonly occur from San Clemente Island to Resurrection Bay, Alaska in the north and Petrel Bank near the Aleutian Island chain to the west. They are less common south of Monterey. Sharpchin rockfish is an outer shelf-mesobenthic species. They occur from 25–475 m deep, but most occur from 100–350 m. Small sharpchin rockfish are found over rocky banks off Oregon associated with vase sponges and fields of crinoids. Sharpchin rockfish can occur over soft bottoms, but they apparently prefer mud and cobble, and mud and boulder substrata. They occur in dense patches often mixed with pygmy rockfish. Parturition occurs from March through July off Oregon and from May through June off northern and central California. Sharpchin rockfish transform from larvae to pelagic juveniles when they are between 13.5 and 20 mm in length. Transition from pelagic to benthic habitat takes place at lengths somewhere between 35 and 65 mm. Sharpchin rockfish can grow to 33 cm. The diet of *S. zacentrus* includes euphausiids, shrimp, amphipods, copepods, and small fishes. Sharpchin rockfish are taken in commercial fisheries along the Pacific Coast.

Shortraker Rockfish

Shortraker rockfish (*Sebastes borealis*) are reported from Japan, to southeastern Kamchatka Peninsula in the Bering Sea, throughout the Aleutian Islands, and south to Point Conception, California. Shortraker rockfish are an offshore, demersal species. They occur from shallow water to 875 m deep, but primarily inhabit the middle shelf to the mesobenthic slope at depths of 50–650 m. A study in the Gulf of Alaska

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observed large shortraker rockfish (>7 kg) to be solitary individuals on or near the bottom and among moderately sloped, smooth habitat. Shortraker rockfish can be found on soft bottoms. They also seemed to prefer sloping substrata and currents. From Oregon to the Gulf of Alaska, 50 % of both male and female shortraker rockfish mature at 45 cm. Females have fully developed embryos from March through July, they generally release larvae from summer through fall at depths between 300 and 500 m. They can grow to lengths of 1.2 m and weigh as much as 23 kg. They are among the longest-lived rockfishes, having been aged to 157 years. Their diet consists of shrimp, cephalopods (mainly squid), as well as mysids, bathylagids, and myctophids. Shortraker rockfish are captured by commercial fisheries from central California northward through the Gulf of Alaska, the Aleutian Islands, and the Bering Sea. They are commonly caught with Pacific ocean perch and rougheye rockfish.

Silvergray Rockfish

Silvergray rockfish (*Sebastes brevispinis*) are found from Santa Barbara Island, southern California, to the Bering Sea. They are most common between the central Gulf of Alaska and Oregon. Silvergray rockfish are common in open coastal regions and inhabit the outer shelf-mesobenthic zone. They occur in depths from 0 to 436 m with most catches taken in depths of 100–300 m. Subadults and adults are found on a variety of rocky-bottom habitats, and form loose aggregations over various rocky-bottom habitats. Young silvergray rockfish are occasionally observed in shallow embayments and associated kelp beds. The length at which 50 % of silvergray rockfish in Alaskan and British Columbia waters are mature ranges between 34 and 45 cm for males and 37 and 46 cm for females. Off Oregon and southeast Alaska, young are released between April and August. They achieve a maximum size of 73 cm and reach an age of 82 years. Silvergray rockfish are commercially important and are included in the shelf rockfish assemblage. Silvergrays are taken in the commercial catch off Washington along with Pacific ocean perch, yellowtail rockfish, and canary rockfish.

Southern Shark

Southern sharks (*Galeorhinus galeus*) are found from northern British Columbia to Abreojos Point, Baja California and the Gulf of California. Southern sharks are an abundant coastal-pelagic species of temperate continental and insular waters. They are often associated with the bottom, inhabiting bays and muddy shallows. Although southern shark often occur as shallow as 2 m, they also occur in submarine canyons up to 471 m. The population of southern sharks along the western Pacific Coast is considered to be homogeneous. Males and females apparently segregate by gender. Adult males occur more often in deeper waters, whereas females occur closer inshore. The proportion of males is greater in northern waters off California whereas females occur mostly in southern California waters with a mix of sexes in central California waters. Young southern are abundant in southern California waters. Although San Francisco Bay and Tomales Bay are used to a certain extent as pupping grounds, the primary nursery grounds are in southern California. Mating occurs during the spring. After a gestation period of approximately 1 year, females move into bays to bear their live young. Litter sizes range from 6–52 young and average 35. The number of young depends on the size of the mother; larger females produce more young. The average length of newborn southern sharks is 35 cm. Males mature at 120–170 cm, while females mature at 130–185 cm in length. Males can reach a maximum length of 155–175 cm and females can grow to 174–195 cm. Estimated age of maturity and maximum age are reported as 12 and 40 years, respectively. Southern sharks are opportunistic, carnivorous feeders. They feed at the bottom, mid-depths, and at the surface. Southern will pursue food where available, they feed primarily on moderate-sized bony fishes but also readily feed on invertebrates, including squid. Young consume more invertebrate prey than adults. Prey items include herring, sardines, anchovies, salmon, smelt, greenlings, and many other types of fishes. During the late 1930s and the 1940s, of the sharks on the Pacific Coast, the southern shark was one of the most economically important. Currently, most catches are either made as bycatch in other commercial fisheries, or by recreational fishers.

Spiny Dogfish

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Spiny dogfish (*Squalus acanthias*) are found in temperate and subarctic latitudes in both the northern and southern hemispheres. In the northern and central Pacific Ocean, they occur from the Bering Sea to Baja California. For the North Pacific and Bering Sea, the spiny dogfish is an inner shelf-mesobenthic species with a depth range of 0–1236 m. Most dogfish inhabit waters less than 350 m deep. They occur from the surface and intertidal areas to greater depths, and are common in inland seas. Adult females move inshore to shallow waters during the spring to release their young. Small juveniles (<10 years old) are pelagic, while subadults and adults are mostly sublittoral-bathyal. Subadults are found on muddy bottoms when not found in the water column. Dogfish often migrate in large schools, which feed avidly on their journeys. Mating with internal fertilization occurs on the ocean bottom between September and January. Fecundity is 2–12 eggs per female, per season. Males and females mate annually. Their gestation period lasts 18–24 months. Females release their young in the midwater zone over depths of 165–350 m during the spring in shallow waters. Small litters (4–7 pups) are common, but litter size may range from 2–20 pups. Newborn pups range in length from 22 to 33 cm. Newborn pups range in length from 22 to 33 cm. Females reach sexual maturity at 16–35 years, with an average age of 24, and males reach maturity at 11–19 years, average age of 14. The maximum age of females is about 70 years. Females live longer than males, which only live to a maximum of 36 years. Spiny dogfish seem to be larger at the northern end of their range. Adults usually range in size from 75 to 103 cm, although they may reach a maximum size of 130 cm (10 kg) and maximum age of 66 years. They are carnivorous scavengers. They are an opportunistic feeder, taking whatever is available. They are the most abundant and economically important shark off North American coasts. In recent years, large numbers of dogfish have been taken in commercial trawl, set net, and longline fisheries, especially in Puget Sound, to supply foreign markets. Spiny dogfish can be readily caught by rod and reel, longline, trawl or set net. They are fished for biology class dissections and research. Dogfish are often regarded as a menace to fisheries because they cause damage to nets and lines, and they rob hooks.

Speckled Rockfish

Speckled rockfish (*Sebastes ovalis*) are found from the northern coast of Washington to northern Baja California. They are common from central California southward. Speckled rockfish can be found as shallow as 18 m and as deep as 366 m. Adults usually live between 76–152 m. Juveniles can often be found as deep as 142 m, but are most common from 30–89 m. They occur in midwater over rocks. They are also found near the bottom on reefs, among boulders, and to a lesser degree among cobble. They also occur along the Monterey Canyon ledge. Off California, young fish recruit to hard substrata, boulders, and high-relief (>1 m) reefs, often in association with macrophytes and crinoids. Speckled rockfish are an aggregating species and probably move from reef to reef. Speckled rockfish spawn multiple broods (two or more per season) from September to May, peaking in January and February off southern California and in May off central and northern California. The length at first maturity for male and female speckled rockfish is 23 cm; 50% maturity occurs at 24 cm; and 100% maturity occurs at 32 cm. For northern California, the estimated age of first maturity is 4 years and all are mature by age 5. Speckled rockfish larvae are 4.9–5.1 mm at extrusion. Adults can grow to 56 cm and can live for at least 37 years. Females grow larger and live longer than males. A 30-cm male is around 20 years old; a female of similar size is about 12 years old. They feed primarily on plankton, although they will occasionally eat small fish. Speckled rockfish form a relatively important part of the party- and private-vessel sport fisheries in Southern California, and occasionally, they are taken by commercial fishers, primarily with hook-and-line and gill nets.

Squarespot Rockfish

Squarespot rockfish (*Sebastes hopkinsi*) are found from central Baja California and Guadalupe Island northward to the southern Oregon coast. Squarespot rockfish occur in water 18–224 m deep, and are most common between 30 and 150 m. Juveniles are pelagic for 3–4 months. In the southern California Bight, very small, young fish are found in the shallowest part of the species' depth range, often in water 27–46 m deep. Young recruit in water 30 m or deeper there, and settle out over nearshore rocky areas in

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waters as shallow as 27 m. Squarespot rockfish are found over high rocky reefs and in areas with cobble. They are observed swimming near the bottom to perhaps at least 10 m above it. Squarespot rockfish tend to form schools, often consisting of hundreds to thousands individuals. For males, length at first and 50% maturity is 13 cm, and at 100% maturity is 16 cm. Females first begin to mature at 14 cm; 50% maturity occurs at 14 cm; and 100% maturity occurs at 15 cm. The estimated age of first maturity for males is 4 years and all are mature by age 5; for females, first maturity occurs at age 5 and all are mature by age 7. Off central California they spawn in February and March; off southern California, spawning occurs from January to April, peaking in January and February. They spawn multiple broods. Squarespot rockfish are small, reaching only 29 cm, and they live to around 19 years. Females grow more quickly than males, grow to a much larger size, and live longer. These fish feed entirely on plankton, primarily copepods, krill, and crab larvae. Squarespot rockfish are important to the party- and private-vessel sport fishery in southern California. They are rare in the commercial catch.

Starry Rockfish

Starry rockfish (*Sebastes constellatus*) are found from San Francisco to southern Baja California, commonly from central California southward. Starry rockfish have an overall depth range of 24–274 m, and they are most commonly found at depths of 60–150 m off of southern California. Juveniles are common from 30–120 m, and are associated with rocks and irregular features like oil platforms. Starry rockfish are generally solitary, and live right on the bottom, often in crevices. They are exclusively found over hard bottoms, usually around large rocks, boulders, and occasionally over cobble or wrecks. Starry rockfish spawn from February to July in southern California (peaking in May) and April to May off central California. A 24-cm female spawns 33,000 eggs and a 3-cm female spawns 228,000 eggs. Starry rockfish are multiple brooders. Starry rockfish grow to 46 cm and live at least 32 years. Males and females grow at about the same rates, but males mature at a slightly smaller size than females. Males first begin to mature at 18 cm, 50% are mature at 19 cm (6–7 years), and all are mature by 27 cm. Females begin to mature at 21 cm, 50% are mature at 22 cm, and all are mature by 29 cm. Their diet consists of small fishes, crabs, shrimp, and other small invertebrates (Love 1996). Starry rockfish are important to both sport and commercial fisheries. They are a minor part of the party- and private-vessel sport fishery in southern California and central California. They are primarily taken by hook and line, and gill nets in the commercial fishery.

Stripetail Rockfish

Stripetail rockfish (*Sebastes saxicola*) are found from Sebastian Vizcaino Bay, central Baja California to southeast Alaska. They are most commonly found between British Columbia and southern California. Stripetail rockfish occur from 10–547 m, but mainly occur at depths between 100–350 m. They inhabit the outer shelf upper slope. Stripetail rockfish are a dominant soft-bottom fish off southern California. Pelagic juveniles are found over a relatively narrow depth range, 50–60 m. Juveniles recruit to soft bottom habitats and to habitats consisting of low-relief outcrops bounded by mud and sand. Some juveniles are found in waters as deep as 224 m. Most adults are demersal, associated with mud bottoms and bottoms containing mud and scattered small rocks, although some adults are parademersal. Young about 4.3 mm in length are released mainly in February in British Columbia and January and February off Oregon. The release period is much longer in northern and central California, from November through March. Off California, the estimated age of first maturity for males is 3 years and all are mature by age 4; females first mature at age 2 and all are mature by age 3. Stripetail rockfish can grow to 41 cm, and live to at least 38 years. Adult stripetail rockfish pursue pelagic prey such as euphausiids, and juveniles off southern California feed primarily on calanoid copepods. Stripetail rockfish are not generally targeted by commercial or recreational fishers because of their relatively small size; however, they are an important bycatch species. Few are caught north of Northern California.

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Tiger Rockfish

Tiger rockfish (*Sebastes nigrocinctus*) are distributed from Tanner and Cortes banks, southern California to Kodiak Island, Alaska. They are most common between Southeast Alaska and northern California. Tiger rockfish occur from shallow water to 274 m. They are generally found in waters less than 30 m in Puget Sound. In the northeastern Strait of Georgia, tiger rockfish are generally captured in 21–140 m of water. Juveniles are pelagic, commonly found near the water surface often associated with drifting algae mats and plant debris, and they are observed around rocky reefs. Adults are semi-demersal to demersal. Tiger rockfish are commonly found in caves along undersea cliffs or on the sea floor, generally in high-relief areas with strong currents. Off southeast Alaska, habitat requirements for tiger rockfish are similar to those of yelloweye and China rockfishes. In Puget Sound, the spawning season peaks in May and June. Tiger rockfish reach lengths of 35 cm by 17 years of age; their maximum size is reportedly 61 cm, and they live to be as old as 116 years. Tiger rockfish exit their caves in the evening to feed. They are known to prey upon caridean shrimp, crabs, amphipods and small fishes like herring and juvenile rockfish. This species is a generalized feeder that depends on currents bringing food items near its home territory. Larvae are planktonic and likely prey on smaller plankton such as copepods. Tiger rockfish are a moderately important commercial species, especially in Alaskan waters, and are caught primarily by hook-and-line and longline, although some are captured in bottom trawls. They are also moderately important in the recreational fishery towards the northern portion of its distribution.

Treefish

Treefish (*Sebastes serriceps*) are found from San Francisco to Cedros Island, Baja California; however, they are common from about Santa Barbara, California, southward. Treefish are found to depths of 97 m, but are most common at depths less than 60 m. They shelter during the day in holes along rocky reefs at Catalina Island. Pelagic juveniles are often found in drifting kelp mats, which have broken free. They recruit to hard substrata with high relief at shallow, subtidal depths to 30 m. Juvenile habitat includes artificial reefs. Adults are found on shallow rocky reefs, frequently in caves and crevices. Treefish are solitary and highly territorial. Treefish probably spawn in late winter. They can grow to 41 cm and reach a maximum age of 23 years. Treefish feed on bottom invertebrates (such as shrimp, mollusks, and crabs) and small fishes. Treefish are nocturnally active. Juveniles are fed upon by rockfishes, lingcod, cabezon, salmon, birds, and porpoise. Treefish are occasionally taken by party and private vessel anglers and by divers, mainly from Santa Barbara southward. In recent years, they have become an important component of the live-fish fishery.

Vermilion Rockfish

Vermilion rockfish (*Sebastes miniatus*) are found from Prince William Sound, Alaska south to central Baja California, Mexico. They are most abundant from northern California to northern Baja California. Vermilion rockfish occur in shallow water when young and in deeper water as larger adults. Adults occur at depths up to 436 m, but commonly at depths of 50–150 m. Newly released larvae are pelagic and found near the surface associated with algae. Adults occur mostly on or near the bottom in areas with high-relief rocky reefs, at depths of 15–274 m. Juveniles inhabit shallow waters. Young vermillion rockfish recruit to sand, to sand/low-rock substrata without algae or kelp. Movements of vermillion rockfish off reefs may be associated with following schools of prey, such as squid. Peak spawning months are September in northern California and November in southern California. Vermilion rockfish are single brooders. Length at first maturity for male vermillion rockfish is 32 cm, 50% are mature at 35 cm, and all are mature by 37 cm. Females begin to mature at 31 cm, 50% are mature at 37 cm, and all are mature at 47 cm. Half the population is mature at 8 years. Young-of-the-year appear in inshore water beginning in February. Vermilion rockfish can grow to 76 cm and 6.8 kg. The oldest individual aged was 60 years old. Vermilion rockfish prey on other fishes (anchovies, lanternfishes, small rockfishes), octopi, squids, and krill. Pelagic young feed primarily upon crustaceans. Vermilion rockfish are popular in both sport and commercial fisheries. They are highly prized by recreational anglers throughout California with the majority of catches occurring from Monterey Bay south. Divers on the central California coast

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occasionally take large solitary individuals. Juveniles are sometimes caught from piers from about Santa Barbara northward. Adults are taken primarily by gill net and hook and line, and make up a substantial part of the rockfish commercial catch off California.

Yellowmouth Rockfish

Yellowmouth rockfish (*Sebastes reedi*) occur from Sitka, Alaska to Point Arena, California. They occur most commonly between southeast Alaska and Oregon. Yellowmouth rockfish occupy a depth range from 100–431 m, usually 180–275 m over rough bottom. They are found on the rocky shelf on the continental slope/basin. Pelagic juveniles are collected off Oregon. Off Oregon, yellowmouth rockfish release their young from February through June. Yellowmouth females mature at 33 cm or larger (9 years old), and males mature at lengths greater than 31 cm (9 years old). They grow to 58 cm and can live to 99 years of age. There is no information on trophic interactions or diet. Yellowmouth rockfish are an important commercial species from British Columbia to Oregon, and are harvested by bottom and midwater trawling.

F-5 Non-groundfish Species

California Halibut

California halibut (*Paralichthys californicus*) are a left-eyed flatfish of the family Bothidae. They range from Northern Washington at approximately the Quileute River to southern Baja, California (Eschmeyer et al. 1983), but are most common south of Oregon. They primarily occur in water depths from the surface to about 91 m (300 ft). California halibut feed on fishes and squids and can take their prey well off the bottom. They are an important sport and commercial species, especially in California where they are targeted using hook-and-line and trawl gear.

California Sheephead

California sheephead (*Semicossyphus pulcher*) are a large member of the wrasse family Labridae. They range from Monterey Bay south to Guadalupe Island in central Baja, California and in the Gulf of California, but are uncommon north of Point Conception. They can live to 50 years of age and a maximum length of 91 cm (16 kg). Like some other wrasse species, California sheephead change sex starting first as a female, but changing to a male at about 30 cm in length. They primarily occur in shallow nearshore waters from the surface to 55 m (180 ft).

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*). 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 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 United States 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. Population dynamics for market squid are poorly understood, and annual fluctuations in commercial catch vary from <10,000 mt to 90,000 mt. Market squid are thought to have an annual mortality rate approaching 100%, which means the adult population is almost entirely new recruits and successful spawning is crucial to future year's abundance.

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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 crabs 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; frequently it 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. Dungeness crabs are managed by the states of Oregon and California, and by the State of Washington in cooperation with Washington Coast treaty tribes.

Greenlings

Kelp greenling (*Hexagrammos decagrammus*) is managed under the groundfish FMP and under California and Oregon nearshore permits and represents the majority of the greenling that are landed. The other greenling species, rock (*H. lagocephalus*), painted (*Oxylebius pictus*), and white spotted greenling (*H. stelleri*), are not in the groundfish FMP but are managed by the states. Minimal take of rock greenling occurs in the commercial and recreational fisheries in California. It is often taken in conjunction with fishing for federally-managed groundfish, primarily nearshore rockfish and cabezon.

Highly Migratory Species

Highly migratory species (HMS) include tunas, billfish, dorado, and sharks—species that range great distances during their lifetime, extending beyond national boundaries into international waters and among the EEZs of many nations in the Pacific. The Council's HMS FMP describes the species under active management in detail. Included are five tuna species, five shark species, striped marlin, swordfish, and dorado or dolphinfish. A much longer list of species, constituting all those that have been caught in HMS fisheries and not already under state or federal management, are monitored, but are not part of the management unit. The managed species include:

- Striped marlin *Tetrapturus audax*
- Swordfish *Xiphias gladius*
- Common thresher shark *Alopias vulpinus*
- Pelagic thresher shark *Alopias pelagicus*
- Bigeye thresher shark *Alopias superciliosus*
- Shortfin mako (bonito shark) *Isurus oxyrinchus*
- Blue shark *Prionace glauca*
- North Pacific albacore *Thunnus alalunga*
- Yellowfin tuna *Thunnus albacares*
- Bigeye tuna *Thunnus obesus*
- Skipjack tuna *Katsuwonus pelamis*
- Northern bluefin tuna *Thunnus orientalis*
- Dorado (a.k.a. mahi mahi, dolphinfish) *Coryphaena hippurus*

Ocean whitefish

Ocean whitefish (*Caulolatilus princeps*) occur as far north as Vancouver Island in British Columbia, but are rare north of Central California. A solitary species, it inhabits rocky bottoms and is also found on soft sand and mud bottoms. Whitefish dig into the substrate for food.

Pacific pink shrimp

Pacific pink shrimp (*Pandalus jordani*) are found from Unalaska in the Aleutian Islands to San Diego, California, at depths of 25 fm to 200 fm (46 m to 366 m). Off the United States Pacific Coast these shrimp are harvested with trawl gear from Northern Washington to Central California between 60 fm and 100 fm (110 m 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 bottoms. Shrimp trawl nets are usually constructed with net mesh sizes smaller than the net mesh sizes for legal groundfish trawl

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gear. Thus, shrimp trawlers commonly take groundfish in association with shrimp (rather than the reverse). Pacific shrimp fisheries are managed by the states of Washington, Oregon, and California.

Pacific halibut

Pacific halibut (*Hippoglossus stenolepis*) belong to a family of flounders called Pleuronectidae. Pacific halibut can be found along the continental shelf in the North Pacific and Bering Sea. They have flat, diamond-shaped bodies and are able to migrate long distances. Most adult fish tend to remain on the same grounds year after year, making only a seasonal migration from the more shallow feeding grounds in summer to deeper spawning grounds in winter. Halibut are usually found in deep water (40 m to 200 m). The bilateral (United States/Canada) International Pacific Halibut Commission (IPHC) manages Pacific halibut. The Pacific Halibut Catch Sharing Plan for waters off Washington, Oregon, and California (Area 2A) specifies catch allocation for Pacific halibut on the Pacific Coast. Implementation of IPHC catch levels and regulations is the responsibility of NMFS, the states of Washington, Oregon, and California, and the Pacific halibut treaty tribes.

Ridgeback prawn

Ridgeback prawns (*Sicyonia ingentis*) are found south of Monterey, California to Baja, California in depths of 145 metric feet to 525 metric feet (Sunada *et al.* 2001). They are more abundant south of Point Conception and are the most common invertebrate appearing in trawls. Their preferred habitat is sand, shell and green mud substrate, and they are relatively sessile. Although information about their feeding habits is limited, these prawns probably are detritus feeders. In turn, they are prey for sea robins, rockfish, and lingcod. Unlike other shrimp species, which carry their eggs during maturation, ridgeback prawns release their eggs into the water column. They spawn seasonally from June to October. Surveys recorded increasing abundance of ridgeback prawns from 1982, when surveys began, to 1985. The population then declined. More recent CPUE data suggest increased abundance in the 1990s. These changes may be due to climate phenomena, particularly El Niño events.

Sea cucumber

Two sea cucumber species are targeted commercially: the California sea cucumber (*Parastichopus californicus*) and the warty sea cucumber (*P. parvimensis*) (Rogers-Bennett Ono 2001). These species are tube-shaped Echinoderms, a phylum that also includes sea stars and sea urchins. The California sea cucumber occurs as far north as Alaska, while the warty sea cucumber is uncommon north of Point Conception and does not occur north of Monterey. Both species are found in the intertidal zone to as deep as 300 feet. These bottom-dwelling organisms feed on detritus and small organisms found in the sand and mud. Because sea cucumbers consume bottom sediment and remove food from it, they can alter the substrate in areas where they are concentrated. They can also increase turbidity as they excrete ingested sand or mud particles. Sea stars, crabs, various fishes, and sea otters prey upon them. They spawn by releasing gametes into the water column, and spawning occurs simultaneously for different segments of a population. During development, they go through several planktonic larval stages, settling to the bottom two months to three months after fertilization of the egg. Little is known about the population status of these two species; and assessment is difficult, because of their patchy distribution. However, density surveys suggest abundance has declined since the late 1980s. This is not unexpected since a commercial fishery for these species began in the late 1970s and expanded substantially after 1990.

Spot prawn

Spot prawn (*Pandalus platyceros*) are the largest of the pandalid shrimp and range from Baja, California north to the Aleutian Islands and west to the Korean Strait (Larson 2001). They inhabit rocky or hard bottoms including coral reefs, glass sponge reefs, and the edges of marine canyons. They have a patchy distribution, which may result from active habitat selection and larval transport. Spot prawns are hermaphroditic, first maturing as males at about three years of age. They enter a transition phase after mating at about four years of age when they metamorphose into females. Spot prawns are taken by traps

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on the Pacific Coast with the fishery taking predominantly older females. These fisheries are open access and managed by the Pacific Coast states.

White seabass

White seabass (*Atractoscion nobilis*), a large member of the croaker family, range from southeast Alaska to Baja but are rare north of California (Eschmeyer et al. 1983). White seabass are primarily targeted with driftnet gear since the setnet fishery for white seabass was prohibited in 1994. White seabass may also be caught with commercial hook-and-line gear in the early spring, when large seabass are available. Regulations covering white seabass have been in effect since 1931 and have included a minimum size limit, closed seasons, bag limits, and fishing gear restrictions. Such regulations are in effect today, with slight variations. An FMP for white seabass was adopted in 2002 (**Vojkovich and Crooke 2001**).

APPENDIX G: Groundfish Closed Areas

Introduction

Pacific Coast groundfish fisheries and fisheries that may take groundfish incidentally, are managed with a variety of closed areas intended to either minimize the bycatch of overfished groundfish species, or to protect groundfish habitat. Many of the closed areas are gear-specific, meaning that they are closed to some particular gear types, but not others. Detailed regulations for the closed area restrictions by fishery are specified at: §660.381 for limited entry trawl gear fisheries; §660.382 for limited entry fixed gear fisheries; §660.383 for open access fisheries; and §660.384 for recreational fisheries. The following report provides information only on marine areas closed to fishing by federal regulation. The states of Washington, Oregon and California may also have marine areas closed to fishing that fishing vessel operators need to know about.

Fishing Sector Closed Areas

Commercial Trawl Closed Areas

Commercial vessels fishing with trawl gear are prohibited from fishing in any of these areas:

Trawl (Groundfish and Non-Groundfish) Rockfish Conservation Areas

Cowcod Conservation Areas

Cordell Banks Closed Area

Farallon Islands Closed Areas

Essential Fish Habitat Conservation Areas

Commercial Non-Trawl Closed Areas

Commercial vessels fishing with gear other than trawl gear are prohibited from fishing in any of these areas:

Non-trawl Rockfish Conservation Areas

Cowcod Conservation Areas

Cordell Banks Closed Area

Farallon Islands Closed Areas

Essential Fish Habitat Conservation Areas

Yelloweye Rockfish Conservation Areas

North Coast Commercial Yelloweye Rockfish Conservation Area

Salmon Troll Yelloweye Rockfish Conservation Area

North Coast Recreational Yelloweye Rockfish Conservation Area (voluntary closure)

South Coast Recreational Yelloweye Rockfish Conservation Area (voluntary closure)

Recreational Closed Areas:

Recreational fishing vessels are prohibited from fishing in any of these areas:

Recreational Rockfish Conservation Areas

Yelloweye Rockfish Conservation Areas

North Coast Recreational Yelloweye Rockfish Conservation Area

South Coast Recreational Yelloweye Rockfish Conservation Area

Stonewall Bank Yelloweye Rockfish Conservation Area

Cowcod Conservation Areas

Cordell Banks Closed Area

Farallon Islands Closed Areas

Essential Fish Habitat Conservation Areas

Closed Areas Described

The schedule and coordinates for all boundary lines referred to in the following sections are available at: http://www.nwr.noaa.gov/Groundfish-Halibut/Groundfish-Fishery-Management/Groundfish-Closed-Areas/Index.cfm#CP_JUMP_30284

Rockfish Conservation Areas

RCAs are large-scale closed areas that extend along the entire length of the United States Pacific Coast. The RCA boundaries are lines that connect a series of latitude/longitude coordinates intended to approximate particular depth contours. RCA boundaries for particular gear types are likely to differ between the northern and southern areas of the coast. RCA boundaries are also likely to change at different times of the year. The locations of the RCA boundaries are set in order to minimize opportunities for vessels to incidentally take overfished rockfish by eliminating fishing in areas where and times when those overfished species are likely to co-occur with more healthy stocks of groundfish. RCAs may change during the year. RCAs extending along all or part of the Pacific Coast have been in place since September 2002.

The Yelloweye Rockfish Conservation Areas

YRCAs, are various closed areas intended to protect yelloweye rockfish off the Pacific Coast.

The North Coast Recreational YRCA is a C-shaped area off the northern Washington coast intended to protect yelloweye rockfish. The North Coast Recreational YRCA is closed to recreational fishing for groundfish and halibut and is designated as an area to be avoided (a voluntary closure) by commercial fixed gear fishers. This closed area was implemented in 1998 for the halibut sport fishery and was adopted for the groundfish fishery in January 2003. The name of this closed area changed from the YRCA to the North Coast Recreational YRCA in 2007.

The North Coast Commercial YRCA is an area off the northern Washington coast, overlapping the northern part of North Coast Recreational YRCA, intended to protect yelloweye rockfish. The North Coast Commercial YRCA is closed to commercial fixed gear fishing (limited entry and open access fixed gear). This closed area was implemented in 2007.

The Salmon Troll YRCA is an area off the northern Washington coast, overlapping the southern part of North Coast Recreational YRCA, intended to protect yelloweye rockfish. The Salmon Troll YRCA is closed to fishing with salmon troll gear. This closed area was implemented in 2007.

The South Coast Recreational YRCA is an area off the southern Washington coast intended to protect yelloweye rockfish. The South Coast Recreational YRCA is closed to recreational fishing for groundfish and halibut and is designated as an area to be avoided (a voluntary closure) by commercial fixed gear fishers. This closed area was implemented in 2007.

The Stonewall Bank YRCA is an area off central Oregon, near Stonewall Bank, intended to protect yelloweye rockfish. The Stonewall Bank YRCA is closed to recreational fishing for groundfish and halibut. This closed area was implemented in 2005 for the halibut sport fishery and was adopted for the groundfish fishery in 2007.

Cowcod Conservation Areas

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There are two Cowcod Conservation Areas, or CCAs, off southern California, a Western and an Eastern CCA. The CCAs are closed to all commercial and recreational fishing for groundfish except: 1) "other flatfish" is permitted as specified at §§ 660.382 to 660.384; 2) recreational fishing is permitted shoreward of the 20 fm depth contour for minor nearshore rockfish, cabezon, all greenlings of the genus *Hexagrammos*, lingcod, and California scorpionfish; and 3) commercial fishing for rockfish and lingcod with limited entry fixed gear and open access non-trawl gear is permitted shoreward of the 20 fm depth contour. Commercial fishing vessels may transit through the Western CCA with their gear stowed and groundfish on board only in a corridor through the Western CCA bounded on the north by the latitude line at 33°00.50' N. lat., and bounded on the south by the latitude line at 32°59.50' N. lat. The CCAs have been in place since January 2001.

Cordell Banks Closed Area

The Cordell Banks are located offshore of California's Marin County. Commercial and recreational fishing for groundfish, except "other flatfish" as specified at §§ 660.382 to 660.384, is prohibited inside the area around Cordell Banks. The Cordell Banks Closed Area has been in place since 2005. Coordinates designating its boundary were revised in 2007.

Farallon Islands Closed Areas

The Farallon Islands, off San Francisco and San Mateo Counties, include: Southeast Farallon Island, Middle Farallon Island, North Farallon Island and Noon Day Rock. The State of California prohibits commercial and recreational fishing for groundfish, except "other flatfish" as specified at §§ 660.382 to 660.384, between the shoreline and the 10 fm (18 m) depth contour around the Farallon Islands. The Farallon Islands Closed Areas have been in place since 2004. The boundaries of these closed areas have not changed over time.

Essential Fish Habitat Conservation Areas

EFH protection measures will implement discrete area closures for specific gear types, effective June 12, 2006. These closed areas were identified by the Pacific Fishery Management Council and are intended to minimize to the extent practicable the adverse effects of fishing on groundfish EFH. Three types of areas are described in this section: EFH, HAPC, and EFH Conservation Areas. Only EFH Conservation Areas are closed to specific types of fishing.

EFH Conservation Area Maps: Coast wide map and detailed maps for areas off the coast of Washington, Oregon, North California, Central California, and Southern California

Habitat Areas of Particular Concern: Current coordinates for all of the EFH boundary lines are listed in Federal Regulation at 50 CFR 660.395 through 660.399.

APPENDIX H: SEC. 312. TRANSITION TO SUSTAINABLE FISHERIES 16 U.S.C. 1861a

(b) FISHING CAPACITY REDUCTION PROGRAM.—

(1) The Secretary, at the request of the appropriate Council for fisheries under the authority of such Council, the Governor of a State for fisheries under State authority, or a majority of permit holders in the fishery, may conduct a voluntary fishing capacity reduction program (referred to in this section as the 'program') in a fishery if the Secretary determines that the program—

(A) is necessary to prevent or end overfishing, rebuild stocks of fish, or achieve measurable and significant improvements in the conservation and management of the fishery;

(B) is consistent with the Federal or State fishery management plan or program in effect for such fishery, as appropriate, and that the fishery management plan—

(i) will prevent the replacement of fishing capacity removed by the program through a moratorium on new entrants, practicable restrictions on vessel upgrades, and other effort control measures, taking into account the full potential fishing capacity of the fleet; and

(ii) establishes a specified or target total allowable catch or other measures that trigger closure of the fishery or adjustments to reduce catch; and

(C) is cost-effective and, in the instance of a program involving an industry fee system, prospectively capable of repaying any debt obligation incurred under section 1111 of title XI of the Merchant Marine Act, 1936.

(2) The objective of the program shall be to obtain the maximum sustained reduction in fishing capacity at the least cost and in a minimum period of time. To achieve that objective, the Secretary is authorized to pay—

(A) the owner of a fishing vessel, if the permit authorizing the participation of the vessel in the fishery is surrendered for permanent revocation and the vessel owner and permit holder relinquish any claim associated with the vessel or permit that could qualify such owner or holder for any present or future limited access system permit in the fishery for which the program is established or in any other fishery and such vessel is (i) scrapped, or (ii) through the Secretary of the department in which the Coast Guard is operating, subjected to title restrictions (including loss of the vessel's fisheries endorsement) that permanently prohibit and effectively prevent its use in fishing in federal or state waters, or fishing on the high seas or in the waters of a foreign nation; or (B) the holder of a permit authorizing participation in the fishery, if such permit is surrendered for permanent revocation, and such holder relinquishes any claim associated with the permit and vessel used to harvest fishery resources under the permit that could qualify such holder for any present or future limited access system permit in the fishery for which the program was established.

(3) Participation in the program shall be voluntary, but the Secretary shall ensure compliance by all who do participate.

(4) The harvester proponents of each program and the Secretary shall consult, as appropriate and practicable, with Councils, Federal agencies, State and regional authorities, affected fishing communities, participants in the fishery, conservation organizations, and other interested parties throughout the development and implementation of any program under this section.

(5) **PAYMENT CONDITION.**—The Secretary may not make a payment under paragraph

(2) with respect to a vessel that will not be scrapped unless the Secretary certifies that the vessel will not be used for fishing in the waters of a foreign nation or fishing on the high seas.

(6) **REPORT.**—

(A) **IN GENERAL.**—Subject to the availability of funds, the Secretary shall, within 12 months after the date of the enactment of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 submit to the Congress a report—

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September 2008

- (i) identifying and describing the 20 fisheries in United States waters with the most severe examples of excess harvesting capacity in the fisheries, based on value of each fishery and the amount of excess harvesting capacity as determined by the Secretary;
- (ii) recommending measures for reducing such excess harvesting capacity, including the retirement of any latent fishing permits that could contribute to further excess harvesting capacity in those fisheries; and
- (iii) potential sources of funding for such measures.

(B) BASIS FOR RECOMMENDATIONS.—The Secretary shall base the recommendations made with respect to a fishery on—

- (i) the most cost effective means of achieving voluntary reduction in capacity for the fishery using the potential for industry financing; and (ii) including measures to prevent the capacity that is being removed from the fishery from moving to other fisheries in the United States, in the waters of a foreign nation, or on the high seas.

(c) PROGRAM FUNDING.—

(1) The program may be funded by any combination of amounts—

(A) available under clause (iv) of section 2(b)(1)(A) of the Act of August 11, 1939 (15 U.S.C. 713c-3(b)(1)(A); the Saltonstall-Kennedy Act);

(B) appropriated for the purposes of this section;

(C) provided by an industry fee system established under subsection (d) and in accordance with section 1111 of title XI of the Merchant Marine Act, 1936; or

(D) provided from any State or other public sources or private or non-profit organizations.

(2) All funds for the program, including any fees established under subsection (d), shall be paid into the fishing capacity reduction fund established under section 1111 of title XI of the Merchant Marine Act, 1936.

(1) (A) If an industry fee system is necessary to fund the program, the Secretary may conduct a referendum on such system. Prior to the referendum, the Secretary shall—

(i) identify, to the extent practicable, and notify all permit or vessel owners who would be affected by the program; and (ii) make available to such owners information about the industry fee system describing the schedule, procedures, and eligibility requirements for the referendum, the proposed program, and the amount and duration and any other terms and conditions of the proposed fee system.

(B) The industry fee system shall be considered approved if the referendum votes which are cast in favor of the proposed system constitute at least a majority of the permit holders in the fishery, or 50 percent of the permitted allocation of the fishery, who participated in the fishery.

(2) Notwithstanding section 304(d) and consistent with an approved industry fee system, the Secretary is authorized to establish such a system to fund the program and repay debt obligations incurred pursuant to section 1111 of title XI of the Merchant Marine Act, 1936.

The fees for a program established under this section shall—

(A) be determined by the Secretary and adjusted from time to time as the Secretary considers necessary to ensure the availability of sufficient funds to repay such debt obligations;

(B) not exceed 5 percent of the ex-vessel value of all fish harvested from the fishery for which the program is established;

(C) be deducted by the first ex-vessel fish purchaser from the proceeds otherwise payable to the seller and accounted for and forwarded by such fish purchasers to the Secretary in such manner as the Secretary may establish, unless the Secretary determines that such fees should be collected from the seller; and

(D) be in effect only until such time as the debt obligation has been fully paid.

(e) IMPLEMENTATION PLAN.—

(1) FRAMEWORK REGULATIONS.—The Secretary shall propose and adopt framework regulations applicable to the implementation of all programs under this section.

(2) PROGRAM REGULATIONS.—The Secretary shall implement each program under this section by promulgating regulations that, together with the framework regulations, establish each program and control its implementation.

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September 2008

(3) HARVESTER PROPONENTS' IMPLEMENTATION PLAN.—The Secretary may not propose implementation regulations for a program to be paid for by an industry fee system until the harvester proponents of the program provide to the Secretary a proposed implementation plan that, among other matters—

(A) proposes the types and numbers of vessels or permits that are eligible to participate in the program and the manner in which the program shall proceed, taking into account—

(i) the requirements of this section;

(ii) the requirements of the framework regulations;

(iii) the characteristics of the fishery and affected fishing communities;

(iv) the requirements of the applicable fishery management plan and any amendment that such plan may require to support the proposed program;

(v) the general needs and desires of harvesters in the fishery;

(vi) the need to minimize program costs; and

(vii) other matters, including the manner in which such proponents propose to fund the program to ensure its cost effectiveness, as well as any relevant factors demonstrating the potential for, or necessary to obtain, the support and general cooperation of a substantial number of affected harvesters in the fishery (or portion of the fishery) for which the program is intended; and

(B) proposes procedures for program participation (such as submission of owner bids under an auction system or fair market-value assessment), including any terms and conditions for participation, that the harvester proponents deem to be reasonably necessary to meet the program's proposed objectives.

(4) PARTICIPATION CONTRACTS.—The Secretary shall contract with each person participating in a program, and each such contract shall, in addition to including such other matters as the Secretary deems necessary and appropriate to effectively implement each program (including penalties for contract nonperformance) be consistent with the framework and implementing regulations and all other applicable law.

(5) REDUCTION AUCTIONS.—Each program not involving fair market assessment shall involve a reduction auction that scores the reduction price of each bid offer by the data relevant to each bidder under an appropriate fisheries productivity factor. If the Secretary accepts bids, the Secretary shall accept responsive bids in the rank order of their bid scores, starting with the bid whose reduction price is the lowest percentage of the productivity factor, and successively accepting each additional responsive bid in rank order until either there are no more responsive bids or acceptance of the next bid would cause the total value of bids accepted to exceed the amount of funds available for the program.

(6) BID INVITATIONS.—Each program shall proceed by the Secretary issuing invitations to bid setting out the terms and conditions for participation consistent with the framework and implementing regulations. Each bid that the Secretary receives in response to the invitation to bid shall constitute an irrevocable offer from the bidder.

Description of Amendment 22: Open Access (OA) from Pacific Fishery Management Council (Council) Website: <http://www.pcouncil.org/groundfish/gffmp/gfa22.html>

Summary

The Council is considering the following changes to the Groundfish Fishery Management Plan (proposed Amendment 22): a limited entry program for the directed fishery sector of the groundfish OA fishery (this would create a new B permit program) a registration program for the incidental fishery sector (this would create a new C permit program).

The Council is considering a wide range of qualification criteria for the B permit program. Other issues include permit transferability, previous year landing requirement, coastal state permit endorsement, and use of A (current Limited Entry) and B permits on vessels in the same year. The Council is considering five alternatives related to these criteria. The program may begin as early as January 2010.

Proposed Action

The proposed action is intended to compliment the existing limited entry or A permit program. The proposed action has two parts:

- Conversion of the directed (target) fishery component to limited entry management. Vessels with valid registrations or permits would be allowed to directly fish for and land specified groundfish species. This is called the “B” permit program.
- Conversion of the incidental (non-target) fishery component of the OA groundfish fishery to a license registration program for all state-registered OA vessels that do not receive a B permit and that seek to retain incidental amounts of specified groundfish. This is called the “C” permit program.

PFMC
08/06/08

Proposed Open Access Groundfish Fishery Conversion to Limited Entry and Permit
Implementation Schedule

Step	Dates
Control date set (first) for OA fishery permit program	April 1998
Groundfish Strategic Plan recommends OA fishery permit program	October 2000
OA fishery permit program planning	January 2001-April 2002
Council discussion continues on need for OA fishery permit program in the context of other groundfish issues	November 2002-June 2006
Control date set (second) for OA fishery permit program	September 2006
Overview, scoping and Council direction for OA permit program	June 2007
Evaluation of alternatives and preparation of preliminary draft environmental assessment (EA)	June 2007-February 2008
Council meeting to review EA and amend alternatives	March 2008
Analyze amended alternatives and prepare updated draft EA	April-August 2008
Groundfish Allocation Committee meeting	July 2008
Council meeting: adopt final alternative, if appropriate	September 2008
Council meeting: consider final adoption if not done in September 2008	March 2009
Implementation phase and initial permit issuance	April-December 2009
B and C permits required	January 2010

Advisory body and public input will be received at regularly scheduled Council meetings.

Shaded = Future Possible Schedule

RECEIVED

AUG 18 2008

PPMC

Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384

Lewis E. (Mac) MacCarter
761 Butte Ave., Apt. 6
Morro Bay, CA 93442

mac@terranrobotics.com
(805)771-9927

Dear Council members,

I am an applied ecologist and former coastal monitoring biostatistician who now resides in Morro Bay. I am writing to comment both as a potential member (researcher) of the fishing community, and as a present resident who is concerned about the environment of the area of my residence. I am alarmed by the Council's present approach to capitalization reduction in the groundfish fishery which is directed at causing boats to drop out of the fishery as is clearly stated in **PRELIMINARY DRAFT ENVIRONMENTAL ASSESSMENT FOR PACIFIC COAST GROUND FISH FISHERY MANAGEMENT PLAN AMENDMENT 22: CONVERSION OF THE OPEN ACCESS FISHERY TO FEDERAL PERMIT MANAGEMENT.**

Although the Magnuson-Stevens Fishery Council and Management Act (MSA, As Amended Through January 12, 2007) allows a reduction in capitalization, as by natural attrition, I submit that simply forcing boats to be scrapped by manipulation of regulations constitutes a taking. Such takings via the actions of the Council along with excessive and ineffective attempts at regulation has already seriously damaged the once healthy fishing community in Morro Bay and elsewhere on this coast. A very large proportion of both the boats and the skilled fisher-persons required to operate them are aging and, under the present economic conditions, attrition should be adequate to reduce capitalization. As to the boats themselves, even if there were skilled craftspersons to man them, there is little in the way of capital or credit available for boat replacement. Continuing to force boat elimination, as by the inclusion of the window associated with Alternatives 3 through 6 in the three state region, will soon lead to the extinction of the historic fishing communities of the west coast of the continental US.

The MSA, NEPA, etc. clearly include human communities as a part of the environment and, as such, they must be conserved along with fish, game, vegetation, and other parts of the environment. The MSA specifies that the Secretary of Commerce and the Councils shall consider the fishing community as defined therein: 99-659, 104-297 (17) The term "fishing community" means a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community. with respect to its preservation, its sociology, and its economics. It is clear that this definition does not, for instance include farmers, railway workers, foresters, saw mill workers, etc, even when they are geographically intermixed with the fishing community.

The MSA also states that: Conservation and management measures shall, 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 by utilizing economic and social data that meet the requirements of paragraph (2), 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 [16 U.S.C. 1851 MSA § 301, 109-479(8)]. Alternatives 3 through 6 do not 'provide for the sustained participation of fishing communities'.

The MSA mandates that the Secretary of Commerce shall provide for the collection of such data as is needed by the Councils (for instance: 104-297 SEC. 402. INFORMATION COLLECTION 16 U.S.C. 1881a 109-479). The Secretary also has authority over the U.S. Census Bureau which has authority to ask questions which no contracted survey company or NGO may compel the persons solicited to answer. The confidentiality of information collected under the authority of the Census Bureau is guaranteed by law. NGOs have agendas which must disqualify them from being the source of such data.

The point being that the Secretary of Commerce under which the Councils operate has reasonable and adequate access to such data as is needed if the Secretary directs that appropriate actions be taken by the Census Bureau. The Census Bureau often collects data outside the regular national census, sometimes in cooperation with other departments. So, the Council should not have to wait for the more familiar nationwide Census which is useless for fulfilling the mandates of the MSA in that it lumps agriculture and forestry with fishing.

Would the Council please request a determination by the Secretary that such information is required and also request the Secretary's aid in obtaining it, with the assistance of, and under the authority of, the Bureau of Census. Said survey should include numbers of workers by ethnicity, family sizes in relation to income, and whatever else in the way of social and economic data, specifically relating to flesh and blood persons of the fishing community, as defined in the MSA, is needed to regulate fishing in a responsible manner that will insure the fishing community's sustainability.

The Council has shown insufficient evidence that sablefish are overfished and yet, under the MSA, the only possible justification for impacting the fishing community is to prevent overfishing and even that reason has to be justified by sufficient data concerning both the biological impact and the human impact. The Council's own plans to eventually increase the sablefish limits appears to support the conclusion that the present levels of fishing do not threaten to overfish it or its associated bycatch species.

Other interrelated problems related to this proposal include:

The proposal seems to be based on information regarding the number of boats which is now at least two years old and yet boats have been dropping out of the fishery at an increasing and alarming rate. The assumptions of overcapitalization intrinsic in this draft proposal and in the GROUND FISH STRATEGIC PLAN are out of date and erroneous and threaten the continued existence of the West Coast fishing community.

Small boat operators are now, as is frequently the case, at sea laboring to support their families and thus unable to read hundreds of pages of proposed regulations comments and reports, let alone attend widely scattered meetings. The natural limitations on their opportunity to contribute to its interpretation may call for special attention to their interests when data is officially collected and assembled.

Hispanics constitute a very large proportion of the members of the fishing community handling fish after they are landed. This may mean that reduced landings, or a reduced fleet leading to reduced landings, may have a disproportional impact on a minority, but data collection has regarding this issue been neglected. The proposal erroneously implies that the Council has data proving this impact is nonexistent.

Incomes in the fishing community are lower than those of most other US industries and (when data becomes available) this industry is likely to be found to include disproportionate numbers of economically disadvantaged families and individuals who are being adversely impacted by Alternatives 3 through 6. However, the proposal erroneously implies that the Council has data proving this impact is nonexistent.

There is a problem, when fishing in deep water, that rockfish bycatch which arrive at the surface fatally injured by expansion of the air bladder are thrown overboard and thus wasted. This has to be addressed to stop this waste which is occurring, in that landing the normal rockfish bycatch is not going to have any greater impact than throwing the dead fish overboard. Perhaps this problem should be handled in cooperation with the Groundfish Advisory Subpanel. But, please consider that supply affects price and that some people cannot afford adequate high grade protein for their children.

As in Morro Bay, the fishing communities of the three states affected are presently so fragile that continued experimental regulation (adaptive management) both endangers its sustainability and threatens it with extinction. Adaptive management cannot work where strategies which are ineffective are going to cause irretrievable negative results as is the case for the fishing community. In order to avoid the possibility of expensive and wasteful litigation, the Council must proceed with due caution, and it can only proceed with restrictive regulation when valid data becomes available. Because such data is not presently available, I respectfully request that the Council scrap this proposal (choose Alternative 1, or a cautious open fisheries implementation of Alternative 2). I further request that the council likewise scrap all other potentially harmful (that is more restrictive than present regulations) proposals in any fishery until the Council has the data necessary for responsible, equitable, humane, and legally justifiable management.

Sincerely,



L.E. MacCarter, MAg, MPH, PhD

12/08/08

Subject: Fw: Open Access Licensing
From: nursejolene <nursejolene@cox.net>
Date: Mon, 18 Aug 2008 17:20:35 -0700
To: pfmc.comments@noaa.gov

----- Original Message -----

From: nursejolene
To: PFMC.comments@NOAA.GOV
Cc: nursejolene@cox.net
Sent: Monday, August 18, 2008 5:04 PM
Subject: Open Access Licensing

Public comments Amendment 22 Open Access Licensing PFMC meeting September 7 - 12, 2008

Kelly Fukushima
1517 La Corta st
Lemon Grove Ca, 91945

Dear Council Members,

Please take the time to consider some suggestions from many of the commercial fishermen that will be greatly affected by the outcome of your decisions regarding the Open Access Licensing requirements. All participants have many different opinions about qualifications however, everyone involved has the same goal which is to remain in the fisheries that they have invested time and money in and depend on for their livelihood. I am a full time commercial fisherman that has overcome great obstacles in all fisheries and economic situations. Now I find myself trying to remain in a fishery that I have participated in for many years. I am not asking for something new, just trying to keep what I already have. Here are some of my opinions regarding licensing requirements.

1. The permit must be issued to the fisherman that qualifies not the vessel. This is the most important factor in the decision. Many fishermen have upgraded their vessels or sold vessels that they had traditional landings in. By issuing permits to vessels, it could eliminate the fishermen that have a history in the fishery and allow someone new with no experience to participate. since the Open Access trip limits are already established, it should not matter what size of vessel a fisherman has if they have upgraded to a larger vessel.
2. The NMFS has had the observer program in place for many years in the groundfish fishery. Although it is supposed to be random selection, many vessels have very large numbers of observed trips in various fisheries while many vessels have little if any. The vessels that have the most observed coverage, obviously are the most active participants and the most willing to cooperate with NMFS and PFMC to remain in the fisheries. This is important to consider because it shows dedication to the fishery.
3. Due to decreased catch limits and area closures over the past several years many fishermen have not been able to rely strictly on groundfish to survive. The fishermen that have been able to adapt to fishery and economic changes by participating in other fisheries should not be punished by losing access to a fishery that they depended on until it was no longer viable. There are many fishermen that do not have huge landings of groundfish, however that does not mean that it is no longer important to them. Changes in the fishing or regulation could make it possible for fishermen to utilize groundfish at a later time as long as they were still allowed to participate.
4. Take into consideration fishermen that participate in fisheries that have groundfish as bycatch that would be forced to discard marketable fish if not granted a permit, for example live fish trapping for state regulated fish

and gillnets.

5. Make an easy appeals process for fishermen that have special circumstances in different fisheries such as gear interaction with groundfish species or any person that is denied access with reasonable qualifications.

Thank You for your time and consideration,
Kelly Fukushima

Public Comments - Amendment 22 - Open Access Licensing
PFMC Meeting - September 7 -12, 2008

John Law
2795 Massachusetts Ave.
Lemon Grove CA. 91945
858-414-9731
WILDWESTJL@YAHOO.COM

Please accept the following as public comment on Amendment 22.

Dear Council Members,

I am asking the council to keep in mind the amount of time that many of us have participated in the ongoing debate over open access licensing. I am not happy with the decision to award the permit to the vessel rather than the fisherman. Not knowing our fate has been a mental and financial drain, as many like myself have been forced to keep a vessel that should have been upgraded or retired long ago. Some fishermen have upgraded to new boats and may be unknowingly eliminated from the fishery, while others, with no intention of participating in the groundfish fishery, may be awarded a permit because they purchased a qualifying vessel. In addition some large modern vessels joined the fleet at the last minute and landed large quantities, knowing they had no long term participation, but hoping to be awarded a permit because of high catch rates.

To address my concerns I offer the following suggestions:

- 1) Reconsider the decision to award the permit to the vessel instead of the fisherman.
- 2) Emphasize long term participation. Vessels and /or participants that have no long term participation should not be considered. The window of 2004-2006 should be combined with additional participation in prior years. Landing qualifications should be distributed over the entire time period also. My suggestion is two metric tons over the entire period of 1998 -2006 with catch history before 2004 and landings every year from 2004 - 2006. This works out to an average catch of roughly 500 LBS per year.
- 3) Vessels that meet the qualifications but are not currently engaged in the groundfish fishery should not be granted access to the fishery. Landings of 500 LBS. in 2007 and 2008 should be required.

My business is rapidly being taken over by imported rockfish from Mexico. I ask the council to put the open access permit process on the fast track and make immediate adjustments to the bi-monthly trip limits, so the many hard years of work I have done will not be lost forever. John Law.

Subject: Amendment 22

From: John Law <wildwestjl@yahoo.com>

Date: Tue, 19 Aug 2008 10:12:53 -0700 (PDT)

To: pfmc.comments@noaa.gov

Please consider this E-mail as public comment on Amendment 22 - open access licensing.

Dear Council Members, After submitting a public comment letter yesterday I met with a group of San Diego CA. area groundfish fishermen. The most important issue to all involved is the possibility that some will be eliminated from the fishery if the open access permit is issued to the boat and not the fisherman. Two of the fishermen were in total disbelief and spoke about how hard they had worked to participate in the entire process including observer coverage and VMS compliance. None could understand how a person who worked hard and managed to upgrade his business could be eliminated. All spoke of the hardship this would create as they try to provide for their families and pay for houses in hard economic times. We have struggled through this process since the strategic plan was proposed and there is still time to continue to revise the thought process to make the proper decisions. Please do not jump to a quick decision that will hurt our ability to provide for our families.

John Law



CRAB BOAT OWNERS ASSOCIATION, Inc.

2907 Jones Street
San Francisco, California 94133-1115
415-885-1180

Agenda Item I.4
September 2008

Mr. Don Hansen, Chairman of the PFMC, and Council Members
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384

Dear Mr. Hansen and members of the Pacific Fishery Management Council,

I am submitting these comments on Amendment 22 on behalf of the San Francisco Crab Boat Owners Association. Our members include 30 boats and 50 fishermen, many of whom have fished the area for over 20 years.

Despite our organization's name, salmon is the heart of our fishing community. Historically, our boats have relied on multiple fisheries over the course of a year, including crab, nearshore and shelf rockfish, lingcod, and sablefish. Instead of specializing in a single fish, our trap and hook-and-line boats have diversified, so that regardless of fluctuations in ocean conditions or stock status, we had the chance to fish each season.

We strongly believe that there needs to be a place for the professional small boat fisherman in the future of the groundfish fishery, which is why we are concerned about the use of the qualifying trip criterion in the Open Access License Limitation analyses. A "qualifying trip" is defined as a fish ticket where 50% of the revenue comes from lingcod, sablefish, shelf rockfish, slope rockfish, flatfish, and/or small sharks and rays. All of the options before the Council use this "qualifying trip" criterion in some way, over time periods between 1998 – 2006.

We believe this approach will prevent many of our members from initially being granted a B permit. In 1998, new regulations to protect fish populations restricted opportunities for small boats to take shelf and slope rockfish. Accordingly, our boats took fewer groundfish and shifted to other, more plentiful species, like salmon and crab. Over the last decade, our boats have been asked to land fewer and fewer qualifying species; we now find that following the rules in the past disqualifies us from fishing for groundfish in the future.

The Council can accomplish the goals of limiting new entrants and better tracking fixed gear effort through a limited access program, but the Council will not be able to significantly reduce actual fishing effort or increase opportunity for the boats that remain. Those actions are constrained not by the number of boats, but by the other regulations the Council has in place to rebuild groundfish: low allocations of TAC, trip limits, and the RCA.

We ask you to include boats that regularly landed groundfish prior to 1998 in the initial qualification criteria for a B permit. We also recommend that the Council consider restricting the transferability of B permits within a state, or within subzones designated by the state, such as the four zones designated for California's nearshore fisheries.

The Council is looking to a new future for the trawl fleet through the rationalization program. We ask you to also look for innovations for the hook-and-line and trap fishermen as well, starting with the limited access program. Use the limited access rules to describe the world of historic and current participants, and then provide incentives that give professional fishermen a chance to help the Council improve groundfish management in the future. We recognize that our association rarely participated in earlier groundfish discussions, but we must also change with the times to keep our boats on the water, our buyers and processors at the docks, and our fish populations sustainable. Like many fishing communities along the west coast, we are looking to the ideas of co-management, co-ops, and other structures that can help small boats access groundfish and we hope that the Council will take up the discussion regional fishery associations in the next two years.

Thank you,

A handwritten signature in dark ink, appearing to read "Larry Collins". The signature is fluid and cursive, with a long horizontal stroke at the end.

Larry Collins, President

Subject: amendment 22 open access licensing

From: nglawson@san.rr.com

Date: Tue, 19 Aug 2008 19:43:35 -0700

To: pfmc.comments@noaa.gov

Dear Council Members,

I am writing you this letter to state my grave disappointment and concern regarding the open access licensing amendments. I recently upgraded to a new vessel and could not believe I may lose my groundfish access. I strongly believe the new permit should stay with the fishermen not the vessel. I have been fishing groundfish for many years, installed a vms, had many trips with observers and abided the trip limits. The new owner of the vessel should not be rewarded for my many years of hard work. I am a life long commercial fisherman and sole provider for my family. Losing access to any fishery will be detrimental to my lively hood.

I know there are other fisherman who are also going to be negatively affected by this amendment. Commercial fisherman rely on many fisheries to make their living. Please consider changing the amendment and have the permit stay with the fisherman, not the vessel.

Thank you for your consideration,
John Glawson
3856 Tomahawk Lane
San Diego CA 92117
F/V Nicole Ann

Subject: for Briefing book Thanks Kenyon
From: khensel@charter.net
Date: Wed, 20 Aug 2008 09:01:34 -0700
To: Merrick.Burden@noaa.gov

Kenyon Hensel
871 Elk Valley Rd
Crescent City CA
95531
707-465-6857

To the Council Family,

I am sending Bill James as my alternate for this meeting. The main reason I am doing so is because of his of research and diligence on the process of permitting open access. He has my support for his presentations. At the same time I strongly ask that the council does not pick the preferred alternative at this meeting. The location of this meeting makes it almost imposible for small boat fishermen to attend. While I have worked towards the goal of having a limited small boat fishery to replace the open access sector, I recommend that the council takes the time to get this decision right. You need to be sure that you have fulfilled your obligation to the law. You are creating a small boat sector. The end product of you actions should have a fleet of local fishermen who work from their local ports. They are currently harvesting shelf rockfish and near shore stocks. Their landings are of the highest value. Each port along our coast has this fleet of fishermen. Our ports need these fishermen to harvest shelf fish in the future.

If you choose recent years catch and set your poundage limits high, you will discount a large number of fishermen who have not had access to the shelf because of the RCA. If you are going to use large landing limits and discount near shore catches, you will have fishermen discarding shelf fish. You cannot go fishing for rock cod and manage your catch to insure that a small fixed percentage of your target species is shelf fish. You may catch a twenty-pound lingcod on you first drop. Without any other near shore fish on board, what do you do? Throw it back? This will simply cause hardship on near shore fishermen. I have no problem with having a few more fishermen in the sector. Our goal is to have a fixed number of fishermen, not necessarily a small number. We can set accurate trip limits knowing that number. If the limits are a smaller per boat (due to a larger number of fishermen) the sector will deal with it. We must have enough boats with shelf permits to maintain markets at far-flung ports. This is more important then having a small sector to start with. I hope that in the future we can talk about the stacking of permits or buying back and retiring permits. There are many ways to consolidate this fleet, but few ways to make it bigger. Thank you for your consideration of issue. I look forward to seeing all of you at future meetings.

Kenyon Hensel

STOCK ASSESSMENT PLANNING FOR 2011-2012 GROUNDFISH FISHERY DECISION MAKING

In June, the Council adopted a terms of reference for groundfish rebuilding analysis in June, but deferred adoption of a terms of reference for next year's groundfish stock assessment and review process until the September Council meeting (the draft stock assessment and review terms of reference provided in June is again provided as Agenda Item I.5.a, Attachment 1). One pending issue was the resolution of the number and qualifications of reviewers at Stock Assessment Review (STAR) panels. The Scientific and Statistical Committee (SSC) recommended four reviewers at STAR panels that review two full assessments (i.e., $N+2$ reviewers per STAR panel, where N = the number of full assessments reviewed at a STAR panel) while the National Marine Fisheries Service (NMFS) Northwest Fisheries Science Center (NWFSC) recommended three reviewers per STAR panel, citing cost as an issue. Further, the SSC recommended at least two reviewers with west coast groundfish experience formally attend next year's STAR panels. Another pending matter was the Council request for a new section in the stock assessment and review terms of reference defining the content and use of data reports, as opposed to full stock assessments, for management decision-making (see proposed language defining the content and use of data reports in Agenda Item I.5.a, Attachment 2). Lastly, Council staff has proposed edits to the initial section of the Terms of Reference, to clarify the roles of Council staff and NMFS staff in the process in accordance with the relevant sections in the Magnuson Stevens Reauthorization Act (MSRA), guidance described in the recent proposed rule on annual catch limits, and peer review function implementation discussions between the West Coast NMFS Science Centers and the Council Chairman and Executive Director; notably, the Council has received specific funding for an enhanced peer review process, including increased responsibilities for Council staff (see Agenda Item I.5.a, Supplemental Attachment 4).

The Council also adopted a list of nine groundfish stocks to be assessed next year, which will be used to decide the harvest specifications and management measures for 2011 and 2012 groundfish fisheries. With five STAR panels anticipated next year and a limit of two full assessments to be reviewed at each STAR panel, there is the capacity for one more full assessment. Two candidate stocks for a full assessment are bronzespotted and greenspotted rockfish. The SSC intends to recommend one or none of these two stocks for a full assessment next year pending evaluation of available data to inform an assessment. The Council scheduled this recommendation to be provided at the September Council meeting. At the September meeting, the Council will consider the approval of a 2009 STAR panel meeting schedule (Agenda Item I.5.a, Attachment 3).

The Council is tasked at this meeting with final adoption of a terms of reference for the groundfish stock assessment and review process for 2009-2010; designating either bronzespotted or greenspotted rockfish for a full assessment; and providing guidance on a schedule of STAR panels to review new full assessments (the SSC will review updated assessments). The Council should consider advice from the NMFS science centers, advisory bodies, and the public before making these decisions.

Council Action:

- 1. Adopt a Final Terms of Reference for the Groundfish Stock Assessment and Review Process for 2009-2010.**
- 2. Consider a full assessment for either or neither bronzespotted or greenspotted rockfish.**
- 3. Provide guidance on a schedule of STAR panel meetings for next year.**

Reference Materials:

1. Agenda Item I.5.a, Attachment 1: Draft Terms of Reference for the Groundfish Stock Assessment and Review Process for 2009-2010. (This draft contains the edits as presented at the June, 2008 Council meeting in Foster City, California.)
2. Agenda Item I.5.a, Attachment 2: Proposed language for the draft terms of reference (Attachment 1) defining the content and use of data reports in future management decision-making.
3. Agenda Item I.5.a, Attachment 3: Draft proposed 2009 STAR Panel schedule.
4. Agenda Item I.5.a, Supplemental Attachment 4: Proposed language for the draft terms of reference (Attachment 1) refining the roles and responsibilities of Council staff and NMFS staff.

Agenda Order:

- | | |
|---|------------------|
| a. Agenda Item Overview | John DeVore |
| b. NMFS Northwest Fisheries Science Center Recommendations | Elizabeth Clarke |
| c. Reports and Comments of Advisory Bodies | |
| d. Public Comment | |
| e. Council Action: Adopt Final Stock Assessment Terms of Reference and Assessment Plan | |

PFMC
08/20/08

DRAFT GROUND FISH STOCK ASSESSMENT AND REVIEW PROCESS FOR 2009-2010
(Edits are as presented in the June, 2008 Council meeting Briefing Book)

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Introduction

The purpose of this document is to convey expectations and responsibilities for various participants in the groundfish stock assessment review process (STAR), and~~is to help the Council family and others understand the groundfish stock assessment review process (STAR) the process.~~ Parties involved are the National Marine Fisheries Service (NMFS); state agencies; the Council and its advisors, including the Scientific and Statistical Committee (SSC), the Groundfish Management Team (GMT), the Groundfish Advisory Subpanel (GAP), Council staff; and interested persons. The STAR process is a key element in an overall process designed to make timely use of new fishery and survey data, to analyze and understand these data as completely as possible, to provide opportunity for public comment, and to assure that the results are as accurate and error-free as possible. The STAR process is designed to assist in balancing these somewhat conflicting goals of timeliness, completeness and openness.

These Terms of Reference are intended as guidelines for the preparation and review of groundfish stock assessments developed for the Pacific Fishery Management Council. This current edition reflects many recommendations from previous participants in the STAR process, including STAR panel members, SSC members, STAT Teams, Council staff, and Council advisory groups. Nevertheless, no set of guidelines can be expected to deal with every contingency, and all participants should anticipate the need to be flexible and to address new issues as they arise.

In this document, the term "stock assessment" includes activities, analyses and reports, beginning with data collection and continuing through to scientific recommendations and information presented to the Council and its advisors. Stock assessments provide the fundamental basis for management decisions on groundfish harvests. To best serve that purpose, stock assessments should attempt to identify and quantify major uncertainties, balance realism and parsimony, and make best use of the available data.

STAR Goals and Objectives

The goals and objectives for the groundfish assessment¹ and review process are to:

- a) Ensure that groundfish stock assessments provide the kinds and quality of information required by all members of the Council family.
- b) Satisfy the Magnuson-Stevens Sustainable Fisheries Act (SFA) and other legal requirements.
- c) Provide a well-defined, Council-oriented process that ~~helps make~~ensures groundfish stock assessments are the "best available" scientific information, and facilitates use of the information by the Council. In this context, "well-defined" means with a detailed calendar, explicit responsibilities for all participants, and specified outcomes and reports.
- d) ~~Emphasize Provide an external,~~ independent external review of groundfish stock assessment work.
- e) Increase understanding and acceptance of groundfish stock assessment and review work by all members of the Council family.
- f) Identify research needed to improve assessments, reviews, and fishery management in the future.
- g) Use assessment and review resources effectively and efficiently.

Shared Responsibilities

All parties have a stake in assuring adequate technical review of stock assessments. NMFS must determine that the best scientific advice has been used when it approves fishery management recommendations made by the Council. The Council uses advice from the SSC to determine whether the information on which it will base its recommendation is the "best available" scientific advice. Fishery managers and scientists providing technical documents to the Council for use in management need to assure that the work is technically correct. Program reviews, in-depth external reviews, and peer-reviewed scientific publications are used by federal and state agencies

¹ In this document, the term "stock assessment" includes activities, analyses, and management recommendations, beginning with data collection and continuing through to the development of management recommendations by the Groundfish Management Team and information presented to the Council as a basis for management decisions.

to provide quality assurance for the basic scientific methods used to produce stock assessments. However, the time-frame for this sort of review is not suited to the routine examination of assessments that are, generally, the primary basis for a harvest recommendation.

The review of current stock assessments requires a routine, dedicated effort that simultaneously meets the needs of NMFS, the Council, and others. Leadership, in the context of the stock assessment review process for groundfish, means consulting with all interested parties to plan, prepare terms of reference, and develop a calendar of events and a list of deliverables. Coordination means organizing and carrying out review meetings, distributing documents in a timely fashion, and making sure that assessments and reviews are completed according to plan. Leadership and coordination involve costs, both monetary and time, which have not been calculated, but are likely substantial.

The Council and NMFS share primary responsibility to create and foster a successful STAR process. The Council will sponsor the process and involve its standing advisory committees, especially the Scientific and Statistical Committee. NMFS will provide a coordinator to oversee and facilitate the process. Together they will consult with all interested parties to plan, prepare terms of reference, and develop a calendar of events and a list of deliverables. NMFS and the Council will share fiscal and logistical responsibilities.

The STAR process is sponsored by the Council because the Federal Advisory Committee Act (FACA) limits the ability of NMFS to establish advisory committees. FACA specifies a procedure for convening advisory committees that provide consensus recommendations to the federal government. The intent of FACA was to limit the number of advisory committees, ensure that advisory committees fairly represent affected parties, and ensure that advisory committee meetings, discussions, and reports are carried out and prepared in full public view. Under FACA, advisory committees must be chartered by the Department of Commerce through a rather cumbersome process. However, the SFA exempts the Council from FACA *per se*, but requires public notice and open meetings similar to those under FACA.

NMFS Responsibilities

NMFS will work with the Council, other agencies, groups, or interested persons that carry out assessment work to organize Stock Assessment Teams (STAT) and STAR Panels, ~~and make sure that work is carried out in a timely fashion according to the calendar and terms of reference.~~ NMFS will provide a Stock Assessment Coordinator to organize these tasks with assistance from Council staff. To initiate the assessment cycle, NMFS will convene workshops to provide opportunities for assessment scientists and interested parties (e.g., the GMT) to discuss important topics relating to upcoming stock assessments. To promote consistency, representatives from each STAT team are expected to attend these workshops.

The SSC will appoint STAR Panel chairs from among its membership. The NMFS Stock Assessment Coordinator will identify and select other STAR panelists following criteria for reviewer qualifications developed in consultation with the SSC. The public is welcome to nominate qualified reviewers. Selection of STAR panelists should aim for balance between outside expertise and in-depth knowledge of West Coast fisheries, data sets available for those fisheries, and modeling approaches applied to West Coast groundfish species. The ~~bulk-majority~~ of panelists should be experienced stock assessment scientists, i.e., individuals who have done ~~actual~~ stock assessments using current methods. Panelists should be knowledgeable about the specific modeling approaches being reviewed, which in most cases will be statistical age- and/or length-structured assessment models. It is recognized that the pool of qualified reviewers is limited, and that staffing of STAR panels is subject to constraints that may make it difficult to achieve these objectives.

Following any modifications to the stock assessments resulting from STAR panel reviews and prior to SSC review, the Stock Assessment Coordinator will review the Executive Summary for consistency with the Terms of Reference. Inconsistencies will be identified and the authors requested to make appropriate revisions in time for the appropriate SSC and GMT meetings, when an assessment is considered.

Individuals (employed by NMFS, state agencies, or other entities) who conduct groundfish stock assessments or associated technical work are responsible for ensuring that their work is technically sound and complete. Stock assessments must be completed and reviewed in full accordance with the Terms of Reference (Appendices B and C) at the times specified in the calendar (Appendix A).

STAT Team Responsibilities

The STAT is responsible for conducting a complete and technically sound stock assessment that conforms to accepted standards of quality, and make sure that work is carried out in a timely fashion according to the calendar and terms of reference. The STAT will conduct its work and activities in accordance with the Terms of Reference for Groundfish STAT Teams. The final product of the STAT will be a stock assessment document that follows the outline specified in Appendix B.

GMT Responsibilities

The GMT is responsible for identifying and evaluating potential management actions based on the best available scientific information. In particular, the GMT makes ABC and OY recommendations to the Council based on estimated stock status, uncertainty about stock status, and socioeconomic and ecological factors. The GMT will use stock assessments, STAR Panel reports, and other information in making their recommendations. The GMT's preliminary ABC recommendation will be developed at a meeting that includes representatives from the SSC, STAT Teams, STAR Panels, and GAP. A GMT representative(s) will be appointed by the chair of the GMT to track each stock assessment, and will serve as advisor to the STAT Team and STAR Panel. The GMT representative will participate in review discussions, but will not serve as a member of the Panel. The GMT representative should be prepared to advise the STAT Team and STAR Panel on changes in fishing regulations that may influence data used in the assessment and the nature of the fishery in the future.

The GMT will not seek revision or additional review of the stock assessments after they have been reviewed by the STAR Panel. The GMT chair will communicate any unresolved issues to the SSC for consideration. Successful separation of scientific (i.e., STAT Team and STAR Panels) from management (i.e., GMT) work depends on stock assessment documents and STAR reviews being completed by the time the GMT meets to discuss preliminary ABC and OY levels. However, the GMT can request additional model projections, based on reviewed model scenarios, in order to develop a full evaluation of potential management actions.

GAP Responsibilities

The chair of the GAP will appoint a representative to track each stock assessment and attend the STAR Panel meeting. The GAP representative will serve as advisor to the STAT Team and STAR Panel. It is especially important that the GAP representative be included in the STAT team's discussion and review of all the data sources being used in the assessment, prior to development of the stock assessment model. It is the responsibility of the GAP representative to insure that industry concerns about the adequacy of data being used by the STAT Team are expressed at an early stage in the process. The GAP representative will participate in review discussions as an advisor to the STAR Panel, in the same capacity as the GMT advisor.

The GAP representative, along with STAT and SSC representatives, will attend the GMT meeting at which ABC recommendations are made. The GAP representative will also attend subsequent GMT, Council, and other necessary meetings where the assessment is discussed.

The GAP representative may provide appropriate data and advice to the STAR Panel and GMT and will report to the GAP on STAR Panel and GMT meeting proceedings.

SSC Responsibilities

The Scientific and Statistical Committee (SSC) will participate in the stock assessment review process and will provide the Council and its advisory bodies with technical advice related to the stock assessments and the review process. The SSC will assign one of its members to act as chair of each STAR Panel. Following the Panel meeting, the STAR Panel chair will review the revised stock assessment and STAR Panel report for consistency with the Terms of Reference. This member is not only expected to attend the assigned STAR Panel meeting, but also the GMT meeting at which ABC recommendations are made (should the need arise), and Council meetings when groundfish stock assessment agenda items are discussed (see calendar in Appendix A). Specifically, if requested the STAR Panel chair will present the STAR Panel report to the GMT if it requires assistance in interpreting the results of a stock assessment. In addition, the chair will present the Panel's report at SSC and Council meetings. However, to insure independence in the SSC's review of stock assessments and STAR Panel proceedings, SSC members who served on a STAT Team or STAR Panel for a particular stock assessment are required to recuse themselves when

that stock assessment is reviewed by the SSC, except to answer questions or present factual information. Other SSC members will be assigned the roles of discussion lead and rapporteur. The SSC's review constitutes a final independent check of the stock assessment that takes into consideration both the stock assessment and the STAR Panel report.

It is the SSC's responsibility to review and endorse any additional analytical work requested by the GMT after the stock assessment has been reviewed by the STAR Panels. In addition, the SSC will review and advise the GMT and Council on projected ABCs and OYs and, in addition, will serve as arbitrator to resolve disagreements between the STAT Team and the STAR Panel.

Council Staff Responsibilities

Council Staff will prepare meeting notices and distribute stock assessment documents, stock summaries, meeting minutes, and other appropriate documents. Council Staff will help NMFS and the state agencies in coordinating stock assessment meetings and events. Council staff will attend all STAR panels to ensure continuity and adherence to the Stock Assessment Terms of Reference. Staff will also publish or maintain file copies of reports from each STAR Panel (containing items specified in the STAR Panel's term of reference), the outline for groundfish stock assessment documents, comments from external reviewers, SSC, GMT, and GAP, letters from the public, and any other relevant information. At a minimum, the stock assessments (STAT Team reports, STAR Panel reports, and stock summaries) should be published and distributed in the Council's annual SAFE document.

Stock Assessment Priorities

Stock assessments for West Coast groundfish are conducted ~~periodically~~ to assess abundance, trends, and appropriate harvest levels for these species. Assessments use statistical population models to analyze and integrate a variety of survey, fishery and biological data. Due to the large number of groundfish species that have never been assessed, it is the goal of the Council to increase substantially the number of assessed stocks. A constraint on reaching that objective, however, is the Council's multi-year management regime, which limits assessment activities to odd years only (e.g., 2009).

The SSC recommended and the Council adopted in April 2006 a new process to initiate development of criteria for prioritizing stock assessments that may include such factors as: (1) economic or regional importance, (2) overfished status, (3) demographic sensitivity, (4) time elapsed since the last assessment, (NMFS encourages assessments be updated at least once every 5 years), 5) data richness, 6) potential risk to the stock from the current or foreseeable management regime, and 7) qualitative trends from fishery-independent surveys (if available), etc. ~~While this process was not entirely used to recommend stock assessments during the 2007-2008 cycle, it is anticipated for the next assessment cycle and would involve the NMFS stock assessment coordinator, Council staff, GMT, and the GAP to begin scoping these issues.~~

In establishing stock assessment priorities a number of factors are considered, including:

1. Assessments should take advantage of new information, especially indices of abundance from fishery-independent surveys.
2. Overfished stocks that are under rebuilding plans should be evaluated to ensure that progress towards achieving stock recovery is adequate.
- ~~3. In general no more than 2 full assessments will be reviewed by a STAR Panel. In exceptional circumstances this number may be exceeded, if the SSC and NMFS Stock Assessment Coordinator conclude that it is advisable, feasible, and/or necessary to do so.~~
3. The SSC encourages attempts to study previously un-assessed stocks, and recommends that greater consideration be given to simple assessment methods that can be applied to data-poor stocks. These methods typically do not yield the same information as a full assessment, such as the ability to determine stock status relative to biomass reference points. Even so, such reports are still needed to assist the Council in making management decisions for these stocks.
4. Any stock assessment that is considered for use in management should be submitted through normal Council channels and reviewed at STAR Panel meetings.

5. The proposed stocks for assessment should be discussed by the Council at least a year in advance to allow sufficient time for assembly of relevant assessment data and for arrangement of STAR panels.

Terms of Reference for STAR Panels and Their Meetings

The principal responsibilities of the STAR Panel are to review stock assessment documents, data inputs, analytical models, and to provide complete STAR Panel reports for all reviewed species.- The objective of the STAR Panel review is to complete a detailed evaluation of the results of a stock assessment, which puts the Panel in a good position to advance the best available scientific information to the Council. Most groundfish stocks are assessed infrequently and each assessment and review should result in useful advice to the Council.—The STAR Panel’s work includes:

1. reviewing draft stock assessment documents and any other pertinent information (e.g.; previous assessments and STAR Panel reports, if available);
2. working with STAT Teams to ensure assessments are reviewed as needed;
3. documenting meeting discussions; and
4. reviewing revised stock assessment documents before they are forwarded to the SSC.

~~Presuming two full stock assessments are under review, STAR Panels will include a Chair (appointed from the SSC) and at least three other members with experience gained from having personally conducted stock assessments. More specifically, of these three other members, one should have a thorough familiarity with west coast groundfish stock assessment practices, data sources, and modeling methods and one should be appointed from the Center for Independent Experts (CIE). In addition, individuals with a supervisory relationship with a STAT Team member are disqualified from serving on the STAR Panel. The same exclusion applies to panelists who contributed significantly to the development of an assessment. The total number of STAR Panel members (including the chair) should be four unless extenuating circumstances preclude this, e.g., a large number of stock assessments scheduled for review at a STAR Panel dictate more reviewers. In addition to Panel members, STAR meetings will include GMT and GAP advisors with responsibilities described in their terms of reference. STAR Panels normally meet for one week.~~

STAR Panels include a chairman appointed from the SSC and at least two other members with experience gained from having conducted stock assessments on the U. S. west coast or elsewhere. The total number of STAR Panel members (including the chair) should be 3 unless extenuating circumstances such as a large number of stock assessments scheduled for review at the STAR Panel dictate more reviewers. In addition to Panel members, STAR meetings will include GMT and GAP advisors with responsibilities described in their terms of reference. STAR Panels normally meet for one week.

In general no more than 2 full assessments will be reviewed by a STAR Panel. In exceptional circumstances this number may be exceeded, if the SSC and NMFS Stock Assessment Coordinator conclude that it is advisable, feasible, and/or necessary to do so. When separate assessments are conducted at the sub-stock level (i.e., black rockfish) each assessment will be considered a full assessment for review purposes. Contested assessments, in which alternative assessments are brought forward by competing STAT teams using different modeling approaches, will typically require additional time (or panel members) to review adequately, and should be scheduled accordingly. While contested assessments are likely to be rare, they can be accommodated in the STAR panel review process. STAR panels should thoroughly evaluate each analytical approach, comment on relative merits of each, and, when conflicting results are obtained, attempt to identify the reasons for the differences. STAR panels are charged with selecting a preferred base model, which will be more difficult when there are several modeling approaches from which to choose.

The STAR Panel Chair is responsible for 1) developing an agenda for the STAR panel meeting, 2) ensuring that STAR Panel members and STAT teams follow the Terms of Reference, 3) participating in the review of the assessment, 4) guiding the STAR Panel and STAT team to mutually agreeable solutions, and 5) coordinating review of final assessment documents.

The STAR Panel, STAT Team, GAP and GMT advisors, and all interested parties are legitimate meeting participants that must be accommodated in discussions. It is the STAR Panel Chair’s responsibility to manage discussions and public comment so that work can be completed.

The STAR Panel is responsible for determining if a stock assessment document is sufficiently complete according to Appendix B. It is the Panel's responsibility to identify assessments that cannot be reviewed or completed for any reason. The Panel's decision that an assessment is complete should be made by consensus. If a Panel cannot reach agreement, then the nature of the disagreement must be described in the Panel's report. Moreover, if a stock assessment is deemed to be stable in its approach to data analysis and modeling, the STAR panel should recommend that the assessment be considered as an update during the next stock assessment cycle.

For some species the data will be insufficient to calculate reliable estimates of F_{MSY} (or its proxy), B_{MSY} (or its proxy), ending biomass or unfished biomass, etc. Results of these data-poor assessments typically will not meet the requirements of an assessment according to the Terms of Reference and, in those instances, each STAR Panel should consider what inferences can be drawn from the analysis presented by the STAT Team. The panel should review the reliability and appropriateness of any methods used to draw conclusions about stock status and exploitation potential and either recommend or reject the analysis on the basis of its ability to introduce useful information into the management process.

The STAR Panel's terms of reference solely concern technical aspects of the stock assessment. It is therefore important that the Panel should strive for a risk neutral perspective in its reports and deliberations. Assessment results based on model scenarios that have a flawed technical basis, or are questionable on other grounds, should be identified by the panel and excluded from the set upon which management advice is to be developed. It is recognized that a broad range of results should be reported to better define the scope of the accepted model results. The STAR Panel should comment on the degree to which the accepted model scenarios describe and quantify the major sources of uncertainty, and the degree to which the probabilities associated with these scenarios are technically sound. The STAR Panel may also provide qualitative comments on the probability of various model results, especially if the Panel does not believe that the probability distributions calculated by the STAT capture all major sources of uncertainty.

Recommendations and requests to the STAT Team for additional or revised analyses must be clear, explicit and in writing. A written summary of discussion on significant technical points and lists of all STAR Panel recommendations and requests to the STAT Team are required in the STAR Panel's report. This should be completed (at least in draft form) prior to the end of the meeting. It is the chair and Panel's responsibility to carry out any follow-up review work that is required.

~~The primary goal of the STAR Panel is to complete a detailed evaluation of the results of a stock assessment, which puts the Panel in a good position to advance the best available scientific information to the Council².~~ Under ideal circumstances, the STAT Team and STAR Panel should strive to reach a mutual consensus on a single base model, but it is essential that uncertainty in the analysis be captured and ~~transmitted~~ communicated to managers. A useful way of accomplishing this objective is to bracket the base model along what is deemed to be the dominant dimension of uncertainty (e.g., spawner-recruit steepness or R_0 , natural mortality rate, survey catchability, recent year-class strength, weights on conflicting CPUE series, etc.). Alternative models should show contrast in their management implications, which in practical terms means that that they should result in different estimates of current stock size, stock depletion, and ABC.

Once a base model has been bracketed on either side by alternative model scenarios, which capture the overall degree of uncertainty in the assessment, a 2-way decision table analysis (states-of-nature versus management action) is the preferred way to present the repercussions of uncertainty to management. An attempt should be made to develop alternative model scenarios such that the base model is considered twice as likely as the alternative models, i.e., the ratio of probabilities should be 25:50:25 for the low stock size alternative, the base model, and the high stock size alternative (Fig. 1). Potential methods for assigning probabilities include using the statistical variance of the model estimates of stock size, posterior Monte Carlo simulation, or expert judgment, but other approaches are encouraged as long as they are fully documented. Bracketing of assessment results could be accomplished in a variety of ways, but as a matter of practice the STAR Panel should strive to identify a single preferred base model when possible, so that averaging of extremes doesn't become the *de facto* choice of management.

² Most groundfish stock assessments conducted for the PFMC have used the Stock Synthesis 2 (SS2) modeling framework, which has been extensively tested and provides model outputs that are compatible with the Council's harvest control rules. Nonetheless, STAT Teams are not required to use SS2. Other valid approaches are available that can be used under appropriate circumstances, especially when model performance issues have been evaluated.

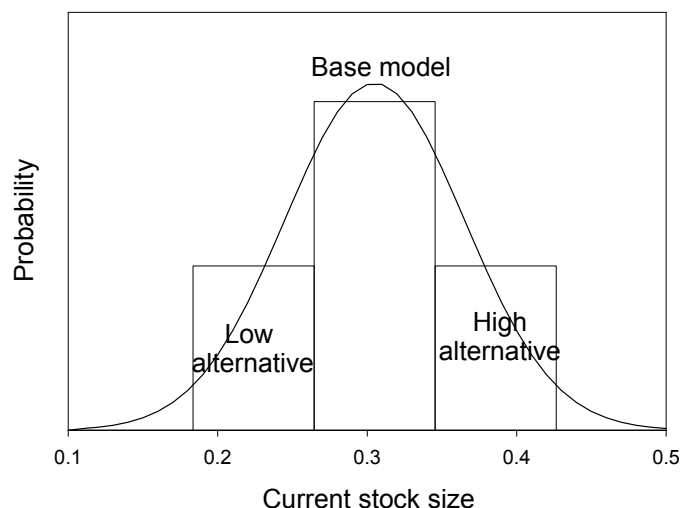


Figure 1. Example of assigning probabilities to alternative models using uncertainty in the estimate of current stock size.

To the extent possible, additional analyses required in the stock assessment should be completed during the STAR Panel meeting. It is the obligation of the STAR Panel Chair, in consultation with other Panel members, to prioritize requests for additional STAT Team analyses. Moreover, in situations where a STAT team arrives with a well-considered, thorough assessment, it may be that the Panel can conclude its review in less time than has been allotted to the meeting, i.e., early dismissal of a STAT Team is an option for well-constructed assessments. If follow-up work by the STAT Team is required after the review meeting, then it is the Panel's responsibility to track STAT Team progress. In particular, the Chair is responsible for communicating with STAT Teams (by phone, e-mail, or any convenient means) to determine if the revised stock assessment and documents are complete and ready to be used by managers in the Council family. If stock assessments and reviews are not complete at the end of the STAR Panel meeting, then the work must be completed prior to the GMT meeting where the assessments and preliminary ABC levels are discussed. Any post-STAR drafts of the stock assessment must be reviewed by the STAR Panel (or the Chair if ~~he is~~ delegated that authority by the STAR Panel). Assessments cannot be given to Council staff for distribution unless first endorsed by the STAR Panel chair. Likewise, the final draft that is published in the SAFE document must also be approved by the STAR Panel chair prior to being accepted by Council staff.

The STAR Panel's primary duty is to conduct a peer review of an assessment that is presented by a STAT Team; STAR panel meetings ~~they~~ are not workshops. In the course of this review, the Panel may ask for a reasonable number of sensitivity runs, additional details of existing assessments, or similar items from the STAT team. It would not be unusual for this evaluation to result in a change to the initial base model, provided both the STAR panel and the STAT team agree. The STAR panels are expected to be judicious in their requests of the STAT teams, recognizing that some issues uncovered during review are best flagged as research priorities, and dealt with more effectively and comprehensively between assessments. The STAR Panel may also request additional analysis based on an alternative approach. However, the STAR Panel is not authorized to conduct an alternative assessment representing its own views that are distinct from those of the STAT Team, nor can it impose an alternative assessment on the Team. Similarly, the Panel should not impose as a requirement their preferred methodologies when such is a matter of professional opinion. Rather, if the Panel finds that an assessment is inadequate, it should document and report that opinion and, in addition, suggest remedial measures that could be taken by the STAT team prior to the scheduled mop-up panel review to rectify whatever perceived shortcomings may exist. The SSC will make a final recommendation on whether an assessment should be reviewed during the mop-up panel.

STAT Teams and STAR Panels are required to make a good-faith attempt to resolve any areas of disagreement during the meeting. Occasionally, fundamental differences of opinion remain between the STAR Panel and STAT

Team that cannot be resolved by discussion. In such cases, the STAR Panel must document the areas of disagreement in its report. In exceptional circumstances, the STAT team may choose to submit a supplemental report supporting its view, but in the event that such a step is taken, an opportunity must be given to the STAR panel to prepare a rebuttal. These documents will then be appended to STAR panel report as part of the record of the review meeting. The SSC will then review all information pertaining to the dispute, and issue its recommendation.

The STAR Panel Chair is expected to attend Council meetings and GMT meetings (when requested) and where stock assessments and harvest projections are discussed to explain the reviews and provide other technical information and advice. The Chair is responsible for providing the Stock Assessment Coordinator and Council staff with a suitable electronic version of the Panel report.

Suggested Template for STAR Panel Report

1. Minutes Summary of the STAR Panel meeting containing
 - A. Name and affiliation of STAR Panel members; and
 - B. List of analyses requested by the STAR Panel, the rationale for each request, and brief summary of the STAT response to the request.
 - C. Description of base model and alternative models used to bracket uncertainty.
2. Comments on the technical merits and/or deficiencies in the assessment and recommendations for remedies.
3. Explanation of areas of disagreement regarding STAR Panel recommendations:
 - A. Among STAR Panel members (including concerns raised by GAP and GMT representatives), and
 - B. Between the STAR Panel and STAT Team
4. Unresolved problems and major uncertainties, e.g.; any special issues that complicate scientific assessment, questions about the best model scenario.
5. Management, data, or fishery issues raised by the GMT or GAP representatives during the STAR Panel.
6. Prioritized recommendations for future research and data collection

Terms of Reference for Groundfish STAT Teams

The STAT team will carry out its work according to these terms of reference and the calendar for groundfish stock assessments.

All relevant stock assessment workshops should be attended by all STAT team members. The STAT Team shall include in both the STAR Panel draft and final assessment all data sources that include the species being assessed, identify which are used in the assessment, and provide the rationale for data sources that are excluded. The STAT Team is obliged to keep the GAP representative informed of the specific data being used in the stock assessment. The STAT team is expected to initiate contact with the GAP representative at an early stage in the process, and to be prepared to respond to concerns about the data that might be raised. The STAT Team should also contact the GMT representative for information about changes in fishing regulations that may influence data used in the assessment.

Most recent groundfish stock assessments conducted for the PFMC have used the Stock Synthesis 2 (SS2) modeling framework, which has been extensively tested and provides model outputs that are compatible with the Council's harvest control rules. Nonetheless, STAT Teams are not required to use SS2. Other valid approaches are available that can be used under appropriate circumstances.

STAT teams are strongly encouraged to develop assessments in a collaborative environment, such as by forming working groups, holding pre-assessment workshops, and consulting with other stock assessment scientists. STAT teams are also encouraged to also organize independent meetings with industry and interested parties to discuss issues, questions, and data. Each STAT Team will appoint a representative to coordinate work with the STAR Panel. Barring exceptional circumstances, all STAT team members should attend the STAR Panel meeting.

Each STAT Team conducting a full assessment will appoint a representative who will be available to attend the Council meeting where the SSC is scheduled to review the assessment, and will typically give presentations of the assessment to the SSC and to other Council advisory bodies. In addition, a representative of the STAT Team should be prepared to respond to GMT requests for model projections during the GMT's available to attend the GMT and

~~Council meetings where development preliminary of ABC and OY levels are discussed alternatives.~~

The STAT Team is responsible for preparing three versions of the stock assessment document: 1) a complete “draft” including an executive summary (except for decision tables) for discussion at the stock assessment review meeting; 2) a “revised draft” for distribution to the Council and advisory bodies for discussions about preliminary ABC and OY levels; 3) a “final” version to be published in the SAFE report. Post-STAR panel drafts must be reviewed by the STAR panel prior to being submitted to Council staff, but these reviews are limited to editorial issues, verifying that the required elements are included according to the Terms of Reference, and confirming that the document reflects the discussions and decisions made during the STAR panel. Other than changes authorized by the SSC, only editorial and other minor alterations should be made between the “revised draft” and “final” versions. The STAT Team will provide “draft” assessment documents to the Stock Assessment Coordinator, who will distribute them to the STAR Panel, Council, the SSC Groundfish subcommittee, and GMT and GAP representatives at least two weeks prior to the STAR Panel meeting.

Complete, fully-developed assessments are critical to the STAR panel process. Draft assessments will be evaluated for completeness prior to the STAR panel meeting, and assessments that do not satisfy minimum criteria will not be reviewed. The STAR panel chair will make an initial recommendation, which will then be reviewed by the SSC groundfish subcommittee members, council staff, and the groundfish coordinator if the chair determines that the draft assessment is not sufficiently complete. ~~–The draft document should include all elements listed in Appendix B except the 1) decision table, 2) harvest projections, 3) population abundance tables, 4) point-by-point responses to current STAR Panel recommendations, and 5) acknowledgements. Incomplete assessments will be either moved to the mop-up panel, or postponed to a subsequent assessment cycle. In general, the mop-up panel will not be able to review more than two assessments, so the options are limited for assessments that are not completed on time. A draft assessment will be judged complete if an external reviewer could review the assessment in its present form without additional information. In most cases, this would require 1) a least one candidate model successfully fit to available data, 2) a description of that model, 3) a description of assessment data in sufficient detail to evaluate its merits, and 4) a description the model results in sufficient detail to allow an opinion to be formed of its adequacy.~~

The STAT Team is responsible for bringing computerized data and working assessment models to the review meeting in a form that can be analyzed on site. STAT Teams should take the initiative in building and selecting candidate models and should have several complete models ready to present to the STAR Panel and be prepared to discuss the merits of each. The STAT team should identify a candidate base model, fully documented in the draft assessment, for STAR panel consideration. Fully developed assessments that are properly documented should require less time to review and approve than poorly constructed, incomplete assessments.

In most cases, the STAT Team should produce a complete draft of the assessment within three weeks of the end of the STAR Panel meeting, including any internal agency review. In any event, the STAT Team must finalize the assessment document before the briefing book deadline for the Council meeting at which the assessment is scheduled for review.

The STAT Team and the STAR Panel may disagree on technical issues regarding an assessment, but a complete stock assessment must include a point-by-point response by the STAT Team to each of the STAR Panel’s recommendations. Estimates and projections representing all sides of the disagreement need to be presented to, reviewed by, and commented upon by the SSC.

For stocks that are projected to fall below overfished thresholds, the STAT Team must complete a rebuilding analysis according to the SSC’s Terms of Reference for Groundfish Rebuilding Analyses. It is recommended that this analysis be conducted using the rebuilding software developed by Dr. Andre Punt (aepunt@u.washington.edu). The STAT Team is also responsible for preparing a document that summarizes the results of the rebuilding analysis.

Electronic versions of final assessment documents, rebuilding analyses, parameter files, data files, and key output files will be sent by the STAT Teams to the Stock Assessment Coordinator for inclusion in a stock assessment archive. Any tabular data that are inserted into the final documents in and object format should also be submitted in alternative forms (e.g., spreadsheets), which allow selection of individual data elements.

Terms of Reference for Stock Assessment Updates

The STAR process is designed to provide a comprehensive, independent review of a stock assessment. In other situations a less comprehensive review of assessment results is desirable, particularly in situations where a “model” has already been critically examined and the objective is to simply update the model by incorporating the most recent data. In this context a model refers not only to the population dynamics model *per se*, but to the particular data sources that are used as inputs to the model, the statistical framework for fitting the data, and the analytical treatment of model outputs used in providing management advice, including reference points, the allowable biological catch (ABC) and optimum yield (OY). These terms of reference establish a procedure for a limited but still rigorous review for stock assessment models that fall into this latter category. However, it is recognized that what in theory may seem to be a simple update, may in practice result in a situation that is impossible to resolve in an abbreviated process. In these cases, it may not be possible to update the assessment – rather the assessment may need to be revised in the next full assessment review cycle.

Qualification

The Scientific and Statistical Committee (SSC) will determine whether a stock assessment qualifies as an update under these terms of reference. Recommendation by a STAR Panel or the SSC that a full assessment is suitable for an update will be a principal criterion in this determination. To qualify, a stock assessment must carry forward its fundamental structure from a model that was previously reviewed and endorsed by a STAR panel. In practice this means similarity in: (a) the particular sources of data used, (b) the analytical methods used to summarize data prior to input to the model, (c) the software used in programming the assessment, (d) the assumptions and structure of the population dynamics model underlying the stock assessment, (e) the statistical framework for fitting the model to the data and determining goodness of fit, (f) the procedure for weighting of the various data components, and (g) the analytical treatment of model outputs in determining management reference points, including F_{msy} , B_{msy} , and B_0 . A stock assessment update is appropriate in situations where no significant change in these seven factors has occurred, other than extending time series of data elements within particular data components used by the model, e.g., adding information from a recently completed survey and an update of landings. Extending CPUE time series based on fitted models (i.e., GLM models) will require refitting the model and updating all values in the time series. Assessments using updated CPUE time series qualify as updates if the CPUE standardization models follow applicable criteria for assessment models described above. In practice there will always be valid reasons for altering a model, as defined in this broad context, although, in the interests of stability, such changes should be resisted as much as possible. Instead, significant alterations should be addressed in the next subsequent full assessment and review.

Composition of the Review Panel

The groundfish subcommittee of the SSC will conduct the review of a stock assessment update. A lead reviewer for each updated assessment will be designated by the chair of the groundfish subcommittee from among its membership, and it will be the lead reviewer’s responsibility to ensure the review is completed properly and that a written report of the proceedings is produced. In addition, the groundfish management team (GMT) and the groundfish advisory panel (GAP) will designate one person each to participate in the review.

Review Format

All stock assessment updates will be reviewed during a single meeting of the SSC Groundfish Subcommittee scheduled early in the assessment cycle. This meeting may precede or follow a normally scheduled SSC meeting. The review process will be as follows. The STAT team preparing the update will distribute the updated stock assessment to the review panelists at least two weeks prior to the review meeting. In addition, Council staff will provide panelists with a copy of the last stock assessment reviewed under the full STAR process, as well as the previous STAR panel report. Review of stock assessment updates is not expected to require analytical requests or model runs during the meeting, although large or unexpected changes in model results may necessitate some model exploration. The review will focus on two crucial questions: (1) has the assessment complied with the terms of reference for stock assessment updates and (2) are new input data and model results sufficiently consistent with previous data and results that the updated assessment can form the basis of Council decision-making. If either of these criteria is not met, then a full stock assessment will be required.

STAT Team Deliverables

Since there will be limited opportunities for revision during the review meeting, it is the STAT team's responsibility to provide the Panel with a completed update at least two weeks prior to the meeting. To streamline the process, the team can reference whatever material it chooses, including that presented in the previous stock assessment (e.g., a description of methods, data sources, stock structure, etc.). However, it is essential that any new information being incorporated into the assessment be presented in enough detail, so that the review panel can determine whether the update satisfactorily meets the Council's requirement to use the best available scientific information. Of particular importance will be a retrospective analysis showing the performance of the model with and without the updated data streams. Likewise, a decision table that highlights the consequences of alternative states of nature would be useful to the Council in adopting annual specifications. Similarly, if any minor changes to the "model" structure are adopted, above and beyond updating specific data streams, a sensitivity analysis to those changes will be required.

In addition to documenting changes in the performance of the model, the STAT Team will be required to present key assessment outputs in tabular form. Specifically, the STAT Team's final update document should include the following:

- Title page and list of preparers
- Executive Summary (see Appendix C)
- Introduction
- Documentation of updated data sources
- Short description of overall model structure
- Complete base-run results, including a tabular summary of total and spawning stock biomass and recruitment time series
- Uncertainty analysis, including retrospective analysis, decision table, etc.
- 10 year harvest projections under the default harvest policy.

Review Panel Report

The stock assessment review panel will issue a report that will include the following items:

- Name and affiliation of panelists
- Comments on the technical merits and/or deficiencies of the update
- Explanation of areas of disagreement among panelists and between the panel and STAT team
- Recommendation regarding the adequacy of the updated assessment for use in management

Appendix A: 2009-2010 Stock Assessment Review Calendar

TO BE DETERMINED

Include deadlines for inclusion of all significant data elements.

Include a post-STAR briefing where STAT teams present their findings to GMT, GAP, and the Council.

Include dates when STAT Teams provide GAP and GMT representatives with stock assessment data.

Appendix B: Outline for Groundfish Stock Assessment Documents

This is an outline of items that should be included in stock assessment reports for groundfish managed by the Pacific Fishery Management Council. The outline is a working document meant to provide assessment authors with flexible guidelines about how to organize and communicate their work. All items listed in the outline may not be appropriate or available for each assessment. Also, items flagged with asterisks (*) are optional for draft assessment documents prepared for STAR Panel meetings but should be included in the final document. In the interest of clarity and uniformity of presentation, stock assessment authors and reviewers are encouraged (but not required) to use the same organization and section names as in the outline. It is important that time trends of catch, abundance, harvest rates, recruitment and other key quantities be presented in tabular form to facilitate full understanding and follow-up work.

- A. Title page and list of preparers – the names and affiliations of the stock assessment team (STAT) either alphabetically or as first and secondary authors
- B. Executive Summary (see attached template and example in Appendices C and D). This also serves as the STAT summary included in the SAFE.
- C. Introduction
 1. Scientific name, distribution, the basis for the choice of stock structure, including regional differences in life history or other biological characteristics that should form the basis of management units.
 2. A map depicting the scope of the assessment and identifying boundaries for fisheries or data collection strata.
 3. Description of fisheries for this species off Canada or Alaska, including references to any recent assessments of those stocks.
 4. Important features of life history that affect management (e.g., migration, sexual dimorphism, bathymetric demography).
 5. Important features of current fishery and relevant history of fishery.
 6. Summary of Management history (e.g., changes in mesh sizes, trip limits, or other management actions that may have significantly altered selection, catch rates, or discards, optimum yields).
 7. Management performance – a table or tables comparing acceptable biological catches, optimum yields, landings, and catch (i.e., landings plus discard) for each area and year
- D. Assessment
 1. Data
 - a. Landings by year and fishery, historical catch estimates, discards (generally specified as a percentage of total catch in weight and in units of mt), catch-at-age, weight-at-age, abundance indices (typically survey and CPUE data), data used to estimate biological parameters (e.g.; growth rates, maturity schedules, and natural mortality) with coefficients of variation (CVs) or variances if available. Include complete tables and figures and date of extraction.
 - b. Sample size information for length and age composition data by area, year, gear, market category, etc., including both the number of trips and fish sampled.
 - c. All data sources that include the species being assessed, which are used in the assessment, and provide the rationale for data sources that are excluded.
 2. History of modeling approaches used for this stock – changes between current and previous assessment models
 - a. Response to STAR Panel recommendations from the most recent previous assessment.
 - b. Report of consultations with GAP and GMT representatives regarding the use of various data sources in the stock assessment.
 3. Model description
 - a. Complete description of any new modeling approaches.
 - b. Definitions of fleets and areas.
 - d. Assessment program with last revision date (i.e., date executable program file was compiled).
 - e. List and description of all likelihood components in the model.
 - f. Constraints on parameters, selectivity assumptions, natural mortality, assumed level of age reader agreement or assumed ageing error (if applicable), and other assumed parameters.
 - g. Description of stock-recruitment constraints or components.

- h. Description of how the first year that is included in the model was selected and how the population state at the time is defined (e.g., B_0 , stable age structure, etc.).
- i. Critical assumptions and consequences of assumption failures.
- 4. Model selection and evaluation
 - a. Evidence of search for balance between model realism and parsimony.
 - b. Comparison of key model assumptions, include comparisons based on nested models (e.g.; asymptotic vs. domed selectivities, constant vs. time-varying selectivities).
 - c. Summary of alternate model configurations that were tried but rejected.
 - d. Likelihood profile for the base-run (or proposed base-run model for a draft assessment undergoing review) configuration over one or more key parameters (e.g., M , h , Q) to show consistency among input data sources.
 - e. Residual analysis for the base-run configuration (or proposed base-run model in a draft assessment undergoing review) (e.g.; residual plots, time series plots of observed and predicted values, or other approaches). Note that model diagnostics are required in draft assessments undergoing review.
 - f. Convergence status and convergence criteria for the base-run model (or proposed base-run).
 - g. Randomization run results or other evidence of search for global best estimates.
 - h. Evaluation of model parameters. Do they make sense? Are they credible?
 - i. Are model results consistent with assessments of the same species in Canada and Alaska? Are parameter estimates (e.g., survey catchability) consistent with estimates for related stocks?
- 5. Point-by-point response to the STAR Panel recommendations. .* (Not required in draft assessment undergoing review.)
- 6. -Base-run(s) results
 - a. Table listing all explicit parameters in the stock assessment model used for base runs, their purpose (e.g.; recruitment parameter, selectivity parameter) and whether or not the parameter was actually estimated in the stock assessment model.
 - b. Population numbers at age \times year \times sex (if sex-specific M , growth, or selectivity) (May be provided as a text file). .* (Not required in draft assessment undergoing review.)
 - c. Time-series of total, summary, and spawning biomass, depletion relative to B_0 , recruitment and fishing mortality or exploitation rate estimates (table and figures).
 - d. Selectivity estimates (if not included elsewhere).
 - e. Stock-recruitment relationship.
- 7. Uncertainty and sensitivity analyses. The best approach for describing uncertainty and the range of probable biomass estimates in groundfish assessments may depend on the situation. Important factors to consider include:
 - a. Parameter uncertainty (variance estimation conditioned on a given model, estimation framework, data set choice, and weighting scheme), including likelihood profiles of important assessment parameters (e.g., natural mortality). This also includes expressing uncertainty in derived outputs of the model and estimating CVs by an appropriate methods (e.g., bootstrap, asymptotic methods, Bayesian approaches, ~~or such as~~ MCMC).
 - b. Sensitivity to data set choice and weighting schemes (e.g., emphasis factors), which may also include a consideration of recent patterns in recruitment.
 - c. Sensitivity to assumptions about model structure, i.e., model specification uncertainty.
 - d. Retrospective analysis, where the model is fitted to a series of shortened input data sets, with the most recent years of input data being dropped.
 - e. Historical analysis (plot of actual estimates from current and previous assessments).
 - f. Subjective appraisal of the magnitude and sources of uncertainty.
 - g. If a range of model runs is used to characterize uncertainty it is important to provide some qualitative or quantitative information about relative probability of each.
 - h. If possible, ranges depicting uncertainty should include at least three runs: (a) one judged most probable; (b) at least one that depicts the range of uncertainty in the direction of lower current biomass levels; and (c) one that depicts the range of uncertainty in the direction of higher current biomass levels. The entire range of uncertainty should be carried through stock projections and decision table analyses.

E. Rebuilding analyses

1. Determine B_0 . The values for spawners are preferably measured as total population egg production, but female spawning biomass is a common proxy.

2. $B_{msy} = 0.4 B_0$;
3. Mean generation time; and
4. Forward projection using a Monte Carlo re-sampling of recruitments expected to occur as the stock rebuilds, where future recruitments typically are taken from the recent time series of estimated recruitments or recruits per spawner. Alternatively, if a credible stock-recruitment relationship can be estimated, it could be used to project population growth. Either approach can be conducted using the Punt rebuilding software (see above).

FE. Reference points (biomass and exploitation rate).

1. Unfished spawning stock biomass, summary age biomass, and recruitment.
2. Reference points based on $B_{40\%}$ (spawning biomass, SPR, exploitation rate, equilibrium yield).
3. Reference points based on default SPR proxy (spawning biomass, SPR, exploitation rate, equilibrium yield).
4. Reference points based on MSY (if estimated) (spawning biomass, SPR, exploitation rate, equilibrium yield).
5. Equilibrium yield curve showing various BMSY proxies (see attached example).
2. Spawning stock biomass that produces MSY (provide $B_{40\%}$ proxy).
3. SPR_{MSY} or F_{MSY} (specify which), and the basis for the estimate (based on the F_{MSY} proxy).
4. Exploitation Rate corresponding to SPR_{MSY} or F_{MSY} (if available).
5. Estimate of MSY and the basis for the estimate (based on the F_{MSY} proxy).

GF. Harvest projections and decision tables.* (Not required in draft assessment undergoing review.)

1. Harvest projections and decision tables (i.e., a matrix of states of nature versus management action) should cover the plausible range of uncertainty about current biomass and the full range of candidate fishing mortality targets used for the stock or requested by the GMT. These should at least include calculation of the ABC based on F_{MSY} (or its proxy) and the OY that is implied under the Council's 40:10 harvest policy. Ideally, the alternatives described in the decision table will be drawn from a probability distribution which describes the pattern of uncertainty regarding the status of the stock and the consequences of alternative future management actions. Where alternatives are not formally associated with a probability distribution, the document needs to present sufficient information to guide assignment of approximate probabilities to each alternative. Decision tables should follow the format of the example Executive Summary for canary rockfish (Appendix 4D of this document) in which the columns represent the states of nature and the rows the management decisions. In most cases, management decisions will represent the sequence of catches obtained by applying the Council 40-10 harvest policy to each state of nature; however other alternatives may be suggested by the GMT as being more relevant to Council decision-making. For example, when recent catches are much less than the OY, there may be more interest in status quo projections.
2. Information presented should include biomass, stock depletion, and yield projections of ABC and OY for ten years into the future, beginning with the first year for which management action could be based upon the assessment.

HG. Regional management considerations.

1. Discuss whether a regional management approach make sense for the species from a biological perspective.
2. If there are insufficient data to analyze a regional management approach, what are the research and data needs to answer this question?

IH. Research needs (prioritized).

J. Acknowledgments-include STAR Panel members and affiliations as well as names and affiliations of persons who contributed data, advice or information but were not part of the assessment team. *
(Not required in draft assessment undergoing review.)

KJ. Literature cited.

LK. An appendix with the complete parameter and data in the native code of the stock assessment program.

| (For a draft assessment undergoing review, these listings can be provided as text files or in spreadsheet format.)

Appendix C: Template for Executive Summary Prepared by STAT Teams

Stock: species/area, including an evaluation of any potential biological basis for regional management

Catches: trends and current levels-include table for last ten years and graph with long term data

Data and assessment: date of last assessment, type of assessment model, data available, new information, and information lacking

Unresolved problems and major uncertainties: any special issues that complicate scientific assessment, questions about the best model scenario, etc.

Reference points: management targets and definition of overfishing, including the harvest rate that brings the stock to equilibrium at $B_{40\%}$ (the B_{MSY} proxy) and the equilibrium stock size that results from fishing at the default harvest rate (the F_{MSY} proxy).

Stock biomass: trends and current levels relative to virgin or historic levels, description of uncertainty-include table for last 10 years and graph with long term estimates

Recruitment: trends and current levels relative to virgin or historic levels-include table for last 10 years and graph with long term estimates

Exploitation status: exploitation rates (i.e., total catch divided by exploitable biomass, or the annual SPR harvest rate) – include a table with the last 10 years of data and a graph showing the trend in fishing mortality relative to the target (y-axis) plotted against the trend in biomass relative to the target (x-axis).

Management performance: catches in comparison to ABC and OY values for the most recent 10 years (when available), overfishing levels, actual catch and discard.

Forecasts: ten-year forecasts of catch, summary biomass, spawning biomass, and depletion.* (Not required in draft assessments undergoing review.)

Decision table: projected yields (ABC and OY), spawning biomass, and stock depletion levels for each year.* (Not required in draft assessments undergoing review.)

Research and data needs: identify information gaps that seriously impede the stock assessment.

Rebuilding Projections: principal results from rebuilding analysis if the stock is overfished.* This section should be included in the Final/SAFE version assessment document but is not required for draft assessments undergoing review. See Rebuilding Analysis Terms of Reference for detailed information on rebuilding analysis requirements.

Summary Table: as detailed in the attached spreadsheet example.

Appendix D: Example a Complete Stock Assessment Executive Summary

Executive Summary

Stock

This assessment reports the status of the canary rockfish (*Sebastes pinniger*) resource off the coast of the United States from southern California to the U.S.-Canadian border using data through 2006. The resource is modeled as a single stock. Spatial aspects of the coast-wide population are addressed through geographic separation of data sources/fleets where possible and consideration of residual patterns that may be a result of inherent stock structure. There is currently no genetic evidence that there are distinct biological stocks of canary rockfish off the U.S. coast and very limited tagging data to describe adult movement, which may be significant across depth and latitude. Future efforts to specifically address regional management concerns will require a more spatially explicit model that likely includes the portion of the canary rockfish stock residing in Canadian waters off Vancouver Island.

Catches

Catch of canary rockfish is first reported in 1916 in California. Since that time, annual catch has ranged from 46.5 mt in 2004 to 5,544 in 1982 and totaled almost 150,000 mt over the time-series. Canary rockfish have been primarily caught by trawl fleets, on average comprising ~85% of the annual catches, with the Oregon fleet removing as much as 3,941 mt in 1982. Historically just 10% of the catches have come from non-trawl commercial fisheries, although this proportion reached 24% and 358 mt in 1997. Recreational removals have averaged just 6% of the total catch, historically, but have become relatively more important as commercial landings have been substantially reduced in recent years. Recreational catches reached 59% of the total with 30 mt caught in 2003. Total catches after 1999 have been reduced by an order of magnitude in an attempt to rebuild a stock determined to be overfished on the basis of the 1999 assessment.

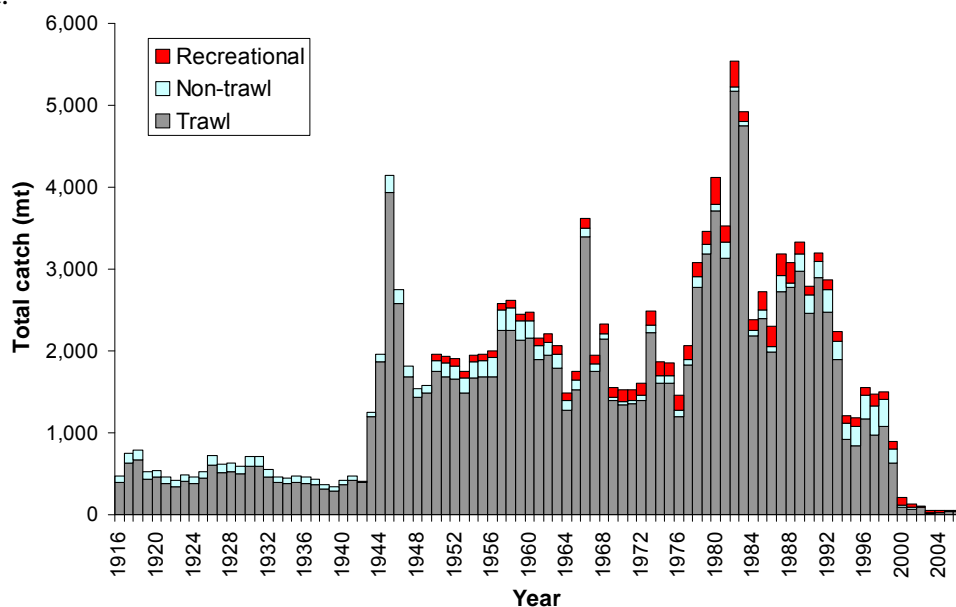


Figure a. Canary rockfish catch history by major source, 1916-2006.

Table a. Recent commercial fishery catches (mt) by fleet.

Year	Southern California trawl	Northern California trawl	Oregon trawl	Washington trawl	Southern California non-trawl	Northern California non-trawl	Oregon- Washington non-trawl	At-sea whiting bycatch
1997	31.96	142.66	589.85	203.44	29.78	73.80	254.42	3.63
1998	8.41	149.45	716.05	203.01	23.33	57.25	250.13	5.47
1999	7.36	96.25	387.85	139.97	8.53	28.59	123.97	5.63
2000	1.71	11.24	46.62	32.66	2.52	5.50	10.25	2.35
2001	1.44	9.43	33.13	19.65	1.60	4.96	11.00	4.05
2002	0.36	14.62	32.60	33.29	0.02	0.08	3.15	5.24
2003	0.23	0.31	5.02	6.24	0.00	0.08	6.89	0.93
2004	0.61	1.95	7.67	7.73	0.02	0.06	4.68	5.22
2005	0.72	2.84	4.91	25.90	0.06	0.09	1.79	1.44
2006	3.57	2.28	2.91	15.64	0.00	0.00	3.11	1.09

Data and Assessment

This assessment used the Stock Synthesis 2 integrated length-age structured model. The model includes catch, length- and age-frequency data from 11 fishing fleets, including trawl, non-trawl and recreational sectors. Biological data is derived from both port and on-board observer sampling programs. The National Marine Fisheries Service (NMFS) triennial bottom trawl survey and Northwest Fisheries Science Center (NWFSC) trawl survey relative biomass indices and biological sampling provide fishery independent information on relative trend and demographics of the canary stock. The Southwest Fisheries Science Center (SWFSC)/NWFSC/Pacific Whiting Conservation Cooperative (PWCC) coast-wide pre-recruit survey provides a source of recent recruitment strength information.

New analysis of the triennial survey data led to separating the series into two parts (1980-1992, 1995-2004) to allow for potential changes in catchability due to timing of survey operations. Accommodation of potential changes in fishery selectivity due to management actions including the adoption of canary-specific trip limits in 1995, small-footrope requirements in 1999, closure of the RCA in 2002 and use of selective flatfish trawl starting in 2005 was also added in this assessment. These and other changes have resulted in a change in the estimate of current stock status and large increase in the perception of uncertainty regarding this quantity in comparison to the most recent 2005 and earlier assessments.

The base case assessment model includes parameter uncertainty from a variety of sources, but underestimates the considerable uncertainty in recent trend and current stock status. For this reason, in addition to asymptotic confidence intervals (based upon the model's analytical estimate of the variance near the converged solution), two alternate states of nature regarding stock productivity (via the steepness parameter of the stock-recruitment relationship) are presented. The base case model (steepness = 0.51) is considered to be twice as likely as the two alternate states (steepness = 0.35, 0.72) based on the results of a meta-analysis of west coast rockfish (M. Dorn, personal communication). In order to best capture this source of uncertainty, all three states of nature will be used as probability-weighted input to the rebuilding analysis.

Stock biomass

Canary rockfish were relatively lightly exploited until the early 1940's, when catches increased and a decline in biomass began. The rate of decline in spawning biomass accelerated during the late 1970s, and finally reached a minimum (13% of unexploited) in the mid 1990s. The canary rockfish spawning stock biomass is estimated to have been increasing since that time, in response to reductions in harvest and above average recruitment in the preceding decade. However, this trend is very uncertain. The estimated relative depletion level in 2007 is 32.4% (~95% asymptotic interval: 24-41%, ~75% interval based on the range of states of nature: 12-56%), corresponding to 10,544 mt (asymptotic interval: 7,776-13,312 mt, states of nature interval: 4,009-17,519) of female spawning biomass in the base model.

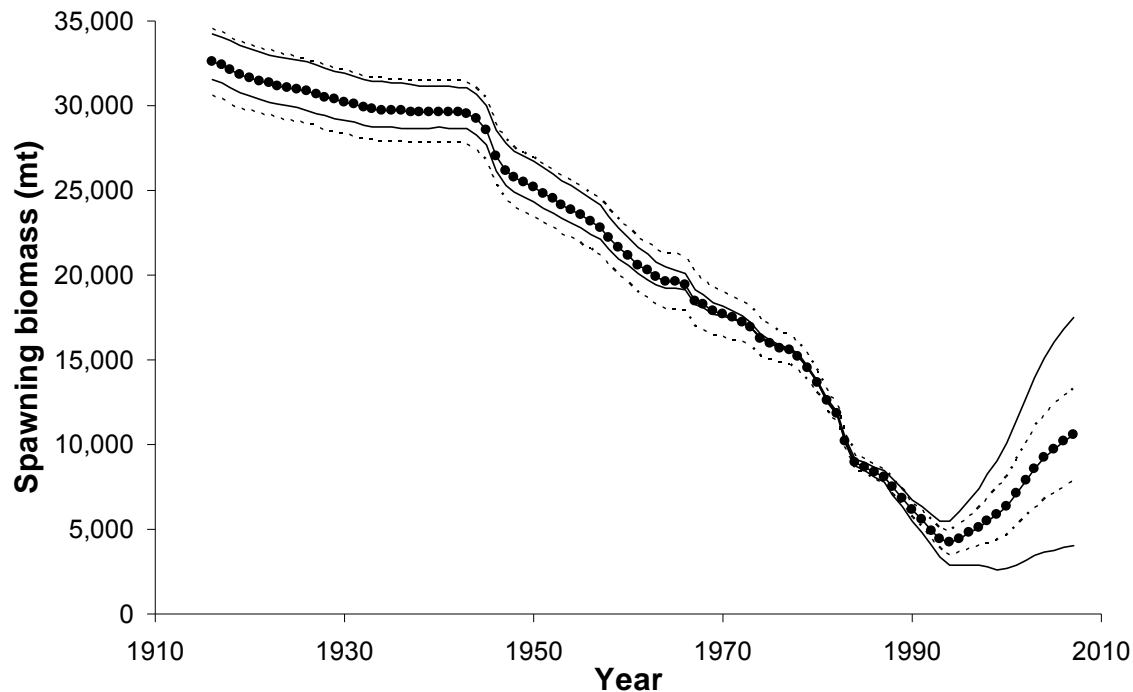


Figure b. Estimated spawning biomass time-series (1916-2007) for the base case model (round points) with approximate asymptotic 95% confidence interval (dashed lines) and alternate states of nature (light lines).

Table b. Recent trend in estimated canary rockfish spawning biomass and relative depletion level.

Year	Spawning biomass (mt)	~95% confidence interval	Range of states of nature	Estimated depletion	~95% confidence interval	Range of states of nature
1998	5,499	4,177-6,820	2,761-8,241	16.9%	NA	8.1-26.2
1999	5,826	4,296-7,357	2,610-9,073	17.9%	NA	7.6-28.8
2000	6,364	4,618-8,111	2,644-10,144	19.5%	NA	7.7-32.2
2001	7,149	5,190-9,109	2,918-11,477	22.0%	NA	8.5-36.4
2002	7,910	5,750-10,070	3,184-12,779	24.3%	NA	9.3-40.6
2003	8,603	6,264-10,942	3,417-13,985	26.4%	NA	10.0-44.4
2004	9,226	6,736-11,715	3,628-15,076	28.3%	NA	10.6-47.9
2005	9,749	7,140-12,359	3,795-16,019	29.9%	NA	11.1-50.9
2006	10,183	7,482-12,884	3,918-16,825	31.3%	23.1-39.4	11.4-53.4
2007	10,544	7,776-13,312	4,009-17,519	32.4%	24.1-40.7	11.7-55.6

Recruitment

The degree to which canary rockfish recruitment declined over the last 50 years is closely related to the level of productivity (stock-recruit steepness) modeled for the stock. High steepness values imply little relationship between spawning stock and recruitment, while low steepness values cause a strong correlation. After a period of above average recruitments, recent year-class strengths have generally been low, with only 1999 and 2001 producing large estimated recruitments (the 2007 recruitment is based only on the stock-recruit function). There is little information other than the pre-recruit index to inform the assessment model about recruitments subsequent to 2002, so those estimates will likely be updated in future assessments. As the larger recruitments from the late 1980s and early 1990s move through the population in future projections, the effects of recent poor recruitment will tend to slow the rate of recovery.

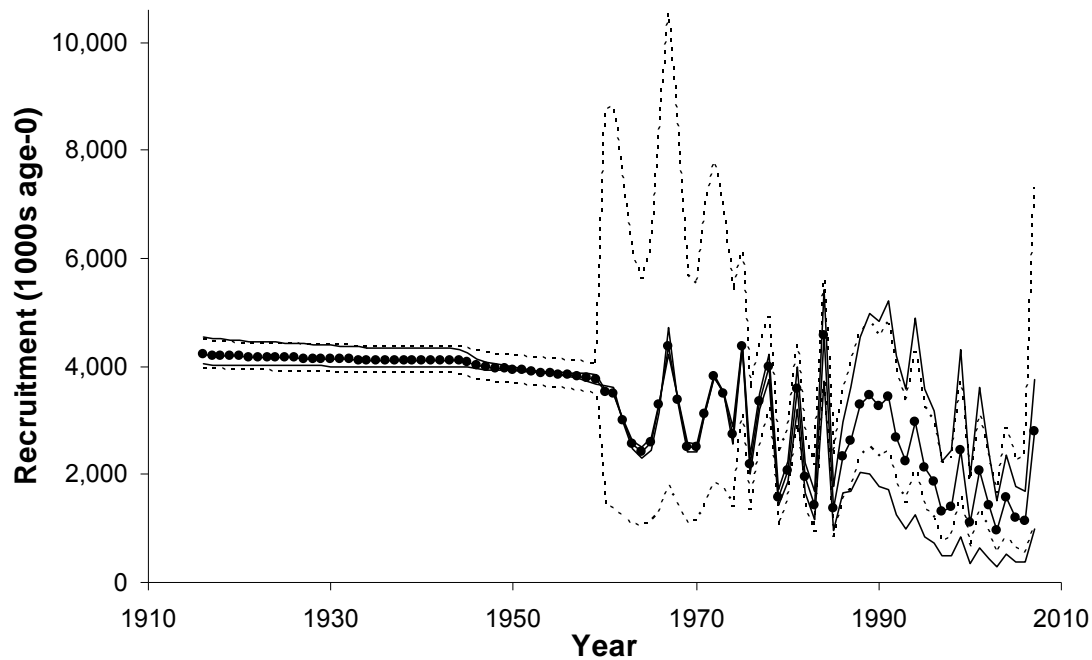


Figure c. Time series of estimated canary rockfish recruitments for the base case model (round points) with approximate asymptotic 95% confidence interval (dashed lines) and alternate states of nature (light lines).

Table c. Recent estimated trend in canary rockfish recruitment.

Year	Estimated recruitment (1000s)	~95% confidence interval	Range of states of nature
1998	1,391	841-2,299	484-2,453
1999	2,449	1,606-3,735	841-4,318
2000	1,099	638-1,893	351-1,938
2001	2,061	1,359-3,124	643-3,613
2002	1,432	905-2,267	447-2,383
2003	955	547-1,667	302-1,515
2004	1,565	854-2,869	520-2,373
2005	1,182	627-2,231	390-1,771
2006	1,144	548-2,389	367-1,699
2007	2,807	1,078-7,313	991-3,745

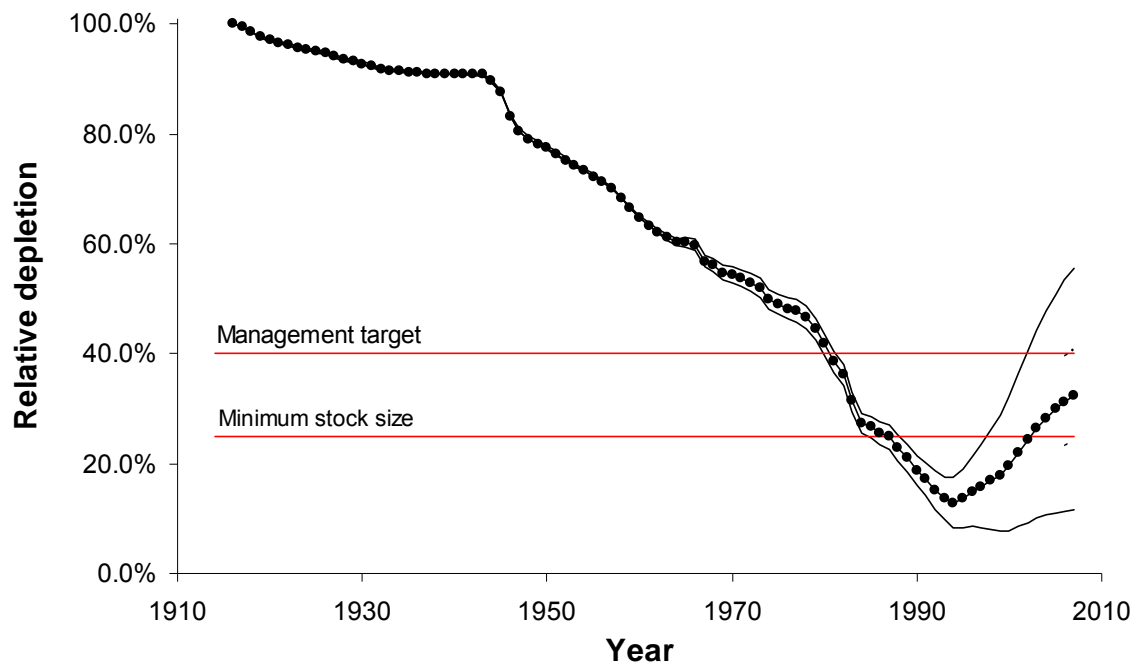


Figure d. Time series of depletion level as estimated in the base case model (round points) with approximate asymptotic 95% confidence interval (2006-2007 only, dashed lines) and alternate states of nature (light lines).

Reference points

Unfished spawning stock biomass was estimated to be 32,561 mt in the base case model. This is slightly smaller than the equilibrium value estimated in the 2005 assessment. The target stock size ($SB_{40\%}$) is therefore 13,024 mt. Maximum sustained yield (MSY) applying current fishery selectivity and allocations (a ‘bycatch-only’ scenario) was estimated in the assessment model to occur at a spawning stock biomass of 12,394 mt and produce an MSY catch of 1,169 mt ($SPR = 52.9\%$). This is nearly identical to the yield, 1,167 mt, generated by the SPR (54.4%) that stabilizes the stock at the $SB_{40\%}$ target. The fishing mortality target/overfishing level ($SPR = 50.0\%$) generates a yield of 1,161 mt at a stock size of 11,161 mt.

When selectivity and allocation from the mid 1990s (1994-1998) was applied, to mimic reference points under a targeted fishery scenario, the yield increased to 1,578 mt from a slightly smaller stock size (12,211 mt), but a similar rate of exploitation ($SPR=52.5\%$). This is due to higher relative selection of older and larger fish when the fishery was targeting instead of avoiding canary rockfish. These values are appreciably higher than those from previous assessment models due primarily to the difference in steepness.

Exploitation status

The abundance of canary rockfish was estimated to have dropped below the $SB_{40\%}$ management target in 1981 and the overfished threshold in 1987. In hindsight, the spawning stock biomass passed through the target and threshold levels at a time when the annual catch was averaging more than twice the current estimate of the MSY. The stock remains below the rebuilding target, although the spawning stock biomass appears to have been increasing since 1999. The degree of increase is very sensitive to the value for steepness (state of nature), and is projected to slow as recent (and below average) recruitments begin to contribute to the spawning biomass. Fishing mortality rates in excess of the current F -target for rockfish of $SPR_{50\%}$ are

estimated to have begun in the late 1970s and persisted through 1999. Recent management actions appear to have curtailed the rate of removal such that overfishing has not occurred since 1999, and recent SPR values are in excess of 95%. Relative exploitation rates (catch/biomass of age-5 and older fish) are estimated to have been less than 1% since 2001. These patterns are largely insensitive to the three states of nature.

Table d. Recent trend in spawning potential ratio (SPR) and relative exploitation rate (catch/biomass of age-5 and older fish).

Year	Estimated SPR (%)	Range of states of nature	Relative exploitation rate	Range of states of nature
1997	31.6%	16.9-41.9	0.0889	0.0607-0.1652
1998	33.2%	16.8-44.3	0.0873	0.0576-0.1778
1999	48.9%	26.1-61.0	0.0506	0.0323-0.1146
2000	84.0%	65.7-89.7	0.0112	0.0070-0.0271
2001	89.7%	76.5-93.5	0.0067	0.0041-0.0165
2002	92.2%	81.9-95.1	0.0050	0.0031-0.0126
2003	95.4%	88.3-97.2	0.0023	0.0014-0.0058
2004	96.3%	90.6-97.8	0.0020	0.0012-0.0051
2005	96.3%	90.5-97.7	0.0021	0.0013-0.0055
2006	96.5%	90.7-97.9	0.0019	0.0011-0.0049

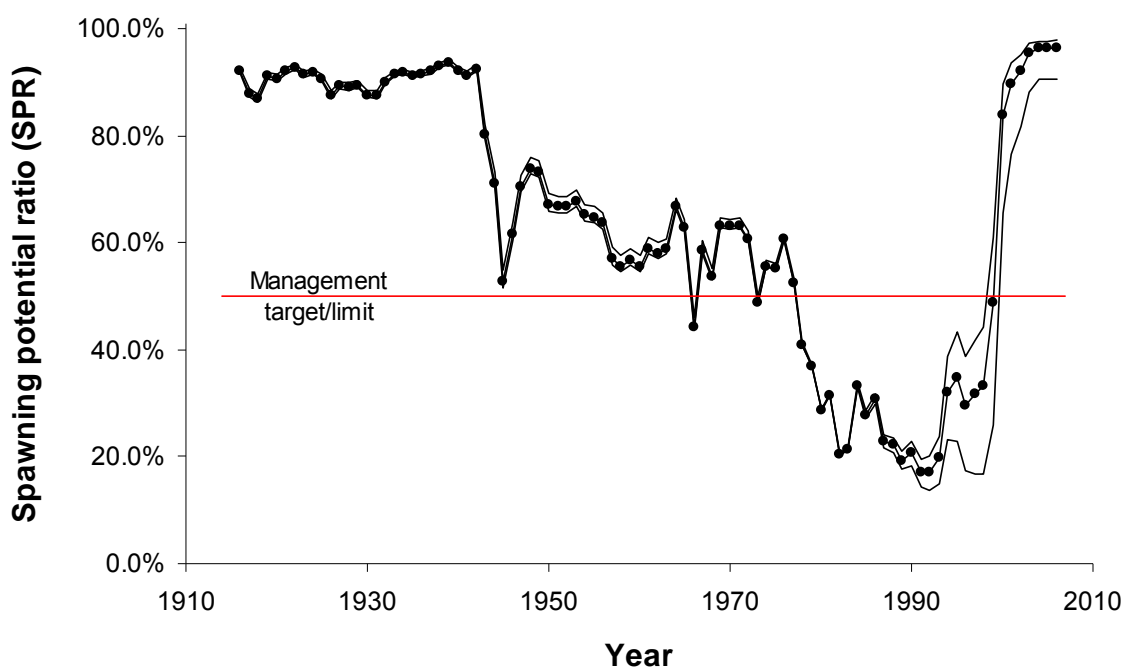


Figure e. Time series of estimated spawning potential ratio (SPR) for the base case model (round points) and alternate states of nature (light lines). Values of SPR below 0.5 reflect harvests in excess of the current overfishing proxy.

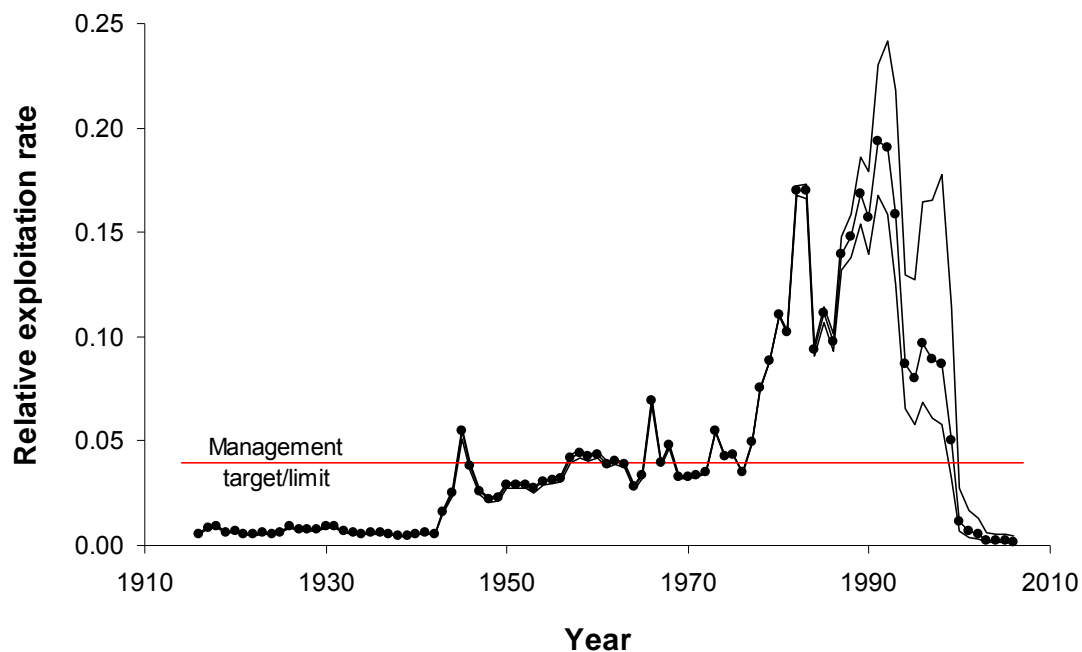


Figure f. Time series of estimated relative exploitation rate (catch/age 5 and older biomass, lower panel) for the base case model (round points) and alternate states of nature (light lines). Values of relative exploitation rate in excess of horizontal line are above the rate corresponding to the overfishing proxy from the base case.

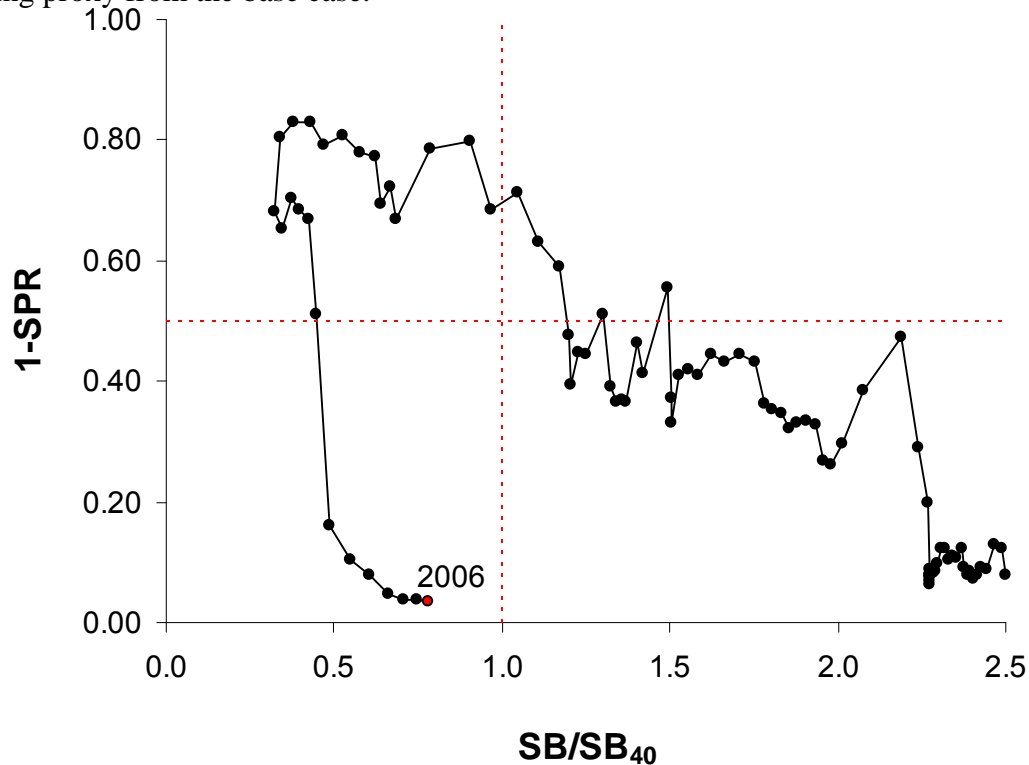


Figure g. Estimated spawning potential ratio relative to the proxy target of 50% vs. estimated spawning biomass relative to the proxy 40% level from the base case model. Higher biomass occurs on the right side of the x-axis, higher exploitation rates occur on the upper side of the y-axis.

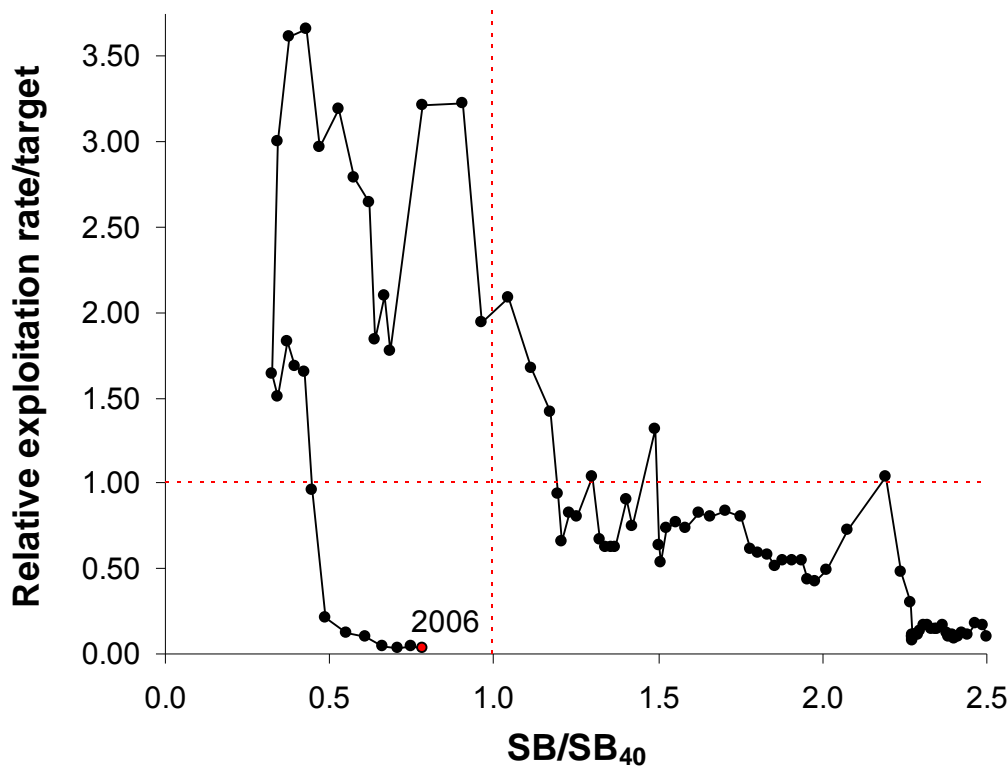


Figure g. Phase plot of estimated fishing intensity vs. relative spawning biomass for the base case model. Fishing intensity is the relative exploitation rate divided by the level corresponding to the overfishing proxy (0.040). Relative spawning biomass is annual spawner abundance divided by the 40% rebuilding target.

Management performance

Following the 1999 declaration that the canary rockfish stock was overfished the canary OY was reduced by over 70% in 2000 and by the same margin again over the next three years. Managers employed several tools in an effort to constrain catches to these dramatically lower targets. These included: reductions in trip/bag limits for canary and co-occurring species, the institution of spatial closures, and new gear restrictions intended to reduce trawling in rocky shelf habitats and the coincident catch of rockfish in shelf flatfish trawls. In recent years, the total mortality has been near the OY, but well below the ABC. Since the overfished determination in 1999, the total 7-year catch (644 mt) has been only 13% above the sum of the OYs for 2000-2006. This level of removals represents only 35% of the sum of the ABCs for that period. The total 2006 catch (47 mt) is <1% of the peak catch that occurred in the early 1980s.

Table e. Recent trend in estimated total canary rockfish catch and commercial landings (mt) relative to management guidelines.

Year	ABC (mt)	OY (mt)	Commercial landings (mt) ¹	Total Catch (mt)
1997	1,220 ²	1,000 ²	1,113.8	1,478.8
1998	1,045 ²	1,045 ²	1,182.4	1,494.2
1999	1,045 ²	857 ²	665.7	898.0
2000	287	200	60.6	208.4
2001	228	93	42.8	133.6
2002	228	93	48.6	106.8
2003	272	44	8.5	51.0
2004	256	47.3	10.7	46.5
2005	270	46.8	10.9	51.4
2006	279	47	8.2	47.1

¹Excludes all at-sea whiting, recreational and research catches.

²Includes the Columbia and Vancouver INPFC areas only.

Unresolved problems and major uncertainties

Parameter uncertainty is explicitly captured in the asymptotic confidence intervals reported throughout this assessment for key parameters and management quantities. These intervals reflect the uncertainty in the model fit to the data sources included in the assessment, but do not include uncertainty associated with alternative model configurations, weighting of data sources (a combination of input sample sizes and relative weighting of likelihood components), or fixed parameters. Specifically, there appears to be conflicting information between the length- and age-frequency data regarding the degree of stock decline, making the model results sensitive to the relative weighting of each. This issue is explored in the assessment, but cannot be fully resolved at this time. The relationship between the degree of dome in the selectivity curves and the increase in female natural mortality with age remains a source of uncertainty that is included in model results, as it has been in previous assessments for canary rockfish. Uncertainty in the steepness parameter of the stock-recruitment relationship is significant and will likely persist in future assessments; this uncertainty is included in the assessment and rebuilding projections through explicit consideration of the three states of nature. Forecasts

The forecast reported here will be replaced by the rebuilding analysis to be completed in September-October 2007 following SSC review of the stock assessment. In the interim, the total catch in 2007 and 2008 is set equal to the OY (44 mt). The exploitation rate for 2009 and beyond is based upon an SPR of 88.7%, which approximates the harvest level in the current rebuilding plan. Uncertainty in the rebuilding forecast will be based upon the three states of nature for steepness and random variability in future recruitment deviations for each rebuilding simulation. Current medium-term forecasts predict slow increases in abundance and available catch, with OY values for 2009 and 2010 increasing by nearly four times the value of 44 mt from the 2005 assessment. This is largely attributable to the revised perception of steepness, based on meta-analysis of other rockfish species. The following table shows the projection of expected canary rockfish catch, spawning biomass and depletion.

Table f. Projection of potential canary rockfish ABC, OY, spawning biomass and depletion for the base case model based on the SPR= 0.887 fishing mortality target used for the last rebuilding plan (OY) and $F_{50\%}$ overfishing limit/target (ABC). Assuming the OY of 44 mt is met in 2007 and 2008.

Year	ABC (mt)	OY (mt)	Age 5+ biomass (mt)	Spawning biomass (mt)	Depletion
2007	973	44	25,995	10,544	32.4%
2008	978	44	26,417	10,840	33.3%
2009	981	162	26,859	11,072	34.0%
2010	980	162	26,995	11,194	34.4%
2011	992	164	27,018	11,254	34.6%
2012	1,026	169	27,440	11,266	34.6%
2013	1,074	177	27,985	11,260	34.6%
2014	1,124	185	28,656	11,280	34.6%
2015	1,171	193	29,445	11,368	34.9%
2016	1,214	200	30,332	11,545	35.5%
2017	1,253	207	31,297	11,812	36.3%
2018	1,290	213	32,317	12,156	37.3%

Decision table

Because canary rockfish is currently managed under a rebuilding plan, this decision table is only intended to better compare and contrast the base case with uncertainty among states of nature. The results of the rebuilding plan will integrate these three states of nature as well as projected recruitment variability. Further, various alternate probabilities of rebuilding by target and limit time-periods as well as fishing mortality rates will be evaluated in the rebuilding analysis. Relative probabilities of each state of nature are based on a meta-analysis for steepness of west coast rockfish (M. Dorn, AFSC, personal communication). Landings in 2007-2008 are 44 mt for all cases. Selectivity and fleet allocations are projected at the average 2003-2006 values.

Table g. Decision table of 12-year projections for alternate states of nature (columns) and management options (rows) beginning in 2009. Relative probabilities of each state of nature are based on a meta-analysis for steepness of west coast rockfish (M. Dorn, AFSC, personal communication). Landings in 2007-2008 are 44 mt for all cases. Selectivity and fleet allocations are projected at the average 2003-2006 values.

			State of nature					
			Low steepness (0.35)		Base case (steepness = 0.51)		High steepness (0.72)	
Relative probability			0.25		0.5		0.25	
Management decision	Year	Catch (mt)	Spawning biomass		Spawning biomass		Spawning biomass	
			Depletion	(mt)	Depletion	(mt)	Depletion	(mt)
Rebuilding SPR 88.7% catches from low steepness state of nature	2009	56	12.0%	4,099	34.0%	11,072	59.0%	18,583
	2010	56	12.0%	4,100	34.5%	11,236	60.1%	18,932
	2011	56	11.9%	4,078	34.8%	11,339	60.8%	19,156
	2012	59	11.8%	4,042	35.0%	11,396	61.2%	19,270
	2013	62	11.7%	4,003	35.1%	11,436	61.3%	19,313
	2014	65	11.6%	3,979	35.3%	11,502	61.4%	19,343
	2015	67	11.6%	3,984	35.7%	11,638	61.7%	19,423
	2016	70	11.7%	4,025	36.4%	11,866	62.2%	19,590
	2017	72	12.0%	4,102	37.4%	12,188	63.0%	19,852
	2018	74	12.3%	4,209	38.7%	12,591	64.1%	20,199
Rebuilding SPR 88.7% catches from base case	2009	162	12.0%	4,099	34.0%	11,072	59.0%	18,583
	2010	162	11.8%	4,058	34.4%	11,194	60.0%	18,890
	2011	164	11.7%	3,994	34.6%	11,254	60.5%	19,069
	2012	169	11.4%	3,914	34.6%	11,266	60.8%	19,138
	2013	177	11.2%	3,831	34.6%	11,260	60.7%	19,135
	2014	185	11.0%	3,762	34.6%	11,280	60.7%	19,118
	2015	193	10.9%	3,719	34.9%	11,368	60.8%	19,150
	2016	200	10.8%	3,710	35.5%	11,545	61.2%	19,266
	2017	207	10.9%	3,733	36.3%	11,812	61.8%	19,475
	2018	213	11.0%	3,781	37.3%	12,156	62.8%	19,767
Rebuilding SPR 88.7% catches from high steepness state of nature	2009	273	12.0%	4,099	34.0%	11,072	59.0%	18,583
	2010	271	11.7%	4,014	34.2%	11,150	59.8%	18,845
	2011	272	11.4%	3,905	34.3%	11,164	60.3%	18,978
	2012	277	11.0%	3,780	34.2%	11,130	60.3%	19,001
	2013	285	10.7%	3,654	34.0%	11,079	60.2%	18,951
	2014	293	10.3%	3,542	34.0%	11,055	60.0%	18,891
	2015	300	10.1%	3,459	34.1%	11,100	59.9%	18,880
	2016	307	9.9%	3,408	34.5%	11,235	60.2%	18,953
	2017	313	9.9%	3,389	35.2%	11,461	60.7%	19,122
	2018	319	9.9%	3,394	36.1%	11,763	61.5%	19,374
Status quo (catch = 44 mt)	2009	44	12.0%	4,099	34.0%	11,072	59.0%	18,583
	2010	44	12.0%	4,104	34.5%	11,241	60.1%	18,937
	2011	44	11.9%	4,088	34.9%	11,349	60.8%	19,166
	2012	44	11.8%	4,057	35.0%	11,411	61.2%	19,285
	2013	44	11.7%	4,024	35.2%	11,456	61.4%	19,334
	2014	44	11.7%	4,005	35.4%	11,529	61.5%	19,371
	2015	44	11.7%	4,018	35.8%	11,673	61.8%	19,459
	2016	44	11.9%	4,069	36.6%	11,911	62.3%	19,635
	2017	44	12.1%	4,157	37.6%	12,244	63.2%	19,908
	2018	44	12.5%	4,277	38.9%	12,660	64.3%	20,268

Research and data needs

Progress on a number of research topics would substantially improve the ability of this assessment to reliably and precisely model canary rockfish population dynamics in the future and provide better monitoring of progress toward rebuilding:

1. Expanded Assessment Region: Given the high occurrence of canary rockfish close to the US-Canada border, a joint US-Canada assessment should be considered in the future.
2. Many assessments are deriving historical catch by applying various ratios to the total rockfish catch prior to the period when most species were delineated. A comprehensive historical catch reconstruction for all rockfish species is needed, to compile a best estimated catch series that accounts for all the catch and makes sense for the entire group.
3. Habitat relationships: The historical and current relationship between canary rockfish distribution and habitat features should be investigated to provide more precise estimates of abundance from the surveys, and to guide survey augmentations that could better track rebuilding through targeted application of newly developed survey technologies. Such studies could also assist determining the possibility of dome-shaped selectivity, aid in evaluation of spatial structure and the use of fleets to capture geographically-based patterns in stock characteristics.
4. Meta-population model: The spatial patterns show patchiness in the occurrence of large vs. small canary; reduced occurrence of large/old canary south of San Francisco; and concentrations of canary rockfish near the US-Canada border. The feasibility of a meta-population model that has linked regional sub-populations should be explored as a more accurate characterization of the coast-wide population's structure. Tagging of other direct information on adult movement will be essential to this effort.
5. Increased computational power and/or efficiency is required to move toward fully Bayesian approaches that may better integrate over both parameter and model uncertainty.
6. Additional exploration of surface ages from the late 1970s and inclusion into or comparison with the assessment model, or re-aging of the otoliths could improve the information regarding that time period when the stock underwent the most dramatic decline. Auxiliary biological data collected by ODFW from recreational catches and hook-and-line projects may also increase the performance of the assessment model in accurately estimating recent trends and stock size.
7. Due to inconsistencies between studies and scarcity of appropriate data, new data is needed on both the maturity and fecundity relationships for canary rockfish.
8. Re-evaluation of the pre-recruit index as a predictor of recent year class strength should be ongoing as future assessments generate a longer series of well-estimated recent recruitments to compare with the coast-wide survey index.
9. Meta-analysis or other summary of the degree of recruitment variability and the relative steepness for other rockfish and groundfish stocks should be ongoing, as this information is likely to be very important for model results (as it is here) in the foreseeable future.

Rebuilding projections

The rebuilding projections will be presented in a separate document after the assessment has been reviewed in September 2007.

Table h. Summary of recent trends in estimated canary rockfish exploitation and stock levels from the base case model; all values reported at the beginning of the year.

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Commercial landings (mt) ¹	1,182.4	665.7	60.6	42.8	48.6	8.5	10.7	10.9	8.2	NA
Total catch (mt)	1,494.2	898.0	208.4	133.6	106.8	51.0	46.5	51.4	47.1	NA
ABC (mt)	1,045 ²	1,045 ²	287	228	228	272	256	270	279	172
OY	1,045 ²	857 ²	200	93	93	44	47.3	46.8	47.0	44
SPR	33.2%	48.9%	84.0%	89.7%	92.2%	95.4%	96.3%	96.3%	96.5%	NA
Exploitation rate										
(catch/age 5+ biomass)	0.0873	0.0506	0.0112	0.0067	0.0050	0.0023	0.0020	0.0021	0.0019	NA
Age 5+ biomass (mt)	17,125	17,733	18,659	20,078	21,275	22,333	23,583	24,402	25,317	25,995
Spawning biomass (mt)	5,499	5,826	6,364	7,149	7,910	8,603	9,226	9,749	10,183	10,544
~95% Confidence interval	4,177- 6,820	4,296- 7,357	4,618- 8,111	5,190- 9,109	5,750- 10,070	6,264- 10,942	6,736- 11,715	7,140- 12,359	7,482- 12,884	7,776- 13,312
Range of states of nature	2,761- 8,241	2,610- 9,073	2,644- 10,144	2,918- 11,477	3,184- 12,779	3,417- 13,985	3,628- 15,076	3,795- 16,019	3,918- 16,825	4,009- 17,519
Recruitment (1000s)	1,391	2,449	1,099	2,061	1,432	955	1,565	1,182	1,144	2,807
~95% Confidence interval	841- 2,299	1,606- 3,735	638- 1,893	1,359- 3,124	905- 2,267	547- 1,667	854- 2,869	627- 2,231	548- 2,389	1,078- 7,313
Range of states of nature	484- 2,453	841- 4,318	351- 1,938	643- 3,613	447- 2,383	302- 1,515	520- 2,373	390- 1,771	367- 1,699	991- 3,745
Depletion	16.9%	17.9%	19.5%	22.0%	24.3%	26.4%	28.3%	29.9%	31.3%	32.4%
~95% Confidence interval	NA	NA	NA	NA	NA	NA	NA	NA	23.1-9.4	24.1-40.7
Range of states of nature	8.1-26.2	7.6-28.8	7.7-32.2	8.5-36.4	9.3-40.6	10.0-44.4	10.6-47.9	11.1-50.9	11.4-53.4	11.7-55.6

¹Excludes all at-sea whiting, recreational and research catches.

²Includes the Columbia and Vancouver INPFC areas only.

Table i. Summary of canary rockfish reference points from the base case model. Values are based on 1994-1998 fishery selectivity and allocation to better approximate the performance of a targeted fishery rather than a bycatch-only scenario.

Quantity	Estimate	~95% Confidence interval	Range of states of nature
Unfished spawning stock biomass (SB_0 , mt)	32,561	30,594-34,528	34,262-31,498
Unfished 5+ biomass (mt)	86,036	NA	91,980-82,744
Unfished recruitment (R_0 , thousands)	4,210	3,961-4,458	4,540-4,035
<i>Reference points based on $SB_{40\%}$</i>			
MSY Proxy Spawning Stock Biomass ($SB_{40\%}$)	13,024	12,237-13,811	12,599-13704.7
SPR resulting in $SB_{40\%}$ ($SPR_{SB40\%}$)	54.4%	54.4-54.4	45.8-68.5
Exploitation rate resulting in $SB_{40\%}$	0.0457	NA	0.0277-0.0600
Yield with $SPR_{SB40\%}$ at $SB_{40\%}$ (mt)	1,574	1,477-1,672	996-2,034
<i>Reference points based on SPR proxy for MSY</i>			
Spawning Stock Biomass at SPR (SB_{SPR})(mt)	11,161	10,487-11,835	1,654-14,053
$SPR_{MSY-proxy}$	50.0%	NA	NA
Exploitation rate corresponding to SPR	0.0528	NA	0.0524-0.0539
Yield with $SPR_{MSY-proxy}$ at SB_{SPR} (mt)	1,572	1,476-1,668	238-1,962
<i>Reference points based on estimated MSY values</i>			
Spawning Stock Biomass at MSY (SB_{MSY}) (mt)	12,211	11,529-12,893	9,524-15,042
SPR_{MSY}	52.5%	52.1-52.8	37.0-70.5
Exploitation Rate corresponding to SPR_{MSY}	0.0487	NA	0.0254-0.0794
MSY (mt)	1,578	1,481-1,675	1,002-2,104

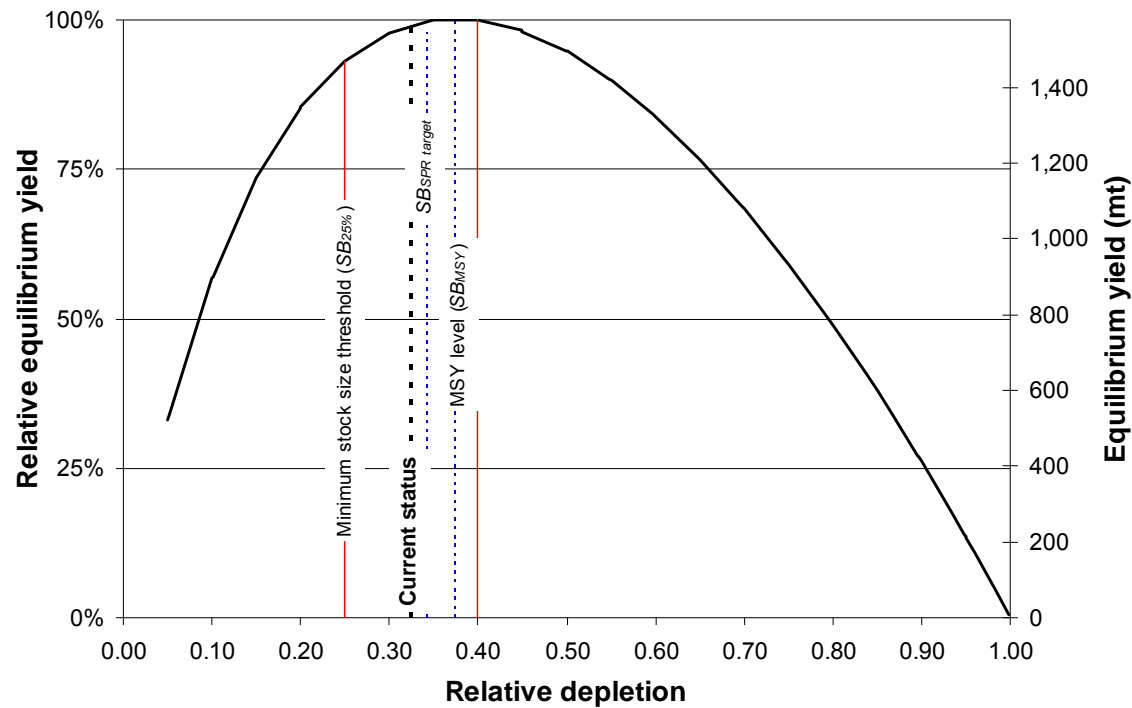


Figure h. Equilibrium yield curve (derived from reference point values reported in table i) for the base case model. Values are based on 1994-1998 fishery selectivity and allocation to better approximate the performance of a targeted fishery rather than a bycatch-only scenario.

*Definition of a “Data Report” and how one could be used by management:
Top page 7 (http://www.pcouncil.org/bb/2008/0608/F2a_ATT2_0608.pdf)*

The STAR Panel is responsible for determining if a stock assessment document is sufficiently complete according to Appendix B. It is also the Panel’s responsibility to identify assessments that cannot be reviewed or completed for any reason. The Panel’s decision that an assessment is complete should be made by consensus. If a Panel cannot reach agreement, then the nature of the disagreement must be described in the Panel’s report. Moreover, if a stock assessment is deemed to be stable in its approach to data analysis and modeling, the STAR panel should recommend that the assessment be considered as an update during the next stock assessment cycle.

For some species the available data will be insufficient to calculate reliable estimates of F_{MSY} (or its proxy), B_{MSY} (or its proxy), ending biomass or unfished biomass, etc. Typically, results from a “data-poor” assessment are unable to produce all of the required reporting elements outlined in Appendix B (Outline for Groundfish Stock Assessment Documents). In particular, estimation of current exploitable biomass and/or stock depletion may be impossible, although both quantities are essential components of the Council’s current 40:10 groundfish harvest policy. Nonetheless, information that is potentially useful to management is often generated in a data-poor assessment, e.g., current spawning potential ratio (SPR). Therefore, in situations where the STAT team is unable to produce a full assessment with all the model outputs required by the Council’s default harvest control rule, a “Data Report” can be developed that summarizes all the pertinent findings of the stock assessment. To the extent practicable Appendix B will serve as a guide to the contents of a Data Report.

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It is the responsibility of the STAR Panel, in consultation with the STAT Team, to consider the validity of inferences that can be drawn from an analysis presented in a Data Report. If useful but incomplete results have been developed, the panel should review the reliability and appropriateness of the methods used to draw conclusions about stock status and/or exploitation potential and either recommend or reject the analysis on the basis of its ability to introduce useful information into the management process. If the STAR Panel believes that important information has been developed, it should forward its findings and conclusions to the SSC and Council for consideration during the setting of ABCs and OYs. By definition Data Reports do not feed directly into the Council’s current harvest control rule and, as a consequence, the Council’s response to the information will necessarily be subjectively based with respect to risk and will need to occur on a case by case basis.

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*** DRAFT ***

Proposed 2009 STAR Panel Schedule
7/31/2008

Panel	Dates	Location	Spp1	Spp2
Whiting Treaty ?	Feb. 3-6	Seattle	Pacific Whiting	NA
1	April 27-May 1	Newport	Cabazon	Spiny dogfish
2	May 4-8	Seattle	Petrale sole	Splitnose rf
<i>Updates</i>	<i>June 6-13</i>	<i>WOC</i>	<i>POP, Darkblotched rf</i>	<i>Canary rf, Cowcod</i>
3	July 13-17	Santa Cruz	Bocaccio	Widow
4	July 27-31	Santa Cruz	Lingcod	Bronzespotted or Greenspotted rf
5	Aug 10-14	Seattle	Yelloweye rf	Greenstriped rf
MopUp	Sept 28-Oct 1	Seattle	TBD	TBD

The SSC and Council may recommend a one-week delay in panels if reviewing results from Panel 2 at the June Council meeting is not a high priority.

FINAL ADOPTION OF EXEMPTED FISHING PERMITS (EFPs) FOR 2009

Exempted fishing permits (EFPs) provide a process for testing innovative fishing gears and strategies to substantiate methods for prosecuting sustainable and risk-averse fishing opportunities. Applications for EFPs proposed for 2009 that were preliminarily recommended for consideration by the Council in June are provided as Agenda Item I.6.a, Attachments 1 through 5.

The first proposed EFP is designed to test a trolled longline strategy to selectively harvest abundant chilipepper rockfish off central California. While this EFP was adopted for 2008, it has not been implemented and is again considered for 2009.

The second proposed EFP, sponsored by The Nature Conservancy, Environmental Defense, the California Department of Fish and Game (CDFG), and others, seeks to test hook-and-line and trap gears in central California using limited entry trawl permits purchased by The Nature Conservancy. This EFP was also adopted for 2008, but was only implemented shortly before the September briefing book deadline. The Council had requested a report of results from 2008 EFP activities, which is anticipated as a supplemental attachment given the late start of fishing under this EFP this year.

The third EFP, sponsored by the Recreational Fishing Alliance and the Golden Gate Fishermen's Association, seeks to test the use of recreational hook-and-line gear to catch underutilized chilipepper rockfish, yellowtail rockfish, and slope rockfish on Commercial Passenger Fishing Vessels (CPFVs) within and seaward of the non-trawl Rockfish Conservation Area (RCA) in waters off California north of Pt. Conception. The sponsors of this EFP proposed in June to add a yellowtail rockfish targeting strategy to this EFP using floated, long leaders, but the Council recommended removing this element and maintaining the chilipepper and slope rockfish targeting elements. This EFP was also recommended for 2008 but, as of the September briefing book deadline, had yet to be implemented. A report of 2008 activities under this EFP is provided (Agenda Item I.6.a, Attachment 6), which states that fishing activity under this EFP has not begun.

The fourth EFP, sponsored by the Oregon Chapter of the Recreational Fishing Alliance, seeks to test floated, long leader gear to selectively harvest yellowtail rockfish within the RCA in waters off Oregon. Early testing of this gear in open waters off Oregon this year indicates a higher than anticipated catch of widow rockfish. The sponsors are therefore proposing a larger EFP total catch limit for widow rockfish than that proposed in June.

The fifth EFP, sponsored by the Recreational Fishing Alliance and the Golden Gate Fishermen's Association, seeks to selectively harvest federally managed flatfish on CPFVs within and seaward of the non-trawl RCA in waters off California north of Pt. Conception. The Council stipulated in June that the EFP sponsors need to continue to work with CDFG staff to tighten up the specifications and design elements of this EFP before recommending it for next year.

Under this agenda item, the Council will review these EFP applications, consider public and advisory body comments, and consider recommending the 2009 EFP applications to the National Marine Fisheries Service (NMFS) for 2009 implementation.

Council Action:

Consider EFP applications for 2009 and provide final recommendations to NMFS.

Reference Materials:

1. Agenda Item I.6.a, Attachment 1: Application for an EFP sponsored by Steve Fosmark entitled, "Evaluation of an epibenthic trolled longline to selectively catch chilipepper rockfish (*Sebastes goodei*)."
2. Agenda Item I.6.a, Attachment 2: Application for Issuance of an EFP to Fish Trawl Permits with Longline, Trap, Pot, and Hook-and-line Gear in a Community Based Fishing Association off the Central California Coast.
3. Agenda Item I.6.a, Attachment 3: Application for an EFP sponsored by the Recreational Fishing Alliance and the Golden Gate Fishermen's Association Entitled, "Recreational Rockfish Catch Composition in the Rockfish Conservation Area Using Gear-Based Harvest Controls."
4. Agenda Item I.6.a, Attachment 4: List of Requested Changes and Application for an EFP sponsored by the Recreational Fishing Alliance Entitled, "Oregon Recreational Yellowtail Rockfish EFP."
5. Agenda Item I.6.a, Attachment 5: Application for an EFP sponsored by the Recreational Fishing Alliance and the Golden Gate Fishermen's Association Entitled, "Recreational Flatfish Catch Composition Within Defined Areas of the Rockfish Conservation Area."
6. Agenda Item I.6.a, Attachment 6: Report on RFA/GGFA Deepwater Rockfish EFP.
7. Agenda Item I.6.a, Supplemental Attachment 7: Progress Report on the 2008 Morro Bay/Port San Luis Exempted Fishing Permit.

Agenda Order:

- a. Agenda Item Overview
- b. Agency and Tribal Comments
- c. Reports and Comments of Advisory Bodies
- d. Public Comment
- e. **Council Action:** Adopt Final Recommendations for 2009 EFPs

John DeVore

PFMC

08/21/08

EXEMPTED FISHING PERMIT – CHILIPEPPER ROCKFISH

Request for an exempted fishing permit (EFP).

Project Title: Evaluation of an epibenthic trolled longline to selectively catch chilipepper rockfish (*Sebastes goodei*).

Date of Application: May 21, 2008

Applicant: Steven Fosmark
PO Box 1338
Pebble Beach, CA 93953

Scientist: Kirk Lynn
California Department of Fish and Game
4949 Viewridge Ave
San Diego, CA 92123

Phone: 831-601-4074
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Phone: 858-636-3179
Email: klynn@dfg.ca.gov

Purpose and Goals

Chilipepper rockfish stocks on the west coast are considered healthy. However, because of weak stock management, the OY for this species cannot be taken. In 2006, chilipepper landings were 39.7 mt (<http://www.psmfc.org/pacfin/data/r001.p06>) of a 2000 mt OY. Area closures to protect overfished rockfish species have effectively closed access to this resource. *Italics are suggestions.*

The long-term objective of this project is to describe and evaluate the effectiveness of a species-selective longline technique, which if proven effective, will allow commercial fishermen access to chilipepper rockfish, a relatively abundant species of rockfish. This fishery is constrained by the current rockfish area closures (Rockfish Conservation Areas, RCA), implemented to protect overfished rockfish species. Despite the depressed condition of some west coast groundfish stocks, there are other stocks that remain healthy. These healthier stocks could safely sustain increased harvest levels if they could be fished more cleanly and without bycatch of more depleted stocks. If stronger stocks could be targeted without increasing fishing mortality on depressed stocks, the California commercial fishing fleet would have alternative fishing opportunities that would provide some economic relief to the industry while providing the public with a highly desirable product.

The objective of the research for which we are requesting an EFP would be to establish the performance characteristics of the gear and to rigorously document the catch and bycatch when deployed in areas where chilipepper are abundant and bycatch species are not, under commercial fishing conditions. The objectives would be: 1) to test the trolled gear and fishing strategy with vertical lines and artificial flies, and 2) determine Groundfish Fishing Areas that are abundant with chilipepper rockfish, and that correspond to low densities of overfished species. The second objective may better help to answer the question of how EFP results can potentially be translated into future fleet-wide fishing opportunities.

The location, gear characteristics (number of hooks, length of mainline, etc.), species composition, size distribution, and sex ratio (of chilipepper) of each set of gear will be recorded by onboard observers.

The EFP that we are requesting would allow up to three (3) vessels. Each would be limited to a bimonthly landing as established for 2008 to fish inside the current RCA using otherwise legal open access fixed gear. It is suggested limitations same as for fixed gear, and for bocaccio and widow, etc. Possible bimonthly limits for other than bocaccio. Suggest chilipepper limitation same as either open access, or trawl.

This EFP for chilipeppers is a mid-water project and will use a test line with a couple of hooks; prospecting is useful to avoid bocaccio. Prior to setting the gear, a test set will be made with vertical gear in which the gear is set vertically. This will be with no hooks closer than 3 fm of the bottom, based on acoustic soundings, to ensure that the target species is present and to minimize the chance of encountering any of the overfished rockfish species. Line will be an off-the-bottom longline with corks attached close to line, consisting of drop line, main line, and wire attached to a reel (see Diagrams 1-3, pp. 4-5). The gear will consist of a maximum of 500-750 hooks per set. Gear consists of open access troll fly and vertical hook and line gear that is set and fished in a unique way such that the hooks sink to near, but not hard on bottom

Once the test set establishes the presence of chilipepper rockfish, the gear will be deployed as follows: the vessel moves slowly ahead as the gear is deployed. The gear remains attached to the vessel at all times. Artificial “flies” are used in lieu of bait. The mainline consists of 200-600 lb. test monofilament, and may be spooled on a hydraulic drum. One end, with buoy and weight attached in such a way that the gear does not touch the bottom is sent overboard as the boat moves slowly ahead, and the remaining gear is deployed. The weighted buoy line length is adjusted in such a way that does not have bottom contact to reduce the likelihood of bycatch and to prevent the hooks from hanging up on bottom. Hooks are spaced approximately 18-30” apart on 12” monofilament gangions (approximately 60 lb test). Hooks are tied with artificial flies, and no bait is used. This gear is reported by the fisherman to selectively catch chilipepper rockfish when properly deployed (Steve Fosmark, Moss Landing, CA, F/V SeeAdler, Phone: 831-373-5238; cell phones: 831-601-4074; or Boat 831-601-7934 email: FVSeeAdler@aol.com).

The research would be conducted off central California (36 to 37.50 degrees), at depths of approximately 80-120 fm (chilis tend to get smaller in size and schools are thinner in shallow depths), in areas with canyon edges and walls, smooth hard bottom, with no rocks (example: canyon south of Año Nuevo). This depth range is currently within the RCA established to protect overfished rockfish species.

To ensure that this experimental fishery has a minimal impact on overfished rockfish species, we will use GMT - determined caps on the fishery for the following: [*Suggested preliminary caps for overfished species*]

Widow rockfish: GMT *determined* [1,440 lb (*0.7 mt*) annual cap calculated as a maximum 3% by weight of expected chilipepper take]

Bocaccio: GMT *determined* [7,200 lb (*3.3 mt*) annual cap calculated as a maximum 15% by weight of expected chilipepper take]

Canary: *GMT determined [20 fish annual cap]*
Cowcod: *GMT determined annual cap [at least 3 fish]*
Yelloweye: *GMT determined annual cap [at least 3 fish]*
Darkblotched: *GMT determined [50 lb bimonthly per vessel cap, 0.4mt annual cap for all vessels]*

All species will be retained. Catch of species other than the above are expected to be uncommon although some yellowtail and perhaps other rockfish may be encountered in small numbers. The above caps would apply for each vessel during the two-month cumulative period for the entire EFP and attaining the annual caps for any one species would terminate the EFP for all vessels.

Although the caps specified above are simply recommendations, which we realize may be modified, we provide the above catch levels to illustrate the maximum potential bycatch of overfished species that could be realized under these caps with the present landing limits in place. We anticipate that fishing as described in this EFP will not be constrained by these caps.

Chilipepper rockfish caught under this EFP will be retained and sold by the permitted vessel. Although we have calculated the maximum weight of overfished rockfish that could be caught under the suggested caps, we believe this fishery will not be constrained by these caps and will have a smaller bycatch than indicated above.

The initial duration of this EFP is for one year. However, if the results of this experiment are successful, we would request that the EFP be extended.

This EFP will incorporate a standardized data collection and reporting format coordinated by the California Department of Fish and Game and the NMFS Northwest Fisheries Science Center. Under the terms of this EFP, all vessels participating in this EFP fishery each will carry an observer with the cost of observer coverage borne by the EFP participants. The observer will record all fish caught and ensure that bycatch caps are not exceeded. Vessel captains will keep records of catch by species by set for all sets under this EFP. As it is possible that the catch and bycatch will change seasonally, we expect participants to fish year round (or in each month that the fishery is permitted).

The applicant and the scientist will be responsible for data analysis. Data analysis will consist of statistical analysis of catch and bycatch of all species by set, trip, and month. Catch rates will be expressed as catch per hook, per set, per day, and per trip. Value of the catch will be recorded following sale of the catch. The final report will provide an estimate of fishing effort and total catch; absolute and relative species composition summarized by set, trip, and month; size composition of catch and bycatch; and sex ratio and stage of maturity for chilipepper.

Vessels to participate in this EFP fishery will be chosen on their ability to accommodate an observer, their willingness to maintain detailed catch data and their willingness to fish during the time when fish are available.

Areas to be selected for high-density target species will be between 37.20 degrees (Pigeon Point) and 36 degrees (Point Lopez). Other areas may be selected as needed.

Equipment needed:

Hydraulic reel, 1000 feet of conveyor belting or reel with wide runner, fly-hooks, line, wire, snaps, small buoys, one large buoy, 3 and 5 lb. weights, fish finder, fathometer, or sonar.

Description:

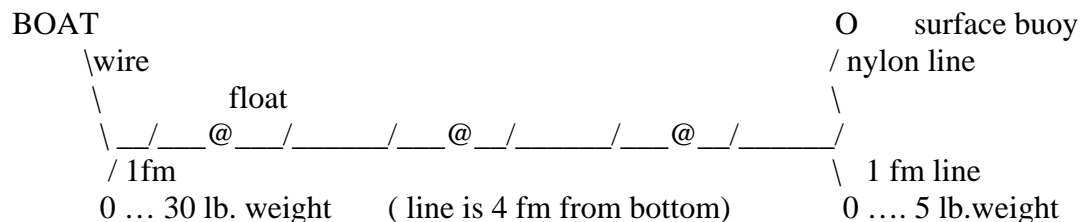
500 to 750 hooks are needed for three or four sets in the morning and afternoon; 1,000 would be the best as the sets are limited.

Design:

Determine depth: if 90 fm deep, use 85 fm of drop line, deployed first and 5 pound weight at the end with attached long line to drop line 1 fm above weight. Buoy attached to line at surface to sustain depth. If long line is 1,000 feet, 750 leaders and hooks with small floats attached to long line between leaders. Floats have short lines and are attached to the long line with short tethers.

Time to fish is short. During the day chilipepper come off the bottom and once they are mid-water one cannot catch them by this method. Therefore the morning and evening are the best times. Otherwise sonar is needed.

Diagram 1.



Line is 1,000 feet long and weight is 3 fm from bottom and 1 fm to where it attaches to provide control. The long line then is 4 fm from the bottom. When the line reacts to bites, take the boat out of gear and the line will float between floats and fish will climb the line to the floats as they do with vertical gear on up and as line is pulled, line rises to the surface. Boat must then be going ahead while pulled to keep the fish on. The tail drop line remains at 85 fathoms. As the boat moves forward the drop line moves close to the end of the boat tight and fish continue to climb the line. As the line is towed in, fish stay in area of line where school is thicker, (pull through spot of fish). As line is pulled on board it becomes vertical.

Diagram 2. Retrieved

Pulled aboard vessel the line becomes vertical. Buoy holds line and weight above floor.

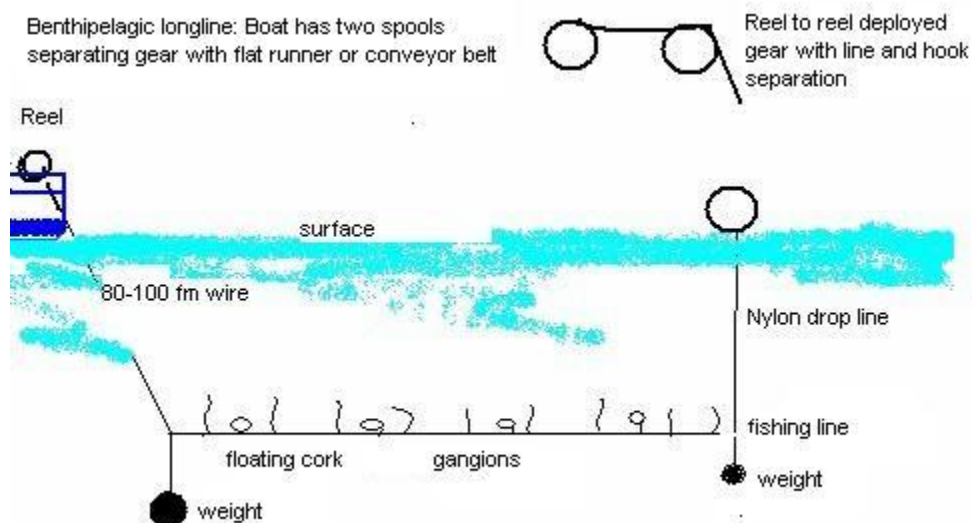
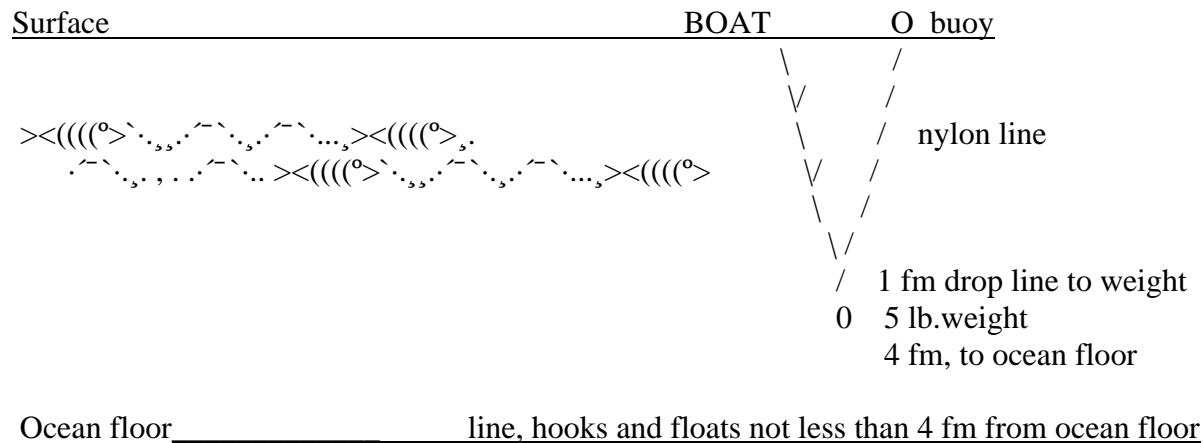


Diagram 3. Deploy: Midwater Longline Fly Fishery.

Reel to reel deployed over belt. Forward reel has coiled line gear over a conveyor belt and is deployed over stern by a powered stern reel. Conveyor belt is coiled from the forward reel over a stern reel and line spools off into water. Pull line back with powered forward reel by rolling line and conveyor belt onto forward reel. Line revolves over stern reel with belt onto forward reel, the conveyor belt is moving with it. Line is never coiled onto stern reel, only over the conveyor belt. The line always goes from water over the stern reel, and coiled back onto the forward reel. Belt acts as a protection from entanglement for gear separation. Stern reel acts as a roller to hold coiled belt.

Application for Issuance of an Exempted Fishing Permit (EFP) to Fish Trawl Permits with Longline, Trap, Pot, and Hook-and-line gear in a Community Based Fishing Association off the Central California Coast

August 20, 2008

1 Applicant contact information

California Department of Fish & Game
Contact: Marija Vojkovich and Joanna Grebel
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Fax: (805) 568-1235

City of Morro Bay
Contact: Rick Algert, Harbor Director
Harbor Department
1275 Embarcadero
Morro Bay, California 93442
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Morro Bay Commercial Fishermen's Organization, Inc.
Contact: Jeremiah O'Brien, President
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Morro Bay, California 93443
Phone: (805) 441-7468

Port San Luis Harbor District
Contact: Steve McGrath, Harbor Manager
PO Box 249
Avila Beach, CA 93424
Phone: (805) 595-5400
Fax: (805) 595-5404

Port San Luis Commercial Fisherman's Association
Contact: Bill Ward, President
Post Office Box 513
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Phone: (805) 441-1374

The Nature Conservancy
Contacts: Michael Bell and Erika Feller
75 Higuera Street, Suite 200
San Luis Obispo, CA 93401
Phone: (805) 594-1658
Cell: (805) 441-1460
Fax: (805) 544-2209

Environmental Defense Fund
Contact: Rod Fujita
California Regional Office
123 Mission Street, 28th Floor
San Francisco, California 94105
Phone: (415) 293-6050

2 Statement of purpose and goals of the experiment for which an EFP is needed, including a general description of the arrangements for the disposition of all species harvested under the EFP.

This proposal requests an EFP for 2009 to allow this partnership to continue a demonstration project in Morro Bay and Port San Luis, California begun under an EFP in 2008. The partnership will provide reports to the PFMC regarding performance of the community based fishing association this year. These reports will be heavily focused on lessons learned in organizing this fishing enterprise and the first year of performance. This project builds on the foundation laid with the 2008 EFP. Extending the project to a second year of operation under an EFP in 2009 will capitalize on the decision made by PFMC in the approval of the

2008 EFP, maximize the benefits of the lessons learned, further cement relationships between environmental groups and the commercial fishing industry and will provide insight into how the fishing association will continue to operate long into the future. In addition, extension to a second year will allow us to test the ability of the community-based fishing association to adapt to changes in fishing caps resulting from changes in stock abundance and regulations. Finally, the extension would provide sufficient data and experience for the CBFA partners to decide if and how to formalize the CBFA and cooperative fishing in this area into a permanent fishing enterprise that could hold fishing privileges and oversee cooperative conservation and management activities.

While Council approval was given in November 2007, NMFS issued the final EFP in July 2008, and fishing began in August 2008. We have identified eligible and willing participants, hired NOAA-trained observers, made progress on developing the guidelines and harvest plan that will guide implementation, and other key milestones. In addition, TNC is partnering with the WCGOP (West Coast Groundfish Observer Program) to use the EFP as a platform to test the feasibility of using electronic monitoring as a component of meeting full accountability requirements. This proposal requests an EFP for 2009 to allow this 2008 EFP partnership demonstration project in Morro Bay and Port San Luis, California to continue into 2009.

2.1 Purpose and Goals

We request approval by the Pacific Fisheries Management Council (PFMC) for an EFP to allow The Nature Conservancy to continue work began under an EFP approved by the Council in November 2007 and issued by NMFS in July 2008, to employ six Limited Entry Trawl "A" permits using longline, trap, pot, and hook-and-line gear by leasing those permits to not more than six fishermen. Further, as we did last year, we request permission to use these permits under shared hard caps for target and bycatch species, not subject to existing trawl trip limits, but subject to a harvest plan that will include measures to manage the pace of the EFP fishery. These exemptions to the rules governing Limited Entry Trawl permits are necessary to conduct the EFP experiment. We are not proposing any changes in the EFP experiment, but for ease of reference, we have incorporated the same description of the experiments from the 2008 application.

This second year of the Exempted Fishing Permit (EFP) will allow us to continue test the proposition that establishing a cooperatively managed, community based fishing association that employs trawl licenses to use longline, trap, pot, and hook-and-line gear off the Central California coast, under shared hard caps for target and bycatch species, can provide several important benefits. Under the EFP, the applicants will test whether granting the option of switching from trawl gear to fixed gear types can be manageable and, perhaps, desirable within the larger groundfish fishery management structure. The EFP will also test whether forming relationships among fishermen under a cooperative structure with shared catch limits and several unique elements would mitigate the impact of trawl effort reduction or removal on associated communities and fishermen in these areas.

The applicants' hypothesis is that reduced bycatch of overfished species and higher value of target species caught by converting some trawl effort to longline, trap, pot, and hook-and-line gear will improve both the environmental and economic performance of the local

groundfish fishery. Because the six trawl permits based in Morro Bay were purchased by The Nature Conservancy (TNC), and trawling effort has not been replaced in the area, the permits could be re-deployed without severe impacts on other fishermen. In addition, the EFP offers the opportunity to compare the economic performance of a fixed gear groundfish fishery under the EFP to baseline conditions during a trawl fishery operating recently in the same area.

Cooperative-based management has been identified as a tool for enhancing management and economic benefits in fisheries. The trawl fishery of the Central Coast of California provides a unique opportunity to test this idea in a real-world situation with features not found in current cooperatively-managed fisheries. These features include:

1. Multi-species fishery with several severely depressed stocks and constraining catch limits;
2. Single owner of multiple permits who can facilitate formation of a cooperative fishing arrangement;
3. Approved, economically viable, more selective alternative gear technologies available; and,
4. Possible future rationalization that could include gear switching opportunities and may include other provisions that would affect communities' ability to establish this type of fishing enterprise.

To conduct this test, TNC will be leasing up to six of its Limited Entry Trawl "A" permits, under the exemptions and requirements described in this proposal, to no more than six fishermen to fish using longline, trap, pot, and hook-and-line gear under shared hard caps for target species and bycatch. TNC will be the entity responsible for developing the license agreement arrangements under which fishermen will participate in this EFP and for enforcing the terms of their use, and for ensuring that implementation of this EFP is accountable to state and federal regulatory and reporting requirements.

Further, TNC is working with fishermen participating in the EFP and the Morro Bay Commercial Fishermen's Organization, the Port San Luis Commercial Fishermen's Association, the City of Morro Bay, the Port San Luis Harbor District, the Department of Fish and Game, and Environmental Defense Fund to develop the terms of the arrangement under which these fishermen will operate on a cooperative basis pursuant to the terms of the EFP. This arrangement will be referred to throughout this proposal as a "community based fishing association." As in 2008, the conditions for the arrangement described in this proposal will be established in the terms and conditions of the license agreements and reinforced by the terms and conditions of the EFP.

2.2 Disposition of species to be harvested under the EFP

Species caught within the limits authorized for the EFP may be retained and sold by the vessel. Prohibited species may not be sold.

3 Justification for Issuance of the EFP, including potential impacts of issuing the EFP.

There are three main points that justify the issuance of this EFP through 2009:

1. It will further the goals and objectives of the Pacific Coast Groundfish Fishery Management Plan.
2. It will provide information regarding the mechanics of trawl IFQ process by providing experience with gear switching, RFA-based management, and improving monitoring efforts – all of which are or could be important elements of the trawl IFQ program.
3. It will test ways to reduce impacts on small fishing communities – and find ways for those communities to more effectively deal with the trawl IFQ program.

Furthering the Goals of the Pacific Coast Groundfish Fishery Management Plan: This EFP is designed to test the ability of a community based fishing association that uses gear-switching and shared hard caps to better achieve Pacific Coast Groundfish Fishery Management Plan (PCGFMP) goals and objectives. The goals of the PCGFMP are to prevent overfishing and rebuild overfished stocks, prevent habitat loss, maximize the value of the groundfish resource, and to provide opportunities to utilize abundant stocks to the extent possible within the constraints of overfished species rebuilding requirements. However, the current management system provides few positive incentives or opportunities for fishermen to change the way they do business to meet the PCGFMP rebuilding or habitat protection objectives. In addition, regulatory obstructions exist to fishermen being allowed the flexibility to manage their fishing operations in a way that would enhance the value of their catch while reducing their costs. By permitting the use of trawl permits with fixed gear (which will likely offer some improvements in habitat impacts and selectivity), with shared hard caps, under collective decision-making on pooled access to the resource, this EFP will test the efficacy of a community based fishing association and gear switching as mechanisms for better aligning management and fishing incentives.

Informing Trawl Rationalization: This EFP will approximate some of the conditions that could follow implementation of IFQs for the West Coast trawl fishery. Fishermen will likely be confronted with highly constrained limits on target species and bycatch of overfished species, as well as additional regulatory costs (i.e. monitoring). Fishermen may choose a number of strategies to maximize the value of their catch while staying within constraints, including switching gears (currently an option in the proposed alternatives) and pooling effort through a Regional Fishing Association (RFA, an option under the MSFCMA). An RFA could be charged with making decisions regarding deployment of fishing effort within constraints established by the Council, for determining distribution of limited human observer coverage across this fishery, and for developing strategies and incentives to achieve harvest targets while remaining below hard caps for overfished species. Managing quota under an IFQ program collectively may provide additional conservation and economic benefits, but it will be important that provisions in the IFQ regulations permit this sort of consolidation for coordinated management purposes or that regulations guiding the development of RFAs are promulgated so that communities like these can retain their traditional access and their groundfish industries.

The trawl IFQ options currently under review call for 100% observer coverage. This EFP will similarly utilize 100% human observer coverage and will provide practical and valuable information on how a community would employ and manage observers. By acting in a coordinated manner, fishermen may be able to reduce costs while still providing required

information to managers. The EFP will also provide an opportunity to test the use of electronic monitoring in ensuring full catch accounting for the fishery. Furthermore, the EFP will illuminate the challenges of monitoring and managing a community based fishing association in the context of the larger west coast groundfish fishery. The EFP will also provide information on costs of management under a rationalized fishery.

In addition, the EFP will provide practical experience in developing a working relationship between a community based fishing association, the PFMC, and NOAA Fisheries. Through license agreements, The Nature Conservancy – acting for and in collaboration with the community based fishing association - will hold participants to constraints specified in the EFP, and ensure compliance with the regulatory and reporting requirements established by the PFMC the regulatory and reporting processes established by the PFMC, the State of California, and NOAA Fisheries. This will provide insights as to how community based organizations in the future might be used to assist managers in getting timely information about the fishery including members' compliance with regulatory requirements.

Addressing Impacts on Fishing Communities: Evidence suggests that cooperative, community based fishing associations offer an opportunity to strengthen fisheries on the West Coast. Regulations to rebuild stocks and protect habitat promote fisheries sustainability and address the consequences of overcapacity, but at a very high economic and social price to fishing communities. Public perceptions about trawl fishing practices, market dislocations, increasing costs and diminishing harvest opportunities, as well as buyouts to reduce capacity have taken their toll on communities that rely on the groundfish trawl fleet. On a large scale, rationalization of the trawl fleet is likely a net benefit, but its effects on a community scale are less clear. Regionally based fishing associations could provide an opportunity for fishermen to coordinate their efforts, pool resources, and make collective investments in fishery infrastructure, in order to optimize the value of the resource, meet rebuilding and habitat conservation requirements, and preserve fishing heritage. This part of the experiment is consistent with PCGFMP objectives to provide for the sustained participation of fishing communities, and minimize adverse economic impacts.

The use of shared hard caps for target species and bycatch proposed by this EFP will allow the community based fishing association to take steps that are likely to improve the opportunity offered to fishermen and the community, including through the following means:

1. Enhancing harvest efficiency– by coordinating on harvest, members can reduce costs of harvest by sharing information, eliminating redundant effort, and reducing the incentive to stuff capital.
2. Commanding increased price – switching to longline, trap, pot, or hook-and-line gear is likely to deliver a higher quality or preferred product that may command a higher price.
3. Pooling risk – by sharing a hard cap for bycatch, the group is able to spread compliance risk across members and minimize effort associated with individual fishing operations, including the race to fish. This could enable more targeted harvesting, and has the potential to raise revenues and reduce costs.

While community based fishing associations that operate under shared caps and facilitate gear switching will likely prove to be a valuable approach in many places around the country,

practical experience is extremely limited. Morro Bay and Port San Luis have many attributes that lend themselves to testing this approach:

- Extensive outreach to area fishermen has already occurred, including a survey to establish interest in leasing TNC trawl permits in order to fish them with fixed gear, and several fishermen have already requested to participate in this EFP.
- The City of Morro Bay and the Port San Luis Harbor District are sponsors of this EFP along with the Morro Bay Commercial Fishermen's Organization and the Port San Luis Commercial Fisherman's Association. Strong local support is essential to running a successful experiment.
- One of the project partners, The Nature Conservancy, purchased six limited entry trawl permits from Morro Bay fishermen, removing trawl capacity that has not been replaced by trawl fishermen from other places. This presents an opportunity to target some species without substantial negative consequences for other communities relying on the same resource.

4 Statement of whether the proposed EFP has broader significance than the applicant's individual goals.

While cooperative management has been used successfully in fisheries throughout the world, there is less knowledge about how such an approach could work on the West Coast, in a constrained multispecies fishery, within the management options created by new provisions of the MSFCMA which allow the establishment of RFAs as part of Limited Access Privilege Programs, such as IFQ programs. This EFP will provide managers with insights into how a fishing association could work to achieve PFMF/NOAA Fisheries' strategic goals for groundfish and FMP objectives; information that will be useful in development of regulations or guidelines governing establishment of RFAs pursuant to language in the Magnuson-Stevens Fishery Conservation and Management Act (Sec. 303A(c)(4)).

This project continues work that began under an EFP in 2008. While the partnership will provide reports to the PFMF regarding performance of the community based fishing association this year, those reports will be more heavily focused on lessons learned from trying to organize this fishing enterprise and lessons learned in the first year of activity. Extending the project to a second year of operation under an EFP in 2009 will provide greater insight into how the fishing association will operate after many startup challenges have been resolved.

Management measures related to rationalization, such as the trawl IFQ program, will require enhanced monitoring, because such programs emphasize individual accountability to catch limits. This EFP will explore how to structure a more cost-effective monitoring system - from the perspective of both fishermen and fishery managers.

5 Expected total duration of the EFP

This EFP will be valid for one year, and will allow the continuation of a demonstration project initiated under an EFP in 2008. This demonstration project is intended to lay the groundwork for a permanent fishing enterprise that could hold fishing privileges and oversee cooperative conservation and management activities.

6 Number of vessels covered under the EFP

This EFP will use six Limited Entry Trawl “A” permits held by The Nature Conservancy and will include no more than six fishery participants and will employ no more than six vessels.

7 A description of the species (target and incidental) to be harvested under the EFP and the amount(s) of such harvest necessary to conduct the experiment; this description should include harvest estimates of overfished species

This proposal requests an Exempted Fishing Permit be issued to The Nature Conservancy to grant permission to license up to six Limited Entry Trawl “A” permits to fishermen for use with longline, trap, pot, and hook-and-line gear. Further, we request permission to use these permits under a shared hard cap and, rather than be subject to existing trawl trip limits, be subject to measures established by the fishing association to pace fishing effort throughout the year. (see section 12)

Under this EFP, TNC will license up to six permits to a specified set of participants in the fishing association who will have the opportunity to fish up to specified hard caps of target species and bycatch species. If the fishing association is on track to exceed its bycatch cap prior to reaching its target species cap, then fishing under the EFP will end (prior to its reaching the target species hard caps).

7.1 Target species caps

For the 2008 EFP, the following species were identified, through an examination of catch histories of the six permits that are the subject of this proposal, Morro Bay ex-vessel revenue data, and interviews with Central Coast fishermen, to have been historically harvested under the six trawl permits used for this experiment and to be accessible in commercially viable amounts using gear specified in this proposal. There is one exception to this last statement – flatfish are included here in greatly reduced amounts compared to trawl landings and it is unlikely that these caps will be reached during the course of this EFP.

For the requested 2009 EFP, we propose that the list of species for which hard caps are requested remain the same as was approved by the PFMC in 2008. With regard to the hardcap numbers proposed for each species, we would develop proposed amounts for 2009 following a similar rationale to that used for establishing the 2008 levels.

Species:	Hard cap approved for EFP in 2008:	Hard cap requested for EFP in 2009:
Sablefish	50 mt	330 mt
Southern Slope Rockfish	50 mt	50 mt
Blackgill Rockfish	20 mt	20 mt
Longspine thornyhead	60 mt	60 mt
Shortspine thornyhead	60 mt	60 mt
Lingcod	15 mt	15 mt
<i>Other:</i>		
Chilipepper rockfish	20 mt	20 mt
Splitnose Rockfish	1000 lbs	1000 lbs
Flatfish:		
Dover sole	10 mt	10 mt
Petrable sole	10 mt	10 mt

Other flatfish	10 mt	10 mt
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The hard cap requested for sablefish was based on the catch history of the six permits purchased by The Nature Conservancy in 2006, which provides a good starting point because this trawl capacity was removed very recently from the Conception Area and has not been replaced. From 1994 to 2004, Morro Bay trawl landings represented on average 46% of Conception Area landings of sablefish. Together, when the TNC permits were active, they accounted for approximately 30% of Conception Area landings for sablefish. Average total Conception Area landings of sablefish between 1998 and 2006 were 168 metric tons. The proposed hard cap for 2008 was derived by taking 30% of the average Conception Area landings or 50 metric tons.

In 2009, harvest specifications for sablefish adopted by the PPMC and NMFS in the Conception Area are significantly different than in years past. The proposed hard cap for sablefish above is based on the proportion of landings represented by the six permits that are the subject of this proposal – reflecting the project sponsors’ desire to test alternative ways to target a diverse mix of species historically harvested with trawl gear under these permits. In 2008, the 50 metric ton hard cap approved for this project was 30% of average 1998-2006 landings and was 24% of Conception Area OY in 2008 (an OY that was comparable to that in the 1998-2006 period). The proposed Conception OY for sablefish in 2009 is 1,371 metric tons. Therefore, we propose a hard cap for this project that is 330 metric tons or 24% of OY.

Hardcaps for species other than sablefish are the same as was approved in the 2008 Exempted Fishing Permit. These hard cap proposals are based on the catch history of the six trawl permits that are the subject of this proposal and, as the 2009 harvest specifications approved by the PPMC are comparable to 2008, the hard cap levels are also unchanged.

7.2 Bycatch caps

In 2008, bycatch hard caps were recommended by the California Department of Fish and Game and further refined by the PPMC based on the overfished species scorecard. The sponsors of this proposal request that the PPMC approve the same hard caps for depleted species in 2009 as necessary to carry out this project.

Species:	Hard cap approved for EFP in 2008:	Hard cap requested for EFP in 2009:
Canary Rockfish	50 lbs	50 lbs
Yelloweye Rockfish	150 lbs	150 lbs
Widow Rockfish	2 mt	2 mt
Darkblotched Rockfish	1000 lbs	1000 lbs
Pacific Ocean Perch	300 lbs	300 lbs
Cowcod	300 lbs	300 lbs
Bocaccio	5 mt	5 mt

All caps will be apportioned to individual vessels within the fishing association to achieve the goals of the EFP.

8 **Infrastructure to monitor, process data, and administer the EFP.**

The Nature Conservancy will be the entity to which the EFP, if approved, is issued and the entity principally responsible for managing implementation of this EFP.

- 8.1 The Nature Conservancy will manage all fishing license agreements and will be responsible for enforcing the terms that govern their use. This will include working with fishermen to establish license agreement terms that reflect the purposes and goals of this EFP. TNC will be responsible for ensuring accountability to relevant State and Federal regulatory and legal requirements.
- 8.2 Data collection, analysis, and reporting will be managed by a dedicated project manager under contract to The Nature Conservancy and who works closely with a local community based fishery association committee (“the Committee”) that is comprised of representatives of the sponsors of this proposal and the participants in this EFP.
- 8.3 The project manager’s responsibilities include but are not limited to the following tasks:
 - Facilitating communication among EFP participants;
 - Ensuring that no vessel fishes without an observer and that observer work guidelines are complied with;
 - Monitoring and enforcing compliance of vessels with rules under the EFP;
 - Collecting and compiling socioeconomic and other fishery data; and,
 - Preparing, in cooperation with the Committee and others, as appropriate, reports to the PFMC on progress under this EFP.
- 8.4 At-sea monitoring will be done by NOAA-trained observers under contract between TNC and the West Coast Groundfish Observer Program with costs covered jointly by project sponsors.
- 8.5 Data collection and processing for the research questions presented in the proposal will be managed as follows:
 - Information regarding the operation of the community based fishing association will be compiled by the project manager working in close coordination with the participants and the Committee.
 - Economic data will be collected by the project manager and analyzed by an economist under contract to The Nature Conservancy for this purpose.
- 8.6 A Committee has been formed that will serve as the board of the proposed community based fishing association. This Committee includes representatives from the Morro Bay Commercial Fishermen’s Organization, the Port San Luis Commercial Fisherman’s Association, the City of Morro Bay, the Port San Luis Harbor District, The Nature Conservancy, and Environmental Defense Fund. The Committee’s responsibilities include:
 - Implementing a process to choose participants including, developing the application, distributing to likely participants, screening for eligibility, and – in the event more than six eligible fishermen indicate interest – the Committee will convene an impartial selection panel to make the final determination regarding selection;
 - Overseeing development of the fishing plan with participating fishermen;

- Overseeing the budget;
- Overseeing the project manager; and,
- Ensuring compliance with all EFP reporting requirements.

9 Mechanism to ensure that the harvest limits for targeted and incidental species are not exceeded and are accurately accounted

All participating vessels will be required to land fish in Morro Bay or Port San Luis. Harvest limits for each vessel will be established by the fishing association. Catch information will be monitored using observer data collected at-sea, as observers will be present on every fishing trip. All participants will enter into data sharing agreements as a condition of the license agreement to facilitate access to fishery information and will be required to submit copies of catch information to the project manager within 48 hours after each fishing trip taken under this EFP.

Total landings and discard of all species will be accounted for by the project manager who will provide regular reports. For in-season monitoring relative to catch limits, data on catches will be collected on a by-permit basis and cumulatively for the EFP from observer data and tracked relative to hard caps, and reported every two weeks to NOAA Fisheries. The project manager will move to more frequent tracking as the EFP approaches its catch limits. All fishing will cease prior to attaining the caps associated with this EFP. Any unintentional overages will be reported to the Council as soon as possible.

Although this proposal requests an exemption from trip limits, the purposes for establishing trip limits including pacing and maintaining the fishery throughout the year, reducing discards, and protecting overfished species, are extremely important. Before fishing may commence, the fishing association will develop specific guidelines in a harvest plan that describes how fishing under the EFP will achieve these purposes.

10 Description of the proposed data collection and analysis methodology

10.1 In what ways can a community-based fishing association help to meet management objectives while simultaneously improving the economics of the fishery and the fishing community?

The Central Coast represents a unique set of circumstances for developing a cooperative fishing association, referred to in this project as a CBFA focused on both economic optimization and improved management performance. Historically, the majority of Morro Bay and Port San Luis fisheries' access to the groundfish resource has been through their trawl fleet. While other forms of fishing activity take place in these communities, trawlers from these areas have been responsible, for example, for up to a quarter of the sablefish harvest in the Conception Area.

Changing economics, increasing costs of doing business, and regulations have driven many fishermen who trawled to seek other options – many of them choosing to sell their permits and find other ways to earn their livings. These individual decisions have taken their toll on these communities as well. Within the prospect of rationalization of the trawl sector and individual quotas, looms the possibility that remaining access will soon move permanently to the north and access for central coast communities to the resource off their shores will be lost.

Provisions in the reauthorization of the MSFCMA provide for the creation of RFAs as a way for fishing communities to cooperate and maintain access to the resource under a quota share program. This project provides a practical opportunity to develop a fishing association that can improve the conservation performance of the fishery (particularly with regard to bycatch of depleted species), provide economic opportunity for fishermen, improve accountability to managers, and enhance community stability and other benefits from the fishery.

Following the 2008 EFP, the process of establishing a CBFA, selecting members, developing performance benchmarks and harvest plans, and its operation during the fishing year will be documented in the form of a case study. For the 2009 EFP, we will document the second year of operation of the community based fishing association, focusing on refinements in governance, harvest planning, and organization that will emerge from this experience.

10.2 How does the economic performance of the fishery change under gear switching and cooperative local management?

Fishing under the 2009 EFP will produce more economic information and will be able to provide additional information on the contributions of the community based fishing association to the well-being of the community and the viability of the enterprise. A second year of information is critical to understanding whether we are able to meet our community goals as we will have worked through many of the inevitable challenges associated with starting an enterprise like this, as artifacts introduced by start-up challenges will be less of a confounding variable in the interpretation of performance data.

A specific focus of the 2008 project is to study the socioeconomic consequences of gear switching and of a cooperative community based fishing association using shared hard caps. This evaluation will use data collected from members (costs, revenues, effort, behavior, beliefs, etc.) as well information on non-members (both historical data from fishermen in the area and available contemporary data).

Through this project, we will provide information on changes in fishing behavior, revenue, marketing opportunities, distribution channels, product value, and costs of monitoring. Our baselines will include past fishing activity in MB/PSL as well as data drawn from fishing done concurrently with the EFP in order to control for temporal effects. In addition, we will gather information and report on the socioeconomic consequences at the community level and other relevant information.

11 Description of how vessels will be chosen to participate in the EFP

TNC will be responsible for developing the license agreements under which the six Limited Entry Trawl "A" Permits that are the subject of this EFP will be fished and will be responsible for enforcing the terms of their use, including, but not limited to, monitoring and observer requirements, data collection and information sharing, participation in the fishing association and compliance with association guidelines regarding implementation of the fishery, distribution of target and bycatch species, and mechanisms to pace the fishery throughout the year. Failure to comply with license agreement conditions and agreed upon association guidelines will result in revocation of permission to fish under the EFP.

The selection process will be run by the Committee described in section 8.5. Eligible applicants are those that meet the following criteria, developed jointly by the applicants:

- Meets PFMC eligibility requirements for participating in an EFP fishery as described in Council Operating Procedure No. 19.
- Experience using specified gear, with preference given to those with experience fishing in the geographic area of study.
- Willingness and ability to land in Morro Bay or Port San Luis.
- Access to a suitable vessel that meets Coast Guard safety requirements and can carry an observer.

In 2008, interested fishermen in the Central Coast area were given the opportunity to complete an application to aid in determining their eligibility. A final participant selection process to narrow down participants was facilitated by an impartial selection committee convened and overseen by the Committee. Because fishing under the 2008 EFP has not yet commenced it remains to be determined whether continuing with the same group of fishermen is of interest to either the fishermen or the members of this partnership. If not, a new selection process will be run in 2009.

12 For each vessel, the approximate time and places fishing will take place, and the type, size and amount of gear to be used

Under this EFP, no more than six vessels will use longline, trap, pot, and hook-and-line gear and will have the opportunity to fish between the date the 2009 EFP is issued and December 2009. Fishing will be constrained to the area between 36° North latitude (Point Lopez) and 34°27' North latitude (Point Conception) and in waters outside of the seaward boundary of the rockfish conservation area (deeper than 150 fathoms).

All fishing by EFP vessels will be done in compliance with state and federal regulations, with the exception of the exemptions granted by this EFP.

Vessels will be required to land fish in Morro Bay or Port San Luis.

Participants in the fishing association and the Committee will work cooperatively to develop a harvest plan for the fishing association that describes how fishing under the EFP will proceed. This plan will describe the requirements for participation in the EFP and the penalties for failure to comply. In addition to specifically describing the structure of the association, the specific goals and purposes – as described in this EFP, and the group's decision-making process, roles and responsibilities and communication requirements.

13 Signature of applicant (on behalf of all applicants)

A handwritten signature in black ink, appearing to read "Margaret Spring". The signature is fluid and cursive, written on a white background.

**Margaret Spring, Director
California Coastal and Marine Program
The Nature Conservancy**

Recreational Chilipepper EFP Renewal Request (2009)

To:

Bob Lohn
Regional Administrator
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115-0070
(206) 526-6150
bob.lohn@noaa.gov

cc: Frank Lockhart
frank.lockhart@noaa.gov

cc: Gretchen Arentzen
gretchen.arentzen@noaa.gov
(206) 526-6147

Subject: RFA/GGFA Exempted Fishery Permit Proposal for 2009

Title: Recreational Rockfish Catch Composition in the Rockfish Conservation Area
Using Gear-Based Harvest Controls

Date: August 20th, 2008

Applicants:



Recreational Fishing Alliance

*Contact: Jim Martin, West Coast Regional Director
P.O. Box 2420, Fort Bragg, CA 95437
(707) 357-3422*



Golden Gate Fishermen's Association

*Contact: Roger Thomas, President
P.O. Box 40
Sausalito CA 94966
(415) 760-9362*

Recreational Chilipepper EFP Renewal Request (2009)

Justification: Since the implementation of the Rockfish Conservation Area as a bycatch reduction measure to protect overfished species such as canary rockfish, over 90% of the EEZ has been closed to recreational rockfishing. This proposal would exempt a specific number of CPFV vessels in north-central California to fish in and seaward of the RCA for underutilized species such as chilipepper. (Note: this is a request for renewal of the EFP the Council approved for 2008. NMFS delivered the finalized permits for 2008 on August 15th, 2008. We have yet to conduct any trips under the 2008 permits, but expect to begin during the month of September this year. Therefore we have no report for the Council on the progress of the current year's EFP.)

Potential impacts: There is some historical data for recreational catches of rockfish on the slope, but no recent data is available. Impacts on canary rockfish and cowcod should be very low.

Purpose and goal of the experiment: To use selective recreational fishing gear, hook and line, to access underutilized species of chilipepper rockfish. While this study will test different hook and line gear to discover ways to avoid overfished species, this experiment is primarily an area-based study. The data provided from this series of trips on CPFV vessels would provide management guidance to open a new market for fishing trips on the charter fleet in northern and central California (from Point Conception to the 40-10 line). Experimenting with different types of terminal tackle results in a more selective fishery. Anglers will retain all legal fish. This EFP would be limited to the CPFV fleet to control effort, and to provide observer coverage, but the data gathered could result in a new fishery for the entire recreational fishing fleet.

Broader Significance: the data collected should prove that a recreational fishery can be conducted for abundant and underutilized species such as chilipepper rockfish without impacts to overfished species. If successful, management can shift some of the recreational effort away from inshore species and areas where interaction with canary rockfish are common.

Duration of the EFP: One year (2009). This is a extension of our previous request for the recreational EFP the Council approved in 2007.

Number of vessels: Approximately 15 Charter Passenger Fishing Vessels (CPFVs).

Participants in the EFP:

Capt. Randy Thornton, *Telstar*, Noyo Harbor, Fort Bragg (707) 964-8770

Capt. Bob Ingles, *Queen of Hearts*, Half Moon Bay (650) 728-3377

Capt. Alan Chin, *Tigerfish*, Half Moon Bay (650) 726-7133

Capt. Dennis Baxter, *New Captain Pete*, Half Moon Bay (650) 726-6224

Capt. Steve Moore, *Pacific Horizon* Morro Bay

Capt. Tom Mattusch, *Hulicat*, Half Moon Bay (650) 726-2926

Capt. Jay Yokomizo, *Huck Finn*, Emeryville (510) 527-3768

Capt. Robert Gallia, *Eldorado*, Berkeley (415) 298-3948

Capt. Bill Parducci, *Profish'nt*, Bodega Bay (707) 463-3618

Recreational Chilipepper EFP Renewal Request (2009)

Funding: This EFP will be self-funding with individual anglers paying for an offshore rockfish trip. Grant funding is available for data analysis and observer coverage. The RFA's 501c3 account, the Fisheries Conservation Trust, received a grant for \$5,000 for the data analysis for this project, and additional funds are available if needed.

Description of Target species: Chilipepper rockfish. This species can be targeted in midwater and is vastly underutilized (1000+ mt under OY).

Harvest Control: Under current regulations, anglers are limited to two hooks per line, with a bag limit of ten rockfish. We are requesting to use up to five hooks. For a load of 15 anglers, a vessel would retain a maximum of 150 fish per trip, with full observer coverage at-sea. CPFV logbooks will record species landed. While recent catch data is unavailable for the recreational fishery in deep water, a review of mortality impacts from the commercial sablefish fishery indicate zero bycatch of cowcod, zero bycatch of widow rockfish, and a total projected bycatch of canary rockfish for 2007 in the combined fixed gear (sablefish and non-sablefish) of 1.1 metric tons. In November 2007, the Pacific Fishery Management Council approved the following bycatch caps for this EFP:

<u>Bocaccio</u>	<u>Canary</u>	<u>Cowcod</u>	<u>Darkblotched</u>	<u>Widow</u>	<u>Yelloweye</u>
2.7 mt	50 lbs	50 lbs	0.1 mt (150 lbs)	0.7 mt	50 lbs

The Council did not take up the issue of Pacific Ocean Perch (POP). While POP are not normally caught in hook-and-line fisheries, we propose a bycatch cap 300 pounds for this overfished species. This would be less than .001 percent of the 2007 OY for POP.

Enforcement: The Council discussed a number of issues related to enforcement of the EFP. Under the full retention provisions of this EFP, questions arose about the disposition of prohibited species and whether they would count against an angler's bag limit. At this depth it makes a live release of rockfish highly unlikely. We discussed this issue with CDFG enforcement staff, and they did not want to be required to pick up fish. We propose to retain all fish as part of each angler's bag limit of ten fish. The EFP's bycatch caps provide harvest controls for the entire EFP. The participants in this EFP would be exempt from sub-bag limits (on bocaccio, for example). They would retain canary and yelloweye under the overall bycatch cap of 50 pounds total. Each angler would be provided a letter reflecting the date of the trip, the vessel participating, and the anglers name, reflecting their participation under the terms of the EFP. If questioned by a warden in the parking lot the angler can show this document to the warden indicating his or her participation in the EFP. A sample draft letter is attached.

Proposed Data Collection and Analysis Methodology: Data collection will be consistent with the existing CRFS data collection and analysis system. Expansion of the data modeling can provide an estimate of potential catches for both private boaters and the CPFV fleet, should the Council decide at a future time it would consider providing more fishing opportunity to the entire recreational sector. Onboard observers will count

Recreational Chilipepper EFP Renewal Request (2009)

and identify the fish, with 100% retention to guarantee accurate identification and age class data. Type of terminal tackle (weights, lures, hook sizes) would be recorded for comparison purposes and bycatch reduction data. Vessels will record other information such as location, depth and water temperatures. By fishing different depth strata throughout an entire year, variations by depth and month can be identified. The goal of the data collection format and data analysis will be to gather enough information to project the outcomes for an expansion of the fishery throughout the recreational sector.

Participation: Commercial Passenger Fishing Vessels with a clean logbook reporting record will be chosen from various ports such as Bodega Bay, Half Moon Bay, San Francisco Bay Area and Fort Bragg where the slope is reachable on a day trip.

Time, Place and Amount of Gear Used: This EFP would be conducted during fair weather days during the entire year of 2009, with anglers limited to one rod apiece, two hooks per line, with a 10 pound weight limit. All fishing would occur seaward of the non-trawl Rockfish Conservation Area between Pt. Conception and the Oregon border.

Science Advisor:

Doyle Hanan, PhD
Hanan & Associates
POB 8914
Rancho Santa Fe CA 92067
(858) 832-1159

Data Collection and Review: Data will be collected by on-board observers, hired through the Pacific States Marine Fisheries Commission (PSMFC), and submitted to the data analyst for quality checks following each observed trip. Data quality checks will include checking all forms for completeness, appropriate species composition (observers will be expected to document each new species encountered to confirm species identification; documentation will be consistent with NMFS observer programs' protocols for species identification form submission), proper ordering of observed sets and anglers, proper data coding, and other logical checks that may be made by the analyst. All attempts will be made to overcome shortcomings in data collection through consultation with the observer. Feedback will be given after every submission to ensure complete and accurate data collection on subsequent trips. Catch of any overfished species for which the Council has recommended bycatch caps will initiate immediate notification of NMFS of that event.

Data Entry: Original hardcopies will be retained by the data analyst with copies sent to Connie Ryan of the California Department of Fish & Game for departmental records, and to PSMFC for data entry. PSMFC will conduct subsequent data quality checks required for entry of data and other checks built into their entry system. Their computer will check species ranges, reasonable lengths/weights and various cross checks on the forms for totals, anglers, limits etc. Entry will be complete no later than six business days following receipt of forms by PSMFC. Files will then be sent to the data analyst with

each individual caught (including all data elements linked to that individual) as well as separate files of catch data aggregated by set.

Data Analysis and Reporting: On a monthly basis, the data analyst will stratify and report catch for the overall fishery and for each management region included in the EFP (Northern, North Central, Monterey South-Central and Morro Bay South-Central). Monthly reports will be compiled and submitted to NMFS within two weeks following the end of each calendar month and will include catch statistics for the most recent month and year to date totals. Catch will additionally be separated for analysis by disposition (retained vs. individuals that would normally be discarded) with separate CPUE (CPAD and/or CPAH) calculations made for each species of each disposition. Catch will be further stratified by terminal tackle, depth, specific lat/long locations and any other variables determined to provide significant differences through Ward's multivariate cluster analysis of catch rates for individual species. Species encountered will also be plotted against number of trips to produce a simple discovery curve for the EFP.

Expansion estimates will be reported twice for the EFP, once with data collected prior to traditional rockfish season openings and again following conclusion of the EFP period (year end or caps met) in the final report evaluating the EFP. Initial expansion estimates will consider only the effects of opening the fishery during winter months in which anticipated effort will not offset effort from the traditional fishery. Estimates of participation will be calculated using surveys of EFP trip participants and of anglers in the study area intercepted by the samplers. To supplement these tools, upon the openings of rockfish seasons, detailed survey forms will be distributed to recreational anglers found to be targeting rockfish during angler intercept surveys. These surveys will provide detailed information on the current understanding of the fishery (effort and catch statistics, distances traveled, species composition and length frequencies of various species) to give the survey participant an accurate picture of the fishery. Participants will then be asked to estimate the numbers of trips they would expect to make during the season closed for traditional rockfishing (as above) as well as how many nearshore directed trips they would expect to be offset by participation in a deepwater chilipepper fishery. The levels of response will be combined with rockfish catch and effort data from the history of CRFS (since January 2004) to determine expansion factors for collected data.

Final reporting will summarize the catch totals for the duration of the EFP with data stratification as indicated for the monthly reports. Final reporting on this EFP will include the expanded estimates for the complete opening of this fishery to the recreational community as well as alternative expansions such as opening the fishery coincident with the traditional rockfish seasons, expansion only to the CPFV fleet, and any other expansions potentially indicated by the data (specific management/geographic regions, depths, terminal tackle configurations, etc.) to provide the Pacific Fisheries Management Council with a range of options for permitting of the fishery.

Recreational Chilipepper EFP Renewal Request (2009)

Signature of Applicant:

A handwritten signature in black ink that reads "Jim Martin". The signature is written in a cursive style with a large, looped initial "J".

[original signed]

James Martin, RFA

A handwritten signature in black ink that reads "Roger Thomas". The signature is written in a cursive style with a large, looped initial "R".

[original signed]

Roger Thomas, GGFA

Gear

A starting point will be a leader of 30 feet in length.

Delete:

Depth

The project will be conducted in any area seaward of normal recreational depth closures (presently 40 fathoms)

Gear

A starting point will be a leader of 40 feet.

Signed

Wayne Butler

John Holloway

Oregon Recreational Yellowtail Rockfish EFP

Application

A. Date of application
May 21, 2008

B. Applicants
Southern Oregon Sport Fishermen
Contact: Wayne Butler
P.O. Box 674
Bandon, OR 97411
(541) 347-9126

Recreational Fishing Alliance, Oregon Chapter
Oregon Anglers
Contact:
John Holloway
6823 SW Burlingame Ave.
Portland, OR 97219
(503) 452-7919

C. Statement of purpose and goals
This EFP will test the possibility of conducting a recreational fishery targeting an underutilized species using special gear. This gear will be designed to avoid and/or minimize impacts on species of concern. Full retention of all species will be required. Disposition of targeted species (yellowtail rockfish) will be to experiment participants. Disposition of species of concern will be to sampling staff when biological sampling is needed or to participants when not.

D. Justification for EFP
In the next few years recreational fishing depth and area closures are to become the most constraining in history. This is due primarily to one species, yelloweye rockfish. These closures apply to the entire water column for most groundfish FMP species. Yelloweye reside near the bottom in select habitats. Midwater species exist in relative abundance, yet are inaccessible. It is believed that special gear can be developed which can provide access to midwater species without causing any additional impacts to yelloweye rockfish. Bottom habitat is all that needs protection from hooking impacts. This could provide increased opportunity for recreational fisheries and relieve fishing pressure on nearshore species. Increased opportunity is something that has been lacking for many years of incremental constraints on all fisheries. This EFP will allow legal retention of prohibited species for best utilization of data sources.

E. Broader significance and fleetwide applicability
Recreational midwater specific gear can easily be modified to apply to midwater fixed gear commercial fishing. The same data and concepts could be applied to hook and line as well as midwater longline applications.

F. Duration of EFP

One year with a possible renewal application in June '09 if necessary.

G. Number of vessels covered under this EFP.

There will be a total of 10 recreational charter vessels covered. They are as follows:

1. Capt. Ken Butler, *Prowler*, Bandon, OR (541) 347-3508
2. Capt. Jon Brown, *Kerri-Lynn*, Garibaldi, OR (503) 355-2439
3. Capt. Darrel Harper, *Umatilla II*, Newport, OR (541) 867-4470
4. Capt. Lars Robison, *Sampson*, Depoe Bay, OR (541) 765-2545
5. Capt. Mick Buell, *Norwester*, Garibaldi, OR (503) 322-0007
6. Capt. Wayne Butler, *Mis-Chief*, Bandon, OR (541) 347-9126
7. Capt. Joe Ockenfels, *Siggi-G*, Garibaldi, OR (503) 322-3285
8. Capt. Mike Sorenson, *Miss Raven*, Newport, OR (541) 867-4470
9. Capt. Bob Bales, *D&D*, Garibaldi, OR (503) 322-0007
10. Capt. Scott Howard, *Strike Zone*, Winchester Bay, OR (541) 271-9706

H. Description of species and amounts.

Target species are yellowtail rockfish. Expected encounters of overfished species include widow, canary, and yelloweye rockfish. A bag limit of 15 yellowtail rockfish will be used and this quantity is the base for impact estimates. There will be 10 vessels and 12 anglers average per trip. There will be 30 trips. This will result in 360 angler-days.

Total estimated impacts (caps):

Yellowtail = 5.9 mt	(ref.) 5,400 fish x 1.09 kg (ODFW 1993-1999)
Widow = 1.2 mt	1,440 fish x 0.85 kg
Canary = 2.6 mt	1620 fish x 1.58 kg
Yelloweye = 0.2 mt	90 fish x 2.18 kg

The above impacts by weight will be the total caps for this EFP. A reference catch rate by average number of fish per angler per trip will be monitored for the duration of this project.

That catch rate is:

Target species: yellowtail rockfish-Individual bag limit 15

Overfished species: Widow rockfish 4 per angler

Canary rockfish 4.5 per angler

Yelloweye rockfish 0.25 per angler

I. Monitoring

At-sea on board observers will be used on all trips. These observers will be PSFMC certified groundfish observers. They will be provided through ODFW sampling and observer programs.

J. Data collection and analysis methodology

Monitoring and data.

Direction of observer coverage will be under Mr. Don Bodenmiller ODFW Marine Resources Program. ODFW will monitor, through observers, catch rates and progress toward project caps. Data will be recorded at a “drift” level. Drift level recording will make statistical comparison with existing ODFW long leader research easier. All overfished species will be “lengthed and sexed.” Observers will gather species needed for biological analysis. Individual trips will not proceed if observer coverage is unavailable. Observer bookings must be made in advance of anticipated trips. If the bycatch caps are reached the project will be terminated. If the bycatch rate (section H) is being exceeded the project will be suspended until needed changes allowed within this EFP can be determined and implemented. Timely observer communication regarding ongoing catch rates will be a top priority.

Analysis.

Direction of data collection and analysis will be under Mr. Bob Hannah ODFW Marine Resources Program. Bycatch rates resulting from prosecution of this EFP will be compared to similar data from fisheries, fisheries projection models, and ODFW long leader research. This can be done geographically and/or using nonparametric statistical testing. The success criteria would be for the bycatch rates for overfished species to be significantly less than the nearshore fishery.

K. Criteria for vessel selection

They have been chosen based on the individual owner/ captain history of successful participation with prior fishery management monitoring and special projects.

L. Time, place and gear.

Time

The fishing time will take place between late spring and early fall. This is the normal weather friendly window and also in between the possible all depth recreational seasons.

Location

Where possible, trips will be evenly distributed between the ports. Some port bias may be necessary due to availability of participating resources.

Depth

The project will be conducted in any area seaward of normal recreational depth closures (presently 40 fathoms).

Gear.

The gear to be used will be designed to locate hooking gear in a midwater location to avoid bottom dwelling species. The proposed gear for this fishery would employ the use of a long leader between sinker and hooks. The purpose would be to elevate the hooking gear above the bottom a sufficient distance to avoid and or minimize contact with species of concern. Leader lengths of 30, 40 and 60 feet may be tested. A starting point will be a leader of 40 feet. A change of

length will only be made if incidental impacts are high or access to target species is low without high incidental impacts. A float will be affixed to the upper end of the leader. The purpose of this float is to prevent hooking gear from descending below the upper level of the leader. The float must have sufficient buoyancy to support all hooking gear and line above equivalent to leader length. Current tests show that a buoyancy of 2.25 ounces would be sufficient. Floats must be constructed of solid material. They can be either wood or closed cell high density foam. No hollow floats allowed. Maximum number of hooks is to conform to current regulation (3). Small plastic worms and flies will be used. Weighted hooks, bait and large lures will be prohibited.
(note): The leader length is for reference purposes only. The determinant shall be the distance between the sinker and the lowest hook. It is this dimension that will be the rule.

M. Signatures

Wayne Butler

John Holloway

To:

Bob Lohn
Regional Administrator
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115-0070
(206) 526-6150
bob.lohn@noaa.gov

cc: Frank Lockhart
frank.lockhart@noaa.gov

cc: Gretchen Arentzen
gretchen.arentzen@noaa.gov
(206) 526-6147

Subject: RFA/GGFA Exempted Fishery Permit Proposal for 2009

Title: Recreational Flatfish Catch Composition Within Defined Areas of the Rockfish Conservation Area

Date: August 20, 2008

Applicants:



Recreational Fishing Alliance

*Contact: Jim Martin, West Coast Regional Director
P.O. Box 2420, Fort Bragg, CA 95437
(707) 357-3422
(707) 964-8326*



Golden Gate Fishermen's Association

*Contact: Tom Mattusch
P.O. Box 957
El Granada, CA 94018
(650) 726-2926*

Justification: Since the implementation of the Rockfish Conservation Area as a bycatch reduction measure to protect overfished species such as canary rockfish, over 90% of the

EEZ has been closed to the recreational groundfish fishery. This proposal would allow a small number of CPFV vessels in California to target flatfish, inside and seaward of the RCA for species of Flatfish such as Dover Sole, Petrale Sole, Butter Sole, Arrowtooth Flounder, Curlfin Sole, and English Sole with minimal bycatch of overfished species. The areas we intend to fish will be tightly defined by GPS points. By targeting rockfish coldspots, areas where no reports of rockfish interaction exist, data may be developed contributing to finer resolution spatial management.

Potential impacts: There is some historical data for recreational catches of flatfish on the slope, but no recent data is available. Impacts on overfished species, particularly canary rockfish and cowcod, should be very low. Recreational impacts on slope fishing for various sole is virtually non-existent.

Purpose and goal of the experiment: To use selective, hook and line, recreational fishing gear to access federally managed species of flatfish, while keeping bycatch of overfished species low. This study will test different gear types to discover ways to avoid overfished species. The experiment is primarily an area-based study. Its purpose is also to take pressure off the nearshore and shelf species of finfish. The data provided from this series of trips on CPFV vessels would provide management guidance to open a new market for fishing trips on the charter fleet in northern and central California. This EFP will require the CPFV fleet to control effort, and to provide observer coverage, but the data gathered could result in a new fishery for the entire recreational fishing fleet. It will also serve as a step towards finer resolution spatial management.

Broader Significance: The data (catch composition, depth strata, interaction with overfished species, etc) collected should prove that a recreational fishery can be conducted for flatfish without impacts to overfished species. If we are successful, and demonstrate that we can avoid bycatch, management can shift some of the recreational effort away from inshore species and areas where interaction with canary rockfish is commonplace. An important measure of success will be determining the economic viability of this type of trip, adding a much-needed alternative fishery for the recreational sector.

Duration of the EFP: January through December, 2009.

Number of vessels: Approximately 10 California Passenger Fishing Vessels (CPFVs).

- Capt. Randy Thornton, *Telstar*, Noyo Harbor, Fort Bragg (707) 964-8770
- Capt. Bob Ingles, *Queen of Hearts*, Half Moon Bay (650) 728-3377
- Capt. Alan Chin, *Tigerfish*, Half Moon Bay (650) 726-7133
- Capt. Dennis Baxter, *New Captain Pete*, Half Moon Bay (650) 726-6224
- Capt. Steve Moore, *Pacific Horizon* Morro Bay
- Capt. Tom Mattusch, *Hulicat*, Half Moon Bay (650) 726-2926
- Capt. Jay Yokomizo, *Huck Finn*, Emeryville (510) 527-3768
- Capt. Robert Gallia, *Eldorado*, Berkeley (415) 298-3948
- Capt. Bill Parducci, *Profish'nt*, Bodega Bay (707) 463-3618

Funding: This EFP will be self-funding with individual anglers paying for an offshore flatfish trip. Grant funding is available for data analysis and observer coverage.

Description of Target species: Species of federally-managed flatfish such as Dover sole, Petrale sole, Butter Sole, Arrowtooth Flounder, Curlfin Sole, English Sole, Flathead Sole, Pacific Sanddab, Rex sole, Rock Sole, Sand sole and Starry flounder. California and/or Pacific Halibut could be retained if encountered.

Harvest Control: Anglers will be limited to up to five hooks per line, with a boat limit of twenty fish per angler. For a load of 15 anglers, a vessel would catch approximately 300 flatfish per trip, with full observer coverage at-sea. The program will utilize trained CRFS samplers, coordinated through PSFMC who have agreed to enter the data. The applicants (and RFA's Fisheries Conservation Trust) will contract with Pacific States and schedule on-board observers approximately two weeks in advance of any trip. RFA will pay for the observer costs through its Fisheries Conservation Trust account, passing the costs onto the charter captains. RFA's Jim Martin will function as "Chartermaster" for all trips, and no trips will be scheduled without approval from the Chartermaster, to allow for advance scheduling of observers with Pacific States to ensure full coverage of all trips and to ensure that no trips occur after bycatch caps have been reached.

During the initial phase of this experiment, we intend to go slowly and have a limited number of trips, no more than one trip per day, to ensure that our bycatch caps are not exceeded. Any catch of yelloweye or canary – even one per vessel – will cause us to rethink our strategy. As we gain confidence and experience with the logistics of the project, we can gradually expand the number of trips, and have multiple trips per day as long as we can prosecute the fishery cleanly.

Our Science Advisor will monitor the running total against our bycatch caps. After any trip that lands canary, yelloweye or cowcod, the captain will call the science advisor after returning to port. The science advisor will notify NMFS on the next business day of these landings of these species. Each trip will be limited to no more than half the remaining allotment under the bycatch caps. Catch of other overfished species for which the Council has recommended bycatch caps will be included in the biweekly reports by the science advisor to NMFS.

We request the following bycatch caps for overfished species:

<u>Bocaccio</u>	<u>Canary</u>	<u>Cowcod</u>	<u>Darkblotched</u>	<u>Widow</u>	<u>Yelloweye</u>
2.7 mt	300 lbs	50 lbs	0.1 mt (150 lbs)	3 mt	50 lbs

Regulatory Exemptions: We are requesting to be exempted from state and federal seasonal closures on groundfish and certain gear and depth restrictions on recreational groundfish. Current regulations provide for seasonal closures that vary according to the management region. We request a full calendar year to conduct the EFP. Current regulations prohibit retention of canary and yelloweye rockfish, and provide sub-bag limits for species such as bocaccio. We request to be exempt from these provisions, replacing them with the bycatch caps. We further request to be exempted from the 2-hook

restriction and ask to test up to 5 hooks per line. Vessels on EFP trips may also participate in non-groundfish fisheries (crab, salmon, albacore and Humboldt squid, for example) on the same day, should the Flatfish fishing turn out to be slow.

Enforcement: We propose to retain all fish as part of each angler's bag limit of ten fish. This EFP will require an exemption from sub-bag limits (on bocaccio, for example) and size limits. The EFP's bycatch caps provide total catch limits for the entire EFP. Each angler would be provided a letter reflecting the date of the trip, the vessel participating, and the angler's name, reflecting their participation under the terms of the EFP. If questioned by a warden, the angler can show this document to the warden to indicate his or her participation in the EFP. A sample draft letter:

*This letter certifies that on _____ (today's date),
 _____ (name of angler), under CDFG recreational fishing
 license # _____ participated in a Federal Exempted Fishing Permit
 _____ (vessels EFP ID number) titled "Recreational Flatfish Catch
 Composition EFP."*

This EFP is limited by cumulative bycatch caps and exempts the angler from sub-bag limits on bocaccio and other species, and is exempt under federal rules from seasonal closures on groundfish, certain terminal gear restrictions and prohibitions on retention of overfished species.

This letter is to inform state and federal enforcement personnel that the EFP has been approved by the Pacific Fisheries Management Council and the National Marine Fisheries Service.

*Enforcement personnel can verify the angler's participation in the EFP by contacting the CPFV Captain:
 (name of vessel)
 (Contact info)*

For questions regarding the EFP, contact NMFS Northwest Region at (206) 526-6140.

Proposed Data Collection and Analysis Methodology: Data will be collected by on-board observers, hired through the Pacific States Marine Fisheries Commission (PSMFC), and submitted to the data analyst for quality checks following each observed trip. Data quality checks will include checking all forms for completeness, appropriate species composition (observers will be expected to document each new species encountered to confirm species identification; documentation will be consistent with NMFS observer programs' protocols for species identification form submission), proper ordering of observed sets and anglers, proper data coding, and other logical checks that may be made by the analyst. All attempts will be made to overcome shortcomings in data collection through consultation with the observer. Feedback will be given after every submission to ensure complete and accurate data collection on subsequent trips. Catch of any overfished species for which the Council has recommended bycatch caps will initiate immediate notification of NMFS of that event.

Participation: Commercial Passenger Fishing Vessel Captains who have complied with all past logbook reporting requirements will be eligible for conducting trips under this EFP. Only Captains approved by NOAA enforcement personnel, based on a background checks on prior violations, will be considered for these trips. The Chartermaster will demand the surrender of permits from EFP participants at his discretion.

Time, Place and Amount of Gear Used: This EFP would be conducted during fair weather days during the entire year of 2009, with anglers limited to one rod apiece, two to five hooks per line, with a 10 pound weight limit. The areas will be in tightly defined blocks known as "rockfish coldspots." Various terminal tackle will be tested for optimizing the avoidance of overfished species. Each vessel will display a banner with the logos of the RFA, GGFA and NOAA indicating the vessel's participation in a research experiment, so that nearby recreational vessels will not assume that the fishery is open to anyone and start fishing next to the permit holder. The specific size of the areas, locations and depths will be determined based on consultation with the GAP, the Council and NMFS and local stakeholders in order to avoid rockfish interaction and to avoid user conflicts.

Data Submission, Analysis And Reporting:

Doyle Hanan, PhD.

Hanan & Associates

P O Box 8914, Rancho Santa Fe, CA 92067

(858) 832 1159 drhanan@cox.net

Data Collection and Review: Data will be collected by on-board observers hired through the Pacific States Marine Fisheries Commission (PSMFC) and submitted to the data analyst for quality checks following each observed trip. Data quality checks will include checking all forms for completeness, appropriate species composition (observers will be expected to document each new species encountered to confirm species identification; documentation will be consistent with NMFS observer programs' protocols for species identification form submission), proper ordering of observed sets and anglers, proper data coding, and other logical checks that may be made by the analyst. All attempts will be made to overcome shortcomings in data collection through consultation with the observer. Feedback will be given after every submission to ensure complete and accurate data collection on subsequent trips.

Data Entry: Original hardcopies will be retained by the data analyst with copies sent to Connie Ryan of the California Department of Fish & Game for departmental records, and to PSMFC for data entry. PSMFC will conduct subsequent data quality checks required for entry of data and other checks built into their entry system. Their computer will check species ranges, reasonable lengths/weights and various cross checks on the forms for totals, anglers, limits etc. Entry will be complete no later than six business days following receipt of forms by PSMFC. Files will then be sent to the data analyst with each individual caught (including all data elements linked to that individual) as well as separate files of catch data aggregated by set.

Data Analysis and Reporting: On a monthly basis, the data analyst will stratify and report catch for the overall fishery and for each management region included in the EFP (Northern, North Central, Monterey South-Central and Morro Bay South-Central). Monthly reports will be compiled and submitted to NMFS within two weeks following the end of each calendar month and will include catch statistics for the most recent month and year to date totals. Catch will additionally be separated for analysis by disposition (retained vs. individuals that would normally be discarded) with separate CPUE (CPAD and/or CPAH) calculations made for each species of each disposition. Catch will be further stratified by terminal tackle, depth, specific lat/long locations and any other variables determined to provide significant differences through Ward's multivariate cluster analysis of catch rates for individual species. Species encountered will also be plotted against number of trips to produce a simple discovery curve for the EFP.

Expansion estimates will be reported twice for the EFP, once with data collected prior to traditional fishing season openings and again following conclusion of the EFP period (year end or caps met) in the final report evaluating the EFP. Initial expansion estimates will consider only the effects of opening the fishery during winter months in which anticipated effort will not offset effort from the traditional fishery. Estimates of participation will be calculated using surveys of EFP trip participants and of anglers in the study area intercepted by the samplers.

Final reporting will summarize the catch totals for the duration of the EFP with data stratification as indicated for the monthly reports. Final reporting on this EFP will include the expanded estimates for the complete opening of this fishery to the recreational community as well as alternative expansions such as opening the fishery coincident with the traditional fishing seasons, expansion only to the CPFV fleet, and any other expansions potentially indicated by the data (specific management/geographic regions, depths, terminal tackle configurations, etc.) to provide the Pacific Fisheries Management Council with a range of options for permitting of the fishery.

Signature of Applicant:



Jim Martin, RFA



Roger Thomas, GGFA

Subject: Report on RFA/GGFA Deepwater Rockfish EFP

From: Jim Martin <flatland@mcn.org>

Date: Thu, 21 Aug 2008 12:45:42 -0700

To: Heather Brandon <Heather.Brandon@noaa.gov>

To: PFMC

From: the Recreational Fishing Alliance, Golden Gate Fishermen's Association

Re: Report on 2008 EFP

We received the final permits with terms and conditions for the deepwater rockfish EFP on August 15th. We expect to begin trips in September. We have nothing to report, based on no trips so far this year.

Sincerely,

Jim Martin

West Coast Regional Director

Recreational Fishing Alliance

(707) 357-3422

www.JoinRFA.org

P.O. Box 2420

Fort Bragg, CA 95437

FINAL CONSIDERATION OF INSEASON ADJUSTMENTS (IF NEEDED)

Consideration of inseason adjustments to 2008 groundfish fisheries may be a two-step process at this meeting. The Council will meet on Wednesday, September 10, 2008 and consider advisory body advice and public comment on inseason adjustments under Agenda Item I.1. If the Council elects to make final inseason adjustments under Agenda Item I.1, then this agenda item may be cancelled, or the Council may wish to clarify and/or confirm its decisions. If the Council tasks advisory bodies with further analysis under Agenda Item I.1, then the Council task under this agenda item is to consider advisory body advice and public comment on the status of 2008 groundfish fisheries and adopt final inseason adjustments as necessary.

Council Action:

- 1. Consider information on the status of ongoing 2008 fisheries and adopt inseason adjustments as necessary.**

Reference Materials:

None.

Agenda Order:

- | | |
|---|----------------|
| a. Agenda Item Overview | Merrick Burden |
| b. Report of the GMT | Robert Jones |
| c. Agency and Tribal Comments | |
| d. Reports and Comments of Advisory Bodies | |
| e. Public Comment | |
| f. Council Action: Adopt or Confirm Final Adjustments to 2008 Groundfish Fisheries | |

PFMC
08/12/08

THE GROUND FISH MANAGEMENT TEAM (GMT) REPORT ON CONSIDERATION OF INSEASON ADJUSTMENTS

The Groundfish Management Team (GMT) considered the most recent information on the status of ongoing fisheries and provides the following considerations and recommendations for 2008.

RESEARCH CATCHES

Canary Rockfish

The GMT June scorecard listed a value of 5.5 mt for total research take of canary rockfish, with 5.2 mt of this tonnage coming from the Northwest Fisheries Science Center (NWFSC) bottom trawl survey. The NWFSC provided the GMT with updated 2008 bottom trawl survey catch estimates of canary rockfish. At that time, the NWFSC had completed all surveying off of Washington's coast, and two areas of potentially high canary catch remain to be surveyed (southern Oregon and Cape Mendocino). The take of canary rockfish as of Tuesday, September 9, 2009, was 0.5 mt. NWFSC staff have indicated that the highest amount of canary catch in the areas remaining in the survey is 1 mt, with one smaller area where canary are often found that may be passed in the next couple of days. Based on the available information, the GMT attributed 2.0 mt to the NWFSC survey, bringing the total research catch estimate for canary rockfish to 2.3 mt, down from the original 5.5 mt assigned to research catch in the scorecard.

The scorecard, with the most up to date fishery projections through the end of 2008 projects that 4.1 mt of canary rockfish will remain unharvested if no inseason actions are taken. The GMT discussed a range of options available to the Council to utilize some portion of the remaining canary. The GMT notes that the available options depend on the date of implementation, and certain fishing opportunities may be restricted depending on when the inseason action becomes effective. If the inseason action is effective in early October, the following actions may benefit fishery participants:

- Liberalization of non-whiting trawl opportunities shoreward of the trawl Rockfish Conservation Area (RCA) in the north
- Increase in the Pacific whiting canary bycatch limit

If inseason actions do not become effective until November 1, non-whiting trawl adjustments shoreward of the trawl RCA in the north will not benefit trawlers because the opportunities will largely be over for the year. An increase in the canary rockfish bycatch limit on November 1 may allow at-sea sectors the ability to prosecute whiting, but shoreside whiting opportunities may largely be over by November.

RECREATIONAL

The scorecard has been updated to reflect projected overfished species impacts for all states through the end of the year.

California

Data available through August 10th indicated that the harvest guideline (HG) of yelloweye rockfish was projected to be exceeded by the California recreational fishery under status quo management. Therefore, inseason action was taken on September 2, 2008 by the California Department of Fish and Game (CDFG) to close the recreational fishery in the area north of Point Arena to the Oregon/California border to stay within their yelloweye HG of 2.1 mt (Agenda Item I.1 CDFG Informational Report). With this inseason closure, the recreational fishery is projected to stay within their harvest guidelines for other overfished species. CDFG requested that the Council take conforming action to close federal waters in the North Central Management Area (North of Point Arena) and the North Management Area for recreational boat based fishing for rockfish, lingcod, cabezon, kelp greenling, and other associated state and Federal groundfish species. The GMT recommends taking conforming action to close the recreational fishery for groundfish in the area between the Oregon/California border and Point Arena.

Oregon

The Oregon Department of Fish and Wildlife (ODFW) took inseason action on July 7, 2008 to restrict the recreational fishery, including a 20 fathom depth restriction and a 5 fish marine bag limit (rockfish, greenling, cabezon, etc.). Moving the fishery from inside 40 fm to inside 20 fm was intended to prevent the yelloweye HG of 3.3 mt from being exceeded. The daily bag limit reduction was intended to slow the catch of species with state limits. Concurrent action was not taken by the Council because this action occurred between Council meetings. Angler effort in the recreational fishery was lower in August than expected due to several factors, including weather and tuna availability. From March through July, 2008, bottom fish angler effort had increased 24 percent over 2007. In August, 2008, angler effort was 20 percent less than in 2007. To maximize recreational harvest opportunity, while staying within harvest guidelines, Oregon liberalized their regulations effective September 7, 2008. Liberalization of state regulations will not require a change in Federal regulations, because the September 7, 2008 changes essentially reverted back to what is currently in Federal regulations; therefore, no Council action is needed.

Washington

No changes are proposed for the recreational fisheries in Washington.

COMMERCIAL

Limited Entry Fixed Gear Sablefish DTL Fishery North of 36° N. lat.

The GMT received a request to increase the weekly and monthly limit in the limited entry fixed gear sablefish limits north of 36° N. lat. The Council adopted an increase in the daily limit in this fishery in June from 300 lbs per day to 500 lbs per day, which became effective August 1. Limited data exist to evaluate the effect of this daily limit increase, however available information indicates that catch in the limited entry daily trip limit (DTL) portion of the sablefish fishery is less than the allocation, and has been substantially less than the allocation in recent years.

Unfortunately quota species monitoring (QSM) system catch reports reflecting catches through recent weeks have been delayed. Because of this delay, the GMT has little recent information to distinguish the amount of DTL sablefish catch that is attributed to open access versus limited entry DTL vessels. However, data from previous months and previous years is applicable, especially in the limited entry sector where effort is restricted and does not widely fluctuate as fishing opportunities are adjusted. These past data indicate that the total number of limited entry

vessels participating in the DTL fishery in the past several years has ranged from 37 to 43 vessels north of the Conception area (36° N. lat.), while the catch of limited entry DTL sablefish has been more than 100 metric tons below the allocation (for example, in 2006 limited entry fixed gear DTL vessels landed 106 mt out of a 359 mt allocation).

Using this historic participation and catch information, the GMT evaluated a potential increase in the weekly and bimonthly limit for period 6. Assuming 43 vessels participate in the fishery and attain their bimonthly limit, the GMT estimated that the bimonthly limit could be raised from 5,000 lbs to 6,500 lbs in period 6 and catches would remain within the limited entry DTL allocation. While it is unlikely that each vessel will attain the 6,500 lb per two month limit, the GMT has little information with which to evaluate the effect of the recent increase in the daily limit in this fishery. **Therefore, the GMT recommends a 6,500 lb per two month limit** as it would increase opportunities in the fishery without jeopardizing exceedence of the allocation. The weekly limit, while less critical to the control of overall catch in the fishery, can influence effort in the fishery even though this portion of the fishery is limited. In order to align the weekly limit increase with the recent increase in the daily limit and remain consistent with the order of magnitude recommended increase in the bimonthly limit, **the GMT recommends that the weekly limit be raised from 1,000 lb per week to 1,500 lb per week.**

Sablefish South of 36° N. lat.

Recent catch projections for sablefish south of 36° N. lat. indicate that catch is tracking higher than anticipated, though little information is available with which to indicate the effect of recent open access catch limit reductions which went into effect on August 1. Industry has indicated that the thornyhead fishery is an economically important fishery and closure of the sablefish fishery could prevent access to thornyheads since some sablefish is taken incidentally with thornyheads.

The GMT identified sources of sablefish catch (Table 1) and the effect these catch sources may have on the potential for exceeding the optimum yield (OY) or coming in under the OY. The amount of catch that may occur in the open access portion of the fishery is somewhat uncertain, as is the amount of catch that trawl effort may encounter in the area. However, past information on the open access portion of the Conception area sablefish fishery and information from trawl participants in the Conception area indicate that the catch of sablefish in both of these sectors should be limited to an additional 15 to 20 mt through the end of the year. When combined with the amount of catch expected in the limited entry fixed gear sector, total catch in the area is not expected to exceed the OY (211 mt). The GMT will re-visit this issue in November if necessary.

Table 1. Estimated catch of sablefish in the Conception Area

	Marginal Catch	Cumulative Catch
Conception Area Sablefish OY	211	
Current Catch	147	147
Plus Remaining TNC	18	165
Plus Remaining LE FG Est	25	190
Plus Remaining OA and Trawl	15 to 20	205 to 210

Open Access

Sablefish Daily Trip Limit (DTL) North of 36° N. lat.

The GMT received a request to increase the sablefish DTL limits north of 36° N. lat. The current trip limits are 300 lb / day, one landing per week of up to 700 lb, not to exceed 2,100 lb / 2 months.

As in the limited entry portion of the DTL fishery, there is little recent information with which to evaluate the amount of DTL sablefish catch that can be attributed to the open access or limited entry sectors. However, at the June meeting catch estimates indicated that sablefish catch in the open access sector was in line with projections through that time, meaning that no changes to fishing opportunity was justified. The GMT has been unable to track the total DTL catches over the summer because of the QSM delays. However, July, August, and September are the peak months in this fishery north of the Conception area and so there is little reason to believe that fishery has dropped off track since June. **Therefore, the GMT does not recommend increasing trip limits in this fishery at this time.**

Shelf Rockfish South of 34° 27' N. lat. (Point Conception)

The GMT received a request from industry to increase the shelf rockfish trip limits south of Point Conception (34° 27' N. lat.) from 750 lb/ 2 months to 1,000 lb/ 2 months due to lower than anticipated effort in this area. Landings of shelf rockfish are currently tracking approximately 25 percent lower than previous years. This decrease may be attributed to the requirement for VMS on open access vessels and higher fuel costs. Historically shelf rockfish trip limits have been set at a low level to decrease interactions with overfished species. The GMT examined a variety of information that could influence the impacts of increased trip limits, including observer data and the potential magnitude of effort shifts from the area north of Point Conception.

Observer data south of Point Conception indicate low overfished species bycatch, but these rates are based on a limited number of observations (less than 70). It is unclear whether encounter rates for bocaccio and widow would increase with increased effort. If the encounter rate remains constant, even if effort increases, then any increase in overfished species interactions as a result of increased opportunities would already be accounted for in the scorecard. A CDFG analysis indicates that the proposed change to trip limits may result in a 6.1 percent increase above originally projected catch of shelf rockfish. This small increase may result in little if any increase above projected overfished species impacts. The GMT notes that the scorecard is not fully prescribed for bocaccio or widow rockfish therefore any small increase in impacts could be accommodated.

The GMT also examined potential effort shifts from the north as a result of higher trip limits south of Point Conception. Input from industry indicates this amount of an increase in trip limits would not provide an economic impetus for an effort shift from the north.

Current data indicates shelf rockfish catches south of 34°27' N. lat. are well within the allowable OY. **Therefore, the GMT recommends that the open access shelf rockfish limit south of Point Conception be increased from 750 lbs / 2 months to 1,000 lbs / 2 months for period 6 only.**

TRAWL

Tribal Whiting Trawl

Tribal whiting fisheries have engaged in heightened bycatch management during the 2008 fishery, due to the effort to try and manage within 0.7 mt of canary rockfish in the June 2008 scorecard. To keep bycatch of canary rockfish low, the fishery operated when higher concentrations of whiting were available. Anecdotal information from the tribal fishery indicated that the earlier aggregations of whiting were not seen this year. The tribes have indicated that 1.3 mt of canary rockfish is a minimum threshold to be able to prosecute the tribal whiting fishery for the remainder of 2008, but they will continue diligent bycatch management in an effort to manage below the new bycatch projection of 1.3 mt.

Limited Entry Non-Tribal Whiting Trawl

NMFS closed all sectors of the non-tribal whiting fishery on August 19, 2008 when the canary bycatch limit of 4.7 mt was reached. None of the three sectors reached their whiting allocation before the fishery was closed (Table 2). Of note, the 2008 whiting allocation was higher than in 2007 yet there was no corresponding increase in the canary bycatch limit.

Table 2: Catches of whiting in the non-tribal whiting fishery through August 19, 2008 (NMFS Preliminary Report #10 – 2008 Whiting Fishery, August 26, 2008)

Non-tribal Sector	Allocation for 2008 (mt)	Whiting Catch (mt) through August 19, 2008	Percent Whiting Allocation Taken	Allocation remaining (mt)
Shore-based	97,669	34,716	35.5%	62,953
Mothership	55,811	46,866	84.0%	8,945
Catcher/Processor	79,065	49,269	62.3%	29,796

Bycatch limits

Industry would like to see the non-tribal whiting fishery re-opened with an increased canary rockfish bycatch limit. The GMT sees two major sets of issues for the Councils consideration.

First, although there is room in the scorecard to increase the whiting fishery's canary bycatch limit, the GMT cannot provide the Council with a rough estimate of the fishing opportunity that might occur after the re-opening in terms of days the fishery might be open or what percentage of the remaining whiting allocations the sectors would likely obtain. Canary bycatch is very difficult to project in the whiting fisheries because bycatch events are rare and subject to seasonal, interannual, latitudinal, and depth-based variations in the bycatch rate. Projecting what canary bycatch might be in this potential re-opening is made even more difficult because the re-opening would occur at a time of year when the fishery isn't normally prosecuted. Very little bycatch information is available for the shoreside and mothership sectors because they do not tend to fish whiting in the fall.

The GMT discussed last year's re-opening of the whiting fishery at this meeting and also during the 2009-10 specifications and management measures process. The mothership sector did not participate at all in the re-opening and participation from the shoreside sector was limited. The GMT has been told that the 150 fm depth restriction in place during the re-opening was the major reason for the limited shoreside participation last year and that it would be equally problematic this year. The fishery was re-opened with the 150 fm depth restriction because

there was only 0.7 mt remaining in the whiting fishery's canary bycatch limit. Other compounding reasons for the limited shoreside participation in last year's re-opening suggested to the GMT include poor weather conditions, the normal northerly migratory pattern of whiting, and the availability of whiting in the tribal fishery.

The GMT also heard public testimony and anecdotal evidence about the voluntary cooperation and inseason management undertaken this summer in the shoreside sector. These voluntary measures included stand-downs by the fleet, latitudinal closures, and use of real time bycatch information. Although the team acknowledges that this type of cooperation and real time management likely reduced the sector's canary bycatch rate, there is no way for the team to verify that the shoreside sector will continue to employ these methods or to independently evaluate how effective the methods might be during a fall re-opening.

The second set of considerations relates to NMFS ability to re-open, monitor, and close the fishery if necessary to prevent the canary bycatch limit from being exceeded. The team heard from NMFS staff about their improved ability to close the fishery prior to exceeding a bycatch limit. New components of the fish ticket verification program included shoreside catch monitors at the plants, electronic reporting of landings, and a requirement for self-reporting of discard events. The GMT understands that there were some start-up issues with the shoreside catch monitor program, but overall monitoring was improved from 2007.

NMFS ability to monitor the fishery and close in time to keep within the bycatch limits also depends on having enough catch information to establish catch patterns upon which the need for closure could be based. Guidance from whiting fishery managers at the Region suggested that approximately 8-9 days of fishing (with an additional day to close the fishery) would be needed to provide this information.

Based on this need the GMT developed several possible estimates of a canary bycatch limit that would be needed in order for the fishery to run at least 9 days (Table 3). These estimates are based upon sector specific bycatch rates that were observed during the 2008 fishing year. The relatively pessimistic estimate assumes another lightning strike tow of canary occurs and the remaining 8 days of the fishery proceed, with additional canary impacts based on the average sector specific canary bycatch rates observed this year. The medium estimate is based on the average sector specific canary bycatch rates observed this year. The relatively optimistic rate is based upon the average sector specific bycatch rates observed in 2008, minus the lightning strike observed in June.

Table 3. Canary bycatch limit increase necessary for the fishery to operate 9 Days.

	Canary metric tons
9 DAY (RELATIVELY PESSIMISTIC)	2.567983
9 DAY (MEDIUM)	1.33965312
9 DAY (RELATIVELY OPTIMISTIC)	1.070019623

A re-opening of the fishery would still present some risk of exceeding the new canary bycatch limit, and depending on the amount of canary left in the scorecard, possibly even the canary OY. The potential for canary "disaster tows" in the whiting fishery complicates NMFS' ability to close the fishery on projection. Data since 2005 indicate that the largest single tow of canary in the whiting fishery was slightly greater than 1.3 mt. By far, the majority of tows do not catch

canary, but of those that do, canary catch is typically less than 0.1 mt. The quantity of canary encountered in past whiting tows is indicative of the risk associated with re-opening the fishery and the possible catch that may occur in the fishery. While the largest tow has been in excess of 1 mt, Figure 1 below illustrates that this tow was largely an exception, meaning the possibility of this happening again this year may be slight, though certainly possible.

In addition, the GMT heard reports from NMFS Office of Law Enforcement (OLE) regarding reported at sea discard events by shore-based vessels toward the end of the season. These self-reported events were primarily last-tow, topping off events. NMFS applied bycatch rates to these discards and included them in the total bycatch estimates used to close the fishery. The GMT has received reports of “camera-off” events that are being investigated by OLE. Camera information has not yet been analyzed for these events and potential catches were not taken into account.

The GMT recognizes the need for the fishery, especially for the shoreside sector, to re-open as early in October as possible to access the remaining whiting allocations before the fish disaggregate late in the season. An optimistic opening date, under estimates given to the team, would fall between October 7-15. Another issue brought to the team’s attention related to the shoreside catch monitor component of the fishery. This was the first year for the fish ticket verification program. The monitors that were trained at the beginning of the season left after the closure of the fishery. The team understands that it is uncertain whether new monitors could be trained and in place for the re-opening.

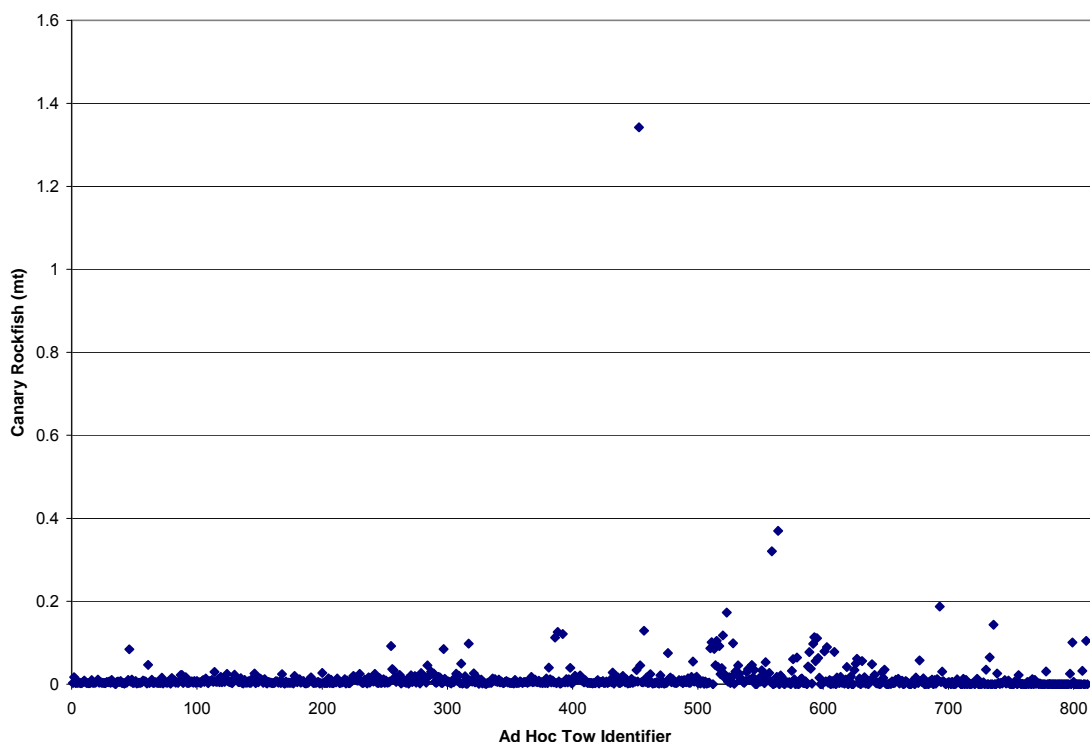


Figure 1. Metric tonnage of canary rockfish per limited entry non-tribal whiting trawl tow for those tows containing canary rockfish.

The GMT recommends that the Council preliminarily consider an increase in the Pacific whiting canary bycatch limit under this agenda item, but wait to finalize recommendations until the inseason agenda item on Friday, when trawl survey results are more complete.

Limited Entry Non-Whiting Trawl

Landings of shelf target species north of 40°10' N. lat are tracking behind projections originally made for the catch of those species in March and June of this year. Anecdotal information and catch records suggest that effort in areas shoreward of the trawl RCA are down from previous years. It appears that much of the potential shoreward effort in the north may have been discouraged by the implementation of a 60 fathom shoreward boundary. In addition, available catch data and anecdotal information indicates that more effort has shifted to pink shrimp than in past years due to opportunities there.

South of 40°10' N. lat., landings have followed a similar pattern. The volume of shelf target species in that area has been less than originally predicted, though the reasons for the smaller than expected volume are not clear. Figures at the end of this document show shelf target species landings this year compared to the past two years. Each figure represents coastwide trawl landings (in pounds) by month, beginning with April and ending in July.

Other target species (primarily DTS) are near expected catch levels, with few exceptions. If no inseason action is taken in the multi-species trawl fishery, the following mortality levels are expected to occur through the end of the year. These mortality levels are compared to the projection made in June as reflected in the June scorecard (for overfished species) and to the allocation, harvest guideline, or OY (whichever is most appropriate) for target species. As illustrated in this table, the estimated take of all overfished species is now lower than predicted at the June meeting and the take of target species is expected to be less than the targeted catch amount (the allocation/HG/or OY) for target species.

Table 4. Estimated take of overfished species compared to the projected take in June 2008 scorecard.

		North	South	Total	June Scorecard Est/ Allocation/HG/OY
Rebuilding Species	Canary	5.8	2.4	8.2	9.0
	POP	101.7	0.0	101.7	103.2
	Darkbltch	217.4	31.1	248.5	252.5
	Widow	1.9	5.6	7.5	7.7
	Bocaccio	-	10.3	10.3	11.8
	Yelloweye	0.5	0.0	0.5	0.6
	Cowcod	-	0.6	0.6	0.7
Target Species	Sablefish	2,226	568	2,794	2,810
	Longspine	509	385	894	2,220
	Shortspine	849	418	1,268	1,634
	Dover	10,026	2,191	12,217	16,500
	Arrowtooth	3,487	64	3,551	5,800
	Petrale	2,006	288	2,294	2,499
	Other Flatfish	1,154	537	1,691	4,884
	Slope Rockfish	88	223	310	1160N/626S

Because the catch of several target species is tracking behind projections and estimated impacts of overfished species are lower than estimated at the June meeting, increases in the trip limits for petrale and Dover sole are proposed coastwide. Selective flatfish trawl limits in the north are not liberalized in this proposal. However, the GMT evaluated two different approaches for liberalizing RCA boundaries in the north as a result of the canary remaining in the scorecard. The first evaluation examines the possibility of re-opening the areas shoreward of the trawl RCA north of Cape Alava and between Cape Arago and Humbug mountain to 60 fathoms beginning October 1 (or as early as possible) through the end of the year. The second option evaluates the possibility of shifting the shoreward boundary of the RCA in the north to 75 fathoms while leaving the area north of Cape Alava and the area between Cape Arago and Humbug mountain closed beginning October 1 (or as early as possible) through the end of the year. The following table illustrates the bycatch implications of making these adjustments.

Table 5. Options and associated canary impacts for the non-whiting trawl sector.

Option	Area	Estimated Canary Take if Effective October 1
Option 1 (re-open closed areas shoreward of RCA)	Opt 1a: North of Cape Alava	1.1 mt (9.3 mt total)
	Opt 1b: Cape Arago to Humbug mt.	0.7 mt (8.9 mt total)
	Opt 1a and 1b combined	1.8 mt (10 mt total)
Option 2 (shift shoreward boundary to 75 fathoms)	Shoreward boundary to 75 fathoms in north (but closed north of Alava and between Arago and Humbug)	0.4 mt (8.6 mt total)

The GMT received a request to increase the cumulative limits on chilipepper south of 40°10' N. lat. for vessels using small footrope gear. Observer data indicate a large discard rate of chilipepper in the south (approximately 70 percent), particularly for vessels fishing shoreward of the trawl RCA. The GMT considered this proposal in the context of possible impacts on overfished species and the effect this potential cumulative limit adjustment would have on the discard of chilipepper. In the past, the GMT has identified a relationship between chilipepper and bocaccio in the trawl fishery. Bocaccio and cowcod are the overfished species most commonly encountered when targeting chilipepper south of 40° 10' N. lat and the projected catch of these species is less than 50% of their respective OYs. The GMT does not believe that a modest increase in the chilipepper limit would risk exceeding the OYs for bocaccio or cowcod even if such an increase resulted in the targeting of those species and a subsequent change in the behavior of fishermen in that area. The effect of this increase on other overfished species (canary rockfish) in this area is expected to be nominal because this catch limit increase is not expected to induce targeting. Since some residual for these species is still available in the scorecard, the GMT does not believe that the proposed increase in the chilipepper limit would risk exceeding canary OY. Therefore, in order to reduce discard and provide increased opportunity in areas south of 40° 10' N. lat. **the GMT recommends increasing chilipepper limits from 2,000 lbs to 5,000 lbs for vessels using small footrope trawl gear in period 6.**

The following is a summary of proposed inseason adjustments for the multi-species trawl fishery:

- Increase petrale sole in the north to 45,000 in period 6 for vessels using large footrope trawl gear

- Increase Dover sole in the north to 90,000 in period 6 for vessels using large footrope trawl gear
- Increase petrale sole in the south to 65,000 in period 6
- Increase Dover sole in the south to 90,000 in period 6
- Increase chilipepper limits in the south to 5,000 in period 6 for vessels using small footrope

Table 6. Cumulative Limits under Proposed Option

Area	Period	Sable	Longsp	Shortsp	Dover	Otr Flat	Petrals	Arrowt'th	Slope Rk
North Large Footrope	1	14,000	25,000	12,000	80,000	110,000	40,000	150,000	1,500
	2	14,000	25,000	12,000	80,000	110,000	30,000	150,000	1,500
	3	19,000	25,000	25,000	80,000	110,000	20,000	150,000	1,500
	4	24,000	25,000	25,000	80,000	110,000	20,000	150,000	1,500
	5	24,000	25,000	25,000	80,000	110,000	20,000	150,000	1,500
	6	19,000	25,000	25,000	90,000	110,000	45,000	150,000	1,500
North SFFT	1	5,000	3,000	3,000	40,000	70,000	10,000	10,000	1,500
	2	5,000	3,000	3,000	50,000	70,000	18,000	10,000	1,500
	3	5,000	3,000	3,000	40,000	50,000	18,000	10,000	1,500
	4	7,000	3,000	3,000	50,000	80,000	18,000	10,000	1,500
	5	7,000	3,000	3,000	50,000	80,000	16,000	10,000	1,500
	6	7,000	3,000	3,000	50,000	80,000	10,000	10,000	1,500
38 - 40 10	1	14,000	25,000	12,000	80,000	110,000	50,000	10,000	15,000
	2	14,000	25,000	12,000	80,000	110,000	30,000	10,000	15,000
	3	19,000	25,000	25,000	80,000	110,000	30,000	10,000	15,000
	4	24,000	25,000	25,000	80,000	110,000	30,000	10,000	15,000
	5	24,000	25,000	25,000	80,000	110,000	30,000	10,000	15,000
	6	19,000	25,000	25,000	90,000	110,000	65,000	10,000	15,000
S 38	1	14,000	25,000	12,000	80,000	110,000	50,000	10,000	55,000
	2	14,000	25,000	12,000	80,000	110,000	30,000	10,000	55,000
	3	19,000	25,000	25,000	80,000	110,000	30,000	10,000	55,000
	4	24,000	25,000	25,000	80,000	110,000	30,000	10,000	55,000
	5	24,000	25,000	25,000	80,000	110,000	30,000	10,000	55,000
	6	19,000	25,000	25,000	90,000	110,000	65,000	10,000	55,000

Note: chilipepper limits are increased to 5,000 lbs in period 6 for vessels using small footrope trawl gear south of 40° 10' N. lat.

Table 7. Estimated Impacts Resulting from Proposed Action

		North	South	Total	June Scorecard Est/ Allocation/HG/OY
Rebuilding Species	Canary	5.8	2.4	8.2	9.0
	POP	103.5	0.0	103.5	103.2
	Darkblotched	222.0	31.6	253.7	252.5
	Widow	2.0	5.6	7.6	7.7
	Bocaccio	-	10.3	10.3	11.8
	Yelloweye	0.5	0.0	0.5	0.6
	Cowcod	-	0.6	0.6	0.7
Target Species	Sablefish	2,226	568	2,794	2,810
	Longspine	509	385	894	2,220
	Shortspine	849	418	1,268	1,634
	Dover	10,181	2,218	12,399	16,500
	Arrowtooth	3,487	64	3,551	5,800
	Petrale	2,103	298	2,402	2,499
	Other Flatfish	1,154	537	1,691	4,884
	Slope Rockfish	88	223	310	1160N/626S

Summarization of Canary Rockfish Status and Opportunities

Existing projections of canary rockfish catch in the 2008 fishery results in 4.1 metric tons being unattributed to any fishery. The following options and their impacts have been assessed by the GMT for using this remaining amount and is provided for the Council's consideration (Table 8).

Table 8. Summary of possible uses of unattributed canary rockfish.

	Additional Canary mt
Canary Remainder in the Scorecard	4.1 mt
Pacific Whiting Fishery Bycatch Limit	TBD
Non-whiting RCA liberalization North of Cape Alava	1.1 mt
Non-whiting RCA liberalization from Cape Arago to Humbug mt.	0.7 mt
Non-whiting shoreward RCA liberalization to 75 fathoms in north (but closed north of Alava and between Arago and Humbug)	0.4 mt

GMT Recommendations:

1. Take concurrent action in the California recreational fishery to close federal waters in the North and North-Central management areas.
2. Increase the limited entry fixed gear sablefish DTL limits north of 36° N. lat. to one landing per week up to 1,500 lb, and 6,500 lb per 2 months; same daily limit of 500 lb.
3. Increase open access shelf rockfish limits south of Point Conception (34° 27' N. lat) to 1,000 lb per 2 months for period 6 only.
4. Increase Non-whiting trawl cumulative limits as outlined in bold in table 6.

5a. Consider a preliminary increase in the Pacific whiting canary bycatch limit, but wait to finalize decisions until Friday when trawl survey results are more complete.

5b. Consider a preliminary liberalization of trawl RCA boundaries in the north as outlined in tables 5 and 8, but wait to finalize decisions until Friday when trawl survey results are more complete.

PFMC
9/10/08

2008 Projected mortality impacts (mt) of overfished groundfish species prior to inseason adjustments - updated at the Septmeber Council meeting.

9/09/08

Fishery	Bocaccio b/	Canary	Cowcod	Dkbl	POP	Widow	Yelloweye
Limited Entry Trawl- Non-whiting	10.3	8.2	0.6	248.5	101.7	7.5	0.5
Limited Entry Trawl- Whiting							
At-sea whiting motherships a/		4.7		7.2	14.5	195.6	0.0
At-sea whiting cat-proc a/							0.0
Shoreside whiting a/							0.0
Tribal whiting		1.3		0.0	0.6	6.1	0.0
Tribal							
Midwater Trawl		1.8		0.0	0.0	40.0	0.0
Bottom Trawl		0.8		0.0	3.7	0.0	0.0
Troll		0.5		0.0	0.0		0.0
Fixed gear		0.3		0.0	0.0	0.0	2.3
Limited Entry Fixed Gear		0.8					1.8
Sablefish	13.4		0.0	0.6	0.3	0.9	
Non-Sablefish			0.1	0.4		0.5	
Open Access: Directed Groundfish			0.1				
Sablefish DTL	0.0	0.2		0.2	0.1	0.0	0.3
Nearshore (North of 40°10' N. lat.)	0.0	2.5		0.0	0.0	0.5	2.2
Nearshore (South of 40°10' N. lat.)	0.1			0.0	0.0		
Other	10.6	1.0		0.0	0.0	0.0	0.1
Open Access: Incidental Groundfish							
CA Halibut	0.1	0.0		0.0	0.0		
CA Gillnet c/	0.5			0.0	0.0	0.0	
CA Sheephead c/				0.0	0.0	0.0	0.0
CPS- wetfish c/	0.3						
CPS- squid d/							
Dungeness crab c/	0.0		0.0	0.0	0.0		
HMS b/		0.0	0.0	0.0			
Pacific Halibut c/	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pink shrimp	0.1	0.1	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
Salmon troll	0.2	0.8	0.0	0.0	0.0	0.3	0.2
Sea Cucumber	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spot Prawn (trap)							
Recreational Groundfish e/							
WA		1.2					2.8
OR		4.3				1.4	3.3
CA	47.8	9.0	0.2			6.6	2.1
EFPs	7.7	0.1	0.2	0.6		2.7	0.1
Research: Includes NMFS trawl shelf-slope surveys, the IPHC halibut survey, and expected impacts from SRPs and LOAs. f/							
	2.0	2.3	0.2	2.0	2.0	1.1	3.0
TOTAL	93.2	39.9	1.4	259.6	122.9	263.3	18.9
2008 OY	218	44.0	4.0	330	150	368	20
Difference	124.8	4.1	2.7	70.4	27.1	104.7	1.1
Percent of OY	42.7%	90.7%	33.8%	78.7%	82.0%	71.5%	94.3%
Key		= either not applicable; trace amount (<0.01 mt); or not reported in available data					

a/ Non-tribal whiting numbers reflect bycatch limits for the non-tribal whiting sectors.

b/ South of 40°10' N. lat.

c/ Mortality estimates are not hard numbers; based on the GMT's best professional judgment.

d/ Bycatch amounts by species unavailable, but bocaccio occurred in 0.1% of all port samples and other rockfish in another 0.1% of all port samples (and squid fisheries usually land their whole catch).

e/ Values in scorecard represent projected impacts for WA and OR. However, harvest guidelines for 2008 are as follows: canary in WA and OR combined = 8.2 mt; yelloweye in WA and OR combined = 6.8 mt.

f/ Research projections updated November 2008.

CDFG Proposed Recreational Inseason Action

Issue: California Department of Fish and Game (CDFG) staff reviewed California Recreational Fisheries Survey (CRFS) inseason data available through August 10, 2008 and total mortality projections through the end of the year. CDFG estimates that approximately 1.3 metric tons (mt) (64%) of yelloweye rockfish have been taken incidentally statewide through August 10, 2008. Without modification to the current season structure, the annual yelloweye HG (2.1 mt) would be exceeded.

Proposed In-season Management Measure: CDFG proposes to close the Northern Management Area and the North-Central Management Area north of Point Arena (38° 57.5' N. lat., Mendocino County) to recreational fishing for rockfish, lingcod, cabezon, greenlings, and other associated groundfish effective Sept. 2, 2008 to keep the catch of yelloweye rockfish within the harvest guideline (Figure 2). The closure would remain in effect through the end of the calendar year. Shore-based anglers and divers would be exempt from the action. Yelloweye rockfish are far less commonly encountered in management areas south of Point Arena and these areas will remain open as their impacts are not projected to result in the HG being exceeded (see Table 1). CDFG has already initiated regulatory action to close the fishery north of Point Arena in state waters (see: http://www.dfg.ca.gov/marine/pdfs/Sept2008GFclosure_N_NC.pdf.)

CDFG requests that the Council and NOAA fisheries review these changes and take conforming actions to close the recreational fishery in federal waters off California north of Point Arena (38° 57.5' N. lat.). CDFG will be prepared to discuss the need for this action at the September meeting, and will continue to track recreational catches of yelloweye rockfish and other species of interest for the remainder of the season to determine whether any additional regulatory action is necessary to keep catches within federally-established limits.

Figure 1: Status quo 2008 California recreational groundfish season and depth restrictions.

Management Area	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
North	CLOSED				Open <20 fm							
North-Central N. of Pt. Arena	CLOSED					Open <20 fm						CLOSED
North-Central S. of Pt. Arena	CLOSED					Open <20 fm						CLOSED
Monterey South-Central	CLOSED				Open <40 fm						CLOSED	
Morro Bay South-Central	CLOSED				Open <40 fm						CLOSED	
South	CLOSED	Open <60 fm										

Figure 2: Season and depth restrictions under the proposed inseason action.

Management Area	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
North	CLOSED				Open <20 fm May to Sept. 1				CLOSED			
North-Central N. of Pt. Arena	CLOSED					Open <20 fm June to Sept. 1			CLOSED			
North-Central S. of Pt. Arena	CLOSED					Open <20 fm						CLOSED
Monterey South-Central	CLOSED				Open <40 fm							CLOSED
Morro Bay South-Central	CLOSED				Open <40 fm							CLOSED
South	CLOSED	Open <60 fm										

Table 1: CDFG estimates of the distribution of California's 2008 recreational yelloweye rockfish catch (1.3 mt) by groundfish management area through August 10, 2008.

Management Area	Percentage of Estimated Catch
North	32%
North-Central (north of Point Arena)	52%
North-Central (south of Point Arena)	12%
Monterey South-Central	4%
Morro Bay South-Central	0%
South	0%



UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic Atmospheric Administration
National Marine Fisheries Service
Sustainable Fisheries Division
7600 Sand Point Way N. E., Building. 1, Bin C15700
Seattle, WA 98115-0070

Agenda Item I.1.c

Supplemental NMFS Report
September 2008

DATE: August 26, 2008
TO: DISTRIBUTION
FROM: F/NWR2 -Becky Renko
SUBJECT: PRELIMINARY Report 10 -- 2008 Pacific Whiting Fishery

This report consolidates preliminary state, federal, and tribal data for the 2008 Pacific whiting fishery. Due to concerns about the incidental catch of overfished species, bycatch limits are in place in the non-tribal sectors of the fishery for canary (4.7 mt), darkblotched (40 mt) and widow rockfish (275 mt). When a bycatch limit is reached, the primary whiting seasons for the non-tribal fisheries are ended regardless of the amount of whiting allocation remaining. Preliminary data indicated that the bycatch limit for canary rockfish had been reached, therefore all sectors of the fishery were closed on August 19, 2008.

	Allocation		Whiting Catch* (mt)	Overfished Species and Chinook salmon catch	Thru [date]	Status	Percent of allocation taken
	Percentages	Metric Tons					
California (south of 42° N. lat.)	(5% of the shore – based allocation)	4,880	4,815			started 4/1, closed noon 5/21	98.7%
Coastwide			29,901			started 6/15, closed noon 8/19	
WOC shore-based	42% commercial OY	97,669	34,716	Canary – 1.54 mt Widow – 95.58 mt Darkblotched – 0.94 mt Chinook # 1,696	8/19		35.5%
Mothership (n. of 42 N. lat.)	24% commercial OY	55,811	46,866	Canary – 0.74 mt Widow – 60.75 mt Darkblotched – 3.92 mt Chinook # 225	8/19	started 5/15, closed noon 8/19	84.0%
Catcher/processor (n. of 42 N. lat.)	34% commercial OY	79,065	49,269	Canary – 2.40 mt Widow – 39.30 mt Darkblotched – 2.36 mt Chinook # 89	8/19	started 5/15, ended 8/19	62.3%
Total nontribal	commercial OY	232,545	130,851	Canary – 4.68 mt Widow – 195.63 mt Darkblotched – 7.22 mt Chinook # 2,010	--	--	56.2%
Tribal (Makah)		35,000	71	Canary – 0.02 mt Widow – 0.02 mt Darkblotched – 0.00 mt Chinook # 5	5/17		0.2%
Total directed fishing		267,545	130,922	Canary – 4.7 mt Widow – 195.65 mt Darkblotched – 7.22 mt Chinook # 2,015	--		48.9%
Total	OY=optimum yield	269,545	--	--	--	--	--

* Catch includes: discards from at-sea processors; weigh-backs from shore-based vessels; and catch landed under trip limits prior to the season. The values for at-sea processing sectors are based on NMFS observer data. Data for shore-based vessels were derived from electronic fish ticket submissions. Data for the at-sea processing portion of the Makah fishery are based on preliminary NMFS observer data and shore-based catch provided by tribal samplers. All weights are in metric ton (2,204.6 pounds).

ENFORCEMENT CONSULTANTS REPORT ON CONSIDERATION OF INSEASON ADJUSTMENTS

The Enforcement Consultants (EC) would like to take the opportunity to provide information to the Council and explain the decisions made concerning the closure of the shore-based sector of the whiting trawl fishery.

During the 2008 season, approximately fifteen self reported discard events occurred that were in violation of the 'maximum retention and monitoring exemption program' section of the exempted fishing permit (EFP). The terms and conditions of this EFP section stipulates, "Discard that results when more catch is taken than is necessary to fill the hold, is within the control of the vessel operator and would continue to be prohibited." Vessels are required to report these discard events and cease fishing.

Catch estimates for shore-based sector vessels were derived from three sources: electronic fishticket submissions, catch monitoring information, and an estimated bycatch rate applied to the self-reported discard events. The fisheries managers applied an extrapolated bycatch rate to the self reported discard amounts which was added to the documented shoreside landings and the projection indicated the canary rockfish by catch limit had been reached.

All but one of the self-reported discard events involved second tows where the vessels filled their holds and could not hold the remaining fish on the deck. The vessel operators reported estimated quantities of dumped fish ranging from 5,000 to 35,000 pounds. The dumping events are being investigated by NOAA Enforcement. Additional information has revealed possible electronic monitoring irregularities during fishing trips that may have concealed other illegal discard events. The electronic monitoring system data and video is currently being reviewed by Archipelago and NOAA Enforcement. All illegal discarding events will be investigated and violations submitted for prosecution.

The monitoring of the Pacific whiting primary season shore-based sector during 2008 appears to have improved catch accounting. The EFP terms and conditions were successful in reducing excessive discards. The continued fine tuning of electronic monitoring systems, a strong enforcement presence, and the catch monitoring program requirements should improve compliance in this fishery.

PFMC
09/10/08

GROUND FISH ADVISORY SUBPANEL REPORT ON
CONSIDERATION OF INSEASON ADJUSTMENTS

The Groundfish Advisory Subpanel (GAP) met with the Groundfish Management Team (GMT) to discuss initial inseason issues and has the following comments and recommendations.

Canary

The updated scorecard shows 4.1 mt of canary in residual projected through the end of the year. The GAP had a lengthy discussion about opportunities that the residual canary could provide. The GAP unanimously agreed that reopening the whiting fishery was the priority action the Council should take. All three sectors of the whiting fishery have fish left in the water including more than 60 percent of the shoreside allocation. The shoreside whiting fleet has testified that they will continue the daily monitoring of the bycatch in the fishery and work together to avoid these hotspots. The catcher/processor sector is already managing its fleet in this fashion.

For the non-whiting limited entry trawl fleet, the GAP would also like to see a change to the seaward Rockfish Conservation Area boundary to 75 fathoms. If both these actions can be accommodated by the 4.1 mt the GAP is supportive of taking this action. The GAP is not supportive of reopening the closed areas off of Oregon and Washington.

The GMT report indicates that both requests (reopening the whiting fishery and changing the fathom line) can be accommodated.

The GAP is generally supportive of the remaining GMT proposed inseason adjustments.

PFMC
09/10/08

***Mike Hart
4500 Union St
Eureka, CA 95503
(707) 845-4109***

August 25, 2008

**California Department of Fish & Game
Attn: Mr. John Budrick
350 Harbor Blvd
Belmont, CA 94002**

Re: Ocean Fishing Closures

Dear Mr. Budrick:

Subsequent to the August 21, 2008 meeting regarding the rockfish closure at Trinidad, I have some items that I would like you or your agency to address.

- 1. What date was the recommendation to close fishing for rockfish submitted to the Administrative Law Office?**
- 2. How were the time, date and location of the August 21st meeting determined?**
- 3. Subsequent to the 2007 meeting, were any recommendations/concerns discussed considered or implemented?**
- 4. What are the requirements for a person collecting data at the docks?**
- 5. What training are they given?**
- 6. Are they full time employees of the Department of Fish & Game?**
- 7. Was the 2008 early Rockfish closure based on data collected from the 1500 + questionnaires/boat reports obtained by the dock data collectors?**
- 8. Does the data include information on the use of safe release equipment by fishermen?**
- 9. How many questionnaires were obtained/submitted from each port or district?**
- 10. Has California Department of Fish & Game completed any oversight of the data collection process?**
- 11. How was it determined that “yellow eye” rockfish were over-fished?**
- 12. What research has been completed to verify the initial assessment data?**
- 13. Has Fish & Game completed any physical assessment/inspections?**
- 14. Do all marine districts have similar assessments?**
- 15. Are any reports submitted by the Game Wardens from their boardings and catch inspections?**

- 16. Do biologists accompany the Wardens on their patrols?**
- 17. Since the 2008 salmon season was closed, has any research been completed to verify the data used for closure?**
- 18. Have there been any other fishing closures in California?**

Your response will be greatly appreciated.

Best Regards,

Mike Hart



ARCTIC STORM MANAGEMENT GROUP, LLC

400 North 34th Street, Suite 306
Seattle, Washington 98103 U.S.A.

Mr. Donald Hansen, Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR
September 2, 2008

RE: Rockfish Bycatch in the Whiting Fishery. Agenda Item I.1

Dear Mr. Hansen,

We appreciate the efforts taken by the Pacific Fishery Management Council to better manage rockfish bycatch so that all participants in the recreational and commercial fisheries can hope to maximize utilization of the resource and reduce bycatch of this important species. Despite these efforts, it is disappointing that the whiting fishery was prematurely closed by rockfish bycatch for the second year.

The Council has tried to provide adequate tools for the whiting sectors to reduce bycatch with approval of Amendment 15 which closed new entry into the separate sectors, the approval of separate sector allocations of rockfish species for 2009 and development of Amendment 20 which promises to rationalize the three separate sectors. We are hopeful that, in combination, all these measures will assure success and full utilization of the whiting fishery in the future.

The Mothership sector has taken additional steps to reduce bycatch. The participants agreed to take specific actions to avoid rockfish bycatch when continued fishing in an area or time of day might contribute to a premature closure of the whiting fishery. Such actions caused the MS fishery to be prosecuted in a much slower and more costly fashion. For instance, the MS fishery began fishing on May 15 and continued fishing until the fishery was closed on August 19. Specifically, it could not catch in three months what it normally harvests in one month. While the MS sector caught less than its pro-rata share of all species of rockfish, it was unable to fully harvest its whiting allocation before the fishery was closed. These bycatch avoidance actions increased operational costs to MS sector participants greatly but paid-off in keeping bycatch rates low.

We appreciate the efforts of the Council to continue providing the whiting industry participants with the tools necessary to allow us to fully prosecute our fishery. We have tried to match your efforts with complementary efforts of our own and hope for more industry success in fully prosecuting the whiting fishery the next year.

Sincerely,

Donna Parker
Director, Govt. Affairs

Sector	Canary Pro-rata	Canary Catch	Widow Pro-rata	Widow Catch	DarkBltch Pro-rata	Darkbltch Catch
Shoreside (42%)	1.97 MT	1.54 MT 78.17%	115.5 MT	95.58 MT 82.75%	16.8 MT	0.94 MT 5.6 %
Mothership (24%)	1.13 MT	0.74 MT 65.49%	66.0 MT	60.75 MT 92.04 %	9.6 MT	3.92 MT 40.83 %
Catcher Processor (34%)	1.60 MT	2.40 MT 150.0%	93.5 MT	39.3 MT 42.03 %	13.6 MT	2.36 MT 17.35 %
Total	4.7 MT	4.68 MT	275 MT	195.63 MT	40 MT	7.22 MT

Whiting Sector Bycatch Performance in 2008.

To the Pacific Fishery Management Council, Chairman and esteemed others.

I am here before you today because I am one of the LUCKY (yet un-lucky) ones. I can come to your meeting, and voice the concerns of many, as unfortunately, I am unable to fish the great waters of Washington that I have for over 40 years.

I am the owner/operator of a 75 foot dragger fishing vessel the Windjammer. My father built this boat in 1968 this vessel was one of many that my father owned and operated from the mid 1950s . I became the owner in 1990.

Here you are making decisions for Quotas and solutions for an Industry that perhaps you only understand slightly, what about those of us who have managed and maintained the ground fish for all of these years.

How do you decide, who gives you the data to make your decisions, how can you really understand what a standard fishing vessel should be allowed to fish, to have an equitable fishing trip.

Have you personally fished the waters for the many years myself and others have?

Do you really understand the financial obligations that are required of us as well as the personal toll we take for the industry, to preserve our heritage, our family obligations to continue what we have known our entire lives? Do you understand the costs that come with owning and operating a fishing vessel?

The required help

The proper licensing

The outrageous fuel costs per trip

The extra taxes we are all paying for each and every trip

JUST EXPENSES IN GENERAL

The buy back taxes that I have incurred as I chose not to take part in the program because it was promised to be a positive and more equitable outcome. Unfortunately, this I now regret as my family and I are suffering with the new restrictions, our savings being depleted, as well the personal sacrifices which include my recent health issues. Do you realize the valuable time we gave up with our families, the birthdays, the anniversaries, the many holiday celebrations all in order to make a living, and to provide the product for your tables?

Do you realize that my family and others who combined have fished these waters using our ancestral experience, our family heritage our commitment to the proper trawling techniques that our ancestors from Norway, as well as other countries those who know how to fish properly, how to maintain the continued re-growth of the fish, preserving the fish for years to come.

How can a government agency determine what or who should fish, how does an agency develop the data that determines the quotas, what vessel can fish, and how many permits can be sold, Who is here to support us when the buy back isn't working for all, how the many economic changes that dictate who can afford the licenses, permits My Washington State permit number is 142, and the Federal government is 54, does this tell you anything? Do realize the number of independent owner/operators are going out of business because of these changes that our government agencies decide what is best for us? Do we have data that shows how many processors now own the licenses and permits now they are able to eliminate the middle man, me the fisherman, the family of these dedicated, hardworking individuals who have given their heart and soul the native who knows what to do in order to preserve this industry that means the most to them?

Are we to become another industry subsidized by the government **being paid to not produce their product**? And here are the fishermen who are not supported, we don't want to be another statistic, we don't want to be a Ward of the Government, but how can we survive when the decisions that effect us the most are made by agencies who really don't know what the bottom line is in order to make a living?

What will fix the problem, we don't need a quick fix for something that needs so much more. Our ancestry that understood the industry, has nurtured the re-growth. We need a solution that will be long standing something that will be more than just the band aid for an injury that needs stitches. No more instant quick fixes that will bring about regret years later, that will only make us obsolete no more little guy. We do not want to become a sign of times past, the fishing industry should not end up like the fuel industry whose main objective is the filling of pockets for a few, destroying the dreams of many to become a statistic. We the fishing vessels understand what needs to be done, we need the waters to fish in the freedom to fish for species that can produce and re-produce for our families and the generations to come.

I can only presume that you see this man who has the time to come before you, is lucky to be able to come and speak before you. I am the un-lucky one as I am unable to fish, using my many years experience who knows and wants to continue to fish, and continue to promote the growth and preserve the species that we fish. I am the man who is living a sedentary lifestyle who wants these changes to come for the good of all and support the few who are dedicated to providing the food for our families as well as yours.

We must have your support.

We have to fix this problem, please do not offer us the quick fix.

Help us plan for the future that is going to be good for all, not just for the processors who decide what the cost should be, or the government agency that does not understand how or why they limit or give us quotas **that are not relevant to the times.**

Eliminate the buy back incentives that only promote our vessels to not fish, what happens to them years later, how does this process allow new permits, new licenses that will promote them fishing our waters and steal our livelihood.

WE NEED YOUR HELP.

Thank you for your time in hearing my voice, the voice of many who are unable to attend this meeting of the Pacific Fishery Management Council .

OMAR ALLINSON
MISS LEONA INC.
624 VAN WYCK ROAD
BELLINGHAM, WA 98226

September 5, 2008

Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Dear Chairman Hansen:

I am the owner and operator of the F/V MISS LEONA, a vessel which I have operated in the West Coast trawl fisheries for many years.


I am writing because of my concern for what is happening to independent small operators such as myself in the West Coast trawl fisheries. Over the years, I have made extensive investments in gear and machinery, including after the Pacific Coast ground fish buyback program. I elected not to submit a bid in the buyback program. Instead, I have continued to actively operate the MISS LEONA. However, the buyback has not created opportunities for me.

Especially since the buyback, I have had to fight to make a living in the fishery. I have survived only with enormous expenditures of time and money. I have worked 12 hours a day 7 days a week, and averaged 6 hours sleep a night during long stretches of time. Because of the amount of work, I cannot attend the September Council meeting without losing more money.

I have been working at a loss in this fishery for over two years. Recently, many independent fishermen have sold out to investors. Only by struggling and fighting are the individual operators such as myself able to stay in business. The communities are losing out as well.

I respectfully ask the Council to keep in mind the long-time individual fishermen, who are having to struggle so much now to survive. Please insure that measures which you adopt will preserve our participation in the fisheries.

Sincerely,


Omar Allinson
Owner, F/V MISS LEONA

STATEMENT OF STEVE AARVIK

My name is Steve Aarvik. I am the owner of the fishing vessel WINDJAMMER. I have been fishing in the West Coast trawl fisheries with the WINDJAMMER since 19____.

In 2003, when the Pacific Coast groundfish buyback program came in, I decided to continue to fish the WINDJAMMER and not to submit a bid to have my vessel bought back. We all understood that the buyback program was designed to reduce the harvesting capacity in the West Coast fisheries and to financially stabilize these fisheries. We all understood that the concept was that there would be fewer boats, and as a result more fish for those of us who elected not to be bought out.

This has not happened. Those of us who remained in the fisheries were lead to believe that in exchange for us paying to buy back the other vessels through landing taxes on our fish, we would get access to more fish. Instead, it is harder and harder to go where the fish are because of a variety of regulations including area restrictions. I believe that the trip limits which apply now are not at all what was intended under the buyback program.

These days, especially with sky-high fuel costs, and limited access to fish, it is very difficult to continue to make a go of the fishery economically.

I ask you to take steps which will keep to the spirit of the buyback program, and allow the vessels which stayed in the West Coast fisheries to truly benefit from that program in the way that it was intended, and to have adequate access to the fisheries resources so that we can continue to make a living.

Thank you for considering my remarks.

#356/aarvik-statement

WINDJAMMER FISH NORTHWEST INC

18316 68th Ave West
Lynnwood, WA. 98037
Phone 425 776-9618
Fax 425 776-9618
onecme5sbe@comcast.net

The Honorable

RE: Groundfish Buyback Program Debt Relief

Dear:

My name is Steve Aarvik. I am the owner of the F/V Windjammer. My family has fished for over 55 plus years. I have been the owner/operator of the F/V Windjammer for the last twenty years. I am writing you this letter to offer some insight to why the current Buyback Program Debt Relief is not a equal resolution to the ever changing fishing industry/market. My family and others would be considered natives to the fishing industry, with our many years of dedication to the nurturing as well as protecting the investment for all concerned. Recently after our boat and household savings being exhausted because of the many economical changes, the fishing quotas, the salmon crisis, and recouping from an illness that almost left my family without me, I had to apply and was denied a loan from the Fishing Finance Program. All of these issues combined have forced me and others to contact you and our other esteemed Congress Members, as well as elected officials for some other options for resolution of the ever changing fishing industry.

During these many years my family and other fisherman have been nurturing and preserving the west coast waters. We have been through to many changes in the industry, unfortunately, many of them were to the detriment of my family and others who have depended on the fishing industry for the food on the table as well as their livelihood. The most recent Buyback Debt Relief program, as you are aware will offer financial assistance for once again another fishing industry disaster this has been the second time in three years. (Sacramento 2008 and Klamath 2006). The buy out for these two years combined equaled 232 million in spite of the amount is nothing more than a quick fix, it will not permanently create a solution., knowing full well that another disaster could happen again next year. These programs have not helped some fisherman like myself, these options have not helped us in any way, I have never gotten any money I have yet to see money come my way due to these disasters.

The 2000 Federal Groundfish Buyback Plan that provided 36 million in order the permanently remove fleet capacity, which allowed more opportunity for the remaining fisherman. The 2000 buyback program has yet to show any permanent relief for so many who took this option in 2000. This may have helped to stabilize the ground fish industry is still a shadow of what it used to be.

This buyback opportunity will also cost more in fees, and now with the high fuel prices, the fleet still has to deal with new restrictions of rebuilding over fished areas. Not being able to

fish in the areas my father and I made it possible to make a buck, for instance fishing outside of the 150 fathoms or inside of 60 fathoms different limits for different nets being used.

Those who are currently paying back the 2000 ground fish buy back program, are currently paying into the fund and should not be treated differently than the salmon fishermen. While they were given money we have to pay back a "loan" with an interest rate of 2% higher than the initial load amount, this additional expenditure added to the interest rates of 18 months which was approximately \$3.8 million incurred prior to the buyback fees being instated. These fees are one of the many hindrances we in the industry have to contend with daily in order to be competitive. For instance the continued increase of fuel prices which are now four times higher than the initial calculations were done in 2003. The fish prices are static which doesn't help the situation. The continued upgrading, regular maintenance (more efficient engines, gear boxes, propellers etc.) which helps to make our vessels safe and viable operation in order to be competitive in these difficult times for many of use in the US market today.

In conclusion we need the forgiveness of debt forgiveness program to be equal to all, not just to the current buy back program. As you can see previously in my letter buyback programs are not equal to times past as they will only help to destroy more of the industry that is being stripped. My family, the descendants, the natives who have nurtured, maintained and been committed to the food on your table and others for these many years. Come on give us a break count how many of us are actually left, we the fisherman of the United States of America are crying out for help but our cries are falling on deaf ears. HEAR WHAT WE HAVE TO SAY! Please commit to making this and any new buy back program equitable to all concerned not an instant relief but a long term remedy for all of us.

Best Regards,

Steve Aarvik

WINDJAMMER FISH NORTHWEST INC

18316 68th Ave West
Lynnwood, Wa. 98037
Phone 425 776-9618
Fax 425 776-9618
oneme5she@comcast.net

September 8, 2008

The Honorable Mike Thompson
United State House Of Representatives
Washington, D.C. 20515

Dear Congressman Thompson:

I am writing to you today as a owner/operator of the fishing vessel Windjammer, I have a long history commercial fishing in Washington waters. Today I have to work harder and make less, I am steadily going backwards, the expenses go up but the limits go down and the prices of the fish stay the same. There has to be away to change these conditions I am not the only company that has this burden on how are we going to make ends meet. I have depleted all of my saving both the company and personal to make sure that the boat is a safe and seaworthy place to work. For about 60 years my family have been buying permits and paying tax. The Windjammer is 75ft. Trawler.

This year the Pacific salmon fisheries will be greatly reduced due to an unexpectedly low number of returning Fall Chinook into the Sacramento River system. A similar event took place in 2006 with very low number of Klamath Chinook returning to spawn.

This sort of naturally occurring event on the Ocean is something that was not fully appreciated in the ground fish fishery for many year, because these fish are long lived and the fishery is supported by many year classes. However, the changing ocean conditions through the 1980's and 1990's have led to repeated recruitment failure for a number of important ground fish species. These recruitment failure resulted in the population of several important species of ground fish to decline to very low levels resulting in a number of species to be declared over fished. These declarations led the Secretary of Commerce to declare the ground fish fishery a disaster in the year 2000. That declaration of disaster continues today.

We in the ground fish trawl fishery decided that something needed to be done to help mitigate our problem and correct this situation. We have developed new fishing gear, established areas closed to fishing, and developed and implemented an Industry Funded

Buy-back program to reduce fishing capacity. Our buy-back program was funded through a loan by the Federal Government and the industry has been repaying this loan since 2004.

The Federal Treasury benefited immediately from this buy-back by collecting 15% capital gain tax on recipients of this money as well as several years of the industry paying 5% of their gross revenue to repay this loan and interest.

As you and other members of Congress begin discussing programs to help the impacted Salmon industry, please keep in mind the ground fish disaster has not gone away. We were not then and have not been since then. Loud in crying for help. We have always felt that we need to deal with what nature throws our way, but when we see other segments of the fishing industry receiving assistance from the Federal Government we would like to be remembered.

If such an assistance package is going to be put together once again in Congress, we are requesting that a provision to forgive the debt obligation that we assumed in 2003. This would ease the impact of the ongoing ground fish disaster and greatly improve the economics of the trawl fishery which is so vital to the small fishing communities along the West Coast.

I feel if something is not done soon to help us we will no longer be able to make ends meet.

Thank you for your consideration of this issue.

Sincerely,

Steve Aarvik
Windjammer Fish Northwest Inc

To Whom it May Concern;

My name is Steve Aarvik I own and operate a commercial fishing vessel. Recently, the industry that I have made my livelihood has been compromised due to your Marine Sanctuaries as well as your political views in regards to the fishing industry. I would like to explain to you how this industry has survived in Washington state for all of these years, that my family and others have fished. Due to our commitment and willingness to not "over fish" the areas, and allow the continued regeneration of the fish that we predominately fish. My family has incurred 51 years of log books that Washington state has in possession documenting our commitment to the industry we depend on. I grew up in a fishing family and that is all I know, missing the birthdays of my four daughters and special moments and occasions for over 30 years making these sacrifices in order to put clothes on our backs, a roof over our head, food on the table for our families as well as some of yours, I really need your support to allow us to fish and continue to groom the areas that are plentiful to fish. It is depressing and sad to me that my livelihood has been stripped from me and others. I am sure it was not your intention to completely devastate my family and others who have fished the smartest way for many years.

In closing I hope that you will take the time to read my plea and could offer insight as to where I can go, perhaps charter work for Green Peace possibly buying my permits or boat so that we will not be another catastrophe in the making of the industry I have loved and nurtured for these many years. We need your help, thanking you in advance for taking the time to hear me out and hopefully we can work together for a positive outcome for all.

Sincerely,

Steve Aarvik
18318 68th Ave W
Lynnwood, WA 98037

425-776-9618

Ms. Donna Parker

Sector	Canary Pro-rata	Canary Catch	Widow Pro-rata	Widow Catch	DarkBltc h Pro- rata	Darkbltch Catch
Shoreside (42%)	1.97 MT	1.54 MT 78.17%	115.5 MT	95.58 MT 82.75%	16.8 MT	0.94 MT 5.6 %
Mothership (24%)	1.13 MT	0.74 MT 65.49%	66.0 MT	60.75 MT 92.04 %	9.6 MT	3.92 MT 40.83 %
Catcher Processor (34%)	1.60 MT	2.40 MT 150.0%	93.5 MT	39.3 MT 42.03 %	13.6 MT	2.36 MT 17.35 %
Total	4.7 MT	4.68 MT	275 MT	195.63 MT	40 MT	7.22 MT

Whiting Sector Bycatch Performance in 2008.

Motion by Dale Myer: With regard to inseason management, I move the following:

- 1. The Council adopt the following redistribution of the canary rockfish that the GMT identified is available (4.1 mt):**

4.1 mt
- 0.4 mt **to reopen the non-whiting bottom trawl fishery between 60 fms and 75 fms**

3.7 mt
- 2.0 mt to reopen the primary whiting fishery

1.7 mt remaining residual in the scorecard

- 2. Relative to the 2.0 mt canary for the whiting fishery, specify that the whiting fishery is to reopen as soon as possible with a bycatch cap of 1.7 mt. An additional 0.3 mt would be subsequently released, through an automatic action by NMFS, two weeks later, but not later than November 1, 2008. If the 1.7 mt cap is not reached, any remaining canary would rollover to be added to the 0.3 mt. In all cases, the canary rockfish bycatch in the whiting fishery would not exceed 2.0 mt.**
- 3. This action would not directly affect a long-term allocation of canary rockfish.**

Amendment by Rod Moore:

Add 12 mt of widow to existing whiting bycatch cap of 275 mt for a new cap of 287 mt

COUNCIL OPERATING PROCEDURE
Groundfish Essential Fish Habitat Review and Modification

22

Approved by Council: 6/13/07
Revised:

PURPOSE

To establish procedures for the Essential Fish Habitat Review Committee (EFHRC) and to meet the intent of Sections 6.2.4 and 6.8.5, 7.3.2, and 7.6 of Amendment 19 to the Groundfish Fishery Management Plan (FMP).

OBJECTIVES

1. Assist in keeping the Council's identified Groundfish essential fish habitat (EFH), habitat areas of particular concern (HAPC), and closed areas responsive to, and updated by, changing knowledge of marine habitat, fishery, and nonfishing activities.
2. Establish procedures and criteria for review and modification of groundfish closed areas to maintain the health, function, and resilience of Groundfish EFH within the ecosystem and for fishing communities.
3. Review ecologically important habitat closed areas and recommend to the Council the elimination of existing areas or the addition of new areas, or modification of the extent and location of existing areas for the protection of EFH.
4. Modify or eliminate existing, or designate new, Groundfish EFH and HAPC.
5. Conduct a periodic five year review of the EFH description and identification, HAPC designations, and information on fishing and nonfishing impacts.

GROUND FISH ESSENTIAL FISH HABITAT REVIEW COMMITTEE

Duties

When requested by the Council Chair or Executive Director, the Groundfish EFHRC shall review proposals or information with regard to modifying groundfish EFH and specifically:

1. Develop terms of reference for submittal and review of proposals consistent with Objective 3 above.
2. Review groundfish EFH designations and areas currently closed to various types of fishing gear to protect groundfish habitat and recommend to the Council the elimination of existing areas, addition of new areas, or modification of existing areas. In making its recommendations, the EFHRC shall consider the best scientific information regarding the items listed in Section 6.2.4 of the Groundfish FMP, as well as other relevant information. The EFHRC may also include recommendations for modifying HAPC consistent with the proposed modification of the location and extent of areas closed to bottom trawling or other benthic contact fishing gear.
3. Conduct a periodic five year overall review of the EFH description, HAPC designations, and information on fishing and nonfishing impacts included in the FMP.
4. Make recommendations to the Council as appropriate under the periodic and interim reviews.

Composition

General

The Groundfish EFHRC will be an ad hoc committee following the administrative procedures of COP 8 (members appointed by the Council Chair with advice from Council members and advisors, etc.). A core group of the EFHRC will be maintained, with additional members added as needed depending on the review assignment and geographic area of the proposals. The core group of the EFHRC will include two National Marine Fisheries Service (NMFS) scientists (NW and SW Science Centers) familiar with Pacific marine habitats, two representatives from NMFS NW Region, one bottom trawl representative and one fixed gear representative knowledgeable about west coast fisheries, two representatives of conservation entities, two persons with expertise in mapping of marine habitats off the Pacific Coast, one representative from west coast National Marine Sanctuaries, **one tribal representative**, and a representative from the Enforcement Consultants. Additional members may include appropriate representatives from the Groundfish Advisory Subpanel, Groundfish Management Team, Scientific and Statistical Committee, Habitat Committee, and other individuals with familiarity and expertise in socio-economics, fisheries, and marine habitats of the areas proposed for changes. In selecting members to review a particular proposal(s), the Council Chair will also consider the need for some consistency in membership from ad hoc committee to ad hoc committee. If the appointed EFHRC lacks expertise to adequately review a proposal or proposals, the EFHRC may request additional assistance through the Council Chair.

Member Terms, Alternates, and Officers

As described in COP 8, *Ad Hoc Committees*.

Meetings

As described in COP 8, *Ad Hoc Committees*.

Staff Responsibilities

As described in COP 8, *Ad Hoc Committees*.

EFH REVIEW PROCEDURES

Review procedures utilized by the Council will vary depending on the purpose or type of review.

Short Term EFH Reviews

On an annual basis, the EFHRC will review new information and consider proposals for changes to HAPC designations and areas closed to fishing by various gear types, and to consider nonfishing impacts, consistent with the objectives above. The review of proposals by the EFHRC and final determination by the Council will be coordinated with the groundfish biennial management specifications process to the degree possible. **[Some exceptions to the schedule may be necessary in the initial review.]** The normal process will be as follows:

Timing	Action
October	EFHRC meets with Habitat Committee to review new information and produce compendium of reports and assessments (science focus).
November	Discuss policy implications, set priorities, solicit general and specific proposals. Determine if there is a need to advance the periodic five year review process.
February	Proposals due for April briefing book deadline; EFHRC meets to review proposals with proponents.
April	EFHRC briefs advisory bodies and develops recommendations to Council. Council takes final action to develop modifications to EFH/HAPC, sets process and schedule. Even Years: Council may include proposed modifications among a range of alternatives prepared for the next biennial groundfish management period for public review.
September/June	Review regulatory language, make final recommendation to Council.
June Council Meeting of Even Numbered Years	Council makes its final recommendations for implementation by NMFS in January of next odd year.

Five-Year Review

The periodic five year review of the Council's EFH and HAPC designations may be a major task that requires special expertise and planning. The table in this COP will be modified for the next five-year review to reflect the realities of the process and the updated Council workload.

Timing*	Action
March 2006	Groundfish Amendment 19 record of decision was signed by NMFS revising EFH designations, and starting the five year review period
November 2010	EFHRC determines the scope for the upcoming periodic five year review based on EFH modification and evaluation since March 2006 and development of new information.
March 2011	EFHRC meets to initiate the process to conduct the five year review for Council approval. The EFHRC will develop recommendations for public review, National Environmental Policy Act compliance, data and model requirements, schedule for completion, and other relevant issues needed for specifics of the periodic review.

*This table describes the initial five year review beginning in 2011; subsequent reviews would follow five years after approval.

COUNCIL OPERATING PROCEDURE

Groundfish Essential Fish Habitat Review and Modification

22

Approved by Council: 6/13/07
Revised:

PURPOSE

To establish procedures for the Essential Fish Habitat Review Committee (EFHRC) and to meet the intent of Sections 6.2.4 and 6.8.5, 7.3.2, and 7.6 of Amendment 19 to the Groundfish Fishery Management Plan (FMP).

OBJECTIVES

1. Assist in keeping the Council's identified Groundfish EFH, HAPC, and closed areas responsive to, and updated by, changing knowledge of marine habitat, fishery, and nonfishing activities.
2. Establish procedures and criteria for review and modification of groundfish closed areas to maintain the health, function, and resilience of Groundfish essential fish habitat (EFH) within the ecosystem and for fishing communities.
3. Review ecologically important habitat closed areas and recommend to the Council the elimination of existing areas or the addition of new areas, or modification of the extent and location of existing areas for the protection of EFH.
4. Modify, or eliminate existing, or designate new, Groundfish EFH and habitat areas of particular concern (HAPC).
5. Conduct a periodic five year review of the EFH description and identification, HAPC designations, and information on fishing and nonfishing impacts.

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of those portions of Amendment 19 to the
Groundfish Fishery Management Plan
(FMP) which identify requirements to:

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new areas closed to bottom trawling

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6.8.5)

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6.2.4)

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to be accomplished at least once every
five years (Section 7.6)

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Council's identified EFH and HAPC
responsive to and updated by changing
knowledge of marine habitat and fishery
and nonfishery activities that affect it by:¶

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membership and operating guidelines for
an EFH Oversight Committee (OC)
charged with reviewing and making
recommendations to the Council for
proposed changes to EFH and HAPC.¶
¶
2. . Establishing a process for efficiently
reviewing proposed changes to
Groundfish EFH and HAPC, including an
overall review at least once every five
years.¶

GROUND FISH ESSENTIAL FISH HABITAT REVIEW COMMITTEE

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Duties

When requested by the Council Chair or Executive Director, the Groundfish EFHRC shall review proposals or information with regard to modifying groundfish EFH and specifically:

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1. Develop terms of reference for submittal and review of proposals consistent with Objective 3 above.
2. Review groundfish EFH designations and areas currently closed to various types of fishing gear to protect groundfish habitat and recommend to the Council the elimination of existing areas, addition of new areas, or modification of existing areas. In making its recommendations, the EFHRC shall consider the best scientific information regarding the items listed in Section 6.2.4 of the Groundfish FMP, as well as other relevant information. The EFHRC may also include recommendations for modifying HAPC consistent with the proposed modification of the location and extent of areas closed to bottom trawling or other benthic contact fishing gear.
3. Conduct a periodic five year overall review of the EFH description, HAPC designations, and information on fishing and nonfishing impacts included in the FMP.
4. Make recommendations to the Council as appropriate under the periodic and interim reviews.

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Composition

General

The Groundfish EFHRC will be an ad hoc committee following the administrative procedures of COP 8 (members appointed by the Council Chair with advice from Council members and advisors, etc.). A core group of the EFHRC will be maintained, with additional members added as needed depending on the review assignment and geographic area of the proposals. The core group of the EFHRC will include two NMFS scientists (NW and SW Science Centers) familiar with Pacific marine habitats, two representatives from NMFS NW Region, one bottom trawl representative and one fixed gear representative knowledgeable about west coast fisheries, two representatives of conservation entities, two persons with expertise in mapping of marine habitats off the Pacific Coast, one representative from west coast National Marine Sanctuaries, one tribal representative, and a representative from the Enforcement Consultants. Additional members may include appropriate representatives from the Groundfish Advisory Subpanel, Groundfish Management Team, Scientific and Statistical Committee, Habitat Committee, and other individuals with familiarity and expertise in socio-economics, fisheries, and marine habitats of the areas proposed for changes. In selecting members to review a particular proposal(s), the Council Chair will also consider the need for some consistency in membership from ad hoc committee to ad hoc committee. If the appointed EFHRC lacks expertise to

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adequately review a proposal or proposals, the EFHRC may request additional assistance through the Council Chair.

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Member Terms, Alternates, and Officers

As described in COP 8, *Ad Hoc Committees*.

Meetings

As described in COP 8, *Ad Hoc Committees*.

Staff Responsibilities

As described in COP 8, *Ad Hoc Committees*.

EFH REVIEW PROCEDURES

Review procedures utilized by the Council will vary depending on the purpose or type of review.

Short Term EFH Reviews

On an annual basis, the EFHRC will review new information and consider proposals for changes to HAPC designations and areas closed to fishing by various gear types, and to consider nonfishing impacts, consistent with the objectives above. The review of proposals by the EFHRC and final determination by the Council will be coordinated with the groundfish biennial management specifications process to the degree possible. [Some exceptions to the schedule may be necessary in the initial review] The normal process will be as follows:

Timing	Action
October	EFHRC meets with HC to review new information and produce compendium of reports and assessments (science focus).
November	Discuss policy implications, set priorities, solicit general and specific proposals. Determine if there is a need to advance the periodic five year review process.
February	Proposals due for April briefing book deadline; EFHRC meets to review proposals with proponents.
April	EFHRC briefs advisory bodies and develops recommendations to Council. Council takes final action to develop modifications to EFH/HAPC, sets process and schedule. Even Years: Council may include proposed modifications among a range of alternatives prepared for the next biennial groundfish management period for public review.

Deleted: Short Term EFH Reviews¶

¶ To address new information received between the five year comprehensive reviews, the Council Chair will appoint an ad hoc EFH OC with a composition tailored to deal effectively with the unique new information at hand. This ad hoc EFH OC will meet in accordance with the schedule described in the short term review portion of this COP, and disband at the conclusion of that process.¶

Deleted: Five Year Review and Extensive Modifications¶

¶ To address the overall five year review or proposals for major modifications requiring special expertise, the Council Chair will appoint an ad hoc EFH OC with a composition similar to the original Groundfish Habitat Technical Review Committee that was a key review group for identifying the initial EFH and HAPC.

Deleted: That committee was composed of two NMFS scientists (NW and SW Science Centers) familiar with Pacific marine habitats, two bottom trawl representatives knowledgeable about fisheries and trawling practices on the West Coast, two scientists representing conservation entities, and two professors intimately involved and expert in mapping of marine habitats off the Pacific Coast.

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September/June	Review regulatory language, make final recommendation to Council
June Council Meeting of Even Numbered Years	Council makes its final recommendations for implementation by NMFS in January of next odd year.

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Odd Numbered Years ...

Five-Year Review

The periodic five year review of the Council's EFH and HAPC designations may be a major task that requires special expertise and planning. The table in this COP will be modified for the next five-year review to reflect the realities of the process and the updated Council workload.

Timing*	Action
March 2006	Groundfish Amendment 19 record of decision was signed by NMFS revising EFH designations, and starting the five year review period
November 2010	EFHRC determines the scope for the upcoming periodic five year review based on EFH modification and evaluation since March 2006 and development of new information.
March 2011	EFHRC meets to initiate the process to conduct the five year review, for Council approval. The EFHRC will develop recommendations for public review, NEPA compliance, data and model requirements, schedule for completion, and other relevant issues needed for specifics of the periodic review.

*This table describes the initial five year review beginning in 2011; subsequent reviews would follow five years after approval.

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November Council Meeting of Odd Numbered Years	Council considers recommendations of EFH OC and makes recommendations for considering modifications in ongoing biennial management process (implementation in following odd year).
April Council Meeting of Even Numbered Years	Council may include proposed modifications among a range of alternatives prepared for the next biennial groundfish management period for public review.

ESSENTIAL FISH HABITAT REVIEW COMMITTEE REPORT ON GROUND FISH ESSENTIAL FISH HABITAT (EFH) REVIEW PROCESS

The recently established Essential Fish Habitat Review Committee (EFHRC) met for the first time during the current Council meeting on September 9 and 10. The Committee's primary tasks for this meeting were to 1) review and modify the EFHRC Council Operating Procedures (COP) 22, clarifying and establishing the EFHRC's charge, and developing procedures and schedule for both short-term EFH reviews and a long-term overall review of the EFH description, habitat areas of particular concern (HAPC) designations, and information on both fishing and nonfishing impacts in the fishery management plan (FMP) which is to be initiated at least once every five years; and 2) elect a Chair (Waldo Wakefield, NOAA NMFS Northwest Fisheries Science Center), and Vice Chair (Megan Mackey, Pacific Marine Conservation Council).

The EFHRC has modified COP 22 into an updated draft for the Council's review, including substantive changes to the time line and action items for both the short-term and five-year reviews (see tables below). In reviewing and updating the draft review procedures, the EFHRC made every effort to ensure that the schedule and flow of the review procedures was coordinated with the Council's schedule, and in even years, the groundfish biennial management specifications process. There was considerable discussion about whether the review cycle should follow an annual or a biennial schedule and an annual cycle was deemed most appropriate.

The EFHRC began work on developing terms of reference for the proposal and proposal review processes during the current meeting. The EFHRC plans to complete this task this fall. The EFHRC considers the terms of reference important in order to inform the public of Council expectations for EFH related proposals.

During the EFHRC's deliberations, there were recommendations for expanding the committee's roster to include a representative from the tribes and someone with socioeconomic expertise as needed.

Significant changes were made to COP in the area of the composition of the committee to reflect the current composition of the committee and to facilitate the review process.

The EFHRC looks forward to engaging in this process.

An edited version of the COP 22 is attached with strike outs. A final version is also attached.

Draft EFH review processes with time lines:

Short-Term EFH Reviews	
Timing	Action
October	EFHRC meets with Habitat Committee to review new information and produce a compendium of reports and assessments (science focus).
November	Discuss policy implications, set priorities, and solicit general and specific proposals. Determine if there is a need to advance the periodic five-year review process.
February	Proposals due for April briefing book deadline; EFHRC meets to review proposals with proponents.
April	EFHRC briefs advisory bodies and develops recommendations to Council. Council takes final action to develop modifications to EFH/HAPC, sets process and schedule. Even Years: Council may include proposed modifications among a range of alternatives prepared for the next biennial groundfish management period for public review.
September/June	Review regulatory language, make final recommendation to Council.
June Council Meeting of Even Numbered Years	Council makes its final recommendations for implementation by NMFS in January of next odd year.

Five-Year Review	
Timing*	Action
March 2006	Groundfish Amendment 19 record of decision was signed by NMFS revising EFH designations, and starting the five-year review period.
November 2010	EFHRC determines the scope for the upcoming periodic five-year review based on EFH modification and evaluation since March 2006 and development of new information.
March 2011	EFHRC meets to initiate the process to conduct the five-year review for Council approval. The EFHRC will develop recommendations for public review, NEPA compliance, data and model requirements, schedule for completion, and other relevant issues needed for specifics of the periodic review.

*This table describes the initial five-year review beginning in 2011; subsequent reviews would follow five years after approval.

PFMC
09/10/08

**FISHING VESSEL OWNERS' ASSOCIATION
INCORPORATED**

ROOM 232, WEST WALL BUILDING • 4005 20TH AVE. W.
SEATTLE, WASHINGTON 98199-1290
PHONE (206) 284-4720 • FAX (206) 283-3341

SINCE 1914

COPY

August 12, 2008

Mr. Frank Lockhart
NMFS
7600 Sand Point Way N.E.
BIN C15700
Seattle, WA 98115-0070

RE: Black-footed Albatross and other seabirds incidentally caught with hook-and-line gear

Dear Mr. Lockhart:

It is our understanding that there is increased concern over the take of seabirds in the hook-and-line fisheries off of Washington, Oregon, and California. It is also our understanding that Black-footed Albatross is being reviewed for listing in the near future and have been taken in the hook-and-line operations on the north coast.

The members of the Fishing Vessel Owners' Association (FVOA) that fish limited entry fixed-gear permits and/or participate in the DTL fishery, will be asked to deploy streamer lines beginning in August. We have sent out the enclosed notice to our members. As you are probably aware, streamer line experiments were done in Alaska waters through a Sea Grant project with the University of Washington. We had six (6) of our vessels participate in the experiment with several forms of gear avoidance devices.

Single and double streamer lines can result in a greater than 90% reduction in seabird takes. The longline fleet of Alaska has experienced an overall 80% reduction in seabird takes off Alaska.

Most of the boat owners we represent are currently finishing their Alaska operations and will return by mid-August to late September and begin to fish their limited entry permits off the lower coast. We will send a notice to our members requesting they deploy

streamer lines while fishing in Pacific Council waters if they are not doing so currently. If you should have any questions or requests to make of our members, please let us know.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Alverson', with a long horizontal flourish extending to the right.

Robert D. Alverson
Manager

RDA:cmb

Cc: Pacific Fishery Management Council

**FISHING VESSEL OWNERS' ASSOCIATION
INCORPORATED**

ROOM 232, WEST WALL BUILDING • 4005 20TH AVE. W.
SEATTLE, WASHINGTON 98199-1290
PHONE (206) 284-4720 • FAX (206) 283-3341

SINCE 1914

IMPORTANT!!

**NOTICE TO BLACKCOD PERMIT HOLDERS
THAT FISH OFF WASHINGTON, OREGON AND CALIFORNIA**

Concern is building that the West Coast hook-and-line fleet is taking seabirds incidental to fishing. Most notably, black-footed albatross have been recorded taken in the limited-entry fixed-gear fishery off of Oregon and Washington. This species is being considered for listing under the Endangered Species Act (ESA). In addition, the fishery overlaps with the distribution of the endangered short-tailed albatross requiring NMFS to prepare actions that should be taken by the fleet to avoid mortality in the West Coast longline fleet. Given these events, the Association strongly advises that you deploy streamer lines as per the Alaska requirements when fishing on the lower coast for sablefish for the 2008 season. Since most of you already use this gear when you fish in Alaska, using streamer lines in the lower coast fishery should be very doable.

Due to use of streamer lines, the rate of seabird bycatch in the Alaska longline fisheries for groundfish has been reduced by nearly 80% starting in 2002 and no short-tailed albatross have been taken since 1998. Streamer lines are available at no cost from Seattle Marine and LFS to vessels that fish in Alaska. They are not available at this time in Bellingham, but we hope to have them available there soon.

The Alaska seabird bycatch requirements are available at:
<http://www.fakr.noaa.gov/protectedresources/seabirds/guide.htm>

If you have questions about streamer-line gear, call Ed Melvin at Washington Sea Grant (206) 543-9968.

We need to get ahead of the seabird issue on the West Coast as we did in Alaska. Thank you for your help.

Sincerely,



Robert D. Alverson
Manager

RDA:cmf
Cc: Frank Lockhart
PFMC

Proposed Open Access Fishery Permit Program: Groundfish Plan Amendment 22



**Analysis of Alternatives Recommended
at
March 2008 Council Meeting and July 2008 Groundfish Advisory Committee Meeting**

**LB Boydston
September 2008**

Factors to Consider in Adopting a Final or Preferred OA Fishery Alternative, by Issue

1) Qualification framework *(need to narrow range, if at all possible)*

The five frameworks are:	Concern	Yes/No/Maybe
QF-1, total lbs, 2004-2006	No credit for 1998-2003 trips, impacts similar to QF-5
QF-2, total lbs, 1998-2006	Would permit many inactive vessels
QF-3, total lbs, 1998-2006, w/ 2004-2006 trip	Would permit some vessels w/ low 2004-2006 landings
QF-4, 1 landing, 2 of 3 years, 2004-2006	Would permit some vessels w/ very low 2004-2006 landings
QF-5, max lbs, any year, 2004-2006	No credit for 1998-2003 trips, impacts similar to QF-1



2) Qualification criteria (need to narrow range, if at all possible; *keep in mind that the fishery primarily targets sablefish and C permits will allow for incidental B species landings*) 1/ (Corrected September 8, 2008)

Alternative	Criterion	Fleet size 3/	Better match between fleet and fish? (<680 vsls)	Regulation and effort shift relief (+) 2/	Personal income economic impact (- Improved monitoring program?) 4/	Yes/No/Maybe
1	n/a	<713	1/	0%	0%	
2	n/a	<713		0%	0%	Y
3 (a)	680v-1	680	Y	2%	2%	Y
	680v-2	468	Y	9%	8%	Y
	680v-3	680	Y	3%	3%	Y
3 (b)	713v-1	713		1%	1%	Y
	713v-2	486	Y	8%	8%	Y
	713v-3	713		2%	2%	Y
4	47.9K-3	65	Y	64%	no est.	Y
	36.1K-3	95	Y	52%	no est.	Y
	21.8K-3	139	Y	41%	no est.	Y
	14.4K-3	209	Y	29%	no est.	Y
	6.1K-3	341	Y	15%	no est.	Y
	3.5K-3	474	Y	8%	8%	Y
	1.6K-3	629	Y	4%	4%	Y
	1lb-1	1,103		0%	no est.	Y
	1 trip-1	1,103		0%	no est.	Y
	2 in 3 yrs-4	595	Y	12%	12%	Y
	100 max-5	939		0%	no est.	Y
	500 max-5	655	Y	2%	2%	Y
	1000 max-5	499	Y	6%	no est.	Y
	2000 max-5	343	Y	13%	no est.	Y
	100 lbs-1	950		0%	no est.	Y
	500 lbs-1	701		2%	1%	Y
	1000 lbs-1	577	Y	3%	3%	Y
	2000 lbs-1	420	Y	8%	8%	Y
	100 lbs-3	1,003		0%	no est.	Y
	500 lbs-3	827		1%	no est.	Y
	1000 lbs-3	727		2%	2%	Y
	2000 lbs-3	581	Y	5%	5%	Y
5	390v-1	390	Y	9%	9%	Y
	390v-2	286	Y	20%	19%	Y
	390v-3	390	Y	13%	12%	Y

Footnotes to Previous Slide

1/ The sablefish fleet size during 2004-2006 averaged 276 vessels (447 individual vessels) while the average fleet size for all vessels was 680 (1,103 individual vessels). Thus, on average 59% of the B species vessels were non-sablefish vessels. The sablefish fishery accounted for 81% (\$12.5 million) of the personal income (community) impact of the B species directed fishery (\$15.5 million) during 2004-2006 (Table E-16). Issuance of B permits to non-sablefish vessels has the potential to negatively impact the sablefish fishery, depending on permit transfer conditions and the need for non-sablefish vessels to retain their permits (see Section 4 analyses).

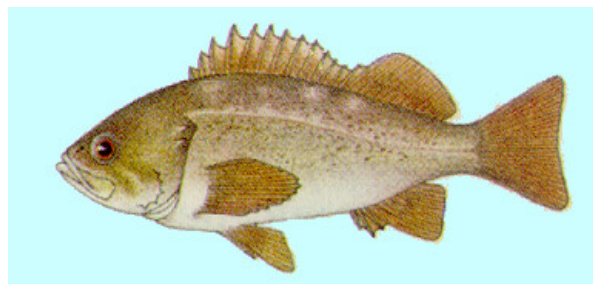
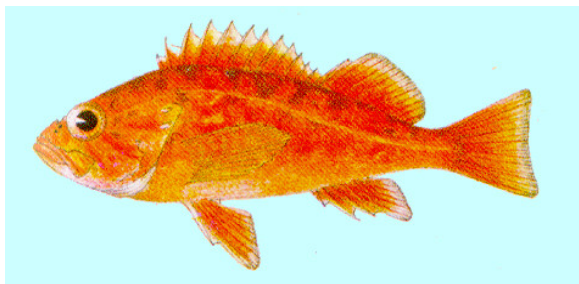
2/ Blank means no

3/ Values shown are proportions of B species revenues received during 2004-2006 by non-qualifying vessels (Table E-4b). This is the ex-vessel value of fish that potentially would have been available to qualifying vessels (through in-season regulation adjustment) if the non-qualifying vessels did not land any B species groundfish during 2004-2006. In reality, non-qualifying vessels would have been allowed to land "incidental" amounts of B species groundfish under a C permit or a nearshore permit, thus the values shown reflect a "best-case" scenario for the qualifying vessels.

4/ These values are near-term fleet size expectations or number of potentially qualifying vessels.

5/ This is the same analysis described in footnote 3/ but adjusted using the economic impact factors shown in the methods section. The economic analysis was limited to criteria that qualified between 390 and 713 vessels (see Tables E-20 and E-22). However, the missing values in column 6 can be reasonably inferred based on revenue impacts shown in column 5. These values represent worst-case scenarios in terms of negative economic impacts of the criteria.

6/ 2004-2006 B species directed fishery average fleet size.



3) Long-term fleet size**Yes/No/Maybe**

Adopt long-term fleet size goal of 170 vessels (A-5 provision)

Adopt long-term fleet size goal of : (specify)

Do not adopt long-term fleet size goal

4) Permit transferability

Allow for transferability from first year on

Don't allow for permit transfers until: (specify year or conditions)

Don't allow for permit transfer without Plan amendment

5) Use of A and B permits

Allow for use of A and B permit on the same vessel but not in same landing period

Do not allow for use of A and B permits on same vessel in same year

Allow for use of A and B permits on same vessel as follows: (specify conditions)

6) State landing endorsement

Recommend state landing endorsement based on where most landings were made to qualify for permit

Do not adopt state landing endorsement provision

7) Previous year landing requirement

Require previous year B species landing requirement which must be completed by November 30 of each year

Do not require previous year B species landing requirement

8) Other issues to consider or reconsider

i) Apply vessel length endorsement based on vessel that qualified for permit (consistent with A permit program)

ii) Restrict B permit issuance to owners of qualifying fishing vessels that are currently registered

iii) Limit the issuance of C permits to: (specify)

NMFS Timeline Assuming March 2009 Final Action

STEPS	DATES
Council adopts final action	March 2009
NMFS and states develop C permit issuance requirements	April – May 31, 2009
SFD drafts OA Proposed Regulations/FPO prepares PRA Package	April – July 31, 2009
SFD Publishes Proposed Rule	September 1, 2009
30 Day Comment Period on PR Ends	September 30, 2009
Final rule/compliance guide published	November 30, 2009
Application Period/Public Outreach	January - June 30, 2010
Deadline for B permit applications	June 30, <u>2010</u>
States Issue C Permits as part of annual state permit renewals	Variable dates in 2010/2011
B and C Permits Required	January 1, 2011

Note: The current plan is that NMFS would provide applicants 45 days to make an appeal after a NMFS decision to disapprove a B permit application. NMFS would have 90 days to review an appeal and issue the final agency decision. NMFS anticipates that initial decisions on B permit applications will be issued both during the application period and after the application period (if applications are received near or on the application deadline date).

Table 1. Summary of Council's license registration and B permit management alternatives

Issue to be addressed	Alternative				
	A-1 (no action)	A-2 (license registration)	A-3	A-4	A-5
1) Initial fleet size	n/a	n/a	a) 2004-06 avg (680 vessels) or b) 2006 fleet size (713)	based on permit qualification criteria (see Table 2)	1994-99 fleet size (390 vessels)
2) Fleet size goal	n/a	n/a	same as initial fleet size	same as initial fleet size	80% reduction from 2000 fleet size (to 170)
3) Permit transferability	n/a	n/a	yes, once per year	yes, once per year	no 1/
4) Previous year landing requirement	n/a	n/a	no	no	yes
5) State landing endorsement	n/a	n/a	yes	no	no
6) A & B permit usage on same vessel	n/a	n/a	yes, alternately in same yr 2/	yes, alternately in same yr 2/	not in same yr
7) Permit qualification criteria	n/a	n/a	see Table 2.	see Table 2.	see Table 2.

1/ There may be hardship conditions under which transfer might be allowed.

2/ A pre-fishing declaration would be used to notify NMFS of permit type changes.

Table 2: B permit qualification criteria contained in alternatives 1-5

Alternative	Standard	Framework(s) used for analyses	Abbrev
1 & 2	n/a	n/a	n/a
3 (a)	top 680 vessels	cum lbs, 2004-2006 (QF-1)	680v-1
	top 680 vessels	cum lbs, 1998-2006 (QF-2)	680v-2
	top 680 vessels	cum lbs, 1998-2006, w/ 2004-2006 trip (QF-3)	680v-3
3 (b)	top 713 vessels	QF-1, QF-2 and QF-3	713v-1, 2, 3
4	≥ 47,900 lbs	QF-3	47.9K-3
	≥ 36,100 lbs	QF-3	36.1K-3
	≥ 21,800 lbs	QF-3	21.8K-3
	≥ 14,400 lbs GROUP 1	QF-3	14.4K-3
	≥ 6,100 lbs	QF-3	6.1K-3
	≥ 3,500 lbs	QF-3	3.5K-3
	≥ 1,600 lbs	QF-3	1.6K-3
	≥ 1 lb	QF-1 or QF-3	1lb-1
	≥ 1 trip 1/	QF-1 or QF-3	1trip-1
	≥1 trip in two yrs	trips per year, 2004-2006 (QF-4)	2 in 3 yrs-4
	≥ 100 lbs	max lbs, any yr, 2004-2006 (QF-5)	100 max-5
	≥ 500 lbs GROUP 2	QF-5	500 max-5
	≥ 1000 lbs	QF-5	1000 max-5
	≥ 2000 lbs	QF-5	2000 max-5
	≥ 100 lbs	QF-1 and QF-3	100 lbs-1, 3
	≥ 500 lbs GROUP 3	QF-1 and QF-3	500 lbs-1, 3
	≥ 1000 lbs	QF-1 and QF-3	1000 lbs-1, 3
	≥ 2000 lbs	QF-1 and QF-3	2000 lbs-1, 3
5	top 390 vessels	QF-1, QF-2 and QF-3	390v-1, 2, 3

1/ Standards are variables that have been fixed as part of each qualification criterion, but could be varied to achieve a particular outcome

2/ Frameworks consist of fixed variables, including a base period and unit of measure (metric) that are used to determine which vessels meet the standard specified under each criterion.

3/ n/a means not applicable because no limited entry permit is proposed under A-1 or A-2

Qualification Criteria Analysis

Hindcast analysis was used to analyze each qualification criterion. This was done based on fishery landings during 2004-2006 by vessels that would qualify and not-qualify for B permits.

Why: Data prior to 2004 were not used because of regulation differences in earlier years compared to 2004-2006 and those that can be expected in the near term. Also, 2004-2006 were the years used to compute the recent years' fleet size goal in A-3 (**Table 2-3**) and represent the most recent years of increased B permit species vessel activity in the WOC area (**Figure 2-1**).

Regulation Differences:

1. Implementation of nearshore groundfish management programs off Oregon and California starting in 2003 (**Appendix D**);
2. creation of large area groundfish closures to protect overfished or sensitive fish species off of all three states starting in 2002 (**Appendix G**); and
3. adoption of more restrictive trip limits for shelf rockfish since 2000 (**Table 1-2**).



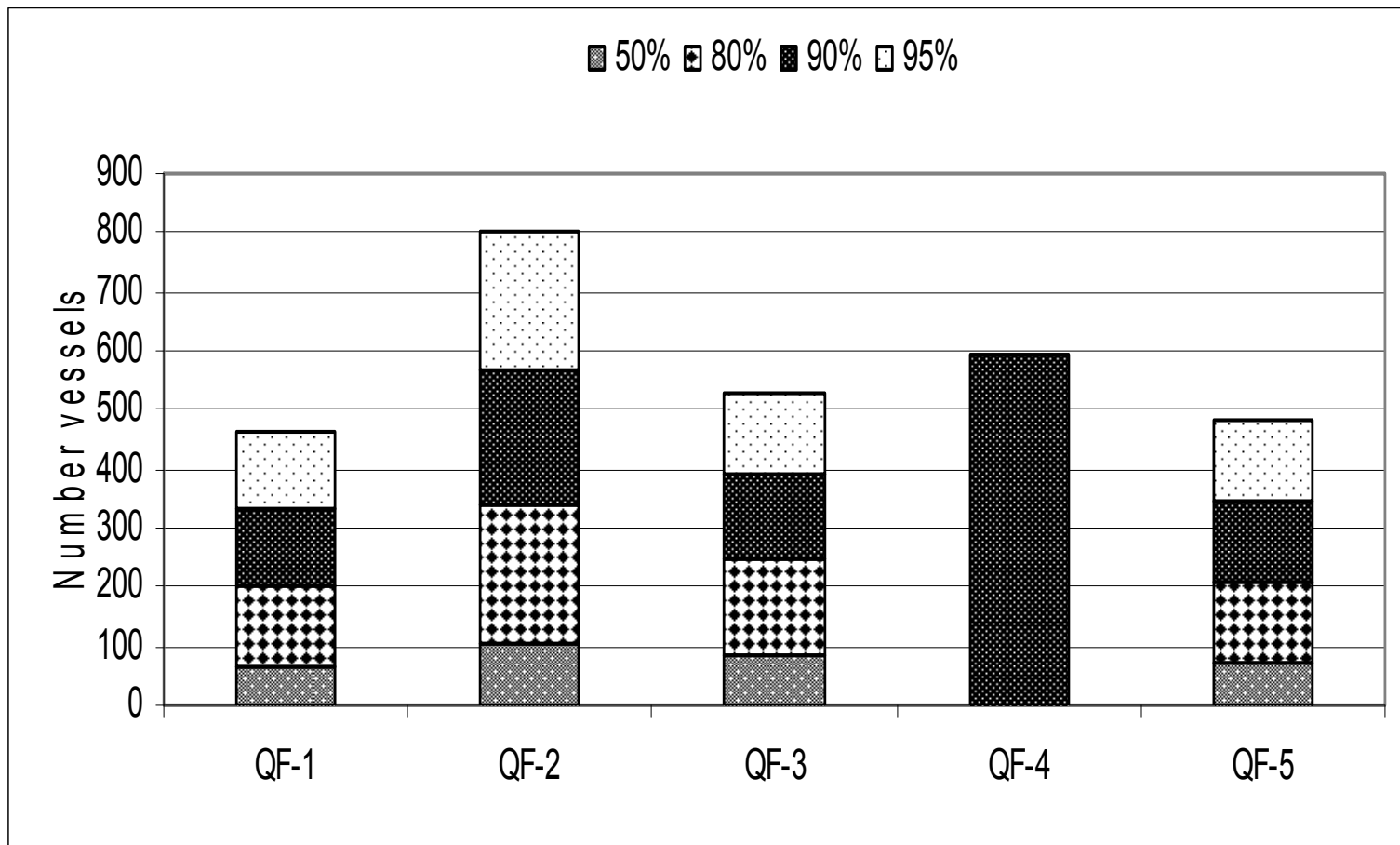


Figure E-1. Number of vessels that landed specified proportions of B species groundfish in the WOC area during 2004-2006 that would qualify for B permits under qualification frameworks 1, 2, 3, 4, and 5 (0406 lbs, 9806 lbs, 9806/0406 lbs, 2 in 3 yrs, 0406 max lbs. respectively)

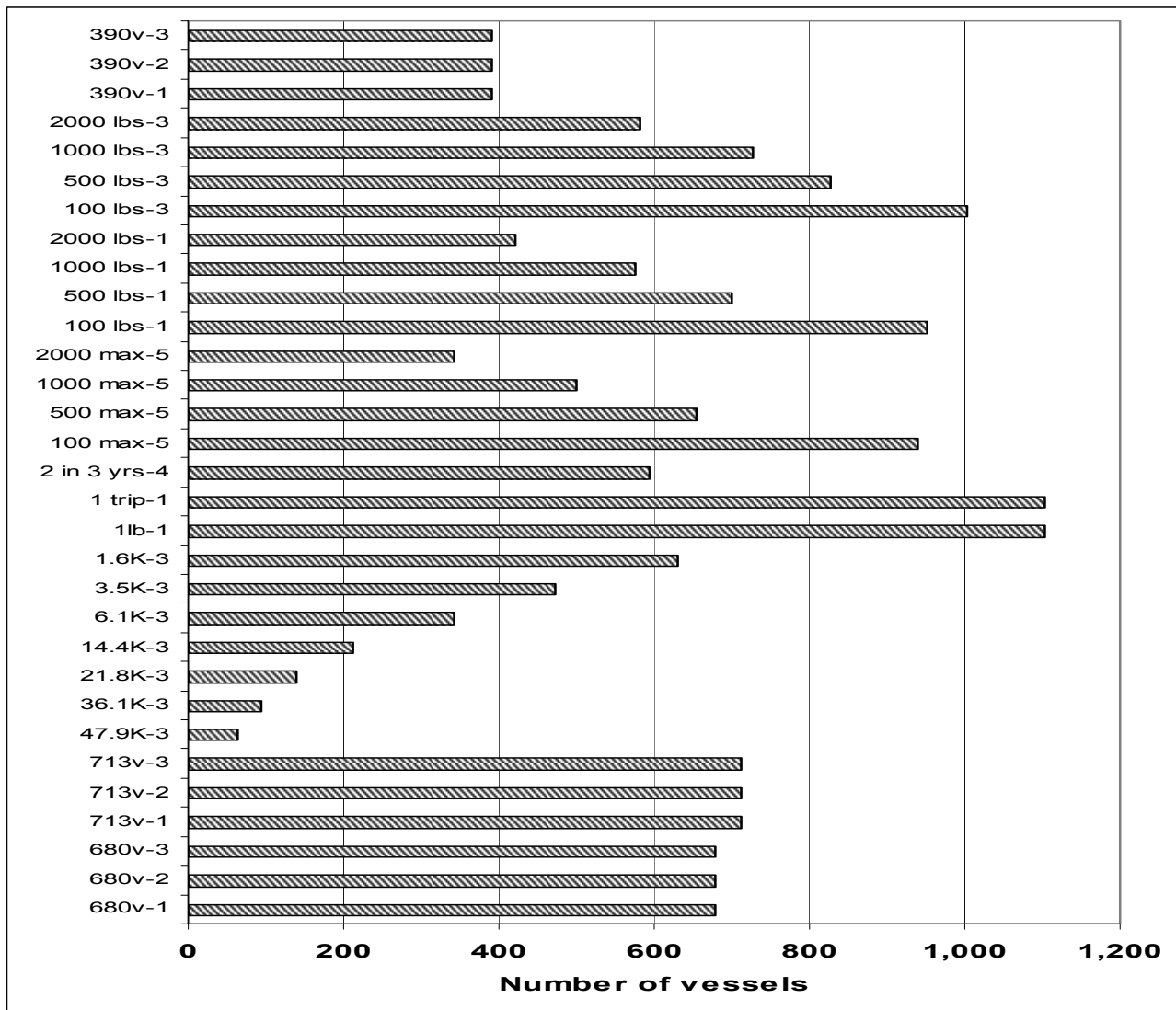


Figure E-2. Number of vessels that would qualify for B permits under qualification standards contained in alternatives 3-5 (See Table E4a of EA). Median=629 vessels.

Note: Estimates in the Next Slides Represent Worst-case Scenarios

Why?

- Fish caught by non-qualifying vessels are assumed “lost” to the fishery.
- In reality, the non-qualifying vessels would have been allowed to harvest some of the “lost” fish under C or state-issued nearshore permits. Also, the qualifying vessels could have been allowed access to these fish with increased landing limits.
- Because of this, it is difficult to estimate the level of fishery harvest reduction, if any, that would result in a surplus harvest situation (“lost” fish).



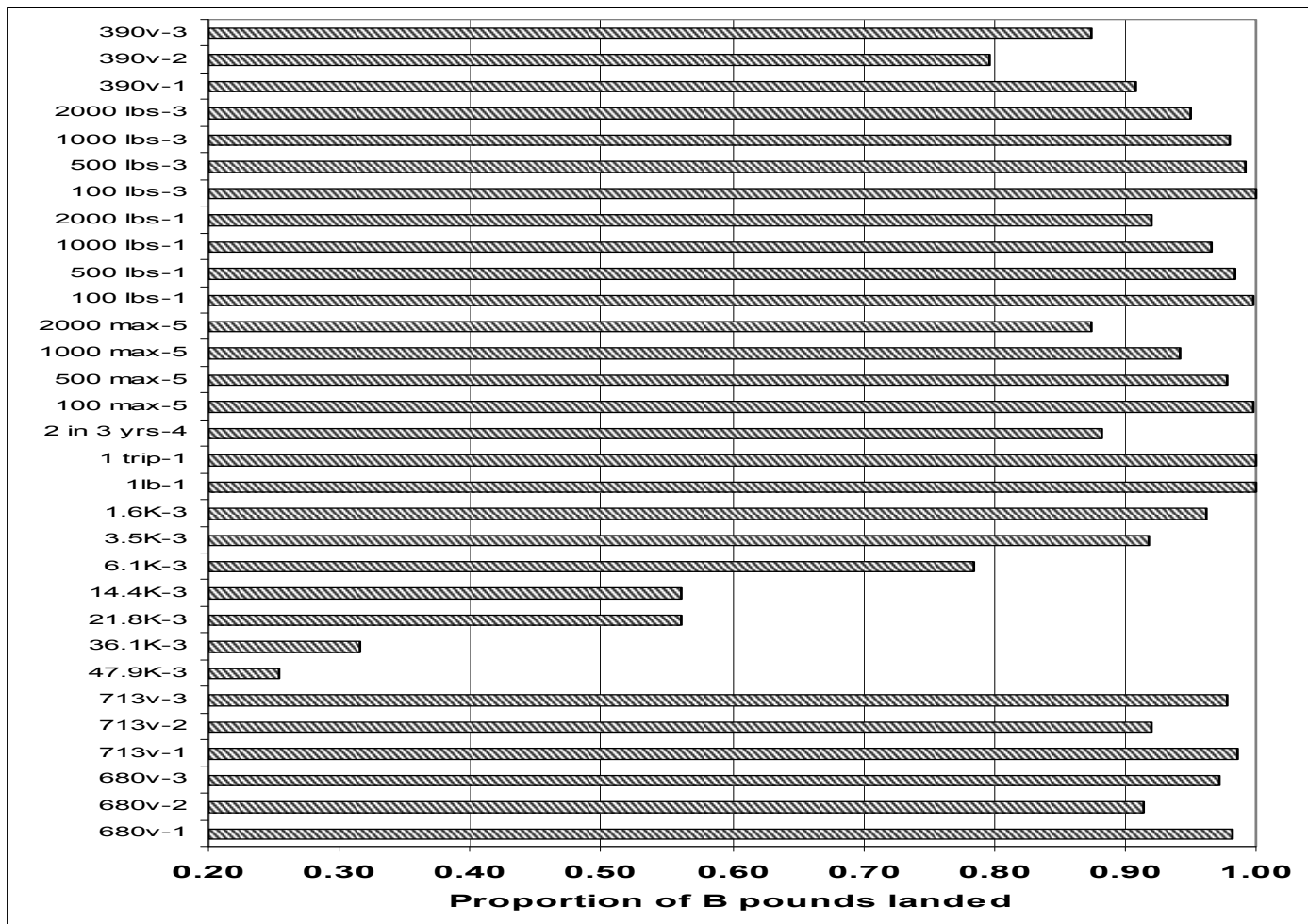


Figure E-3. Proportion of total B species groundfish revenues that were received by vessels during 2004-2006 that would qualify for B permits by qualification criterion (Table E-4a). Median=0.96.

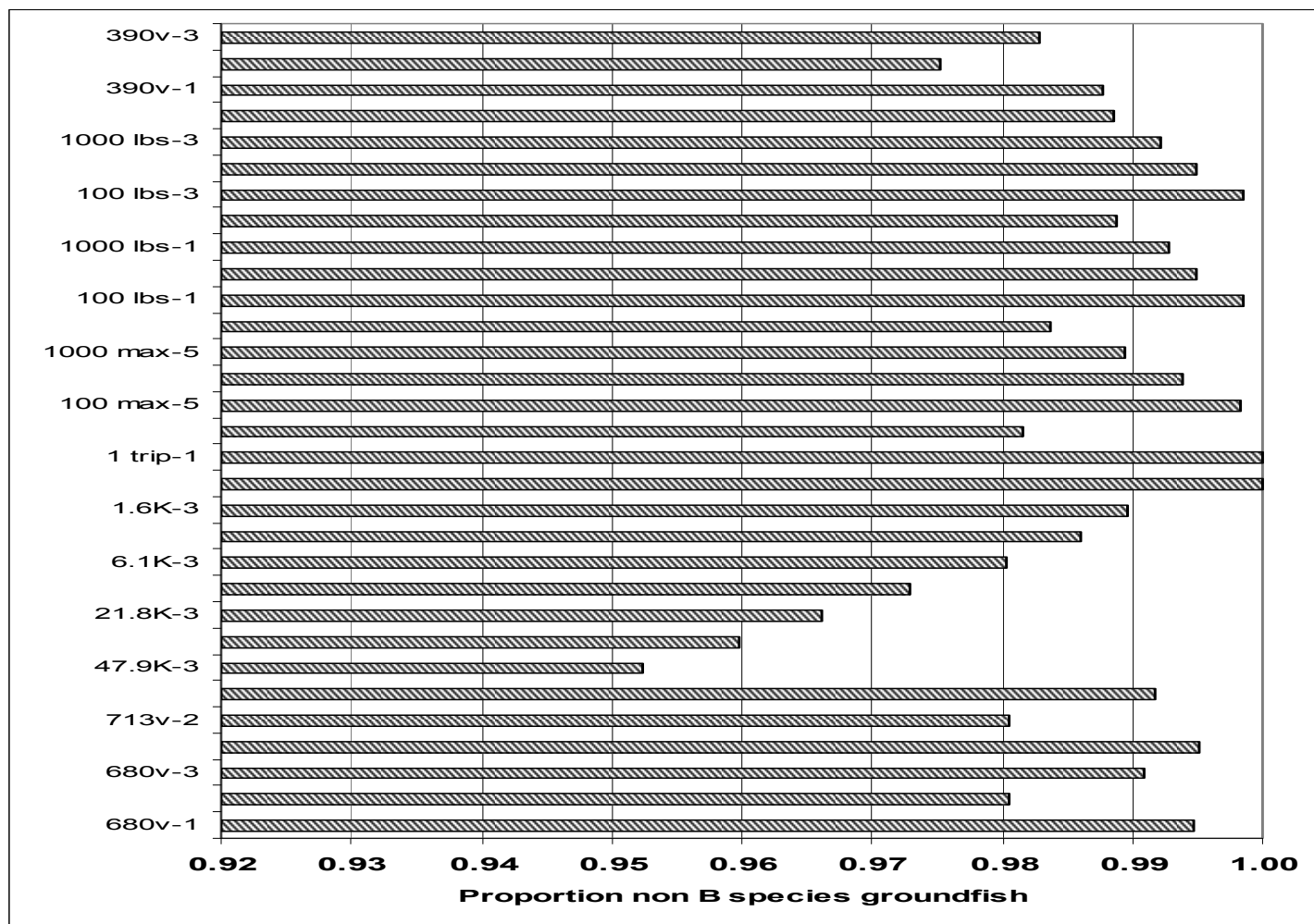


Figure E-7. Non-groundfish and nearshore (non-B species) revenues received during 2004-2006 by vessels that would not qualify for B permits expressed as a proportion of their total fishery revenues by qualification criterion (Table E-4b). Median=0.99

Distribution of Permits between Port Groups and States

There are many tables and graphs in the draft EA (starting on **page 182**) that display the distribution of permits under the criteria contained in A-3, A-4 and A-5. These distributions are based on 2004-2006 window period data.

These differences can be explained as the result of:

- 1) Qualification framework (QF) used for vessel qualification. QF-2, QF-3 (longer time frames) and QF-4 (annual landing frequency) favor California vessels; QF-1 and QF-5 (shorter time frames) favor Washington and Oregon vessels.
- 2) Regulation differences that allowed for nearshore fishing off California and Oregon but not Washington: Vessels that targeted sablefish in all three states have strong catch histories while California and Oregon vessels that targeted shelf rockfish and lingcod (in association with nearshore fisheries) have relatively weak catch histories.
- 3) B species target strategy by individual vessels: affected by regulation but also by choice.



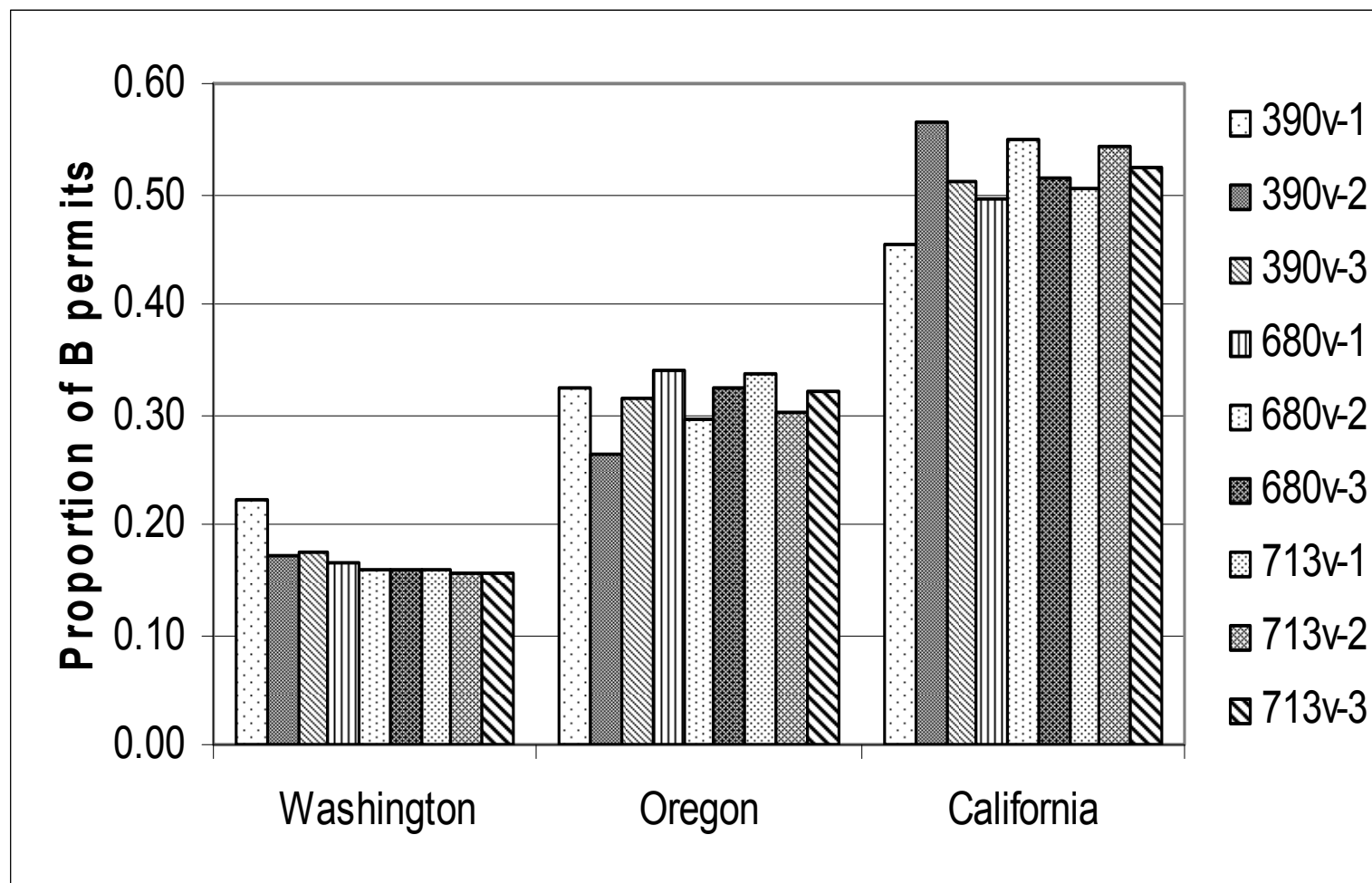


Figure E-8: Distribution of B permits between based on 2004-2006 landings data under the qualification criteria contained in A-3 and A-5.

Table E-12a. Proportion of total pounds landed during 2004-2006 for port groups and states for vessels that would qualify under qualification criteria in A-3 and A-5

State/Port	Total lbs	A-3						A-5		
	n/a	680v-1	680v-2	680v-3	713v-1	713v-2	713v-3	390v-1	390v-2	390v-3
SPS	100%	100%	100%	100%	100%	100%	100%	100%	90%	90%
NPS	100%	100%	99%	100%	100%	99%	100%	99%	96%	97%
CWA	100%	100%	91%	99%	100%	91%	100%	93%	79%	83%
CLW	100%	100%	96%	99%	100%	97%	100%	97%	85%	93%
WA	100%	100%	96%	100%	100%	96%	100%	97%	87%	92%
CLO	100%	99%	87%	98%	99%	90%	98%	86%	68%	77%
TLA	100%	92%	61%	84%	95%	66%	87%	61%	27%	52%
NPA	100%	96%	75%	88%	97%	75%	89%	73%	41%	64%
CBA	100%	98%	89%	98%	99%	91%	98%	93%	72%	85%
BRA	100%	99%	96%	99%	99%	96%	99%	94%	86%	93%
OR	100%	98%	90%	97%	99%	91%	97%	90%	74%	85%
CCA	100%	94%	79%	93%	96%	79%	94%	73%	53%	73%
ERA	100%	100%	94%	98%	100%	94%	99%	92%	85%	93%
BGA	100%	100%	99%	99%	100%	99%	100%	98%	96%	98%
BDA	100%	84%	73%	88%	87%	73%	89%	46%	47%	56%
SFA	100%	96%	86%	95%	96%	86%	96%	84%	68%	80%
MNA	100%	99%	95%	99%	99%	96%	99%	95%	92%	94%
MRA	100%	94%	76%	94%	95%	79%	94%	77%	56%	68%
SBA	100%	90%	71%	87%	92%	71%	88%	66%	45%	62%
LAA	100%	93%	79%	86%	94%	79%	89%	72%	69%	76%
SDA	100%	99%	97%	98%	99%	97%	98%	94%	83%	93%
CA	100%	98%	93%	98%	99%	94%	98%	92%	86%	91%
Total	100%	99%	93%	98%	99%	94%	98%	93%	83%	90%

NEW SECTION

3.3.4

TARGET SPECIES VESSEL

>50% of B species revenues were received from one of the following species groups during 2004-2006:

Lingcod, Sablefish, Shelf rockfish, Slope rockfish, sharks (dogfish, leopard, soupfin) and rays (Sharks), Other groundfish species

NON-TARGET SPECIES VESSEL

All other vessels



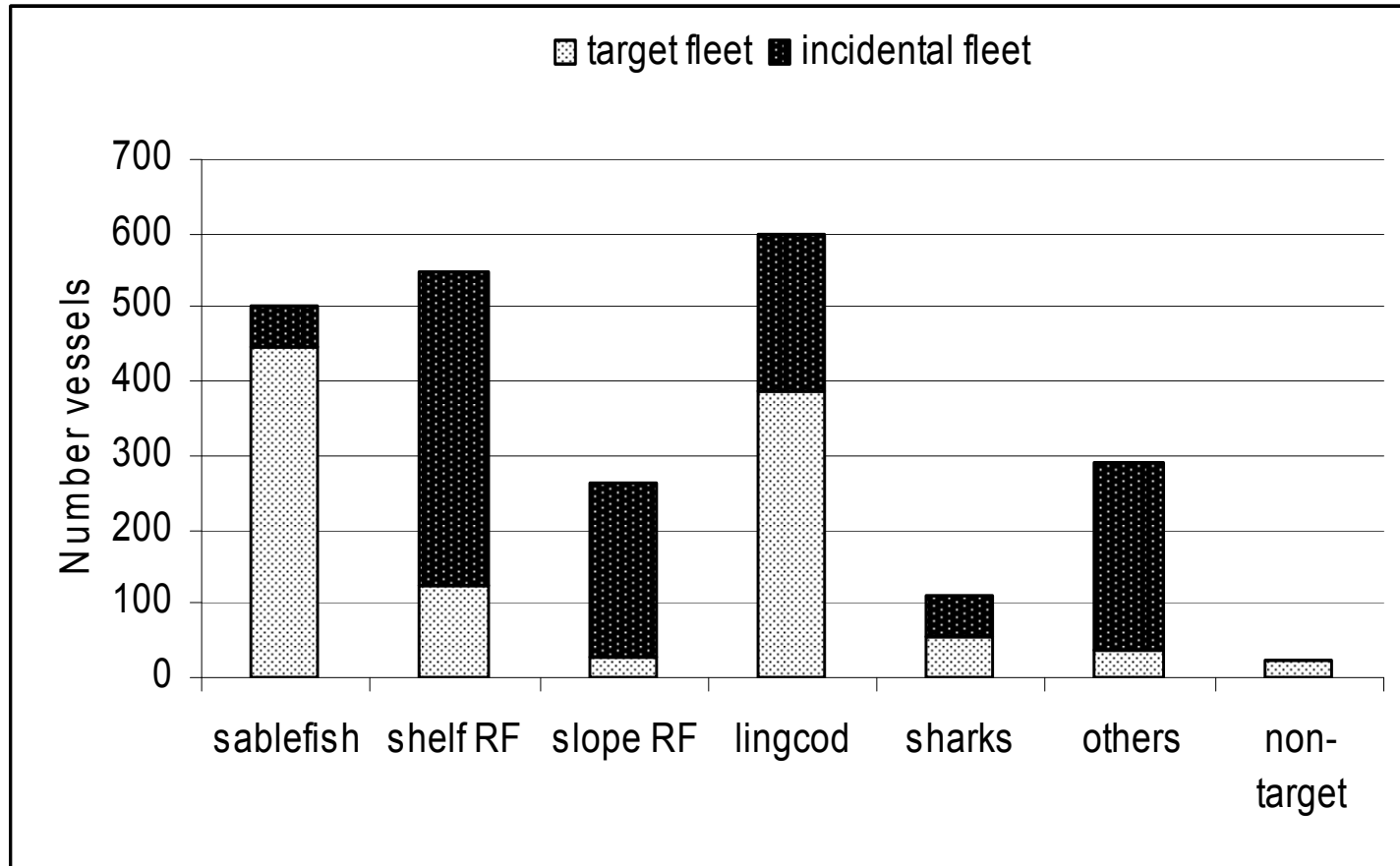


Figure 3-8: Number of vessels that derived their primary (>50%) B species fishery revenues from specified species groups (target fleet) and those that derived secondary (≤50%) revenues from those same groups (incidental fleet) during 2004-2006. The non-target fleet was comprised of vessels that did not have a target species group (Table 3-13-1).

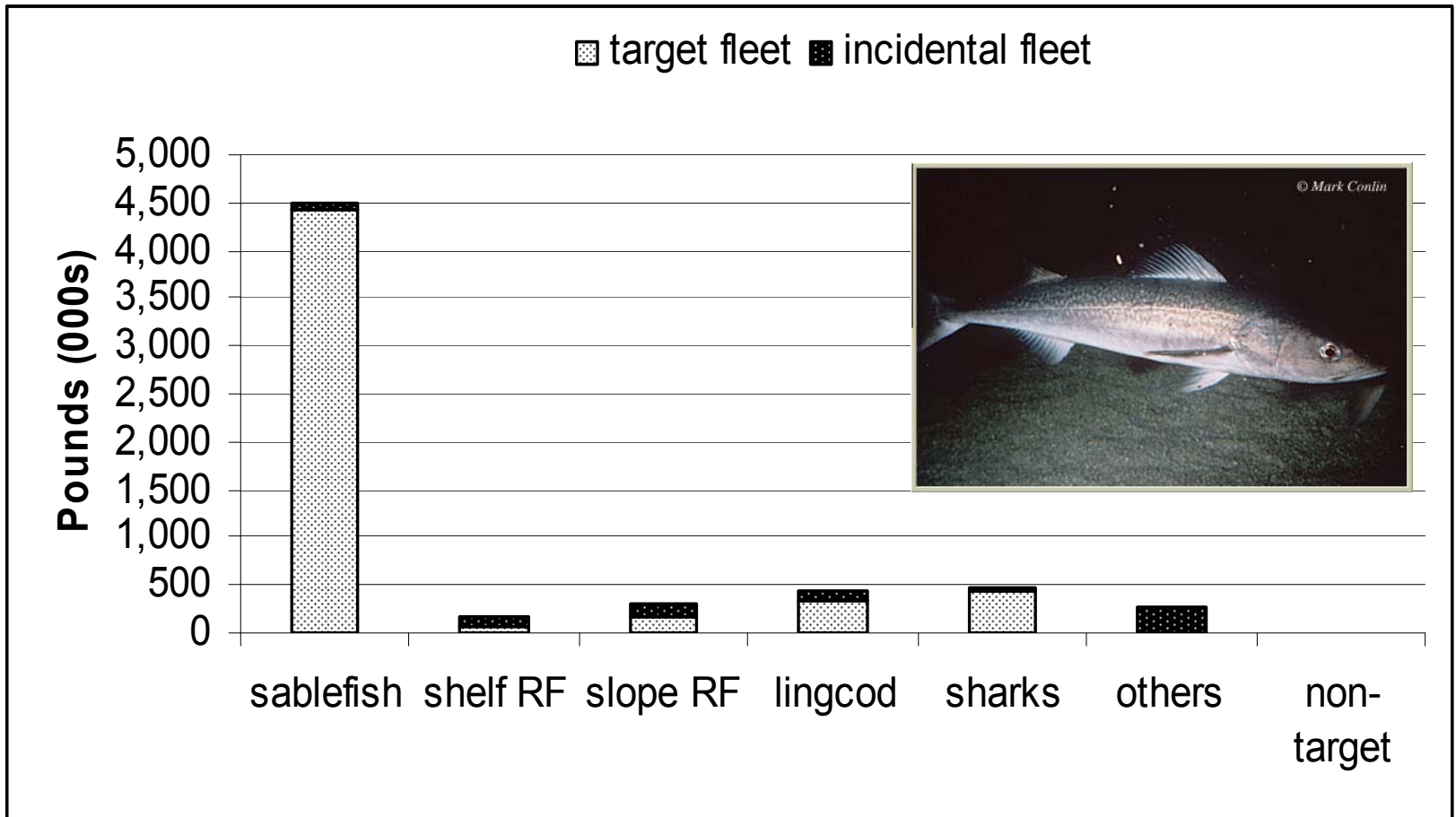


Figure 3-9. Pounds of B species groundfish landed by vessels that derived their primary (>50%) B species fishery revenues from specified species groups (target fleet) and those that derived secondary ($\leq 50\%$) revenues from those same groups (incidental fleet) during 2004-2006. The non-target fleet was comprised of vessels that did not have a target species group (Table 3-13-1, page 80).

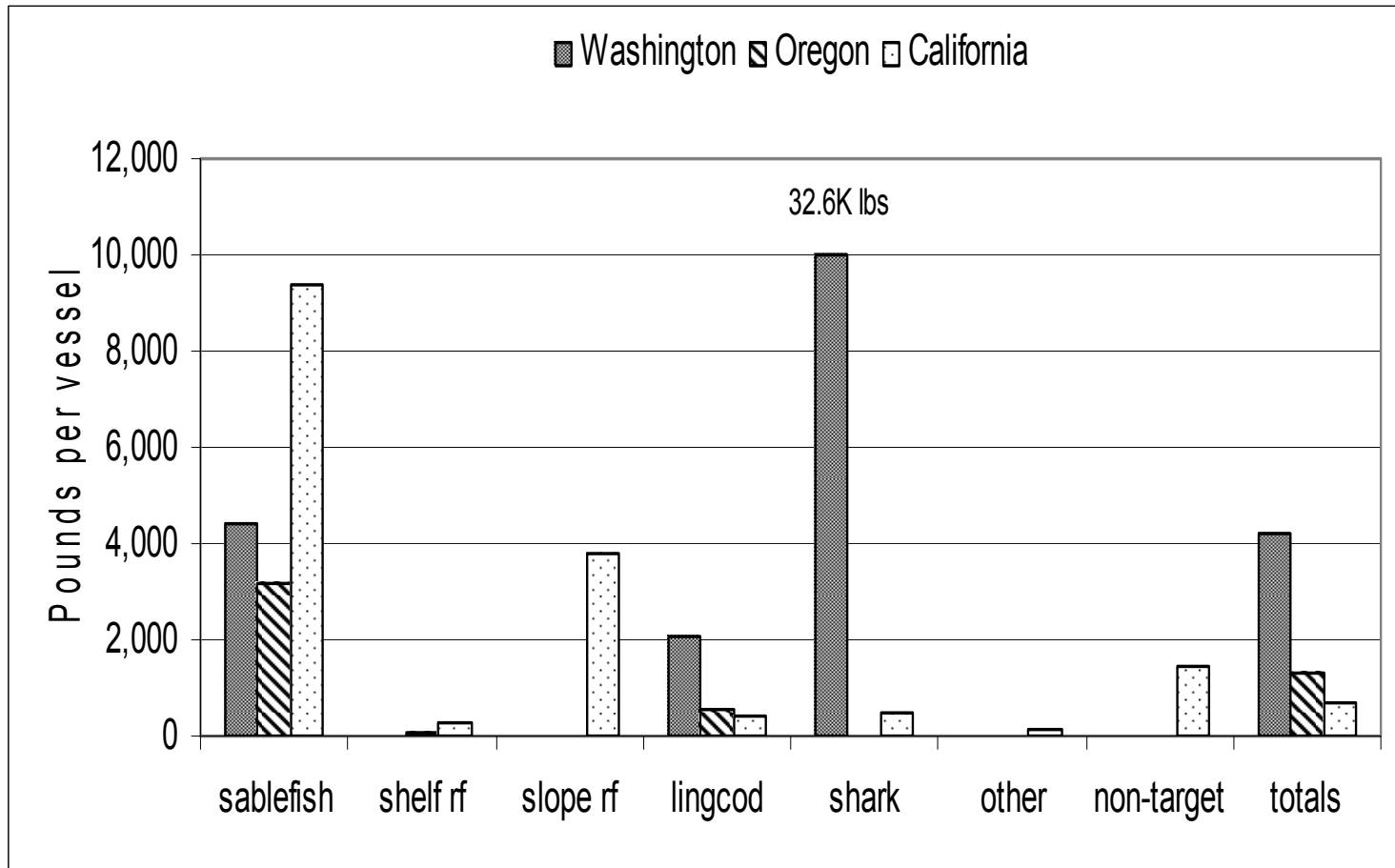


Figure E-17. Median pounds of B species groundfish per vessel during 2004-2006 by target-species vessel group and state (Table 3-13-2, page 82)

Table 3-13-3: Median B species directed fishery landings during 2004-2006 window period for state-specific target-species vessel groups 1/

State and target-species vessel group	Median lbs	# vsls
WA non-target	34,379	1
WA shark	32,595	5
CA sablefish	9,380	155
WA sablefish	4,438	114
CA slope rockfish	3,780	27
OR sablefish	3,140	178
WA lingcod	2,074	4
CA non-target	1,421	24
OR lingcod	571	158
CA shark	488	52
CA lingcod	430	224
CA shelf rockfish	277	114
CA other species	131	36
WA slope rockfish	104	2
OR shelf rockfish	37	9
Total	-	1,103

1/ Derived from Appendix Table E-15. Vessels were assigned to target-species groups based on >50% of revenues from a particular group.

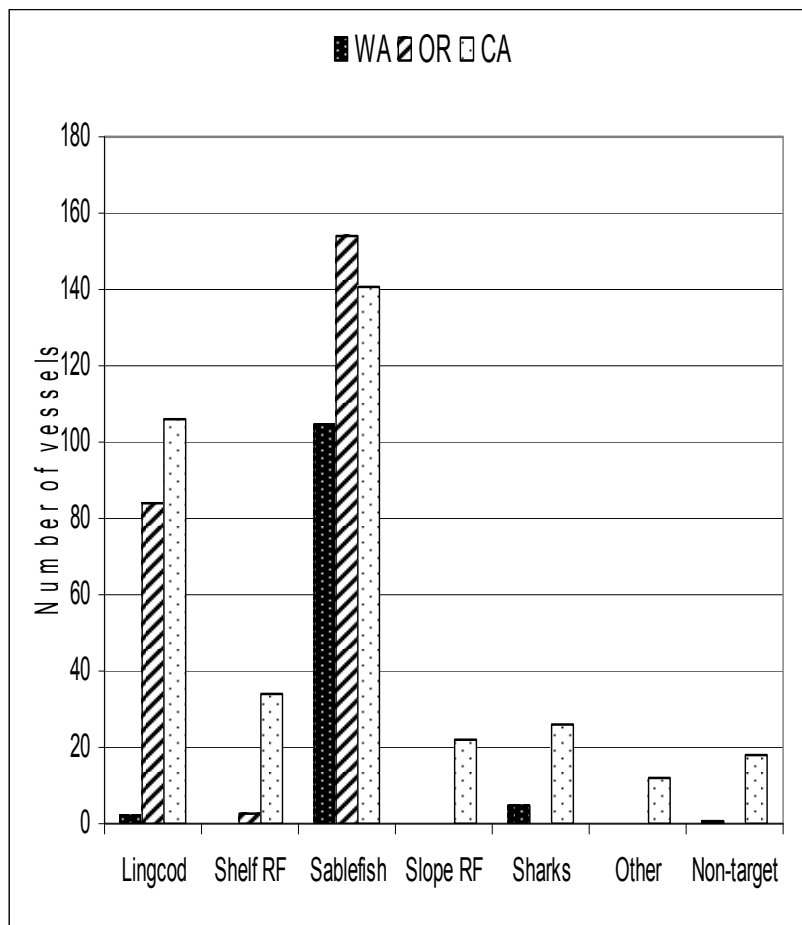


Figure E-12. Distribution of vessels by state and target-species vessel group during 2004-2006 that would qualify for permits under 713 v-1 page 194

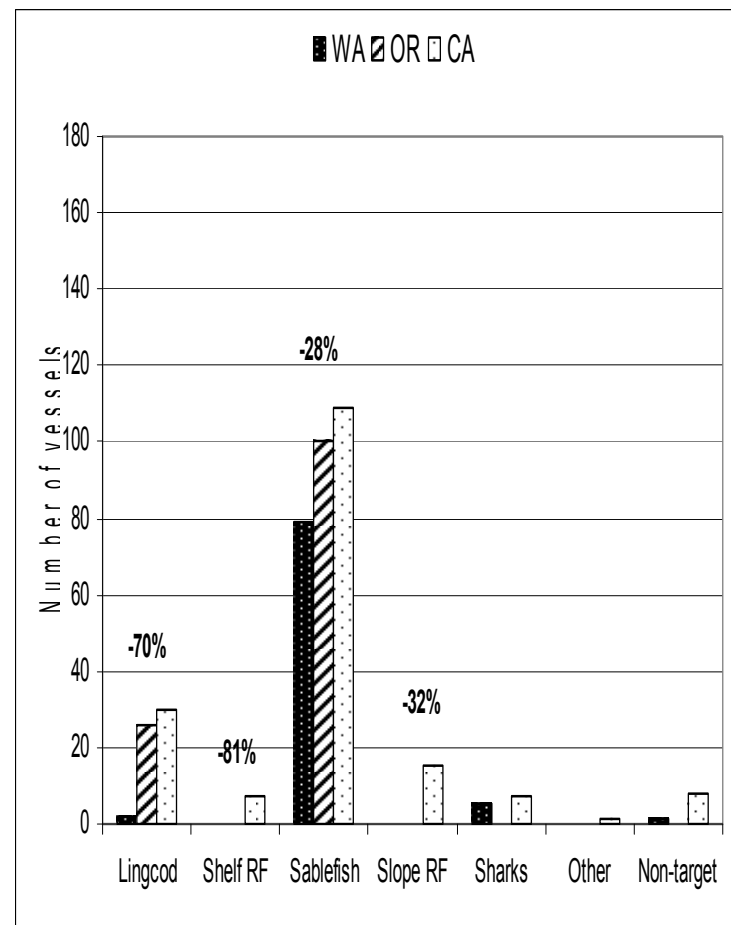


Figure E-14. Distribution of vessels by state and target species group during 2004-2006 that would qualify for permits under 390-1 page 194

NEW ANALYSIS: PERSONAL INCOME IMPACT ESTIMATES APPENDIX E

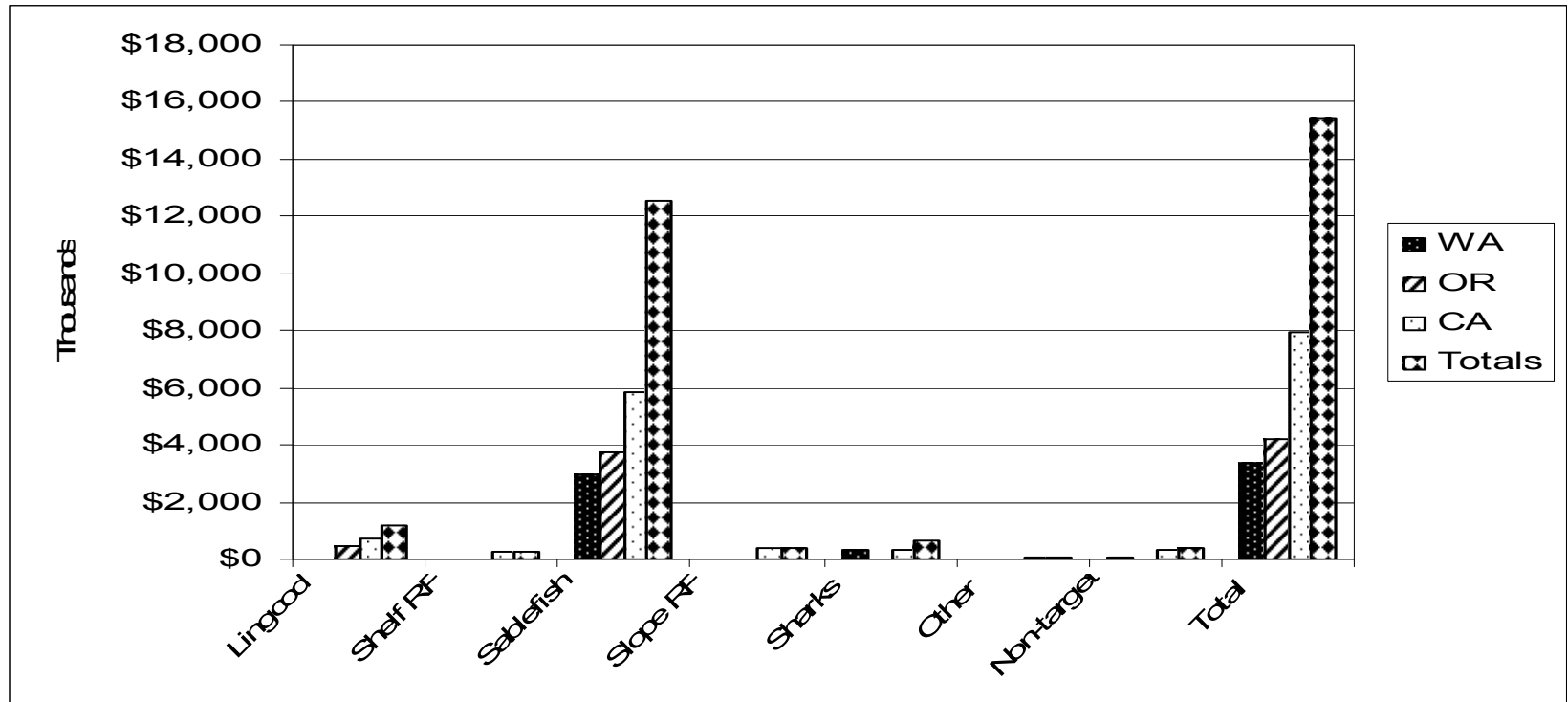


Figure E-New-1. Personal income impact of B species directed fishery landings by state, target species group and in total during 2004-2006 window period years. The word “impact” is used in terms of personal income impact on the economy, which goes beyond fishermen’s income.

California Vessel Owner Contribution Data

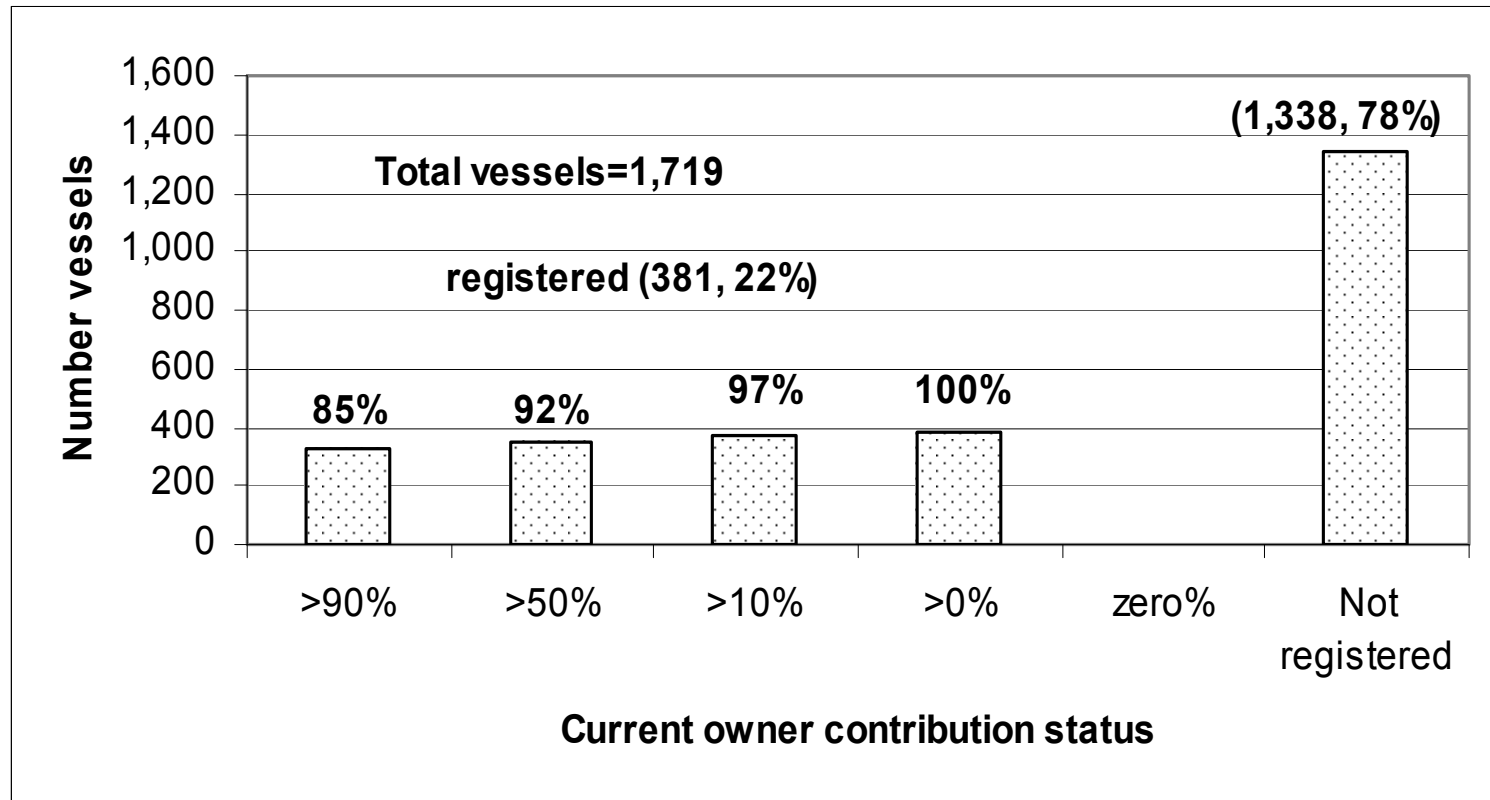


Figure 3-X. Contribution of currently registered vessel owners to their vessel's B species directed fishery catch history for all vessels that made a B species directed fishery landing during 1998-2006 window period years. Proportions above bars without parentheses are for currently registered owners by catch history contribution category. Vessels counts and proportions in parentheses are for registered and non-registered vessels, as indicated by text. CALIFORNIA ONLY

QUESTIONS?



GROUND FISH ADVISORY SUBPANEL REPORT ON FISHERY MANAGEMENT PLAN
AMENDMENT 22: OPEN ACCESS LICENSE LIMITATION

The Groundfish Advisory Subpanel (GAP) heard a presentation from Mr. LB Boydstun on the preliminary draft Environmental Assessment for Amendment 22, Open Access License Limitation.

The GAP concurs with the Groundfish Allocation Committee (GAC) recommendation to delay final action on this agenda item until the March 2009 Council meeting.

A majority of the GAP (two abstentions) recommends the Council identify a preliminary preferred range of alternatives to be further analyzed between now and the March 2009 Council meeting. The GAP recommends the range go from a registration program (A-2) to a limited access program with a capacity goal of 580 vessels.

The GAP would like to see analysis of an alternative which separates sablefish from the remaining B species and includes a sablefish endorsement. Additional analysis on a length endorsement and transferability options should be considered.

Lastly, more attention and detail should be given to the analysis of coastal community impacts which include the effects of the proposed alternatives as well as the effects of other ongoing fishery management measures and restrictions.

PFMC
9/10/08

GROUND FISH MANAGEMENT TEAM REPORT ON FISHERY MANAGEMENT PLAN AMENDMENT 22: OPEN ACCESS LICENSE LIMITATION

The Groundfish Management Team (GMT) discussed updates to the “Preliminary Draft Environmental Assessment (EA) for Pacific Coast Fishery Management Plan Amendment 22: Conversion of the Open Access Fishery to Federal Permit Management” (Agenda Item I.4.a) since the March meeting and reviewed the Supplemental Groundfish Allocation Committee’s Report (Agenda Item I.4.c).

The GMT has not had the opportunity to do a sufficient review of the EA due to other higher priority Council topics over the last year (2009-2010 specification and management measures and trawl rationalization). Elements in this open access program may require GMT analyses, and if necessary, the GMT does not have the time to do them under the current timeline. The GMT recommends that the Council delay final action at this meeting to allow for additional analyses that may better inform a Council decision.

The GMT would like to reiterate several important issues that were brought forth in previous statements (Agenda Item F.4.b) that still warrant further discussion.

Purpose and Need statement in relation to the groundfish FMP

The GMT recommends that the Council re-evaluate the purpose, needs, goals and objectives of this program as it relates to the overall objective of the groundfish fishery management plan (FMP). The alternatives should provide clear rationale on how they are intended to meet the goals and objectives of the open access license limitation and groundfish FMP. The GMT has noted that differing management strategies in each state have resulted in different ideas on the optimal fleet size and the need for effort reduction. This situation complicates implementation of a coastwide program if goals and objectives are uniform across states. Although the revised EA describes how the different alternatives affect different states and port groups the alternatives still have a one-size-fits-all approach which may not be appropriate, especially when considering alternatives that reduce fleet size.

Overcapitalization

The EA suggests that the open access fishery is overcapitalized, yet there is no recent analysis to suggest an appropriate fleet size. The level of overcapitalization in the EA is based on an old analysis performed by the Scientific and Statistical Committee in years when the fishery was unrestricted (1993-1999). Since then many regulatory changes have been implemented which reduced the fleet size including complex Rockfish Conservation Area’s and restrictive trip limits. The GMT suggests a more recent analysis informing the level of overcapitalization in the current fleet would better inform a Council decision. This analysis is important to establish baseline conditions from which we are making changes.

The appropriate level of fleet capitalization may vary depending on the specific goals of the program. If for example, the Council’s goal is to establish a fishery that harvesters can rely on alone for income then the open access fishery could be classified as overcapitalized under current conditions. However if the Council views the open access fishery as one that can provide supplemental or intermittent opportunity, then the appropriate level of capitalization may be viewed differently. This year is a good example of how the open access fishery provided salmon

fishers with the opportunity to supplement their income due to severe restrictions to salmon opportunities. The GMT recommends the Council explore the type of opportunity they want the open access fishery to provide in the future and specify this opportunity in the goals and objectives.

Disparity of landings between species during the qualifying window and effects of vessel qualification

Regulatory disparity between lingcod and sablefish landing limits during the window period (1998-2006) biases qualification for permits in favor of the sablefish fleet. Prior to this period (1994-1997) landings of these species were nearly equal. During the window period lingcod landings were ~3.5 percent of sablefish landings due to more restrictive landing limits. Lingcod limits ranged from 300 to 500 pounds per month during the window period versus 4,200 to 10,500 pounds for sablefish. This pattern is true for other non-sablefish species, therefore, fewer non-sablefish participants will qualify given weight based qualification criteria due to variations in management strategies.

Potential economic benefits of trip limit increases

The expected outcome of reducing the existing fleet would be increased trip limits. The EA shows that even if the fleet was reduced to a very low level, minimal if any increase to trip limits would be realized. In addition effort shifts from different targeting strategies and permit transfers from latent or low producing vessels to new permit owners may negate any benefits and may actually reduce trip limits. The Council may wish to explore tools such as target species endorsements and vessel length endorsements.

Incidental “C” permit

The GMT had varying interpretations of how the “C” permit would meet the purpose and needs and implications of this permit. Further clarification is needed on the details of this permit.

The GMT requests that the Council provide guidance on the level of GMT involvement needed for this process. If more in-depth analyses are needed, the GMT requests the Council schedule a GMT meeting after the November Council meeting to work on open access analyses.

GMT Recommendations:

1. Defer final action on open access at this meeting to allow the Council to re-evaluate the goals and objectives of this program and revise the purpose and needs.
2. Approve a GMT meeting between November and March to discuss open access license limitation.

PPMC
9/11/08

OREGON DEPARTMENT OF FISH AND WILDLIFE REPORT SUMMARIZING PUBLIC
COMMENT RECEIVED REGARDING PROPOSED AMENDMENT 22: OPEN ACCESS LICENSE
LIMITATION

The Oregon Department of Fish and Wildlife (ODFW) held six public meetings in the ports of Astoria, Tillamook, Newport, Coos Bay, Port Orford, and Brookings between August 20, 2008 and August 26, 2008. The goal of the meetings was to solicit public comment on the proposed alternatives for limiting the open access groundfish fishery currently under consideration for approval and selection of a preferred alternative by the Pacific Fishery Management Council (Council). A total of 70 individuals participated and included industry members from a variety of fisheries (lingcod, sablefish, nearshore groundfish, and salmon troll). Many also participated in multiple directed and incidental open access fisheries. Members of the Council's Groundfish Advisory Subpanel, Council members, and state and local government also attended.

As expected, input varied widely and was dependent on what open access fisheries, both directed and incidental that individuals participated in. This resulted in lack of consensus on most issues and alternatives discussed with the exception of two: require separation of sablefish and lingcod fisheries when considering "B permit" qualifications and transferability of permits. Overall, most meeting participants were not comfortable making a specific recommendation, as they lacked information on what doing so means to them and where they "fell out" of the alternatives.

Limit the directed open access groundfish fishery?

The first question asked of meeting participants was should the directed open access groundfish fishery be limited through a permit program. The majority of meeting participants felt that the open access should not be limited and, at most, a registry program should be implemented. This was especially true for those that participate in lingcod or nearshore fisheries, and those participating in incidental fisheries that have variable annual opportunity such as salmon. Many but not all attendees that participated in sablefish fisheries did feel that the current fishery should be limited, and possibly reduced through attrition measures.

If limited, then...

Even though the majority of meeting participants felt that the open access fishery should not be limited, they were encouraged to identify a preferred limited entry alternative for discussion purposes. The following section identifies majority opinions relative to issues associated with a permit system.

What alternative (initial and longterm fleet size goals)?

Most meeting participants were not able to indicate preference of one alternative over another, however, a consistent theme heard throughout the meetings was that initially, the most people possible should be allowed a permit. Those that felt the current level of participation should be reduced were not able to identify an appropriate initial fleet size goal. It was felt that there was not enough information on which to base a decision. Additionally, those that indicated they preferred a large initial fleet size goal with reduction over time through attrition were not able to identify a preferred longterm fleet size goal.

What qualifying framework?

Again, most meeting participants were not able to indicate a preference for one qualifying framework over another. Interest in recent participation, historical participation, and a combination of both was heard. When asked “do you value recent participation or historical participation”, most participants indicated they valued both.

Should permits be transferable?

All meeting participants agreed that permits should be transferable. Comments indicated that fishery participants “earned” the permit with their fishing history and should be able to sell, lease, or otherwise transfer the permit as they saw fit. Additionally, some expressed the fact that permit transferability is a mechanism to allow new entrants into the fishery.

Should a “use it or lose it” provision be implemented?

Meeting participants generally agreed that a “use it or lose it” provision should be included in the program, especially if an alternative that had a high initial fleet size was selected. This was thought to be appropriate for ensuring the permits would be used, and also as a means of reducing the initial fleet size through attrition. Interest was expressed in having a significantly high landing requirement, though specific amounts were not offered. This was thought to discourage individuals from making “token” landings with the sole purpose of renewing their permit.

Should both a current limited entry permit or “A permit” and a “B permit” be allowed to be assigned and used on the same vessel?

Most meeting participants indicated support for allowing use of both “A” and “B” permits on the same vessel in the same year. As with the permit transferability issue, comments indicated that fishery participants “earned” the permit and should be allowed to use it regardless of their other permit holdings.

Should permits have a state endorsement restricting use and transfer of that permit to that state?

Input on this issue was evenly divided, with support both for and against state endorsements. Some participants felt it was needed to prohibit shifting of effort into Oregon (not as much concern of shifting out of Oregon). Others felt that this was a coastwide issue and coastwide program, so participants should be able to fish coastwide.

Additional Comments:

Concern was expressed regarding notification of renewals. Participants recommended two renewal notices be sent prior to expiration of the permit. Additionally they expressed the importance of including a hardship provision to account for loss of vessels, illnesses, etc.

Some meeting participants did not agree with the definition of a “directed” trip. Some participants expressed a desire that all landings of groundfish be counted towards qualification, as those landings were attributed to open access trip limits. More specifically, sablefish landed in conjunction with Pacific halibut during the direct Pacific halibut fishery should be counted, as those landings were considered part of the sablefish trip limit achieved during the two month period. One participant who retains incidentally caught octopus expressed that he would have chosen to not retain octopus had he known it would impact his qualifications for a “B permit”.

Many comments were received regarding the control dates adopted previously by the Council, as they encompass years of relatively good salmon fishing. Additionally, the recent time period of 2004-2006 was not thought to represent “lean” years when participants depend most on the availability of the open access fishery. They expressed the belief that the open access fishery lends itself to a longer term window period as participants “go in and out” of the fishery as needed.

The perceived intent and purpose of the directed open access fishery was varied amongst participants. Some felt the fishery was a stopgap to be used in years when access in other fisheries was restricted. Others felt it was developed to provide some opportunity for individuals that did not qualify for a limited entry “A permit”. Some said that the open access trip limits are too low to live on, while others said the limits were never intended to be primary income.

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON FISHERY MANAGEMENT
PLAN AMENDMENT 22: OPEN ACCESS LICENSE LIMITATION

The Scientific and Statistical Committee (SSC) was briefed by Mr. L.B. Boydstun on the most recent Draft Environmental Assessment (DEA) for groundfish open access license limitation. SSC suggestions made at the March 2008 meeting have been addressed in this DEA. The SSC considers the DEA to be ready for Council action.

An issue discussed in March was whether to use a revenue- or weight-based approach to defining directed B species trips. Both approaches yield similar results with regard to estimating the number of directed B species vessels (Table B-5, p. 154). The analysis in the DEA is based on the revenue-based approach, which is reasonable and more reflective of targeting behavior than the weight-based approach.

Table 4-1-2 (p. 94) provides useful information regarding how well each alternative meets the objectives of (1) reducing the gap between capacity and resource availability, and (2) providing opportunities for less restrictive regulations and reduced discards. The column entitled “Better match between fleet and fish?” identifies which alternatives reduce the capacity gap relative to the status quo. The column entitled “Regulation and effort shift relief” describes the percentage of total 2004-2006 B species revenue earned by non-qualifying vessels under each alternative. While this latter column suggests the extent to which loosening of regulations for qualifying vessels may be feasible under each alternative, more definitive evaluation of this issue depends on the harvest allocation between qualifying and non-qualifying vessels, which is not known at this time. The estimates in the column “Personal income economic impact” are based on the implicit assumption that the revenues earned by non-qualifying vessels would somehow be lost. Given the likelihood that all available harvest would continue to be taken by qualifying vessels (as target species) or by non-qualifying vessels (as bycatch), negative income impacts are not likely to occur in the aggregate.

Personal income impacts are more appropriately considered in terms of how such impacts are distributed among geographic areas and vessel target species categories. A number of tables in the DEA describe the distributional implications of the alternatives (in terms of income impacts and other factors) - e.g., number of qualifying vessels by port group and state (Tables E-5 to E-8, pp. 182-185), landings by port group and state (Tables E-12a to E-12b, pp. 192-193), revenue and income impacts by vessel target species category and state (Tables E-17 to E-22, pp. 203-210).

A limited entry program is a useful but not fully effective way to manage capacity and is best accompanied by additional measures to discourage capacity expansion. For instance, vessel landings limits may discourage capacity expansion by individual permit holders. Length endorsements may discourage the tendency to transfer permits from smaller to larger boats. It is not clear whether this new limited entry program is an end in itself or a prelude to a market-based system of harvest allocation. While perhaps more costly to implement, market-based systems also have more effective, built-in incentives to control capacity.

GROUND FISH ALLOCATION COMMITTEE REPORT ON
FISHERY MANAGEMENT PLAN AMENDMENT 22:
OPEN ACCESS LICENSE LIMITATION

Groundfish Allocation Committee Meeting Highlights, July 9-10, 2008

Meeting summary:

- The meeting PowerPoint presentation is available at:
http://www.pcouncil.org/groundfish/gffmp/gfa22/GAC_Jul9_OA%20Update_2.pdf
- A final decision at the September 2008 meeting (Boise) meets the current schedule and would improve chances for 2010 program implementation. The next opportunity for final adoption would be March 2009 (Seattle), which would be a better location and give the public time to review and comment on the preferred alternative. The degree of complexity in the final decision will affect the implementation timeline.
- The Council has five alternatives to work with: A-1 is no action (status quo), A-2 is a vessel registration process with no limit on the number of participants. A-3, A-4 and A-5 are the B and C permit alternatives. B permits would be issued to vessels that target B species and would be limited; C permits would be issued to incidental fishery vessels and would not be limited. B species include all Federal groundfish exclusive of nearshore rockfish, cabezon, and other nearshore species. Within the limited entry alternatives there are 27 qualification criteria for consideration. Other issues in the alternatives include: (i) permit transferability, (ii) previous year landing requirement, (iii) state landing endorsement, and (iv) use of A&B permits on a vessel in the same year.
- The directed fishery (inclusive of nearshore) averaged 1,315 mt (85%) and the incidental fishery 226 (15%) mt during 1998-2006 (EA Table 3-1). The average number of vessels were: directed fishery, 840 (70%); incidental fishery, 358 (30%) (EA tables 3-2 and 3-5). (Added following the meeting).
- The gear and length endorsement provisions for B permitted vessels were removed at the March 2008 meeting (but can be added back in).
- It will be important at the September 2008 meeting to narrow the list of qualification criteria, starting with qualification frameworks (how the data are sorted) of which there currently are five: (i) 04-06 lbs landed (QF-1); (ii) 98-06 lbs landed (QF-2); (iii) 98-06 lbs landed w/04-06 landing (QF-3); (iv) trips in 2 of 3 yrs, 04-06 (QF-4); and (v) max lbs, any yr, 04-06 (QF-5).
- It may be possible to adopt different qualification criteria between states but the record must be very clear and supportive of why state-specific criteria are needed.
- QF-3 could potentially qualify about 1,500 vessels that have not made a directed fishery landing since 2004. QF-4 would qualify about 580 vessels, many of which have very small catch histories. QF-1, QF-3 and QF-5 have similar impacts. CA vessels get slightly more permits under QF-2, followed by QF-3; WA and OR get more slightly more permits under QF-1 followed by QF-3
- The distribution of permits between states and port groups is affected by the species harvested. WA vessels have large catch histories because they target sablefish almost exclusively. Many OR and CA vessels have relatively large sablefish catch histories while both states support fisheries that take shelf rockfish and lingcod and other species, which

have relatively small catch histories in recent years. Shark vessels in WA and CA also have relatively large catch histories.

- The qualification criteria analyzed resulted in a wide range in number of qualifying vessels and a wide range in B species harvest impacts based on 2004-2006 landings data. B species groundfish represented less than 5% of the total commercial fishery revenues overall by non-qualifying vessels under any of the qualification criteria.
- Some of the nearshore vessels in OR and CA may not qualify for B permits but still may be able to take B species incidentally; thus those vessels are not being taken out of the groundfish fishery altogether.
- The VMS program has brought in 537 open access vessels, which includes 36 shrimp/prawn trawl vessels. Nearshore vessels are not required to have VMS if they stay in state waters. The number is low and may be because of high fuel prices. There have been fewer than 20 vessels registered for VMS in the last two months.
- Fishery dependence, in addition to the need for capacity reduction, was a criterion cited in the Groundfish Strategic Plan for permit qualification.
- Limited entry is a good first step toward Market Based Management, which would be far more doable with 400 vessels than 1200 vessels.
- The advisors generally supported: (i) a fleet size of around 400 vessels, (ii) allowance for B permit transferability, (iii) a recent year fishery participation requirement (like QF-3), (iv) allowance for alternate use of A and B permit on vessels in the same year (using declaration process), and (v) elimination of state landing endorsement provision, and (vi) length endorsement for B permits.
- GAC amendments and motions appear below.
- Next meeting: October 9-10, 2008 to discuss Trawl Rationalization Program.

Proposed Needs Statement Amendments

- Fishing capacity needs to be carefully managed to ensure that capacity and/or effort is maintained consistent with resource availability and limited entry is an important step in the process.
- Restrictive landing limits have been necessary for some species because of high fishing capacity, which has reduced the economic potential of the fishery, increased fishery discards of target, non-target and overfished species, and limited entry has the potential to relieve the situation.
- Restrictive salmon fishing regulations, the states' nearshore management programs and regulations to recover overfished groundfish stocks have pushed vessels into deeper Federal waters, increasing fishing pressure there for species that were already fully utilized.
- Registration of all vessels is important to meeting fishery management goals and efficiently allocating sampling resources among coastal ports and at-sea monitoring and enforcement programs.

Motion re Amendment 22:

1. Support A-3 and A-4 and frameworks QF-1 (lbs landed, 2004-2006) and QF-3 (lbs landed, 1998-2006 w/ 2004-2006 trip requirement).
2. Support inclusion of length endorsement with B permits consistent with current A permit program.
3. The preferred qualification criteria are those found in A-3 and A-4, excluding those currently associated in A-4 and frameworks QF-3 and QF-4. (Note: this is with the understanding that

the standards associated with QF-1 in A-4 will be analyzed using QF-3 in time for the September 2008 meeting).

4. Oppose state landing endorsement provision.
5. Support B permit transferability consistent with current A permit program.
6. Support alternate use of A and B permits on single vessels but not at the same time.

Attendees

Dayna Matthews
Dave Hanson
Don Hansen
Don McIsaac
Eileen Cooney
LB Boydstun
Michele Culver
Mike Okoniewski
Michele Longo Eder
Marija Vojkovich
Peter Huhtala
Pete Leipzig
Sarah McAvinchey
Steve Williams
Tom Ghio


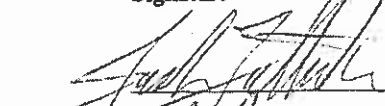

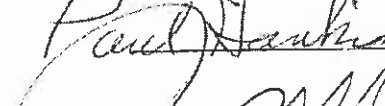
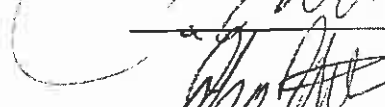
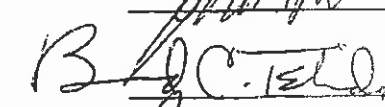


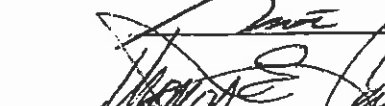
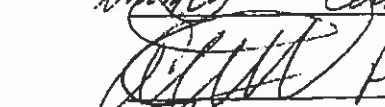
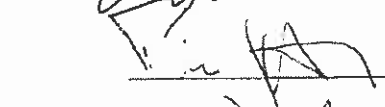
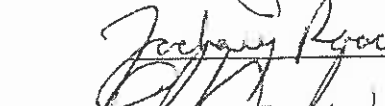
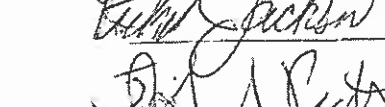
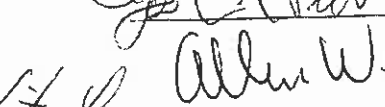


We the undersigned Concerned stake holders and members of the Morro Bay and Port San Luis fishing community, as defined by 104-297(17) of the Magnuson-Stevens Fishery Conservation and Management Act, are submitting comments, opposing Alternatives 3, 4, 5, and 6 of the PRELIMINARY DRAFT ENVIRONMENTAL ASSESSMENT FOR Pacific Groundfish Fishery Management Plan Amendment 22, March 2008. as per the attached. letter with its attachments mentioned therein. We seek diversification through a self regulating open access fishery.

ALAN P. ALLWARD
Additional signatures:

Signature

Print Name

Vessel, Organization, Profession or Business.

	ALAN P. ALLWARD	F/V LONGFIN
	JACK FALKENSTEIN	F/V FRAGIOLANO
	DAVID B. ASHMAN	ROCKMASTER DRISCOLLS
	PAUL M. HAWKINS	F/V SEA-CHASE
	John Heff	F/V Temptation
	Bernard C. Tschida	F/V "Annette Marie"
	Larry Mansour	Longfin Billy
	C. Mark Anthony Makul	Spirit
	Scott Hawkins	F/V Judy-H
	Thomas E. Cardosa	F/V Tommy John
	ARTHUR L. ORTIZ	6731 ELMORE ST SD CA 92111 F/V BEV A
	PETER HALMAR	F/V ERIN B
	Zachary Roach	F/V Addiction
	Richard Jackson	F/V CACHAOT
	John Pretti	F/V River
	Allen Weissen	F/V PAULA ANN
	Vito Lograsso	F/V NANCY

**Community Stake Holders RESPONSE TO: Agenda Item F.4.a, Attachment 1 March 2008 (170pp)
PRELIMINARY DRAFT ENVIRONMENTAL ASSESSMENT FOR Pacific Groundfish Fishery Management Plan
Amendment 22: Conversion of the Open Access Fishery to Federal Permit Management**

Preamble to Comments

All of the alternative actions other than Alternative 1, no action, would have a significant impact, and the impact of Alternatives 3, 4, 5, and 6 would clearly be detrimental. The time frames stated would eliminate a most, if not all, of the fishing vessels in Morro Bay and in Port San Luis. We ask the Council to consider our need to access a diversity of fishing options. The actual fishermen (including women) need to access a diversity of options any other alternative will lead to adverse economic impacts on our community. Diversification availability in our professional opinions as members of the fishing community, is a more useful tool to mitigate and ameliorate displacement of the groundfish management plan in regards to socio-economic and environmental concerns, including justice (equity). It is especially important in the regional port groundfish dependencies in Morro Bay, Port San Luis and in a significant number of other fishing communities in the three states.

Reduction in capitalization is likely to occur without these measures via attrition due to certain self-regulatory aspects of the industry including the effects of increased fuel costs combined with the ongoing reduction in the number of vessels due to recent regulations in other fisheries. These current economic issues are causing the further displacement of fishermen. Access to non-overfished species as well as improvements to entire stock re-building should also be made available to all fishermen. The economic and management cycle has changed the scope of not-overfished species plus by-catch limits of directed species. Open access has an ameliorating effect for fishermen in this cycle of events. Reduction of capacity does not require the extreme measures proposed in Alternatives 3, 4, 5, and 6.

The program appears to have been started to absorb those that fell through cracks of the implementation of groundfish management. In respect to the use of the open access fishery, all those eligible to fish in the past should remain eligible. Where is this over capitalization supposed to go? We are artisans and we cannot suddenly become doctors and dentists any more than they can safely and successfully run and maintain a fishing vessel. There has already been so much attrition that our vessels are becoming worthless; no one wants them for yachts, especially not in this economy. We stand to lose our investments as well as our livelihoods. Is the Council going to provide refugee camps for us? Please consider the whole fishing community rather than only a few directed fishery permit holders, who are the primary component of overfishing. If regulations make all the fisheries specialized fisheries then each will be more prone to over fishing. Someone only licensed for one fishery must continue to fish that one fishery or starve. Diversification is essential for the flexibility we need in order to use the resource in a sustainable manner.

Our group has been under represented, many have been in major refit operations and have missed updates. Many fishermen depend on part time use--perhaps part time access components. Reduction is likely to occur via attrition due to certain self-regulatory aspects of the industry including the effects of increased fuel costs combined with the ongoing reduction in the number of vessels due to recent regulations in other fisheries. Open access secures a better use of resource as an available diversification tool than developing a directed fishery that has been the cause of the pressure calling for this permitting process.

Permit purchase has dubious results by virtue of much of what is discussed above. A major impact results when, as is usual if the permits have any value, they tend to be traded as though they were on the stock market. This is at variance with both the historical and with the modern economic and social structure of the fishing community, negating much of the realities of family and small entities access. Family fishing is a heritage of humanity that cannot be treated as a commodity for large corporations. This introduces a additional impediment into our small businesses via a huge and potentially insurmountable demand for cash flow and an increased risk of financial disaster..

Please note that "fishing community" is a specific term defined by 104-297(17) of the Magnuson-Stevens Fishery Conservation and Management Act and has little to do with neighboring or physically overlapping communities not, by this definition, part of the the fishing community.

Page 2,

Comments on Agenda Item F.4.a, Attachment 1

Community Stake Holders

-The following legal and procedural comments, although focusing on specific and very important items proposed by this draft, especially relate to two overall issues. (1)The first is sociological consequences of the proposed forced reduction of number of vessels in the fishery, and the restriction of diversity, through regulation in light of the fact that no sociological or socio-economic studies have been made. Such studies are essential to meet the requirements of administrative procedure as shown below. (2)The second is the possible creation of presently open fishing into saleable assets through this proposed legislation. This is certain to have a significant long term detrimental sociological impact, even eliminating some fishing communities. Thus it conflicts with the Magnuson-Stevens Fishery Conservation and Management Act As Amended Through January 12, 2007 which requires regulation to "... provide for the sustained participation of such communities.'

-Either the sociological consequences of forced reduction in the number of vessels, or the creation of presently open fishing into saleable assets could eventually lead to extreme economic hardship for those individuals defined as the "fishing community" by 104-297(17) of the Magnuson-Stevens Fishery Conservation and Management Act As Amended Through January 12, 2007, *to mean a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community.* The proposal certainly does not consider either the "social" or the "economic" needs of the above defined community.

-Under Alternatives 3, 4, 5, and 6, of this proposed regulation, licences and permits in a formerly open fisheries will, in the long run, tend to end in the hands of large canneries and other public corporations, which may then control (for instance, rent) the permission to fish. Through this power of ownership, canneries may potentially control prices paid for the fish. Such creating of potential monopolies, and creating of capital through regulation, would have a dire sociological impact, and must not proceed. Perhaps there is a need to restrict the number of permits owned or controlled by any one individual. We note that corporations are legally individuals as are flesh and blood individuals. We further assert that licenses, if they are necessary at all, must be on a basis that one human, or one corporation (each being a single person with equal rights under 14th amendment) be allowed permits for no more than any one person's share of the potential catch.

-The January 2004-September 2006 window ("recent years") is totally unacceptable; whole family businesses may have sprung up and others have dropped out since September 2006. These are difficult times in which to be displaced from one's income and economic recovery may be impossible. To avoid undue hardship and economic damage, any regulation limiting or intending to, in effect limit, the capacity or capitalization in terms of number of vessels, using landing histories, would have to be based on previous years' landings, but authorization should not be denied based on lack of landings before the regulation is enacted. There should be a warning in terms of fully spelled out legislation a year before the counting starts. The potential for damage to small family businesses, towns and harbors dependant on fishing precludes arbitrary windows such as the ones in Alternatives 3, 4, 5, and 6. The initial number of potentially permitted vessels must minimally include all vessels in operation from many years previous up to the very moment of enactment. So, we are writing in support of Alternatives 1 and possibly of Alternative 2 provided that the latter is enacted in a way which does not include undue hardships to the fishing community or excessive costs being passed on to the industry. Unfortunately, we observe that most of the proposal and its associated processes fail to comply with Magnuson-Stevens Fishery Conservation and Management Act or with numerous other legal requirements.

-As clearly summarized on page x, and verified by the document, which it summarizes, this proposed legislation is without merit with regard to Alternatives 3, 4, 5, and 6, because it is based on supposition and a lack of data in crucial areas.

"Data sets were not available for quantitative evaluation of the alternatives with regard to the following environmental issues: Fishery Management, Prohibited Species, Protected Species, Participation Requirements, and Government Cost."

This constitutes a major lack of essential environmental data in many areas relative to this proposed legislation, the alleged object of which is to protect the environment. If the regulators must pass further regulations in this fishery, Alternative 2 would enable them to gather some of the above mentioned missing data. Unfortunately some of the procedural deficiencies of this proposal could also be argued to stand against Alternative 2 as well. This is due to the very fact that sociological, socio-economic, and other critical data, on which even Alternative 2 must be based, are inadequate.

Page 3, Comments on Agenda Item F.4.a, Attachment 1 (cont.)

Community Stake Holders

-Again referring to page x:

"For these issues, a general or qualitative assessment was made using comparative information or through deductive reasoning."

This legislation impacts people's livelihood and the nation's domestic food supply. Family and small entity fishing has allowed humanity to relate to the sea and develop food sovereignty based on the sustainable use of fisheries resources and to allow for sustainable participation of the present small entity based fishing community. This process (as per the proposal) must come to a halt until the agencies are able to update and present adequate evidence, based on timely real data, demonstrating a need for such extreme legislation or regulation as proposed in Alternatives 3, 4, 5, and 6. In light of the Council's apparent concern, research funding (perhaps emergency funding) must be sought for adequate data collection. Likewise there is also a need for sociological, socio-economic, and biological research.

-Section 3.3.8 although allegedly directed more specifically at health exposure, reflects a basic error in a basic assumption of the proposal, it implies that no minorities or economically disadvantaged will be impacted disproportionately. Page x, although misleadingly referencing 3.3.8, categorically, states:

"It is concluded that all of the alternatives have low potential for significant impact as none of them target low income or minority communities, thus they would affect all population segments equally."

This is untrue for Alternatives 3, 4, 5, and 6, in that it implies that the targeted reduction in the fleet which is likely to eliminate the smaller or economically more marginal vessels and businesses, in order to lower catch, has no impact on low income or minority communities. A majority of the vessels which are most likely to be eliminated from the fishery and many of the businesses which will be impacted are owned and operated by households which make less than the definition of economically disadvantaged (i.e. \$38,283, yr 2007 family of 4 outside HI and AK). These vessels, due to maintenance and other factors, are intermittently in operation, and rely on a diversity of fishing opportunities. This makes arbitrary time windows even more likely to impact them disproportionately, possibly leading to their losing their income, or a major portion thereof, and possibly their investment. Associated with the impact on associated businesses, Hispanics are a large and growing majority of the people handling the fish once they are landed and unnecessary reductions in landings of the species they handle in a given region or business will affect them disproportionately. Refer to 104-297(17) of the Magnuson-Stevens Fishery Conservation and Management Act As Amended Through January 12, 2007 term "*fishing community*" to mean *a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community.* (italics added) If the fishing communities of Morro Bay, CA, Port San Luis, CA, and in many other ports of the three state coastal region were properly examined in terms of the fishing community, as defined, in this Act (and which is the community potentially impacted), it would be found that these alternatives do indeed impact these low income communities. Note that retired persons and tourist based industries are clearly not included in the definition of "fishing community."

-The Magnuson-Stevens Fishery Conservation and Management Act As Amended Through January 12, 2007 says in 104-297, 109-479 (8) Conservation and management measures shall, 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 by utilizing economic and social data that meet the requirements of paragraph (2), 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.* (italics added). This citation also applies to the comments on the preceding page. Alternatives 3, 4, 5, and 6 are neither in compliance with (B) nor especially with (A). Depending on the ultimate drafting and adherence to administrative procedure (or lack thereof), Alternative 2 may also fail to meet these requirements. However, if drafted to minimize impact, it might help with eventually meeting some, but by no means all of the requirements of the act. Likewise Executive Order (EO) 12898 has not been met and the data cited is inadequate with respect to social impact which, as part of the environment, has a direct effect on the health of the community and of the individual. A direct survey and sociological and socio-economic study of members of the fishing community, some of whom may even include at-risk youth, and families with at risk children, is essential to begin to meet any of these requirements.

Page 4, Comments on Agenda Item F.4.a, Attachment 1 (cont.)

Community Stake Holders

-Under the mandates of the Regulatory Flexibility Act (RFA) federal agencies must analyze the impact of their regulatory actions on small entities, including small businesses, small non-profit organizations, and small jurisdictions of government and, where the regulatory impact is likely to be "significant", affecting a "substantial number" of these small entities, and seek less burdensome alternatives for them. This is once again a requirement which requires adequate data. Such data has not been provided by the agencies proposing this regulation, and they admit that they lack such data, and do not have access to such data (evidenced by lacking in the proposal itself, to some extent this is also evidenced by page x as referenced above). When such data is properly assembled Alternatives 3, 4, 5, or 6 will be revealed to be "significantly" burdensome since they will entirely close or seriously encumber a "substantial number" of small businesses centered on and including fishing vessels; they also affect small non-profit organizations in the form of fishing associations; and they affect small jurisdictions of government in the form of harbor administrations such as the Harbor of Morro Bay which has a significant dependence on the fishing industry. Both current and proposed federal regulations are subject to the RFA and this may relate to any previous setting of time frames and thus to any proposed laws including said time frames. Although the RFA did not initially, in itself, compel specific regulatory outcomes, agencies are required to assess the impacts of their proposed and final rules on small entities, and to select less burdensome alternatives, or explain why they cannot do so. To so explain such actions would require data the agencies do not have. However, the effect on the economy must also be reviewed using adequate data in accordance with Executive Order 12866, "Regulatory Planning and Review" which requires federal agencies to analyze their major regulatory undertakings and to take action to ensure that these regulations achieve the desired results with minimal burden on the U.S. economy. The RFA has also been strengthened by Public Law 104-121, the Small Business Regulatory Enforcement Fairness Act (SBREFA) which gives the courts jurisdiction to review agency compliance with the RFA. In replying to this proposal we also assert standing in court of law with regard to this proposal and subsequent regulation arising out of it.

-The food security and food defense of both the Central California Coast and the US at large is dependant on primary production such as fishing. Some areas such as San Luis Obispo (a major educational center) and Morro Bay are served by a vulnerable and limited number of highways, and thus could possibly be cut off from food supplies by a disaster, an act of terrorism, or a war. Fishing vessels may actually catch and then deliver substantial amounts of fresh high grade protein to coastal towns and cities in three days or less (less than one day for some fisheries) which is often a shorter period than would be needed for other sources of transport to reach them in some types of emergency. Some of these vessels are capable of using wind rather than fuels, the supply of which could be cut off in an emergency. Likewise, the water supply of some of these areas, including Morro Bay and its surrounds, are not perfectly secure, and many of these vessels have a significant capacity to carry at least drinking water to impacted sites which do not have harbor facilities for larger ships. Such factors must be considered in any proposal for environmental legislation which potentially limits or reduces the food production infrastructure of the US, of its coastal waters, or which reduces the number of US registered fishing vessels operating out of US ports. Any deliberate attempt, as is evidenced in Alternatives 3, 4, 5, and 6 of this proposed legislation, to further reduce any aspect of the fishing capacity of the US fleet below its present self regulating level could possibly be seen as an assault on the infrastructure of the United States, and of the States of California, Washington, and Oregon. It may also well be a danger to the nutrition of the nation in time of war or national (or local) emergency.

-In evaluating the time frames offered in Alternatives 3, 4, 5, and 6, one can only hope that they are merely arbitrary and capricious and not coerced by specific persons or interest groups. For instance, some alternatives which arbitrarily target a 50% reduction in the number of vessels, during its first stage, predict a 30% increase in income for the remainder. Further reductions (and hence profits for some) are implied. A time frame starting too far in the past, for instance, over two years before the possible passage of the proposed legislation, has an *ex post facto* effect of retroactively penalizing and even closing small fishing businesses which are in no way at fault. A mere past notification that some sort of incompletely defined regulatory action may eventually encompass a then current time frame, is inadequate due to its vagueness and therefore not binding. As it stands, the choice of a time frame starting on a certain date and ending on a certain date, leaves who gains or loses their fishing rights to something presumably resembling chance. However, fishing is an industry, not a casino. Fishing vessels fish, and do not fish, in given time periods due to various needs such as maintenance and economic pressures, which have little to do with any intent by the many small family businesses or individuals involved to leave the fishery. Likewise these vessels need diversity, and they fish in given time frames, as part of maintaining diversity. They need diversity in order to continue fishing. Regulation that will, in effect, force environmentally destructive specialization, will put them and the businesses they supply out of business. Any equitable regulation must, among other things, consider vessels actually fishing at the time of its enactment.

Page 5, Comments on Agenda Item F.4.a, Attachment 1(cont.)

Community Stake Holders

-The passage of any of Alternatives 3, 4, 5, 6, and, depending on intent and application, 2, aimed at reducing or eliminating any segment of the fishing fleet at this time would be premature and unjustified, in part because of the need to observe the effect on the number of vessels which will remain active, following the several recently enacted regulations encumbering the multiple use of vessels which also took part in presently regulated fisheries. Another, perhaps even more important aspect of this need for further observation before rushing to further regulation is the need to assess the effects of enormously increased, and increasing, fuel prices on fleet size and number of landings. The available market for fish is likely to decline during the present period of financial stress. This reduction in market should additionally reduce the number of vessels. Since the commencement of drafting of the proposal (even in the past 12 months) a significant percent of the vessels, especially in terms of catch, have voluntarily retired due to increased economic stress and due to regulation. Therefore the capacity data presented in this draft proposal needs to be updated and extended. When it is so brought up to date the agencies proposing it may find that further regulation is unnecessary.

-It would seem that clearly threatened ground fish species are included in this same proposal with species which are the basis of an apparently sustainable fishery (ie. Black Gill Rockfish, and Sablefish). This addressing of unrelated issues in the same regulation makes it harder to attain sustainable management practices.

-In response to the statement,

"Therefore, this EA will ultimately become a combined regulatory document to be used for compliance with not only NEPA, but also E.O. 12866, RFA, and other applicable laws." (in 1.0 PURPOSE OF AND NEED FOR THE ACTION page 1)

This draft EA lacks the support of adequate data (as per page x and elsewhere) for its justification in any of these roles, in that it neither meets E.O. 12866 (see preceding comments) nor many "other applicable laws" or administrative procedures. As for "other applicable laws", we have herein cited several with which the proposal, especially in regards to Alternatives 3, 4, 5, 6, and, if not carefully applied, 2, are not in compliance. Add to this the proposal's failure to meet NEPA, the National Environmental Policy Act, under which agencies are to develop an "initial analysis of the effects of a proposed regulation on small entities, seek comments, and then refine these inputs into a final small entity impact analysis."

- In any matter relating to this proposal which affects us and/or upon which we have commented, we, individually and jointly, also assert standing in court for ourselves or for our representatives, and societies/associations legitimately claiming us as clients or members. We likewise, and for the same causes, claim standing in regards to any administrative activities undertaken via the Federal Register relative to any such issues and/or relative to such actions as may be undertaken to circumvent the direct legislative passage of this proposal via enacting the regulations proposed, in part or whole, by means of administrative procedure.

Italics and bold face have been added to some of the preceding references for the readers' convenience.

John Gillespie
F/V WINDWALKER
Morro Bay Harbor Dept.
1275 Embarcadero
Morro Bay, CA 93442

Attn: Fishing Community Stake Holders of the Central CA Coast.

Pacific Fishery Management Council
c/o Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101,
Portland, Oregon 97220-1384.

D. Robert Lohn
NOAA – National Marine Fisheries Service
7600 Sand Point Way N.E.
Seattle, WA 98115

Frank Lockhart
Sustainable Fisheries Division
NOAA – National Marine Fisheries Service
7600 Sand Point Way NE,
Seattle, WA 98115

As concerned stake holders and members of the Morro Bay and Port San Luis fishing *community*, as defined by 104-297(17) of the Magnuson-Stevens Fishery Conservation and Management Act, we the undersigned and attached signatories are submitting comments, regarding the **PRELIMINARY DRAFT ENVIRONMENTAL ASSESSMENT FOR Pacific Groundfish Fishery Management Plan Amendment 22, March 2008**. The attached preamble expresses some of our concerns as do the included more formal comments following it which also regard procedural matters associated with Alternatives 3, 4, 5, 6 and, possibly, 2. These alternatives will detrimentally impact our fishing community and they are unsupported by adequate socio-economic data which is required by law. There is also reason to question the adequacy of the other data purportedly supporting these alternatives. We seek diversification through a self regulating open access fishery.

4/30/08

Signature

Print Name

Vessel, Organization, Profession or Business.

Went
Mary Harnes TERRY HARNESS ASST. MGR

Linda Lee Thoresen Linda Lee THORESEN - Retired

Bernadette M. Schultz BERNADETTE M. SCHULTZ

Edward Tate EDWARD TATE

Harry Lambert F/V SOUNDER

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We seek diversification through a self regulating open access fishery.

Additional signatures:

Signature	Print Name	Vessel, Organization, Profession or Business.
<i>Lorraine Gaudin</i>	LORRAINE GAUDIN	HOMIE BROWN
<i>Lupe M. Sylvester</i>	Lupe Sylvester	(waitress)
<i>Velma McCarty</i>	VELMA McCARTY	RETIRED
<i>Gerald D. McCarty</i>	GERALD D McCARTY	RETIRED
<i>Millard Kane</i>	MILLARD KANE	RETIRED
<i>George E. Tays</i>	GEORGE E. TAYS	RETIRED
<i>Heran Rehnstall</i>		Retired
<i>William R. Neel</i>		Retired
<i>Dan Livhars</i>	DAN LIVHARS	SLO COUNTY WORKER
<i>Charles Lee Fox</i>	CHARLES LEE FOX	Retired
<i>Judy Johnson</i>	Judy Johnson	waitress
<i>Charles R. Horne</i>	CHARLES R HORNE	(BOAT BUILDER (RET))
<i>Irene Horne</i>	IRENE HORNE	RETIRED STATE EMPLOYEE
<i>Marianne Caccia</i>	MARIANNE CACCIA	
<i>Thelma C. Kalin</i>	Thelma C. Kalin	(Retired)

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Signature	Print Name	Vessel, Organization, Profession or Business.
<u>Alice Ragland</u>	<u>Alice Ragland</u>	<u>Retired teacher</u>
<u>Clarence Ragland</u>	<u>Clarence Ragland</u>	<u>retired USAF</u>
<u>John Harbin</u>	<u>JOHN HARBIN</u>	<u>RETIRED</u>
<u>Edna Harbin</u>	<u>Edna Harbin</u>	<u>Retired</u>
<u>Roberta Shomar</u>	<u>Roberta Shomar</u>	<u>Retired</u>
<u>Elvira Clement</u>	<u>Elvira Clement</u>	<u>Retired</u>
<u>Marguerite Stearns</u>	<u>Marguerite Stearns</u>	<u>Retired</u>
<u>HOWARD CACCIA</u>	<u>Howard Caccia</u>	<u>Retired</u>
<u>RAY FALWETT</u>	<u>RAY FALWETT</u>	
<u>Dail Sawcut</u>	<u>Dail Sawcut</u>	
<u>Angie M. Bellamy</u>	<u>Angie M. Bellamy</u>	
<u>Lena Norton</u>	<u>Lena Norton</u>	
<u>JOHN TIVET</u>	<u>JOHN TIVET</u>	
<u>KATHY RE</u>	<u>KATHY RE</u>	<u>Salon owner Mimi's</u>
<u>B. Richardson</u>	<u>B. Richardson</u>	<u>Retired Hospital Personnel Director</u>

John Gillespie
F/V WINDWALKER
Morro Bay Harbor Dept.
1275 Embarcadero
Morro Bay, CA 93442

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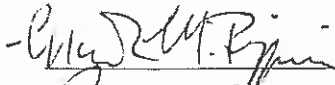
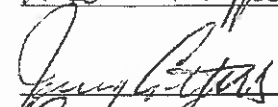
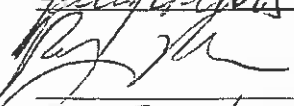
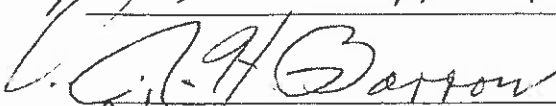
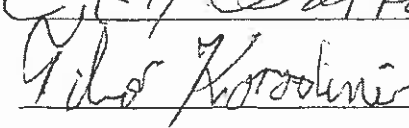
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4/30/08

Signature

Print Name

Vessel, Organization, Profession or Business.

	MARK M. TOGNAZZINI	F.V. Bonnie McGrath
	JERRY COTTRELL	JERRY'S MARINE TACKLE
	RANDY KAMM	F.V. DREAM CHASER
	GIL H. BARTON	"Blue Horizon" Comm. Fish.
	VILHO KORODINI	Crewman

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Additional signatures:

Signature	Print Name	Vessel, Organization, Profession or Business.
<u>Pete Griffin</u>	PETER A. GRIFFIN	F/V LITTLE FIN F/V NYLISA
<u>Don Knapp</u>	DON KNAPP	F/V PELICAN
<u>Jack Hansen</u>	JACK HANSEN	F/V DARBONE
<u>Red Arnoldi</u>	RED ARNOLDI	F/V RIZALINGA MARIN
<u>Frazier Green</u>	FRAZIER GREEN	F/V CRAY FISH
<u>Charles Maxwell</u>	CHARLES MAXWELL	MBM Refugation
<u>Jandy Winston</u>	JANDY WINSTON	F/V Zeppelin F/V Doc Ann
<u>Craig Barh</u>	CRAIG BARH	F/V PREAMBLE FISH
<u>Amela Daniels</u>	AMELA DANIELS	DOCK MANAGER
<u>Chris Sallie</u>	CHRIS SALLIE	F/V SUZANNE
<u>Randy Haysen</u>	RANDY HAYSEN	F/V PACM
<u>Pete Brongersma</u>	PETE BRONGERSMA	F/V COMMANDER

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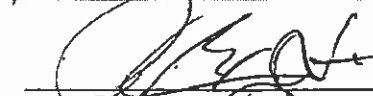
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Signature

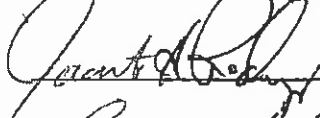
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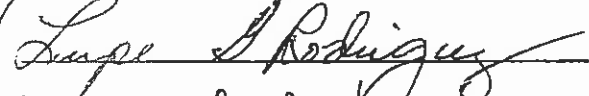
Vessel, Organization, Profession or Business.


 John Rotondo Lisa Rotondo Social Services

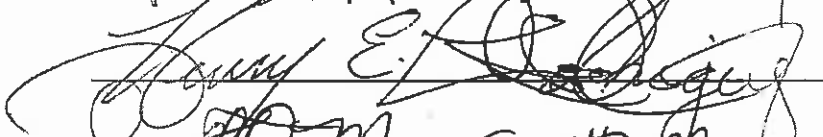


Ron Doms Ron Doms

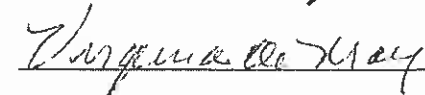
 Jacinto A. Rodriguez Xerox Corporation

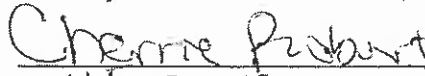
 Lope Rodriguez owner

 Manuel Rodriguez Dept. of Corrections


 Scott D. Mayo Federal

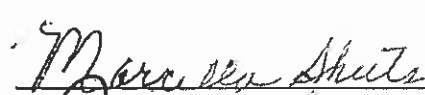
Scott D. Mayo Scott D. Mayo Customer Service


 Virginia Mayo VIRGINIA MAYO Retired.

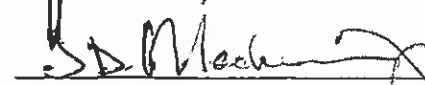
 Cherrie Roberts C. Roberts


WILLIAM DSHEETS

 William Sheets Retired

 Marcella Sheets MARCELLA SHEETS Retired

 Pablo R. Lopez P.O. Box 12851 M.B. Ca. 93442

 SD Mechem SD MECEM. RETIRED

 Karen Mechem Karen Mechem NAB Lemoore

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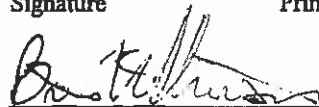
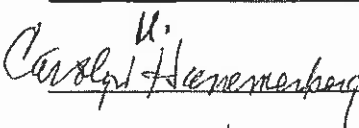

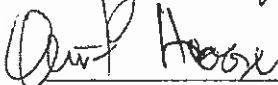
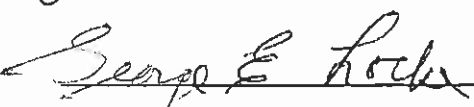
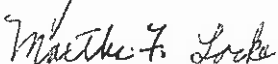
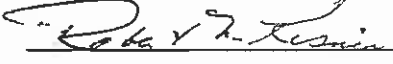


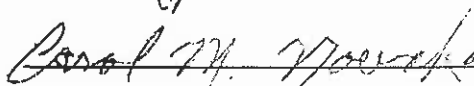
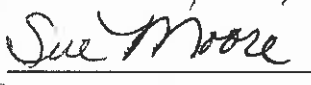
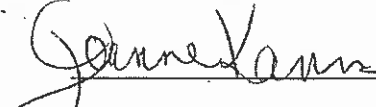

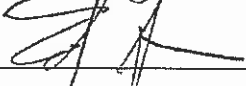

Vessel, Organization, Profession or Business.

<i>A. J. Wright</i>	A.J. WRIGHT	Business Man
<i>Phil Galan</i>	Phil Galan	RETIRED
<i>John Rowley</i>	John Rowley	Charter Boat Capt.
<i>Michelle Leary</i>	MICHELLE LEARY	charter boat capt.
<i>Sha Rowley</i>	Sharon Rowley	Charter Boat captain
<i>Betty C. Carrillo</i>	BETTY C. CARRILLO	Retiree
<i>Benjamin Carrillo</i>	BENJAMIN CARRILLO SR	RETIRED
<i>John T. Elliott</i>	JOHN T ELLIOTT	RETIRED
<i>Judy H. Elliott</i>	JUDY H. ELLIOTT	RETIRED
<i>Blanch Brunsell</i>	BLANCH BRUNSELL	Retired
<i>Homer Hoge</i>	HOMER HOGT	Retired
<i>Jeane S. Hoyt</i>	Jeane S. Hoyt	Retired
<i>Richard Gardner</i>	Richard Gardner	self employed
<i>Stephen Robando</i>	Stephen Robando	teacher

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We seek diversification through a self regulating open access fishery.

Additional signatures:

Signature	Print Name	Vessel, Organization, Profession or Business.
	BRIAN Williamson	F/V S SANDY Bt ^{KJ. MARCK}
	CAROLYN M. HAMMERBERG	1109 N. F. ST Long Beach CA
	BEVERLY M. KEMPTON	RETIRED 93436
	Clint Hoese	CONST WORKER
	Martha F. Locke GEORGE E. LOCKE	Retired
	MARTHA F. LOCKE	Retired
	ROBERT J. KISER	RETIRED
	ELWIN J. KISER	Retired
	WALTER J. NOWAKOWSKI	Returned Army
	CAROL M. NOWAKOWSKI	
	Sue Moore	Nursing
	JOANNE KANN	FISHERMAN'S WIFE
	RANDY KANN	F/V DREAMCHASER
	ESPERA	CONTRACTOR
	Kim Morrell	Designer Home

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Additional signatures:

Signature

Print Name

Vessel, Organization, Profession or Business.

Clark Steinmetz CLARK STEINMETZ NONE

Roy Schlegel Roy Schlegel Handy man

John Hensch John Hensch General Contractor

Josh Kubel Josh Kubel Painter

Paul Spalding Paul Spalding

Venustiano Cervantes Galván

Danny J. Moore DANNY J. MOORE P.O. & F.

Linda Moore Linda Moore Ho wife

Mike Navar Mike Navar

Betty Navar Betty Navar Teachers Aid

Freda Delgadilla Freda Delgadilla

Hector Manriquez Hector Manriquez

Michael Del Puppo MICHAEL DEL PUPPO - POLICE

Ron Silva Ron Silva CB

Sharon Vaughn Sharon Vaughn Hair Dresser

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Additional signatures:

Signature	Print Name	Vessel, Organization, Profession or Business.
<u>Prano M. Candelaria</u>	<u>ANNE M. CANDELARIA</u>	<u>Retired A.S. Teacher</u>
<u>Christie Greenfield</u>	<u>Christie Greenfield</u>	<u>Court Sec. mgr. (Finance)</u>
<u>Dolores Wagner</u>	<u>Dolores Wagner</u>	<u>Retired (School Districts)</u>
<u>Charlene Evans</u>	<u>CHARLENE EVANS</u>	<u>Retired</u>
<u>Beverly M. Gammill</u>	<u>BEVERLY M. GAMMILL</u>	<u>Retired</u>
<u>Candace Switzer</u>	<u>Candace Switzer</u>	<u>Writer</u>
<u>Catherine Gant</u>	<u>CATHERINE GANT</u>	<u>DENTAL</u>
<u>Monica Osborne</u>	<u>Monica Osborne</u>	<u>casino</u>
<u>Walter Erickson</u>	<u>WALTER ERICKSON</u>	<u>Retired</u>
<u>Marian G. Erickson</u>	<u>MARIAN G. ERICKSON</u>	<u>Retired</u>
<u>Larry Tindall</u>	<u>LARRY TINDALL</u>	<u>Retired</u>
<u>Eula Tindall</u>	<u>EULA TINDALL</u>	<u>Retired</u>
<u>Megan Durham</u>	<u>Megan Durham</u>	<u>Green Cleaning</u>
<u>Linda Guisto</u>	<u>Linda Guisto</u>	<u>retired business owner</u>
<u>Donna Bishop</u>	<u>DONNA BISHOP</u>	<u>Retired</u>

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Additional signatures:

Signature

Print Name

Vessel, Organization, Profession or Business.

Dean R Tyler Dean R. Tyler Morro Bay Aquarium

Bertha Tyler Bertha TYLER Morro Bay Aquarium

Edgar Lopez CHANTAL ANNA
USN

Richard Wall RICHARD WALL RETIRED

Sherry Acres SHERRY ACRES-THOMAS RETIRED

Tracy Freeland Tracy Freeland Del Norte County Fish.

Marlene L Owens Marlene L. Owens Retired.

Gary L. Owens Gary L. Owens Retired Fish eater

Bill Giacomazzi

Warren DeWolfe Warren DeWolfe Captain/owner

Bobby Dick Bobby Dick HVAC Tech

Joan Gamble JOAN GAMBLE OFFICE

Terry Gamble TERRY GAMBLE RETIRED

Holly Edmiston Holly Edmiston Self/TRANSCRIPTION

Lyneel Edmiston LYNEEL EDMISTON AUTO TECH

Ray Richardson Ray Richardson FL REGISTRATION

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Signature

Print Name

Vessel, Organization, Profession or Business.

Earl J. Thompson EARL J. THOMPSON RETIRED PRIME OFFICER

Dean R. Tyla Dean R Tyla M.B. Bureau Mar 430. 1960

William D. Ray WILLIAM D. RAY OPERATING ENGINEER.

David E. Paulsen

Norman L. Day NORMAN L. DAY Y-KNOT TRAWLER

Melody Tanner Melody Tanner R.N.

Gary Perkins Gary Perkins Cal Trans

Howard Smith Fremont, Ca.

Al Green Antelope Valley CA

Jean E. Cole JEAN E. COLE Retired

Shari A. Capilla Shari H. Capilla Waitress

Chad L. Harsch Chad L. Harsch Retired

Monroe Bay

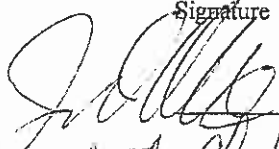
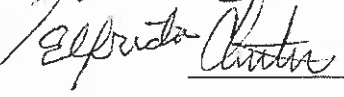


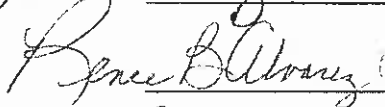

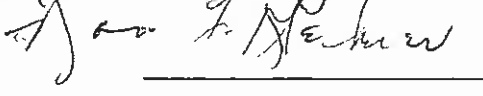

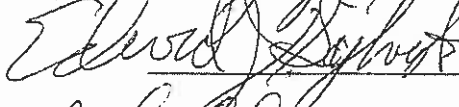
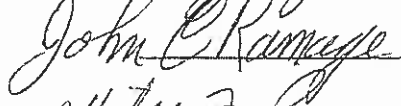
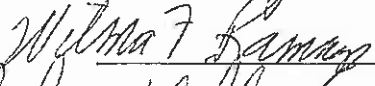

Bretter K. Spalding Carpinteria, Ca.

40 yk Green Fishery

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Additional signatures:

Signature	Print Name	Vessel, Organization, Profession or Business.
	JON CHRISTENSEN	RETIRED
	ELFRIDA CHRISTENSEN	RETIRED
	MELVIN WISLER	RETIRED
	LOUIS ALVAREZ	Retired.
	RENEE ALVAREZ	Retired
	Mark Quisenberry	Fisherman/mechanic
	VIRGINIA KLECKNER	Fisherman
	EDWARD J. SYLVESTER	F.F.V. LITTLE JOE
	EDWARD J. SYLVESTER	12V TWO SONS
	JOHN C. RAMAGE	Retired
	WILMA F. RAMAGE	Retired
	JOHN GILLESPIE	m/v WINDWALKER

RECEIVED

SEP 02 2008

August 31, 2008

PFMC

Pacific Fisheries Management Council:

My name is Nick Bordelon. I am twenty-five years old and just bought my first commercial fishing boat in 2007. I have been a full-time commercial fisherman for five years and have been fishing out of Port Orford for the past three years. I bought my boat with the intention of making my living by salmon trolling and black cod fishing.

As you know, this year there has been no salmon season. I have been supplementing my income by running two other near-shore and open-access black cod boats, as well as open-access black cod fishing my own boat, the Keta. Open-access black cod fishing on my boat alone is approximately 65% of my income, which pays for my boat moorage and upkeep as well as supporting my family of three. Even with the quota being 2200 lbs. every two months I am still making a decent living.

My boat had black cod and ling cod landings in 2003 and again starting in 2008, which puts me out of most of your qualification framework. I think open-access black cod fishing is working. We are all still making a decent living and I can't see it getting much worse, especially on a year with no salmon. From what I have heard and seen, the stable fish stock is good. There is not much room in fishing for new fisherman and cutting out open-access black cod fishing will only make it worse. I love fishing and can't see doing anything else. I need black cod to make a living out of Port Orford.

A registration system or a cap on the fishery after 2010 is the best way to go. I like the idea of diversified fishing. If you do have to issue B permits I think you should issue as many as possible in a sustainable fishery and make them transferable, but not stackable, so that people like me can obtain them and continue to make a living. Please remember that there are young fisherman trying to make a living and may not have the history or the money that some of the older fishermen have. Taking away open-access fishing will have a major impact on the West Coast fishing community, especially the small boat fleet. Thank you for your time and I hope you will consider what I have said in making your decision.

Sincerely,

Nick Bordelon

September 2, 2008
Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon. 97220-1384

I am writing on behalf of Port San Luis Commercial Fishermen's Association (PSLCFA), a non-profit 501(c) 3 organization with 40 members, to express our concern that many of the PSLCFA fishermen may not qualify for "B" Permits in the PPMC Groundfish Management Plan Amendment 22 "Open Access Limitation" process. PSLCFA and the Port San Luis Harbor have been Groundfish dependent for decades. PSL has had many different legal gear types catching and landing groundfish for over 40 years. Groundfish has been a year-round fishery for the entire three state area of California, Oregon, and Washington for over 40 years, and thus has provided added economic stability for that region. The Avila/PSL harbor area is located almost mid-way between the cities of Los Angeles and San Francisco is strategically placed and has had and will be able to access two of largest market areas on the west coast for groundfish sales and consumption. This access to both groundfish and the groundfish markets previously has added greatly to the economic stability to the local area. This stability mostly has been generated by a steady supply of groundfish sales revenue. Climate Change, The Groundfish Disaster Declaration (2000) and resulting lowering of Optimum Yields and bi-monthly trip limits on groundfish, the Trawl Buyback, TNC Trawl Permit buyout recently has led to instability in the fishing community and harbor of Avila/PSL. The good news is the groundfish stocks are rebounding quickly (Nearshore, Shelf, and Slope Groundfish finfish species) and are now plentiful in the ocean waters in close proximity of the Avila/PSL area. The three overfished groundfish species that are constraining fishing effort in the Avila/PSL area are bocaccio rockfish, canary rockfish, and widow rockfish. All three of these shelf rockfish species are increasing their respective populations. PSLCFA believes that these three shelf rockfish stocks will show continued growth and may be already rebuilt. Also these three overfished shelf species are drastically constraining healthy groundfish stocks in the Avila/PSL area. Chilipepper rockfish, vermilion rockfish, yellowtail rockfish, and lingcod are all being harvested at a very small percentage of their respective harvest guidelines (set by the PPMC) by the PSL commercial fishermen. In the very near future these constraining stocks will be rebuilt and will be very accessible to the Avila/PSL commercial fishermen.

PSLCFA respectfully requests the Council to select as its first Preferred Alternative one of the following two PSLCFA alternatives: PA#1 1). Establish a Limited Entry B permit to vessels that have at least one landing in the years of 2004-2006 (recent Participation). The capacity reduction in open access directed groundfish has already happened in California, especially vessels where the owner of the vessel has a valid California Nearshore Fishy Permit (Shallow or Deeper). Vessels catching Nearshore

Finfish species have decreased in length and thus capacity drastically starting with Groundfish Disaster declaration and resulting management measures of dropping Nearshore Minor Rockfish (south of 40:10) to a mere 550 lbs. per two month period. This ended the multi-day large trip boats which carried two skiffs and had a live fish carrying capacity of up to 20 barrels of live fish (approximately 2,000 lbs of fish) and the vessel fished weekly (weather permitting). Also low bi-monthly trip limits on Cabezon further reduced Nearshore vessels. Today in the Avila/PSL the nearshore vessel median length is approximately 20-22 feet in length. This generally prohibits fishing slope species safely but does allow for safe access to the shallow shelf areas to fish Shelf Rockfish and Lingcod.

The second alternative option the PSLCFA respectively requests the Council to choose as its Preferred Alternative is PSLCFA alternative PA #2: Table 2-4 B permit qualification criteria page 28 in the Preliminary Draft EA: Open Access Limitation ---Alternative 3 (b) Top # of ??? vessels using QF-3 (cum lbs. 1998-2006, w/2004-2006 trip), Group1 greater or equal to 100 lbs. Cumulative of B species (1998-2006). With additional sub alternatives or criteria, (friendly amendments) #1. Permit issued to vessel or to person (vessel owner during qualifying period) (to match California's Nearshore Permit on person requirement) if vessel's owner holds a valid California Nearshore Fishery Permit. #2. Vessel length endorsement is to be issued on permit of qualifying vessel. If vessel owner has a California Nearshore Fishery Permit then put the vessel length endorsement stamped on the Open Access B Permit and issue to the person. #3 Add heritage fishermen B permit exception as follows: If the alternative chosen by the Council has less than 5 vessels that qualify for a B permit that are 30ft or greater (large enough to fish slope groundfish species) in a historically groundfish dependent port the minimum number of B Permits is increased to 5 B permits issued to vessels greater than 30 ft by the heritage alternative. An example of a "Heritage Qualification would be. All four of the following criteria must be met to issue additional permits: a).A commercial fishermen with a commercial fishing vessel greater than 30ft. b).and has had a commercial fishing license in California for the past 20 years. c). The vessel owner's residence must be in close proximity of the groundfish dependent port for at least the last 3 years d). If the Port qualifies less than 5 vessels with a vessel length greater than 30 feet for B permits. All four criteria must be met to issue a B permit under the heritage qualification. Also the Council should allow for a committee for Open Access Commercial fishermen that do not qualify for B permits. Committee makeup is at least 50 percent commercial fishermen and if possible a Council member of the Council in the respective states of the commercial fishermen that do not receive B permits and would like to give reasons why they should get a permit.

Justification for PSLCFA Proposed Alternatives: National Standard (1) "Prevent Overfishing while achieving on a continuing basis, the optimum yield from each fishery...Under more draconian "Open Access Limitation" alternatives listed in the EA PSL may not have enough vessels with permits to catch and land at PSL the Slope and Shelf groundfish species that are presently underutilized and available in close proximity of PSL. Also vessels from PSL use gear types that minimize the risk of "Overfishing".

For shelf rockfish and lingcod, rod and reel is the primary gear. Pot gear (majority) and long line gear (minority) are the gears used to catch sablefish by PSL fishermen. National Standard (4) "Conservation and management measures shall not discriminate between residents of different states". California has taken more conservation and restrictive management measures in proportion to Oregon and Washington. Also the PSL/Avila port region and the commercial fishermen of PSL have had a greater proportion of impacts by conservation and management measures (RCA's, MLPA for state waters, trawl buyback, allocation of nearshore species sport/commercial, etc.) than other regions in California. National Standard (5) "Conservation and management measures shall, where practicable, consider efficiency in utilization of fishery resources." The Port of PSL/Avila has Fish processing, fish buyers, fish transportation, resident commercial fishermen, commercial fishing vessels, and close access to major markets. These factors taken in combination can position the PSL/Avila area to efficiently utilize the available groundfish resources better than most other regions on the west coast. National Standard (6) "Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches. PSLCFA believes that if the Council picks an alternative that requires large landings of B species to qualify for a B permit that only a very few fishermen or vessels will qualify for a B species. Also since most A permitted vessels have moved out of area or the trawl permits retired. The B species fish would not produce optimum yield catches on a continuing basis. Lingcod and Shelf Rockfish and are increasing at a increased rate and both Lingcod and Shelf Rockfish are moving back into their historical habitat and depth range. This increase is especially noticeable in waters less than 30 fathoms in the Avila/PSL area. I have had many reports (personal communication) by Nearshore Commercial fishermen of increased catches of B species Lingcod and Shelf Rockfish while fishing for the Shallow and Deeper Nearshore Finfish species. Nearshore Fishery Permit holders typically fish at least 10 days per 2 month fishing period. The Council needs to allow for this (contingency of) "increased take of Lingcod and Shelf Rockfish" by issuing B permits to active year round Nearshore Permit holders in the Avila/PSL area. Also in 2007 the Sablefish Stock assessment included the area south of 36 degrees to the Mexican border. Previously a precautionary 50 percent of historical landing was used for OY. In 2009 the OY was increase to 1371mt. up from 212mt. for 2008. This large OY increase in sablefish (especially in Avila/PSL area) was another contingency that was not anticipated by this EA. In conclusion to comments about National Standard (6) PSL/Avila is close to the fish... now we need B permits to catch and land them. National Standard (7) Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication. For vessels in state managed fisheries where the permit is on the person costs may be minimized by allowing the option of putting the Open Access B permits on the person to conform to the state permits. National Standard (8) Conservation and management measures shall, 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 by utilizing economic and social data that meet the requirements of paragraph (2), 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. Avila/PSL is such a community. The cumulative impacts of the

excessive state marine reserves, the rockfish conservation area, Trawl buyouts, etc. have the PSL harbor and area commercial fishermen in financial distress. If the Open Access Limitation Permitting process is punitive on the local commercial fishermen, the sustained participation of such communities (Avila/PSL) has a increased probability of failure. National Standard (9) Conservation and management shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.....If a large percentage commercial fishermen with Deeper Nearshore Permits in the Avila/PSL can qualify for B permits the bycatch rates of shelf rockfish and lingcod for those fishermen will be less than if they received C permits (incidental catch).

Sincerely,

William G. James

1254 Eighth Street #12 N.W.

Salem, Oregon 97304

Fisheries Consultant

Port San Luis Commercial Fishermen's Association

Chuck Wise
President
Larry Collins
Vice-President
David Bitts
Secretary
Marlyse Battistella
Treasurer
In Memoriam:
Nathaniel S. Bingham
Harold C. Christensen

RECEIVED

SEP 2 2008

PFMC



PACIFIC COAST FEDERATION
OF FISHERMEN'S ASSOCIATIONS

<http://www.pcffa.org>

Please Respond to:
☒ **California Office**
P.O. Box 29370
San Francisco, CA 94129-0370
Tel: (415) 561-5080
Fax: (415) 561-5464

W.F. "Zeke" Grader, Jr.
Executive Director
Glen H. Spain
Northwest Regional Director
Mitch Farro
Fishery Enhancement Director
Vivian Bolin
Watershed Conservation Director
Duncan MacLean
Salmon Advisor

☐ **Northwest Office**
P.O. Box 11170
Eugene, OR 97440-3370
Tel: (541) 689-2000
Fax: (541) 689-2500

Agenda Item I.4
September 2008

28 August 2008

Dr. Don McIsaac, Executive Director
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384

RE: Briefing Book Agenda Item I.4 Fishery Management Plan Amendment 22: Open Access
License Limitation

Dear Dr. McIsaac and members of the Pacific Fishery Management Council,

The Pacific Coast Federation of Fishermen's Associations (PCFFA) represents working fishing men and women in the West Coast commercial fishing fleet. PCFFA is the largest commercial fishermen's organization on the West Coast.

Many of our members have historically or currently participate in the open access and limited entry groundfish fisheries. We are concerned about the proposal for moving the open access groundfish fishery to a permit fishery. We do not oppose a permit fishery, but we believe that any plan to implement a permit fishery needs to be well thought out and be mindful of those who historically participated in the open access hook-and-line fishery when issuing permits. Over the past thirty years increasingly reduced quotas to the open access sector have discouraged many fishermen from continuing to participate in this fishery. Additionally, the Council has dissuaded these fishermen from pursuing any directed fishery for rockfish while fishing salmon for fear that rockfish landings would be counted as bycatch.

PCFFA believes small boat, fixed gear fishermen play an important role in sustaining local communities. Traps and hook-and-line gear can be selective, low-impact, and provide quality, high value fish for consumers. We ask the Council not to try and pick winners and losers with Amendment 22, but to capture both historic and current participants and then provide incentives for tomorrow's professional fishermen. If the number of B permits must be limited, we

recommend that the initial criteria be expansive with low cumulative poundage levels and an expanded qualifying window capturing landings before 1998. [We also recommend limiting transferability of these permits by state or by subzone within a state]

Permitting of the open access fleet will help the Council achieve its goal of better monitoring and fleet sampling. However, until groundfish populations are rebuilt, any fixed-gear fleet will be constrained more by trip limits and the RCA rather than the overall number of permits. Our fishermen and our communities are already looking to new approaches for sustainable fishing, such as co-management and regional associations. We ask the Council to give our communities the chance to contribute to better management by allowing our members to qualify for permits.

Since many of our fishermen would rather be on boats than in meetings, this is not an easy challenge. We recognize we will need to do more in the future to keep access to the fish that sustain our communities. We look forward to working with the Council on better management of the fixed-gear fleet, including the development of standards for regional fishery associations.

Sincerely,

A handwritten signature in blue ink that reads "W.F. 'Zeke' Grader". The signature is fluid and cursive, with the first name and middle initial being more prominent.

W.F. "Zeke" Grader
Executive Director

Adopt the following as a preliminary preferred alternative for limiting the directed groundfish open access fishery:

- 1. Alternative A-4, as specified in the Preliminary Draft Environmental Assessment for Amendment 22 (Agenda Item I.4.a, Attachment 1) with a minimum landing criteria of 100 lbs**
- 2. Qualifying Framework QF-3 (1998-2006, with one trip in 2004-2006)**
- 3. No long-term fleet size goal**
- 4. Allow for permit transferability after the first year of the program**
- 5. Allow for use of A and B permits on the same vessel in the same year using a declaration process**
- 6. No state landing endorsement provision**
- 7. No previous year B species landing requirement to renew or transfer permit**
- 8. Species endorsements for sablefish and lingcod; using the following qualifying criteria: 1 lb, 100 lbs, and 500 lbs in any one year from 1998-2006. All other B species will be managed under a general B permit.**

Council Guidance: Notify all commercial fishery permit/license holders who landed any groundfish since 2004 in Washington, Oregon, and California that the PFMC proposed action may limit their opportunities in groundfish open access. This is to ensure notification of those affected by both the B and C permit alternatives. Include easily understood documents that clearly display the preliminary preferred alternative, that there are other alternatives for consideration, and where they can obtain more detailed information. Include a detailed description of what is allowed under the C permit, and how one is obtained. Provide notice of public comment opportunities in early January.

Council Staff Responsibilities

A Council staff officer will be assigned to coordinate, monitor and document the stock assessment review (STAR) process. The Council staff officer will be responsible for timely issuance of meeting notices and distribution of stock assessment documents, stock summaries, meeting minutes, and other appropriate documents. The Council staff officer will monitor compliance with the Terms of Reference for the 2009-10 groundfish STAR process. The Council staff officer will coordinate materials and presentations for Council meetings relevant to final Council adoption of groundfish stock assessments. Council staff will also collect and maintain file copies of reports from each STAR Panel (containing items specified in the STAR Panel Terms of Reference), the outline for groundfish stock assessment documents, Scientific and Statistical Committee (SSC), Groundfish Management Team (GMT), and Groundfish Advisory Subpanel (GAP) comments and reports, letters from the public, and any other relevant information. At a minimum, the stock assessments (Stock Assessment Team (STAT) reports, STAR Panel reports, and stock summaries) should be published and distributed in the Council annual stock assessment and fishery evaluation (SAFE) document.

A primary role for the Council staff officer assigned to the 2009-10 STAR process will be to monitor STAR Panel and SSC activities to ensure compliance with these Terms of Reference. The Council staff officer will coordinate with the STAR Panel chair and the National Marine Fisheries Service (NMFS) Stock Assessment Coordinator (SAC) in a review of STAT documents to assure they are received on time, are consistent with the Terms of Reference, and are complete. If the STAT materials are obviously not in compliance with the Terms of Reference, the Council staff officer will return the materials to STAT authors with a list of deficiencies, a notice that the deadline has expired, or both. The Council staff officer will attend all STAR Panels to ensure continuity and adherence to the Stock Assessment Terms of Reference. The Council staff officer will identify inconsistencies with the Terms of Reference that occur during STAR Panels and work with the STAR Panel Chair to develop solutions and to correct them. The Council staff officer will review the Executive Summary for consistency with the Terms of Reference. Inconsistencies will be identified and the authors requested to make appropriate revisions in time for the appropriate SSC and GMT meetings, when an assessment is considered. The Council staff officer will also coordinate and monitor SSC review of stock assessments and STAR Panel reports to ensure compliance with these Terms of Reference and the independent review requirements of Council Operating Procedure 4. The Council staff officer will also identify one STAR Panel member with experience conducting west coast groundfish stock assessments.

National Marine Fisheries Service Responsibilities

NMFS Northwest Fisheries Science Center (NWFSC) will provide a SAC to work with the Council, other agencies, groups, or interested persons that carry out assessment work to assist in organizing the STAT and STAR Panels. Since most assessments are conducted by NMFS STATs, the SAC will work with assessment authors to develop a draft list of assessments to be considered by the Council. The SAC also will develop a draft STAR Panel schedule for review by the Council. The SAC will identify two independent STAR panelists following criteria for reviewer qualifications. The SAC will make every effort to identify one independent reviewer

that can attend all STAR Panels to provide consistency among reviews. The costs associated with these two reviewers will be borne by NOAA Fisheries. The SAC will coordinate with STAT authors to facilitate delivery of materials by scheduled deadlines and in compliance with other requirements of these Terms of Reference, to the extent possible and with the assistance of the assigned Council staff officer and the STAR Panel chair.

Following any modifications to the stock assessments resulting from STAR Panel reviews and prior to SSC review, the SAC will assist the Council staff officer in reviewing the Executive Summary for consistency with the Terms of Reference. Inconsistencies will be identified and the authors requested to make appropriate revisions in time for the appropriate SSC and GMT meetings.

PFMC

9/11/08

GROUND FISH ADVISORY SUBPANEL REPORT ON STOCK ASSESSMENT PLANNING
FOR 2011-2012 GROUND FISH FISHERY DECISION MAKING

Number of Reviewers

The Groundfish Advisory Subpanel (GAP) supports the Scientific and Statistical Committee (SSC) recommendations for number of reviewers on a Stock Assessment Review (STAR) Panel. We believe the weaker the STAR Panel process, then the weaker the stock assessment. If the Council chooses to go with N+1, then the GAP recommends a member of the Council staff should be the reporter.

Bronzespotted Versus Greenspotted

The GAP recommends that a Greenspotted assessment be completed if the SSC determines there is enough data to inform the assessment.

PFMC
09/11/08

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON STOCK ASSESSMENT PLANNING FOR 2011-2012 GROUNDFISH FISHERY DECISION MAKING

The Scientific and Statistical Committee (SSC) considered whether a full assessment should be conducted for bronzespotted or greenspotted rockfish. The SSC was provided with a summary of the available data and potential analysis methods for these two species. An assessment of either species will provide information which should be useful for management. However, noting that more data, in particular survey data, are available for greenspotted rockfish and that currently available data indicate changes in fishery length-compositions between the 1980s and 2000s, the SSC recommends that a full assessment of greenspotted rockfish be conducted in 2009.

The SSC identified chairs for each of the six STAR Panels that will take place during 2009, including that for Pacific whiting. Whether a Pacific Council-sponsored Pacific whiting STAR Panel will be needed is currently unclear. The SSC recommends that the assessment of greenspotted rockfish be reviewed at the April 27-May 1 STAR Panel and that the assessment of cabezon be reviewed at the July 27-31 STAR Panel. These changes are needed to avoid conflicts of interest for STAR Panel chairs, and may lead to changes to where each STAR Panel will take place.

The SSC emphasizes that STAR Panels involve a large workload, in particular because of the need to review complex technical analyses. Thorough review of the material presented at STAR Panels and hence compliance with the Groundfish Stock Assessment Terms of Reference requires that a sufficient number of reviewers be available. Based on its experience with previous STAR panels, the SSC recommends replacing the first two sentences of the 3rd paragraph of page 6 of the Groundfish Stock Assessment Terms of Reference with “In most circumstances a STAR Panel will include a chair appointed from the SSC's groundfish subcommittee and three other experienced stock assessment analysts. Of these three other members, at least one should be familiar with west coast groundfish stock assessment practices and at least one should be appointed from the Center for Independent Experts (CIE).” The SSC recognizes that there are costs associated with identifying reviewers and will work with the Council and NMFS Staff to identify suitably qualified reviewers for STAR Panels, while minimizing costs.

The SSC reviewed the draft text on Data Reports (Agenda Item I.5.a, Attachment 2) and endorses the draft language except for the final sentence. The SSC recommends that this sentence be replaced by “The current harvest control rule cannot be applied using the results from a Data Report. However, these results can be used for management decision making. For example, a Data Report could provide information on the trend in abundance and hence changes from *status quo* management. A key section of the Data Report is that on research needed to improve the assessment. Highlighting research priorities in a Data Report should increase the likelihood that future stocks assessments will satisfy the Groundfish Stock Assessment Terms of Reference.”

The SSC was informed that Council Staff intend to modify the Groundfish Stock Assessment Terms of Reference to reflect increased involvement of Council Staff in STAR Panels. Specifically, a Council staff member will attend all STAR Panel meetings and provide guidance

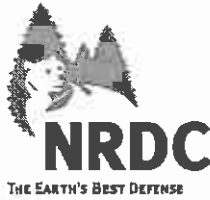
to assessment authors on what is needed for draft assessments to comply with the Terms of Reference for Groundfish Stock Assessments. The SSC endorses these proposed modifications.

Revised proposed 2009 STAR Panel

Panel	Dates	Location	Spp1	Spp2	Chair
<i>Whiting Treaty ?</i>	<i>Feb. 3-6</i>	<i>Seattle</i>	<i>Pacific Whiting</i>	<i>NA</i>	<i>Sampson</i>
<i>1</i>	<i>April 27-May 1</i>	<i>Newport*</i>	<i>Greenspotted rf</i>	<i>Spiny dogfish</i>	<i>Hamel</i>
<i>2</i>	<i>May 4-8</i>	<i>Seattle</i>	<i>Petrale sole</i>	<i>Splitnose rf</i>	<i>Dorn</i>
<i>Updates</i>	<i>June 6-13</i>	<i>WOC</i>	<i>POP, Darkblotched rf</i>	<i>Canary rf, Cowcod</i>	
<i>3</i>	<i>July 13-17</i>	<i>Santa Cruz</i>	<i>Bocaccio</i>	<i>Widow</i>	<i>Punt</i>
<i>4</i>	<i>July 27-31</i>	<i>Santa Cruz*</i>	<i>Lingcod</i>	<i>Cabazon</i>	<i>Wespestad</i>
<i>5</i>	<i>Aug 10-14</i>	<i>Seattle</i>	<i>Yelloweye rf</i>	<i>Greenstriped rf</i>	<i>Ralston</i>
<i>MopUp</i>	<i>Sept 28-Oct 1</i>	<i>Seattle</i>	<i>TBD</i>	<i>TBD</i>	

- *may change*

PFMC
9/9/08



September 9, 2008

Donald K. Hansen, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384

Re: Stock Assessment Terms of Reference

Dear Chair Hansen and Members of the Council:

We have reviewed the draft stock assessment terms of reference and respectfully submit the following comments.

First, we are concerned that the current structure and interrelationships between the various bodies involved in the stock assessment and review process do not really facilitate an independent peer review.

For example, the STAR panel whose “primary duty is to conduct a peer review of an assessment” is chaired by an SSC member and is advised by major fisheries interests through the GMT and GAP. In addition, there seem to be constraints on the panel’s activities which could inhibit the researchers from thoroughly exploring the implications of the model assumptions, structure, and treatment of the data and uncertainty (e.g., “Star panel meetings are not workshops;” “the STAR Panel is not authorized to conduct an alternative assessment representing its own views that are distinct from those of the STAT Team”).

Ultimately, the process of this ‘peer review’ resembles more a negotiation between the various fishery management bodies (e.g., SSC, STAT, GMT, and GAP), not all of which are science experts, than a truly external expert critique of the model. A truly independent scientific review, resembling the anonymous peer review of a scientific journal, should be undertaken independent of the negotiation described in the terms of reference.

Second, although the STAR panel Terms of Reference offer an improvement in the treatment and communication of uncertainty, the recommended framework is likely to result in the underestimation of scientific uncertainty.

The Terms of Reference reads:

“Under ideal circumstances, the STAT Team and STAR Panel should strive to reach a mutual consensus on a single base model, but it is essential that uncertainty in the analysis be captured and transmitted communicated to managers. A useful way of accomplishing this objective is to bracket the base model along what is deemed to be the dominant dimension of uncertainty (e.g., spawner-recruit steepness or R_0 , natural mortality rate, survey catchability, recent year-class strength, weights on conflicting CPUE series, etc.). Alternative models should show contrast in their management implications, which in practical terms means that they should result in different estimates of current stock size, stock depletion, and ABC. Once a base model has been bracketed on either side by alternative model scenarios, which capture the overall degree of uncertainty in the assessment, a 2-way decision table analysis (states-of-nature versus management action) is the preferred way to present the repercussions of uncertainty to management.”

We are concerned that the emphasis placed solely on parameter uncertainty will ignore the important source of *model* uncertainty (the framework should, at the very least, allow for the inclusion of alternative stock-recruit models). Furthermore, the decision to focus on a single dimension of parameter uncertainty will also underestimate scientific uncertainty. In some cases the uncertainty in recruitment completely dominates the model uncertainty, but there are likely other cases where several sources of uncertainty are of comparable magnitudes and interact in ways that are difficult to predict. The presentation of uncertainty should not be restricted to a single dimension without prior exploration of other sources and justification.

Our third concern is the one we consider of greatest importance: these Terms of Reference do not incorporate some of the analyses needed to conform to the draft National Standard 1 guidelines on derivation of annual catch limits (ACLs) and targets (ACTs). Given that the STAT team and STAR panel are tasked with quantification of scientific uncertainty, they should conduct the necessary analyses to translate that uncertainty into an adequate size buffer to derive the annual catch limit as recommended in the National Standard Guidelines 1. The draft guidelines makes it clear that a ‘one-size-fits-all’ control rule is not appropriate and that stocks with larger uncertainties should integrate larger buffers between the overfishing level (OFL) and ACL. In addition, one of these bodies should be tasked with the evaluation of management error so that the derivation of an appropriately buffer between ACL and ACT is possible. Although the National Standard Guidelines are not finalized, these Terms of Reference should be forward-thinking and incorporate the necessary calculations to implement the recommended framework to derive ACLs and ACTs.

We appreciate the opportunity to comment.

Sincerely,


Karen Garrison

Lisa Suatoni

**Morro Bay/Port San Luis Exempted Fishing Permit
Progress Report for the Pacific Fishery Management Council
September 2, 2008**

1. Introduction - This Exempted Fishing Permit (EFP) will test whether establishing a cooperatively managed, community based fishing association that employs commercial trawl permits to use longline, trap, pot, and hook-and-line gear off the Central California coast, under shared hard caps for target and bycatch species, can provide several important economic and environmental performance benefits. The applicants will test whether granting the option of switching from trawl gear to non-trawl gear can be manageable within the groundfish fishery management structure and help achieve management goals. The EFP will also test whether forming relationships among fishermen under a cooperative structure with shared catch limits and several unique elements would mitigate the impact of trawl effort reduction or removal on associated communities and fishermen in this area. More information on the purposes and goals of this project are included in the 2009 EFP application in the PPMC briefing book.

In the time period between the PPMC EFP approval and NMFS issuance of the required permits, the Community Based Fishing Association addressed a number of major tasks in preparation for the project's launch:

- EFP issued, limited entry permit transfers and license agreements completed, and schedules for deliverables specified in cooperation with NMFS.
- EFP fishermen participant selection process designed and implemented.
- NOAA-trained observers hired through Pacific States Marine Fisheries Commission.
- EFP data collection protocols and database development
- Electronic monitoring study design and planning in collaboration with NOAA Northwest Region and Archipelago Marine Resources, Inc.
- Harvest plan developed with EFP fishermen participants.

Since the launch of the EFP on August 7, 10 fishing trips have occurred through the EFP. The most recent report of aggregate catches under the EFP is included at the end of this report.

2. Securing Approvals – On behalf of its partners, The Nature Conservancy (TNC) completed and submitted its final application for the EFP to the National Marine Fisheries Service on February 14, 2008. The Federal Register process was completed on May 8 and the final EFP was issued on August 1. At that time, TNC limited entry trawl permits were transferred onto participating vessels, EFPs were issued by NMFS to TNC and participating fishermen, and TNC entered into license agreements with all participating fishermen. Fishermen participating in this EFP may not participate in other federal groundfish fisheries, either open access or under another limited entry permit.

The required deliverable is a report that includes the following:

- A case study documenting the establishment and implementation of the community based fishing association. This study will cover key questions and issues specified in the EFP proposal to the PPMC, identify areas for further exploration, and lessons learned.
- A report on the economic performance of the fishery, including data and analysis.

The draft report is due October 18, 2008 and the final report is due March 15, 2009. TNC will also work with the NOAA West Coast Groundfish Observer Program to prepare a summary of information available to date on the use of observers and electronic monitoring systems in the project.

3. EFP Project Organization - Implementation of the EFP is overseen by the community based fishing association (CBFA) – made up of the partners on the EFP proposal. The CBFA oversees all aspects of EFP implementation. Development of the harvest plan (described in section 5) is led by a team that includes the participating fishermen as well as members of the CBFA.

4. Fishermen Selection - Participants were identified through a competitive selection process. An application package describing the details of the project and the selection requirements was widely distributed to fishermen who fish primarily out of Morro Bay and Port San Luis. Any fisherman interested, eligible, and willing to abide by the rules was invited to submit an application. An independent third party selection panel was convened to review the applications and make recommendations to TNC. TNC interviewed the top candidates and made the final decision to invite four fishermen to participate. One of the four has yet to begin fishing under the EFP due to other conflicts associated with other fishing business. These four fishermen were identified to NMFS for confidential review by the Office of Law Enforcement (OLE). OLE provided no information to TNC, only verified for NMFS prior to issuance of the EFP that the applicants had no violations that would preclude their participation in the project.

4. Monitoring the Exempted Fishing Permit - In the EFP, each fishing trip is monitored by a human observer and fishermen must retain all rockfish caught. Two observers have been hired under contract by TNC through the Pacific States Marine Fisheries Commission to meet this requirement. These observers were trained by the West Coast Groundfish Observer Program (WCGOP) in April and reported to Morro Bay in May 2008. There was a substantial delay between the arrival of the observers in Morro Bay and the start of fishing under the EFP. In order to give the observers experience, they were asked to participate in providing observer coverage for TNC's Conservation Fishing Agreement (CFA) project in which a Morro Bay fisherman is using one of TNC's limited entry trawl permits and a vessel and is trawling subject to gear and geographic restrictions. Since EFP fishing began every trip has been covered. TNC is using observer data for its biweekly reports to NMFS. While these observers are only observing fishing under this EFP, they are following all WCGOP observer protocols with the exception that they have also been asked to complete a trip summary and a census of all retained rockfish at the end of each fishing trip.

TNC and EFP fishermen are working with NOAA and Archipelago Marine Research, Inc. to test the viability of using a combination of vessel logbooks, electronic monitoring, and full retention to meet a 100% monitoring requirement on vessels using fixed gear under the EFP. NOAA trained observers are on each EFP trip and EM systems were installed on each participating vessel by Archipelago during the week of August 11. One of the observers has been trained to download data from the EM systems and will send it to Archipelago's office in Vancouver, B.C.

The costs of human observer coverage are quite high and the EFP partners and NOAA are interested in testing lower cost approaches to full catch accounting. A system similar to this has been implemented in the groundfish fixed gear fishery in British Columbia. All data relevant to this project will be provided to NOAA for fishing activity in 2008 and, if approved by the PFMC, in 2009.

5. Harvest Plan - A harvest plan was prepared to guide fishing consistent with the terms and conditions of the EFP. The harvest plan was developed by the participating fishermen and some members of the CBFA and then approved by the CBFA. The harvest plan is intended to evolve as the project moves forward and will be managed adaptively as circumstances require.

The primary challenge for fishing under the EFP is to catch a diverse suite of species traditionally landed through trawling using fixed gear instead. Not all trawl caught species can be caught using fixed gear – particularly flatfish species. However, if this community (or any other) is to convert a portion of its traditional trawl capacity to fixed gear fishing, it will be important to develop harvest strategies that will utilize many of the diverse species typically caught using trawl gear. To address this challenge, the goals for the harvest plan are:

1. Maximize learning of the feasibility and cost effectiveness of harvesting traditionally trawl caught species with alternative fishing gears and techniques.
2. Minimize catch of depleted species and overall bycatch rates.
3. Build foundation for local multi-species fixed gear groundfish fishery.

Management of sablefish was an important consideration in the EFP harvest plan. All efforts to pace the EFP have been focused on sablefish because they are caught in fairly high numbers during fishing efforts targeting any of the EFP target species and is likely the first aggregate catch limit that will be met. In the first iteration of the harvest plan, the EFP team decided to establish a pacing guideline limiting sablefish harvest to 10mt per month. Six fishing trips were conducted under this harvest plan term and it was evident that the incentive created was for each fisherman to maximize his catch of sablefish, rather than to diversify effort towards the harvest of other species. For this reason, the team changed the harvest plan to allocate a portion of the sablefish aggregate catch limit to each participant, to limit to 3,000 the number of horizontal hooks that could be set per trip, and to require one vertical hook for every two horizontal hooks set for the remainder of the EFP. Since the harvest plan was adjusted, the general pace of fishing has slowed and greater effort is being made to target non-sablefish species.

The participating fishermen have also agreed to collaborate on a mapping effort to identify areas in which depleted species are likely to be caught as well as to assess the EFP fishing grounds to identify those areas with the greatest potential to catch target species. This tool could help fishermen fish more cleanly and efficiently. TNC is providing GIS support to create a mapping product that will overlay the best available habitat, depth, and substrate information with specific fishing trip data (catch, discards, locations, etc.) from the EFP. This information will be organized and shared with the team so that it might inform the direction of future fishing efforts.

The harvest plan also outlines the rate for each permit license agreement between TNC and participating fishermen. The license agreement requires compliance with all EFP terms and

conditions in order for a fisherman to retain a position within the EFP project, including license rates. The license rate should help direct fishing efforts towards desirable and potentially under utilized target species. Currently the license rate is 20% on exvessel revenues associated with sablefish landings and no rate charged on other landed species. This is intended to create a financial incentive for fishermen to maximize catch of non-sablefish species, such as blackgill rockfish and thornyheads. The license rate can be adjusted during the course of the EFP as needed. All revenue resulting from license agreements will be allocated to cover the cost of the EFP project.

6. EFP Landings Report - As of September 2 (the date of this report), landings under the EFP are as follows. The next scheduled report on landings to NMFS is planned for September 4.

<i>(All amounts in metric tons)</i>			
Target Species	EFP Landings	Amount Remaining	Aggregate Catch Limit for EFP
Sablefish	10.36	19.6422	30
Southern Slope Rockfish	0.00	90.0000	90
Blackgill Rockfish	0.71	19.2910	20
Longspine thornyhead	0.00	59.9995	60
Shortspine thornyhead	0.10	59.8961	60
Lingcod	0.00	15.0000	15
Other			
Chilipepper rockfish	0.00	20.0000	20
Spiny dogfish	0.00	10.0000	10
Splitnose Rockfish	0.00	0.4500	0.45
Flatfish			
Dover sole	0.00	10.0000	10
Petrale sole	0.00	10.0000	10
Other flatfish	0.00	10.0000	10
Total	11.17		
<i>(All amounts in pounds)</i>			
Depleted Species	EFP Landings	Amount Remaining	Aggregate catch limit for EFP
Canary Rockfish	0	50	50
Yelloweye Rockfish	0	150	150
Widow Rockfish	0	4,409	4,409
Darkblotched Rockfish	0	1,000	1,000
Pacific Ocean Perch	0	300	300
Cowcod	0	300	300
Bocaccio	0	11,023	11,023

For more information on implementation of this Exempted Fishing Permit, please contact Michael Bell (805-441-1460) or Erika Feller (415-281-0453) or any of the project partners listed on the EFP proposal.

REQUESTED CHANGE TO THE FOSMARK EXEMPTED FISHING PERMIT FOR
CHILIPEPPER ROCKFISH (Agenda Item I.6.a, Attachment 1)

Scientist: Kirk Lynn
California Department of Fish and Game
4949 Viewridge Ave
San Diego, CA 92123

changed to

Analysis: NMFS Santa Cruz Laboratory
110 Shaffer Rd. Santa Cruz, CA 95060
Phone: (831) 420-3931
Fax: (831) 420-3980

**Morro Bay/Port San Luis Exempted Fishing Permit
EFP Harvest Planning Information
September 10, 2008**

EFP Primary Goal – The primary goal of this EFP is to test and develop ways community based fishing associations can be established to operate in a collaborative fashion to improve the performance, management, and monitoring of the local groundfish fishery under the upcoming trawl ITQ. In an ITQ fishery, such associations could focus on the following objectives:

- preserving traditional local access
- pooling and sharing resources (like capital or quota share)
- establishing collaborative monitoring and reporting programs
- developing new markets for groundfish products
- sharing catch and spatial information so to avoid the catch of depleted species

The association created under this EFP has identified the need to develop a harvest plan to guide fishing consistent with the goals, terms and conditions of the EFP. The EFP harvest plan will evolve, and has evolved, as the project moves forward and will be managed adaptively as circumstances require.

Harvest Challenge

The primary challenge for association members fishing under the EFP is to promote the catch, using fixed gear, of a diverse suite of species traditionally landed using trawl gear. It is not feasible to catch all trawl caught species using fixed gear –flatfish are least likely to be caught using fixed gear. However, if a community is to use gear-switching as part of a strategy to adapt to the conditions of an ITQ fishery, it will be important to develop harvest strategies that will utilize many of the diverse species typically caught using trawl gear.

Management of sablefish catch is the most important part of the harvest plan because sablefish are caught in fairly high numbers when fishing for the EFP target species and the sablefish hard cap will likely be met first..

Harvest Plan Iteration #1 [Trips 1-6]

In the first iteration of the harvest plan, the association decided to pace fishing by limiting sablefish harvest to 10mt per month. Six fishing trips were conducted under this guideline. Following a review of the fishery data by the association, it was evident that the harvest plan created an incentive to maximize the catch of sablefish, rather than to diversify effort towards the harvest of other species. As a result, the association changed their harvest plan to address this incentive.

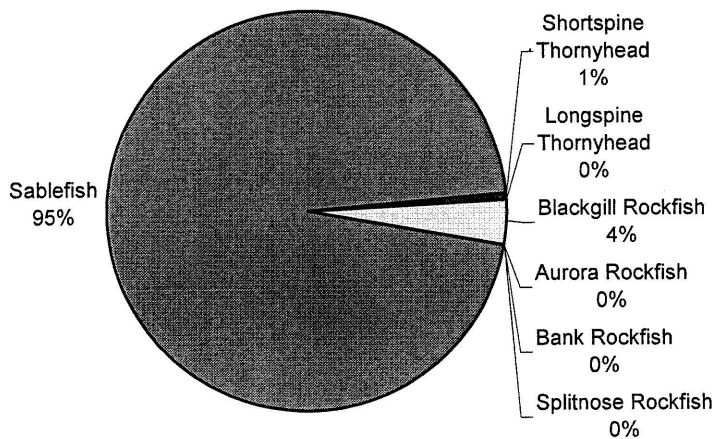
Harvest Plan Iteration #2 [Trips 7-14]

In the second iteration, the association adjusted the harvest plan to allocate a portion of the sablefish aggregate catch limit to each participant, to limit to 3,000 the number of horizontal hooks that could be set per trip, and to require one vertical hook for every two horizontal hooks set for the remainder of the EFP. [Do you want to describe why vertical/horizontal ration is important? Even a footnote would be good.] The general pace of fishing has slowed since the harvest plan was adjusted and greater effort is being made to target non-sablefish species.

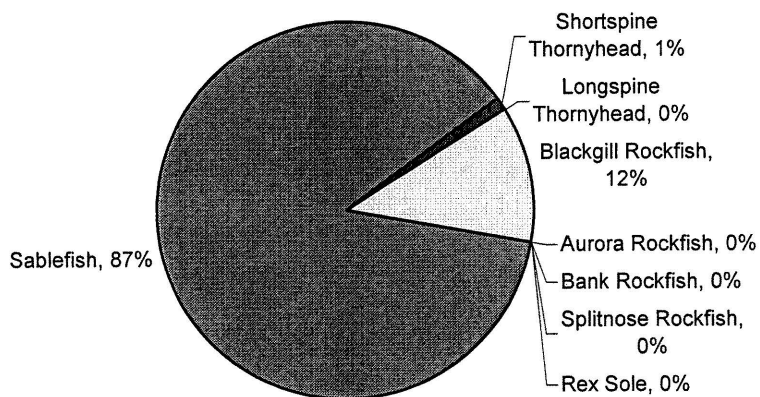
The attached diagrams depict the change in catch composition that has been observed on trips before and after the harvest plan adjustment. The association anticipates that the harvest plan will be modified continuously as more information is collected, and that strategies to target non-sablefish species will evolve over time.

Morro Bay/Port San Luis Exempted Fishing Permit
Trip Species Composition

**Pre-Adaptive Management Trip Species Composition
Initial Six Trips (8/6-8/16/08)**



**First Adaptive Management Change Trip Species Composition
Trip Numbers 7-14 (8/23-9/6/08)**



EXEMPTED FISHING PERMIT

TO OBTAIN ROCKFISH CATCH COMPOSITION DATA FOR RECREATIONAL HOOK
AND LINE FISHERIES OPERATING SEAWARD OF THE NON-TRAWL ROCKFISH
CONSERVATION AREA

TERMS AND CONDITIONS

A. PURPOSE.

The purpose of this exempted fishing permit (EFP) project is to test if hook and line fishing gear can be used to access underutilized groundfish such as chilipepper rockfish seaward of the non-trawl rockfish conservation area (RCA) while keeping bycatch of fish designated as overfished at low levels. The EFP project will involve charter vessels, and the Recreational Fishing Alliance (RFA) will coordinate the participation of charter vessels. The research objectives are as follows:

1. Testing selectivity – This EFP project will test an assumption that a sustainable fishing opportunity could be provided in an offshore recreational fishery for underutilized groundfish such as chilipepper rockfish. Catch composition data and projected total recreational catch of species designated overfished will be the primary indicator of a viable offshore fishery for targeted species under this EFP. If successful, and the EFP demonstrates that bycatch is avoided while targeting groundfish using hook and line gear seaward of the boundary line approximating the 150-fathoms (274-m) depth contour, it may suggest that some of the central California recreational fishing effort can be shifted offshore.
2. Testing feasibility – The RFA will coordinate with vessel captains to conduct post-trip surveys of participating anglers that will assess whether potential future offshore recreational opportunities would be utilized by anglers.

B. BACKGROUND.

Because the Pacific Coast groundfish fishery is a mixed stock fishery, catch from healthy stocks is constrained in order to reduce the catch of rebuilding groundfish stocks. Chilipepper rockfish are an example of an underutilized species and there has been increasing interest in recent years to develop a recreational fishery targeting these fish. This EFP project would test development of a selective recreational target fishery in depths seaward of the boundary line approximating the 150 fathom depth contour off California, between 40°10.00' N. lat. and 34°27.00' N. lat. (the North Central and South Central regions).

Individual anglers will pay for an offshore trip on a charter passenger fishing vessel. Approximately 20 vessels would participate in this fishery; however, only a few boats would fish at any one time in order to meet requirements for observer coverage. Participating vessels may conduct EFP fishing trips during each month of the year, in an attempt to obtain seasonal data, for as long as the EFP is valid. For every trip taken in the EFP fishery, each person will be subject to a 10 groundfish total bag limit for any groundfish species. Total catch of specified incidentally caught species are limited by total catch amounts for each species (see G.3). Incidental catch species with total catch amounts for the entire EFP

project include all of the overfished species: canary rockfish, yelloweye rockfish, widow rockfish, darkblotched rockfish, Pacific ocean perch, cowcod, and bocaccio. Catches will be closely monitored by the RFA and NMFS to ensure total catch amounts for these overfished species are not exceeded.

The EFP allows recreational fishing for groundfish seaward of 150 fathoms between 40°10.00' N. lat. and 34°27.00' N. lat. Persons aboard the EFP charter fishing vessel will be exempt from recreational sub-bag limits for any groundfish species, such as bocaccio, and will be required to retain and land all rockfish including overfished species, such as canary rockfish, yelloweye rockfish, and cowcod, for catch accounting and conservation purposes. These activities are otherwise prohibited by Federal regulations.

Data collected during this project are expected to have a broader significance to the management of the Pacific Coast groundfish fishery by testing whether a sustainable fishing opportunity could be provided in an offshore recreational fishery for underutilized groundfish such as chilipepper rockfish. Catch composition data and a description of impacts to overfished species would be the primary measure of success for the recreational hook and line fishery that would be conducted under this EFP. If the project demonstrates that bycatch is avoided by targeting midwater fish such as chilipepper rockfish using hook and line gear seaward of the boundary line approximating the 150-fm depth contour, it may indicate that some of the central California recreational fishing effort can be shifted offshore, where there are fewer interactions with overfished canary rockfish.

The RFA Chartermaster is responsible for the coordination and oversight of this EFP project, and for specifying how the RFA will carry out and oversee the project described above. These responsibilities must be met in order for NMFS to continue the EFP project. The RFA's coordination responsibilities include: coordination of observer coverage for participating vessels; issuance of a letter or other documentation that authorizes each EFP fishing trip by participating vessels, including copies or other documentation for anglers to retain when they disembark the participating vessel; collection and transmittal to NMFS of any EFPs that are terminated during the EFP project; EFP fishery data collection and inseason tracking of groundfish species with a catch limit; EFP fishery data collation, and presentation to NMFS and the PFMF; and obtaining completed data sheets from the observer for the vessel registered to this EFP within 48 hours following each fishing trip.

The RFA is required to:

- Provide monthly reports of total landings (by weight and species) to NMFS for all species, including target and overfished groundfish species. The report for a given month must be received by NMFS by the second Monday of the following month; i.e. a data report for all fishing that occurred in August 2008 must be received by NMFS no later than Monday, September 8, 2008.
- Provide the following written reports to NMFS: Interim Report due no later than March 15, 2009 and Final Report due by August 15, 2009. These reports will include information as outlined in the RFA's EFP application, including catch data and angler survey data.
- Provide full disclosure of observer data and participant interest information associated with fishing under the EFP to NMFS.

Failure to provide NMFS with the above reports may be the basis for NMFS to terminate the EFP project and may be the basis for disapproval of future EFP applications.

For purposes of this project, the RFA Chartermaster and each participating vessel owner/operator must sign the Exempted Fishing Permit, and both will be EFP holders. The RFA Chartermaster and each participating vessel owner/operator will be responsible for compliance with the Terms and Conditions of this permit. As EFP holders, the RFA Chartermaster and the vessel owner/operator are jointly and severally liable for compliance with the Terms and Conditions of this permit.

SCOPE.

1. This EFP must be signed by both the RFA Chartermaster and the owner or operator of each vessel participating in the EFP project; who are hereinafter referred to as the EFP holder(s). The Terms and Conditions of this EFP apply to all fishing activities conducted within a single trip that has been authorized in a letter or other documentation issued by the RFA Chartermaster (hereinafter referred to as an "offshore EFP trip") in the recreational Pacific Coast groundfish fishery, during the effective dates of the EFP.
2. The RFA Chartermaster will be a co-signer on this EFP and, as such, RFA will be jointly and severally liable for compliance of the vessel participating in the EFP project with the Terms and Conditions of this EFP.
3. This EFP exempts the vessel to which it is registered from some Pacific Coast groundfish regulations in 50 CFR §§660.301 through 660.399 that apply to the recreational fishery between 40°10.00' N. lat. and 34°27.00' N. lat., as stated in the Terms and Conditions, during an offshore EFP trip during the effective dates of this EFP. The EFP holders are subject to restrictions in §§660.301 through 660.399, unless otherwise stated.
4. This EFP authorizes, for limited purposes as described in this permit, activities which would otherwise be prohibited (See Section F).
5. All persons, including passengers, operator(s), and crew members fishing aboard recreational charter vessels operating under this EFP, issued under 50 CFR part 600, are subject to restrictions in 50 CFR part 660, unless otherwise stated.
6. For the purposes of this EFP, the term "angler(s)" refers to vessel passengers that are licensed or otherwise authorized to fish in California recreational fisheries, and does not include vessel operator(s) or crew members.

D. PERMIT CONDITIONS.

1. This EFP is valid only for the vessel registered to it. All offshore EFP trips by the registered vessel targeting groundfish must be conducted in accordance with this EFP. Vessels must maintain a copy of the letter issued by the RFA, authorizing the offshore EFP trip, while participating in an offshore EFP trip. All fishing by persons (anglers, passengers, operator(s), and crew members) aboard these vessels must be conducted in accordance with this EFP.

2. The vessel EFP holder must provide each angler with a copy of the letter issued to them by the RFA, authorizing the offshore EFP trip, and must instruct anglers to retain this copy with their catch after disembarking the participating vessel.
3. The vessel registered to this EFP and any person fishing aboard this vessel must have all applicable required California state permits to participate in the recreational groundfish fishery between 40°10.00' N. lat. and 34°27.00' N. lat. If the vessel registered to this EFP, or persons fishing aboard this vessel, do not have all of the necessary California state permits, in their name and valid, at the time fishing under the EFP occurs, this EFP is invalid.
4. If a vessel owner or operator terminates its participation in the EFP project, the RFA Chartermaster must remove the vessel from the pool of vessels that may receive observer coverage as a participant in the EFP fishery, and the EFP must be removed from the vessel owner or operator and returned to NMFS via mail within 5 business days.
5. This EFP is not transferrable to another holder, entity, vessel or vessel owner.

E. EFFECTIVE DATES.

1. This EFP is effective when signed by the NMFS Regional Administrator and the EFP holders: the vessel owner and the RFA Chartermaster. If the EFP is signed by the NMFS Regional Administrator and the EFP holders on different dates, the effective date is the later of the three signature dates. The EFP will no longer be effective after December 31, 2008, and may be terminated at an earlier date by either the EFP holders or NMFS.
2. This permit is valid while the EFP holders are participating in the 2008 Pacific Coast Groundfish recreational fishery between 40°10.00' N. lat. and 34°27.00' N. lat., on an offshore EFP trip, unless terminated at an earlier date by one of the following actions:
 - a. At the request of the EFP holder(s), in which case the vessel must return to port, remove and return the original EFP to NMFS via the RFA Chartermaster.
 - b. When the Regional Administrator determines it is necessary to issue an amended EFP containing additional or revised restrictions, in which case termination of this EFP occurs upon NMFS receipt of a signed amended EFP, or seven days after the NMFS mailing date of the amended permit, whichever occurs first.
 - c. NMFS will terminate this EFP if a particular catch limit for an overfished or target species has been reached, has been exceeded, or is projected to be reached or exceeded as described in G.2 below.

F. REGULATORY EXEMPTIONS

1. Bag Limits and Sub-Limits, Size limits: Persons fishing aboard recreational charter vessels during an offshore EFP trip are subject to a 10 rockfish bag limit, but are exempt from bag sub-limits for any rockfish species, while the EFP is valid. Persons fishing aboard recreational charter vessels during an offshore EFP trip are exempt from applicable size limits for any rockfish species, or any applicable state or Federal sizes

limits for other rockfish species (i.e. California scorpionfish). Size exemptions to not apply to any species besides rockfish (i.e. lingcod, etc.)

2. Time and Area Closures: Vessels participating in an offshore EFP trip are exempted from the Rockfish/Cabazon/Greenling (RCG complex) seasonal closures in all fishing activities conducted under this EFP, while the EFP is valid and while the vessel is on an offshore EFP trip. Vessels participating in an offshore EFP trip are also exempted from the recreational rockfish conservation area. Vessels participating in an offshore EFP trip must fish seaward of the boundary line approximating the 150 fathom (274 m) depth contour, as defined by latitude and longitude coordinates at 50 CFR 660.393(h), in all fishing activities conducted under this EFP, while the EFP is valid and while the vessel is on an offshore EFP trip.
3. Size Limits: Persons fishing aboard recreational charter vessels participating in the RFA project are exempted from size limits for any rockfish species, while the EFP is valid and while the vessel is on an offshore EFP trip.

G. FISHING RESTRICTIONS.

1. Target species: The species to be targeted by the vessel registered to this EFP are non-overfished groundfish species such as chilipepper rockfish. The EFP holders are responsible for ensuring a 10 rockfish per person per day bag limit (See section G-7).
2. Other species: Any vessel that catches groundfish species, other than the RCG complex species, will harvest such species in the amounts and frequencies allowed for the recreational groundfish fishery between 40°10.00' N. lat. and 34°27.00' N. lat. The charter captains, vessel owner and crew of the vessel registered to this EFP will cooperate with the RFA and the assigned observers in tracking catches of all species, including the species listed above.
3. Overfished species: EFP holders will adhere to EFP terms and conditions and coordinate in an effort to avoid incidental catches of the overfished species listed below. Collective landings of overfished species by vessels participating under this EFP project are limited to the following amounts:

Canary rockfish	50 lbs
Yelloweye rockfish	50 lbs
Widow rockfish	0.7 mt
Darkblotched rockfish	150 lbs
Pacific Ocean perch	300 lbs
Cowcod	50 lbs
Bocaccio	2.7 mt

The vessel registered to this EFP must cease all fishing activity when it is informed by the RFA or NMFS that one or more of these catch limits has been reached, has been exceeded, or is projected to be reached or exceeded. If a particular catch limit for an overfished species has been reached, has been exceeded, or is projected to be reached or exceeded, within 24 hours of notification the EFP holders must cease all fishing activities conducted under the Terms and Conditions of this EFP.

4. Location of fishing and landings: All fishing under the EFP must take place between 40°10.00' N. lat. and 34°27.00' N. lat. All fishing for groundfish during offshore EFP trips must take place seaward of the boundary line approximating the 150 fathom (274 m) depth contour, as defined by latitude and longitude coordinates at 50 CFR 660.393(h). Persons participating in offshore EFP trips must abide by all rules for the non-EFP recreational fishery that apply when operating shoreward of the boundary line approximating the 150 fathom (274 m) depth contour (i.e. may not fish salmon with barbed hooks; may not fish in within the RCA with groundfish on board; etc.). The vessel EFP holder must issue each participating angler documentation explaining how their landed catch, which may contain rockfish species that are otherwise prohibited, is legal under the terms and conditions of this EFP.
5. Gear: Persons fishing on board vessels registered to this EFP must fish using a single line with no more than two hooks, as described in 50 CFR 660.302 and are subject to the restrictions for recreational hook and line gear in 50 CFR 660.382(b). The vessel registered to this EFP may not have trawl or commercial fixed gear on board when fishing under the EFP and on an offshore EFP trip.
6. Retention/Discard Requirements: The EFP holders will be required to inform anglers that they must retain on board all rockfish caught while fishing under this EFP. Such species will not be discarded. All other non-rockfish groundfish species and non-groundfish species (see Section G-8.) may be discarded, consistent with all other applicable state and Federal laws, but such discards must be recorded by an observer. No catch may be discarded, headed, gutted, filleted or otherwise harmed, aside from hook removal, prior to the specimen being fully recorded by the observer. No catches of any species caught, retained or landed on an offshore EFP trip may be sold, traded or bartered.
7. Bag limits and Size limits. During all offshore EFP trips, the EFP holders are responsible for ensuring a 10 rockfish per person per day bag limit, with the exception of sub-bag limits and size limits for rockfish (See Section F 1). The EFP holders are required to inform each angler that they are subject to a 10 rockfish per person per day bag limit, and it is the vessel EFP holders responsibility to ensure that these limits are not exceeded. Any rockfish catch over each angler's 10 rockfish per person per day bag limit must be counted toward the cumulative boat limit, which is equal to the number of anglers on board multiplied by the individual daily bag limit. Operator(s) and crew members are authorized to participate in offshore EFP trips, but any fish taken by these persons must be separated from fish taken by anglers and cannot be calculated into the cumulative boat limit, consistent with state regulations at Title 14 of the CCR, Section 195. EFP holders and each person fishing on the vessel registered to this EFP are limited by the current recreational regulations for all non-rockfish species.
8. Participation in Non-EFP Recreational Fisheries: EFP holders must ensure that the vessel registered to this EFP will not participate in the non-EFP recreational groundfish fishery and the EFP project simultaneously during a single fishing trip, while this EFP is valid. While the vessel is registered to this EFP, the vessel must obtain documentation from the RFA Chartermaster prior to leaving port on a day in which it will participate in an offshore EFP trip (see Section G 10). The vessel must maintain that documentation, in addition to this EFP, on board the vessel during the offshore EFP trip. No additional documentation or authorization is required for a trip which will be conducted in the non-

EFP recreational groundfish fishery. The vessel registered to the EFP may participate in non-groundfish recreational fisheries (such as the crab, albacore, Pacific halibut, or salmon fisheries) simultaneously during an EFP fishing trip, consistent with all other applicable state and Federal regulations (i.e. if all salmon fisheries in the area are closed, no salmon may be retained while that closure is in effect). No additional documentation or authorization is required under the terms and conditions of this EFP for an offshore EFP trip to include fishing in a non-groundfish recreational fishery.

9. Other. The NMFS Northwest Regional Administrator may place additional limits on this EFP fishery. If such restrictions are necessary, the Regional Administrator will terminate this permit and issue an amended permit containing the additional restrictions on groundfish regulations as determined necessary by NMFS.
10. Authorized Offshore EFP Trip: The EFP holder(s) aboard any vessel conducting fishing activities under the terms and conditions of this EFP must obtain a letter authorizing the offshore EFP fishing trip from the RFA Chartermaster. A copy of the letter must be carried on the vessel on the day of the offshore EFP fishing trip. The letter may document specific dates that the RFA Chartermaster has authorized the vessel to participate in an offshore EFP fishing trip. If no other specific dates are specified, the letter will only be valid for 24 hours after it is issued by the RFA Chartermaster.

H. MONITORING REQUIREMENTS.

1. At-sea observations. Any vessel making an offshore EFP fishing trip must carry a PSMFC trained human observer for each authorized offshore EFP trip. Observers will monitor and record location and catch data, including species composition, of all retained and discarded catch as well as biological data such as fish length, sex, and weight for every fishing trip taken under this EFP. The vessel will provide the observer with access to onboard electronic equipment at the request of the observer. All catches that occur under this EFP must be documented by the observer, even if they will be released. No catch may be discarded, headed, gutted, filleted or otherwise harmed, aside from hook removal, prior to the specimen being fully recorded by the observer. All persons aboard the fishing vessel, including the EFP holder(s), vessel operator, crew, and anglers, must cooperate fully with the observer so that he/she can carry out his/her monitoring and reporting responsibilities, as described in 50 CFR 660.314. Failure to carry an observer on an authorized offshore EFP trip may result in a vessel's inability to obtain an EFP in the future.
2. Landings reports. The EFP holder(s), vessel operator, crew, and anglers must cooperate fully with the observer and the RFA Chartermaster to carry out their monitoring and reporting responsibilities. NMFS reserves the right to terminate fishing under the EFP prior to any catch limit being reached or exceeded. If any overfished species catch limits are reached, exceeded, or are projected to be reached or exceeded, the EFP holder(s) must notify NMFS immediately. Within 24 hours, the EFP holder(s) will notify participating vessels and all EFP project vessels must cease fishing in the EFP fishery. Failure to provide or to obtain such information in the time prescribed may be the basis of termination of this EFP.
3. Public Release of Information. The fishing activities carried out under this permit, which are otherwise prohibited, are for the purpose of collecting catch information. The EFP

holder(s) agree to the public release of any and all information obtained as a result of activities conducted under this permit.

I. REPORTING REQUIREMENTS.

Any vessel registered to this EFP must provide to the RFA all information in a timely fashion as needed by the RFA to meet their reporting requirements. This EFP does not relieve any person from any other state or federal reporting requirements. The EFP holders will request each participating angler on an offshore EFP trip to complete a post-trip survey to provide angler feedback about their fishing experience and whether they would be likely to participate in similar trips in the future.

J. CLOSURES.

If any of the catch limits for overfished species given in F.3. are projected to be reached or exceeded, the vessel registered to this EFP must cease fishing and return to port. If the vessel registered to this EFP is notified by the RFA Chartermaster that they must cease fishing, the vessel must cease fishing immediately and return to port. NMFS reserves the right to terminate fishing under the EFP prior to any catch limit being reached or exceeded. If a particular catch limit for an overfished species is projected to be reached or exceeded, within 24 hours of notification the EFP holders must cease all fishing activities conducted under the Terms and Conditions of this EFP. If any overfished species catch limits are reached or exceeded, the EFP holder(s) must notify NMFS immediately. Within 24 hours, the RFA EFP holder(s) will notify each participating vessels and all EFP project vessels must cease fishing in the EFP fishery. Failure to provide or to obtain such information in the time prescribed may be the basis of termination of this EFP.

K. SANCTIONS.

Failure of the EFP holder(s), or any person to comply with the terms and conditions of this permit, a notice issued under 50 CFR Part 660 any other applicable provision of 50 CFR Parts 600 and 660, the Magnuson-Stevens Act, or any other regulations promulgated thereunder, may be grounds for revocation, suspension, or modification of this permit as well as civil or criminal penalties under the Magnuson-Stevens Act with respect to all persons and vessels conducting activities under the EFP (50 CFR 600.745(b)(8)).

L. WAIVER.

The EFP holder(s) on his/her own behalf, and on behalf of all persons conducting activities authorized by the permit under his/her direction, waives any and all claims against the United States or the State, and its agents and employees, for any liability whatsoever for personal injury, death, or damage to property directly or indirectly due to activities under this permit.

Summary of Revisions to RFA/GGFA EFP proposal for 2009, titled, " Recreational Rockfish Catch Composition Seaward of the Rockfish Conservation Area

1. Clarify that all non-rockfish will be released.
2. Added language similar to the Oregon recreational yellowtail EFP specifying the gear type to be used, adding a float at the top of the drop leader to hold hooking gear off the bottom, and clarifying that only two (2) hooks will be used, consistent with current California sportfishing regulations.
3. Clarify that the area being fished will be seaward of the 150-fathom non-trawl Rockfish Conservation Area lines.
4. Request a cap of 3 mt on slope rockfish (aggregate) for the entire EFP.
5. Request an increase of the bycatch cap on canary rockfish, from 50 lbs to 0.2 mt
6. Request an increase of the bycatch cap for widow rockfish from 0.7 mt to 3 mt.

These revisions to the EFP have been reviewed and approved by the GMT 9/11/2008

Jim Martin, RFA

Recreational Chilipepper EFP Renewal Request (2009)

To:

Bob Lohn
Regional Administrator
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115-0070
(206) 526-6150
bob.lohn@noaa.gov

cc: Frank Lockhart
frank.lockhart@noaa.gov

cc: Gretchen Arentzen
gretchen.arentzen@noaa.gov
(206) 526-6147

Subject: RFA/GGFA Exempted Fishery Permit Proposal for 2009

Title: Recreational Rockfish Catch Composition Seaward of the Rockfish Conservation Area (Revised)

Date: September 11, 2008

Applicants:



Recreational Fishing Alliance

*Contact: Jim Martin, West Coast Regional Director
P.O. Box 2420, Fort Bragg, CA 95437
(707) 357-3422*



Golden Gate Fishermen's Association

*Contact: Roger Thomas, President
P.O. Box 40
Sausalito CA 94966
(415) 760-9362*

Recreational Chilipepper EFP Renewal Request (2009)

Justification: Since the implementation of the Rockfish Conservation Area as a bycatch reduction measure to protect overfished species such as canary rockfish, over 90% of the EEZ has been closed to recreational rockfishing. This proposal would exempt a specific number of CPFV vessels in north-central California to fish seaward of the RCA for underutilized species such as chilipepper. (Note: this is a request for renewal of the EFP the Council approved for 2008. NMFS delivered the finalized permits for 2008 on August 15th, 2008. We have yet to conduct any trips under the 2008 permits, but expect to begin during the month of September this year. Therefore we have no report for the Council on the progress of the current year's EFP.)

Potential impacts: There is some historical data for recreational catches of rockfish on the slope, but no recent data is available. Impacts on canary rockfish and cowcod should be very low.

Purpose and goal of the experiment: To use selective recreational fishing gear, hook and line, to access underutilized species such as chilipepper rockfish and groundfish. While this study will test different hook and line gear to discover ways to avoid overfished species, this experiment is primarily an area-based study. The data provided from this series of trips on CPFV vessels would provide management guidance to open a new market for fishing trips on the charter fleet in northern and central California (from Point Conception to the 40-10 line). Experimenting with different types of terminal tackle results in a more selective fishery. Anglers will retain all legal fish. This EFP would be limited to the CPFV fleet to control effort, and to provide observer coverage, but the data gathered could result in a new fishery for the entire recreational fishing fleet.

Broader Significance: the data collected should prove that a recreational fishery can be conducted for abundant and underutilized species such as chilipepper rockfish without impacts to overfished species. If successful, management can shift some of the recreational effort away from inshore species and areas where interaction with canary rockfish are common.

Duration of the EFP: One year (2009). This is a extension of our previous request for the recreational EFP the Council approved in 2007.

Number of vessels: Approximately 10 Charter Passenger Fishing Vessels (CPFVs).

Participants in the EFP:

Capt. Randy Thornton, *Telstar*, Noyo Harbor, Fort Bragg (707) 964-8770

Capt. Bob Ingles, *Queen of Hearts*, Half Moon Bay (650) 728-3377

Capt. Alan Chin, *Tigerfish*, Half Moon Bay (650) 726-7133

Capt. Dennis Baxter, *New Captain Pete*, Half Moon Bay (650) 726-6224

Capt. Steve Moore, *Pacific Horizon* Morro Bay (805) 595-4104

Capt. Tom Mattusch, *Hulicat*, Half Moon Bay (650) 726-2926

Capt. Jay Yokomizo, *Huck Finn*, Emeryville (510) 527-3768

Capt. Robert Gallia, *Eldorado*, Berkeley (415) 298-3948

Capt. Bill Parducci, *Profish'nt*, Bodega Bay (707) 463-3618

Recreational Chilipepper EFP Renewal Request (2009)

Funding: This EFP will be self-funding with individual anglers paying for an offshore rockfish trip. Grant funding is available for data analysis and observer coverage. The RFA's 501c3 account, the Fisheries Conservation Trust, received a grant for \$5,000 for the data analysis for this project, and additional funds are available if needed.

Description of Target species: Chilipepper rockfish and other species of groundfish. This species can be targeted in midwater and is vastly underutilized (1000+ mt under OY).

Harvest Control: Under current regulations, anglers are limited to two hooks per line, with a bag limit of ten rockfish and groundfish as defined by Title 14, Section 1.91. We are requesting to use up to five hooks. For a load of 15 anglers, a vessel would retain 150 fish per trip, with full observer coverage at-sea. CPFV logbooks will record species landed. While recent catch data is unavailable for the recreational fishery in deep water, a review of mortality impacts from the commercial sablefish fishery indicate zero bycatch of cowcod, zero bycatch of widow rockfish, and a total projected bycatch of canary rockfish for 2007 in the combined fixed gear (sablefish and non-sablefish) of 1.1 metric tons. In November 2007, the Pacific Fishery Management Council approved the following bycatch caps for this EFP:

<u>Bocaccio</u>	<u>Canary</u>	<u>Cowcod</u>	<u>Darkblotched</u>	<u>Widow</u>	<u>Yelloweye</u>
2.7 mt	0.2 mt	50 lbs	0.1 mt (150 lbs)	3 mt	50 lbs

Additionally, the Council approved a 300 lb. cap on Pacific Ocean Perch (POP). At the request of the GAP, we request the Council approve a cap of 3 mt for slope rockfish (in aggregate) for 2009.

Enforcement: We propose to retain all rockfish as part of each angler's bag limit of ten fish. This EFP will require an exemption from sub-bag limits (on bocaccio, for example) and size limits. The EFP's bycatch caps provide total catch limits for the entire EFP. Each angler would be provided a letter reflecting the date of the trip, the vessel participating, and the angler's name, reflecting their participation under the terms of the EFP. If questioned by a warden, the angler can show this document to the warden to indicate his or her participation in the EFP. A sample draft letter:

*This letter certifies that on _____ (today's date),
_____ (name of angler), under CDFG recreational fishing
license # _____ participated in a Federal Exempted Fishing Permit
_____ (vessels EFP ID number) titled "Recreational Rockfish Catch
Composition EFP."*

This EFP is limited by cumulative bycatch caps and exempts the angler from sub-bag limits on bocaccio and other species, and is exempt under federal rules from seasonal closures on groundfish, certain terminal gear restrictions and prohibitions on retention of overfished species.

Recreational Chilipepper EFP Renewal Request (2009)

This letter is to inform state and federal enforcement personnel that the EFP has been approved by the Pacific Fisheries Management Council and the National Marine Fisheries Service.

Enforcement personnel can verify the angler's participation in the EFP by contacting the CPFV Captain:

(name of vessel)

(Contact info)

Proposed Data Collection and Analysis Methodology: Data collection will be consistent with the existing CRFS data collection and analysis system. Expansion of the data modeling can provide an estimate of potential catches for both private boaters and the CPFV fleet, should the Council decide at a future time it would consider providing more fishing opportunity to the entire recreational sector. Onboard observers will count and identify the fish, with 100% retention to guarantee accurate identification and age class data. Type of terminal tackle (weights, lures, hook sizes) would be recorded for comparison purposes and bycatch reduction data. Vessels will record other information such as location, depth and water temperatures. By fishing different depth strata throughout an entire year, variations by depth and month can be identified. The goal of the data collection format and data analysis will be to gather enough information to project the outcomes for an expansion of the fishery throughout the recreational sector.

Participation: Commercial Passenger Fishing Vessels with a clean logbook reporting record will be chosen from various ports such as Bodega Bay, Half Moon Bay, San Francisco Bay Area and Fort Bragg where the slope is reachable on a day trip.

Time, Place and Amount of Gear Used: This EFP would be conducted during fair weather days during the entire year of 2009, with anglers limited to one rod apiece, two hooks per line, with a 10 pound weight limit. All fishing would occur seaward of the non-trawl Rockfish Conservation Area between Pt. Conception and the 40-10 management line.

The gear to be used will be designed to locate hooking gear in a midwater location to avoid bottom dwelling species. The proposed gear for this fishery would employ the use of a long leader between sinker and hooks. The purpose would be to elevate the hooking gear above the bottom a sufficient distance to avoid and or minimize contact with species of concern. Leader lengths of 15, 30 and 40 feet may be tested. A float will be affixed to the upper end of the leader. The purpose of this float is to prevent hooking gear from descending below the upper level of the leader. The float must have sufficient buoyancy to support all hooking gear and line above equivalent to leader length. Current tests show that a buoyancy of 2.25 ounces would be sufficient. Floats must be constructed of solid material. They can be either wood or closed cell high density foam. No hollow floats allowed. Maximum number of hooks is to conform to current regulation (2 hooks in California). Small plastic worms and flies will be used. Weighted hooks, bait and large lures will be prohibited.

Recreational Chilipepper EFP Renewal Request (2009)

Science Advisor:

Doyle Hanan, PhD
Hanan & Associates
POB 8914
Rancho Santa Fe CA 92067
(858) 832-1159

Data Collection and Review: Data will be collected by on-board observers, hired through the Pacific States Marine Fisheries Commission (PSMFC), and submitted to the data analyst for quality checks following each observed trip. Data quality checks will include checking all forms for completeness, appropriate species composition (observers will be expected to document each new species encountered to confirm species identification; documentation will be consistent with NMFS observer programs' protocols for species identification form submission), proper ordering of observed sets and anglers, proper data coding, and other logical checks that may be made by the analyst. All attempts will be made to overcome shortcomings in data collection through consultation with the observer. Feedback will be given after every submission to ensure complete and accurate data collection on subsequent trips. Catch of any overfished species for which the Council has recommended bycatch caps will initiate immediate notification of NMFS of that event.

Data Entry: Original hardcopies will be retained by the data analyst with copies sent to Connie Ryan of the California Department of Fish & Game for departmental records, and to PSMFC for data entry. PSMFC will conduct subsequent data quality checks required for entry of data and other checks built into their entry system. Their computer will check species ranges, reasonable lengths/weights and various cross checks on the forms for totals, anglers, limits etc. Entry will be complete no later than six business days following receipt of forms by PSMFC. Files will then be sent to the data analyst with each individual caught (including all data elements linked to that individual) as well as separate files of catch data aggregated by set.

Data Analysis and Reporting: On a monthly basis, the data analyst will stratify and report catch for the overall fishery and for each management region included in the EFP (Northern, North Central, Monterey South-Central and Morro Bay South-Central). Monthly reports will be compiled and submitted to NMFS within two weeks following the end of each calendar month and will include catch statistics for the most recent month and year to date totals. Catch will additionally be separated for analysis by disposition (retained vs. individuals that would normally be discarded) with separate CPUE (CPAD and/or CPAH) calculations made for each species of each disposition. Catch will be further stratified by terminal tackle, depth, specific lat/long locations and any other variables determined to provide significant differences through Ward's multivariate cluster analysis of catch rates for individual species. Species encountered will also be plotted against number of trips to produce a simple discovery curve for the EFP.

Expansion estimates will be reported twice for the EFP, once with data collected prior to traditional rockfish season openings and again following conclusion of the EFP

Recreational Chilipepper EFP Renewal Request (2009)

period (year end or caps met) in the final report evaluating the EFP. Initial expansion estimates will consider only the effects of opening the fishery during winter months in which anticipated effort will not offset effort from the traditional fishery. Estimates of participation will be calculated using surveys of EFP trip participants and of anglers in the study area intercepted by the samplers. To supplement these tools, upon the openings of rockfish seasons, detailed survey forms will be distributed to recreational anglers found to be targeting rockfish during angler intercept surveys. These surveys will provide detailed information on the current understanding of the fishery (effort and catch statistics, distances traveled, species composition and length frequencies of various species) to give the survey participant an accurate picture of the fishery. Participants will then be asked to estimate the numbers of trips they would expect to make during the season closed for traditional rockfishing (as above) as well as how many nearshore directed trips they would expect to be offset by participation in a deepwater chilipepper fishery. The levels of response will be combined with rockfish catch and effort data from the history of CRFS (since January 2004) to determine expansion factors for collected data.

Final reporting will summarize the catch totals for the duration of the EFP with data stratification as indicated for the monthly reports. Final reporting on this EFP will include the expanded estimates for the complete opening of this fishery to the recreational community as well as alternative expansions such as opening the fishery coincident with the traditional rockfish seasons, expansion only to the CPFV fleet, and any other expansions potentially indicated by the data (specific management/geographic regions, depths, terminal tackle configurations, etc.) to provide the Pacific Fisheries Management Council with a range of options for permitting of the fishery.

Signature of Applicant:

A handwritten signature in black ink that reads "Jim Martin". The script is cursive and fluid.

Jim Martin, RFA

A handwritten signature in black ink that reads "Roger Thomas". The script is cursive and fluid.

Roger Thomas, GGFA

GROUNDFISH ADVISORY SUBPANEL COMMENTS ON FINAL ADOPTION OF
EXEMPTED FISHING PERMITS (EFPs) FOR 2009

The Groundfish Advisory Subpanel (GAP) discussed the five EFP applications up for final approval and has the following recommendations:

General

In general, the GAP continues to voice concern over the effects of EFPs on overfished species amounts and maintaining a balanced scorecard. Special attention should be given to adhering to the bycatch caps identified previously by the Council.

The Recreational Fishing Alliance has withdrawn their flatfish EFP for 2009 and the GAP is supportive of this action.

Specific to The Nature Conservancy EFP, the GAP approves the EFP with a 50 metric ton cap for sablefish. The GAP believes that this is consistent with the goals of the experiment and will provide the incentive necessary for participants to attempt to target other species besides sablefish.

Specific to the Recreational Fishing Alliance / Golden Gate Fishermen's Association Chilipepper EFP, the GAP recommends approval of the EFP with the following amendments:

- 3 metric ton cap on slope rockfish

The GAP is recommending approval of the Fosmark EFP and the Oregon Recreational Fishing Alliance EFP as written.

PFMC
9/10/08

THE GROUND FISH MANAGEMENT TEAM REPORT ON FINAL ADOPTION OF
EXEMPTED FISHING PERMITS (EFPs) FOR 2009

Five Exempted Fishing Permit (EFP) applications were forwarded for further review at the June 2008 Council meeting and submitted for approval at this meeting. One of those applications was subsequently removed from consideration. Three of the remaining EFP applications are re-submissions from last year and one is a new submission. The Groundfish Management Team (GMT) reviewed the applications relative to evaluation criteria in the Council's Operating Procedure (COP) on EFPs during the June meeting.

New Proposal for 2009

Recreational Fishing Alliance, Oregon (Agenda Item I.6.a, Attachment 4)

This application proposes to test a modified terminal tackle when targeting yellowtail rockfish in areas seaward of the 40-fathom depth restriction in Oregon waters. The GMT discussed the technical merits of this proposal and concluded that it warrants approval. The applicant will work closely with Oregon Department of Fish and Wildlife (ODFW) to coordinate data collection and analysis. ODFW will provide observers from their existing recreational observer program.

The EFP application requests a yellowtail bag limit of 15 fish. The GMT discussed that this bag limit and the relatively low number of trips makes an overall cap on the yellowtail catch unnecessary.

The GMT noted that the effectiveness of the gear may depend on the habitat in which it is used (e.g. it may not reduce overfished species impacts if used near pinnacles). Therefore, the GMT recommends that the drift specific data taken by ODFW observers include detailed spatial data (i.e., information on depth, habitat, lat-long position, etc).

In addition, the GMT notes that the gear may subsequently need to be tested in other areas, where rocky habitats are more prevalent, before being implemented. Other issues that would need to be worked out prior to wider-scale implementation include enforceability of specific gear types and methodology development for projecting overfished species impacts.

The GMT recommends full retention of rockfish for this EFP. The applicants would prefer that anglers be allowed to take home all rockfish in their bag (after being sampled), including any overfished species. GMT understands that ODFW has been working with the Oregon State Police on protocols to allow this. The GMT recommends that this option be included in the EFP if all enforcement concerns are addressed. Once the concerns mentioned above are addressed, the GMT recommends its approval for 2009 with the GMT recommended overfished species (OFS) bycatch caps.

2008 Approved Proposals Resubmitted for 2009

Fosmark (Agenda Item I.6.a, Attachment 1)

This application is a re-submission of a proposal adopted by the Council in November 2007. No modifications have been made to the original proposal; therefore the GMT recommends its approval for 2009 with the GMT recommended OFS bycatch caps.

The application requests full retention of all groundfish but then also proposes to use trip limit management for some species (e.g., lingcod). Use of trip limit management may conflict with a full-retention approach. The GMT recommends that the full retention requirement only apply to rockfish species, as defined in Federal regulations. The EFP applicant expressed a desire to be able to retain non-rockfish groundfish species within the Rockfish Conservation Area (RCA) during EFP trips. The GMT recommends that retention of non-rockfish groundfish species would be governed by the applicable open access trip limits, and could be discarded once documented by an observer.

The GMT agrees that the EFP will produce valuable information, yet also recognizes that the effect of grounds vs. gear may be difficult to differentiate. The skipper may know cleaner fishing grounds and catch reduction may be the result of gear placement rather than gear configuration. The GMT notes that additional analysis would likely be needed to test the gear with other captains in other areas prior to broader implementation. Paired gear studies may also be useful in separating the effect of the gear configuration from area/skipper effects.

Nature Conservancy and Environmental Defense (Agenda Item I.6.a, Attachment 2)

No significant changes have been made to the goals or design of the EFP program. The applicants are, however, requesting an increase in the sablefish bycatch cap to 330 mt. The GMT discussed the potential impacts of this increased sablefish take to the 2009 Conception area sablefish OY (1,371 mt). If the Council adopts this cap, 1,041 mt will remain in Conception area optimum yield (OY). Therefore, the GMT does not foresee any risk of exceeding the OY under the sablefish trip limits recommended for 2009 if the Council adopts a 330 mt catch limit for this EFP. Unforeseen issues could be handled through inseason adjustments during 2009.

The applicants requested more guidance on how OFS should be handled under the full-retention rules. The GMT recommends that National Marine Fisheries Service (NMFS) include and/or clarify rules on the disposition of overfished species in the terms and conditions of the EFP. The GMT recognizes that EFP applicants should generally be prevented from receiving personal benefit from retention yet recommends that the term and conditions permit donation of the fish or uses that do not directly benefit the participant.

Lastly, the GMT reiterates that this EFP will likely produce valuable information on regional fishery associations and the applicability of electronic monitoring systems in the fixed gear fleet. The GMT recommends its approval for 2009 with the GMT recommended OFS bycatch caps.

Recreational Fishing Alliance (Agenda Item I.6.a, Attachment 3)

This is a re-submission of the proposal adopted by the Council in November 2007. It is the GMT's understanding that this fishery will be a full retention fishery for rockfish only and non-rockfish species will be discarded, if time or area closures are in effect during the EFP trip. The applicant has requested implementation of a 3.0 mt cap on slope rockfish in addition to the OFS caps discussed below. These changes do not fundamentally alter the original proposal adopted

by the Council in November 2007; therefore, the GMT recommends its approval with GMT recommended OFS bycatch caps.

The GMT identified issues that would need to be worked out prior to wider-scale implementation including methodology development for projecting overfished species impacts.

EFP Bycatch Caps for Overfished Groundfish Species

The GMT reviewed the bycatch caps for overfished groundfish species proposed for the four EFP applications submitted for consideration in 2009 and compared these caps to the EFP yield set-asides decided in June 2008 (Table 1). The GMT converted the proposed caps to metric tons and used the following average weights to convert numbers of fish to a weight metric: canary – 3.0 lbs, cowcod – 11 lbs, and yelloweye – 3.5 lbs. These average weights were derived from fishery sampling and survey results at the depths these EFPs will operate.

In most cases, the cumulative yield of proposed EFP bycatch caps are less than the yields set aside for these species; however, proposed increases in canary and widow rockfish caps result in a slight exceedance of the EFP yield set-asides decided in June (higher caps are in bold in Table 1). The increase in the canary caps have been requested for the The Nature Conservancy (TNC) and Recreational Fishing Alliance (RFA) chilipepper EFPs and an increase in the widow rockfish cap has been requested for the Oregon yellowtail and RFA chilipepper EFPs. These requests have been made to reduce the risk of early attainment of caps and to better ensure an effective EFP study. The GMT notes there are available yields of these species in the 2009 bycatch scorecard to accommodate the proposed increase in these caps.

The GMT's review of all the proposed EFP bycatch caps for overfished species appear to be reasonable and meet the general purpose and need of each of these EFPs. The GMT notes that the requested 150 lb yelloweye bycatch cap in the TNC EFP is probably higher than what is needed, since it is unlikely yelloweye will be caught in fishing efforts south of 36° N latitude and deeper than the 150 fm seaward boundary of the RCA. While cumulative yelloweye impacts from directed fishing and EFP activities in 2009 are less than the OY of 17 mt, a de minimus cap of 50 lbs of yelloweye could be considered for this EFP. The TNC also requested consideration of a slightly higher cowcod bycatch cap than the 50 lbs requested. The GMT notes that there is a 1.9 mt residual for cowcod in the 2009 scorecard. The GMT notes that a slight increase in the cowcod cap could be considered but cautions that a residual yield of cowcod should be maintained in the scorecard since assessment and management uncertainty are particularly high for this species. The GMT also notes that issues pertaining to overfished species bycatch limits could be handled through inseason adjustments during 2009.

Lastly, the GMT notes that combined widow bycatch caps for all of the requested EFPs exceed the 2009 EFP yield set asides established by the Council in June. The GMT notes that there is residual widow in the 2009 scorecard. According to the widow rockfish rebuilding strategy, reductions in the residual widow rockfish in the scorecard would reduce the potential amount available to the 2009 whiting fishery, holding non-whiting fisheries unhindered.

Table 1. EFP bycatch caps (mt) for four proposed 2009 EFPs compared to the EFP yield set-asides (mt) decided by the Council in June 2008.

EFP	bocaccio	canary	cowcod	darkblotched	POP	widow	yelloweye
Fosmark	3.30	0.03	0.01	0.40	*	0.70	0.00
TNC	5.00	0.20	0.14	0.45	0.14	2.00	0.02
RFA - chili	2.70	0.20	0.02	0.10	*	3.00	0.02
OR - YT	*	2.60	*	*	*	3.00	0.20
Total requested	11.00	3.03	0.17	0.95	0.14	8.70	0.25
EFP yield set-asides	13.70	2.70	0.30	1.30	0.60	5.50	0.30

Note: “*” = no proposed EFP cap, and **bold font** indicates a requested increase in an EFP bycatch cap.

COP Eligibility Criteria

The Enforcement Consultants brought to the GMT’s attention the need for participant eligibility requirements that include criteria regarding non-compliance or violation records. The criteria currently in the Council’s COP are more appropriate for commercial EFPs. The GMT recommends that the applicant work with NMFS and Enforcement Consultants in developing criteria that can consistently and legally apply when considering eligibility of vessel operators participating in any EFP.

Recommendations:

1. If the Council adopts the EFPs, the GMT recommends amendment of the EFPs as outlined above.

PFMC
9/11/08



City of Morro Bay

Morro Bay, CA 93442
(805) 772-6200

August 27, 2008

Mr. Donald K. Hansen, Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland OR 97220-1384

Dear Chairman Hansen:

I am writing to let you know of the City of Morro Bay's strong support for the Exempted Fishing Permit (EFP) to fish trawl permits with longline, trap, pot, and hook-and-line gear in a community based fishing association and I urge the Pacific Fishery Management Council to give this proposal favorable consideration at its September 2008 meeting.

This EFP is an innovative partnership between fishermen, local agencies, conservation organizations, and fishery managers. It will show that, by allowing some effort to switch from trawl to fixed gear and by working cooperatively at the local level, we can provide flexibility to adapt to market and regulatory changes. The EFP will inform the process of rationalizing the groundfish trawl fishery and particularly in developing the guidelines for cooperative management under Regional Fishing Associations.

This EFP proposal builds on a foundation set with a 2008 Exempted Fishing Permit. Allowing this project to continue to a second year of operation will maximize the benefits of the lessons learned from the 2008 EFP, providing more data and experience for the partners to decide if and how to formalize the community based fishing association and cooperative fishing in this area into a permanent fishing entity that could hold fishing privileges and oversee cooperative conservation and management activities.

Regulations to protect habitat and overfished stocks, market dislocations, increasing costs and diminishing harvest opportunities, as well as buyouts to reduce trawl capacity have taken their toll on many small communities – such as Morro Bay and Port San Luis - that have historically fished the groundfish resource on the West Coast. This project offers a unique opportunity to turn this trend around and improve both the sustainability of the fishery and the community.

I believe this proposal to be a step in the right direction toward restoring our local fisheries.

Thank you for your consideration of this important innovation in fishing.

Sincerely,

A handwritten signature in black ink, appearing to read "Janice Peters".

Janice Peters, Mayor

FINANCE
595 Harbor Street

ADMINISTRATION
595 Harbor Street

FIRE DEPARTMENT
715 Harbor Street

PUBLIC SERVICES
955 Shasta

HARBOR DEPARTMENT
1275 Embarcadero Road

POLICE DEPARTMENT
870 Morro Bay Boulevard

RECREATION & PARKS
1001 Kennedy Way



August 28, 2008

Mr. Donald K. Hansen, Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384

Dear Chairman Hansen:

Re: Community Based Fishing Association EFP

We urge you to approve the Exempted Fishing Permit (EFP) to fish trawl permits with longline, trap, pot, and hook-and-line gear in a community based fishing association.

This EFP proposal builds on a foundation set with a 2008 EFP. Allowing this project to continue to a second year of operation will maximize the benefits of the lessons learned from the 2008 EFP, providing more data and experience for the partners to decide if and how to formalize the community based fishing association and cooperative fishing in this area into a permanent fishing entity that could hold fishing privileges and oversee cooperative conservation and management activities.

This EFP, if approved, will test several important hypotheses that lie at the heart of west coast fisheries management:

1. that trawl permits can be successfully fished with fixed gear;
2. that conversion of trawl effort to fixed gear effort by fishing trawl permits with fixed gear can provide social, economic, and environmental benefits;
3. that local fishing effort can be successfully managed by a community based fishing association;
4. that an observer pool can be successfully deployed by a community based fishing association in a way that reduces monitoring costs while still providing 100% accountability for total catch on all trips.

The Pacific Fishery Management Council is currently developing an Individual Fishing Quota (IFQ) program for the west coast groundfish trawl fishery. Options within this IFQ program for allowing gear switching which could be used to support fishing communities. This EFP will reduce uncertainty about how to implement such measures and how they may perform, thus improving the information base for developing a preferred IFQ alternative.

In addition, NOAA has agreed to leverage this EFP by using the vessels participating in the EFP to test Electronic Monitoring technology against human observers and a logbook/audit system.

The EFP presents a rare opportunity to test all of these methods for consistency with one another using coordinated data protocols, as well as for evaluating and comparing costs.

If the hypotheses tested under this EFP are validated, gear-switching and community based management are likely to become effective tools for addressing economic and social problems stemming from declining landings and extremely limited fishing opportunity. Furthermore, these tools will provide conservation benefits by reducing bycatch and habitat impact relative to trawling.

For all these reasons, we strongly support approval of the EFP.

Sincerely,

Huff McGonigal
Senior Conservation Manager
Environmental Defense Fund

BOARD OF SUPERVISORS

1055 MONTEREY, ROOM D430 • SAN LUIS OBISPO, CALIFORNIA 93408-1003 • 805.781.5450



BRUCE GIBSON
SUPERVISOR DISTRICT TWO

September 2, 2008

Mr. Donald K. Hansen, Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland OR 97220-1384

RE: Exempted Fishing Permit (EFP)

Dear Chairman Hansen:

I am writing to give my support to the Exempted Fishing Permit (EFP) process. I believe the EFP will help create sustainability in the fishing industry and benefit the community of Morro Bay.

The EFP is an innovative partnership between fishermen, local agencies, conservation organizations and fishery managers. It will demonstrate that by working cooperatively at the local level, divergent groups and individuals can effect meaningful change in this local industry.

As the County Supervisor whose district includes the City of Morro Bay, I am concerned about the local fishing industry and our coastal communities as they grapple with daunting prospect of rejuvenating fishing to a sustainable industry, both economically and environmentally. This project offers a step in the right direction toward restoration.

Thank you in advance for your support of this important proposal.

Sincerely,

BRUCE GIBSON
District Two Supervisor,
San Luis Obispo County

LOIS CAPPS
23RD DISTRICT, CALIFORNIA

1110 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-0522
(202) 225-3607

COMMITTEE ON
ENERGY AND COMMERCE

COMMITTEE ON
NATURAL RESOURCES



Congress of the United States
House of Representatives
September 5, 2008

☐ DISTRICT OFFICES:
1411 MARSH STREET, SUITE 205
SAN LUIS OBISPO, CA 93401
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☐ 101 WEST ANAPAMU STREET, SUITE C
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(805) 730-1710

☐ 2675 NORTH VENTURA ROAD, SUITE 105
PONT HUENEME, CA 93041
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Agenda Item I.6.d

Supplemental Public Comment 2
September 2008

Mr. Donald K. Hansen, Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384

Dear Chairman Hansen:

I am writing to express my strong support for continuing the Exempted Fishing Permit (EFP) to fish trawl permits with longline, trap, pot, and hook-and-line gear in a community based fishing association. I urge the Pacific Fishery Management Council to approve this application at its September meeting.

This EFP is an innovative partnership between fishermen, harbor masters, conservation organizations, and fishery managers. It will show that, by allowing the switch from trawl to fixed gear and by working cooperatively at the local level, fishermen can do better both economically and environmentally. This will provide information to managers that may be useful in rationalizing the groundfish trawl fishery and particularly in developing the guidelines for cooperative management under Regional Fishing Associations.

As you know, I supported this EFP proposal in 2007. This year's proposal builds on a foundation set with the 2008 Exempted Fishing Permit. Allowing this project to continue to a second year of operation will maximize the benefits of the lessons learned from the 2008 EFP, providing more data and experience for the partners to decide if and how to formalize the community based fishing association and cooperative fishing in this area into a permanent fishing entity that could hold fishing privileges and oversee cooperative conservation and management activities.

Regulations to protect habitat and overfished stocks, market dislocations, increasing costs and diminishing harvest opportunities, as well as buyouts to reduce trawl capacity have taken their toll on many small communities – such as Morro Bay and Port San Luis – that have historically fished the groundfish resource on the West Coast. This project offers a unique opportunity to turn this trend around and improve both the sustainability of the fishery and the community.

I believe this proposal to be a step in the right direction toward restoring our local fisheries. Therefore, I urge you to approve this request, consistent with all relevant rules and regulations. Thank you for your consideration.

Sincerely,

A handwritten signature in cursive script that reads "Lois Capps". The signature is written in dark ink and is positioned above the printed name.

LOIS CAPPS
Member of Congress

GARIBALDI CHARTERS

PO Box 556, 503-322-0007
Garibaldi, Oregon 97118 503-965-2238
fishon@garibaldicharters.com

Mr. Donald K. Hanson
Pacific Fishery Management Council
7700 NE Ambassador Place
Portland, Oregon 97220-1384

Dear Mr. Hanson,

The Charter offices located at the Port of Garibaldi, in Garibaldi, Oregon would like to support an EFP proposal by John Holloway, a sport representative for Oregon on the Groundfish Advisory subPanel for the PFMC. The EFP being requested is for a mid-water fishery targeting yellowtail rockfish outside of the 40 fathom closure area. We believe that this mid-water fishery will not significantly impact protected yelloweye rockfish whose habitat is on, or near the bottom of their rocky reef habitat, and not in the mid-water areas of the ocean.

The charter boat captains are anxious to be part of this experiment. As you well know, the increasing regulations caused by ever decreasing yelloweye quota are becoming so restrictive that we fear the loss of our livelihoods, especially here in Garibaldi.. The latest round of closures in our area caused us to be forced inside of the 20 fathom line in July and reduced our rockfish bag limits to 5 fish.

Many of our customers have questioned the worth of continuing to fish with us if they have to pay \$85 for only 5 fish. Far worse, was the 20 fathom closure. Garibaldi does not have the amount of rocky reef areas that many other ports do. The 40 fathom closure took away half of our productive reefs. The 20 fathom closure took away more than half of what was left. ODFW was able to verify this with their maps, but were too concerned about exceeding the yelloweye by-catch quota to change anything until recently. It is now too late as many of our customers will not be back.

The proposed yellowtail EFP could save us if these types of closures are enacted again in the following years. We cannot overemphasize what this type of fishery could mean to us and our customers if the experiment works. We have all agreed to abide by every condition of the EFP and to spend our time and effort, free of charge, in order to help Mr. Holloway conduct this yellowtail experiment. We know yellowtail to be an abundant and high quality fish that we currently have little access to under the 40 fathom closure.

This is the first time that many of us can remember when a fishery for recreational fishermen could have the potential to be opened up instead of being closed down. We hope you will agree to let Mr. Holloway proceed with this EFP proposal.

Sincerely,

Joe Ockenfels
Siggi-G Charters

John & Linda Brown
Kerri Lin Charters

Mick & Linda Buell
Garibaldi Charters

GROUND FISH MANAGEMENT TEAM REPORT ON FINAL CONSIDERATION OF INSEASON ADJUSTMENTS

The Groundfish Management Team (GMT) heard from the Northwest Fisheries Science Center (NWFSC) on the status of the trawl survey. According to staff at the NWFSC, on Wednesday, September 10, the trawl survey took approximately 1.1 metric tons of canary rockfish, bringing the total survey amount to date to 1.6 metric tons. The GMT subsequently revised the scorecard to reflect a total research catch estimate of canary rockfish of 2.9 metric tons through the end of the year, which is 0.6 metric tons higher than the scorecard estimate provided under agenda item I.1. This revised estimate leaves a buffer in the scorecard of 1.1 metric tons of canary rockfish after accounting for the Council's inseason actions taken on Wednesday.

2008 Projected mortality impacts (mt) of overfished groundfish species from adopted inseason adjustments.

9/09/08

Fishery	Bocaccio b/	Canary	Cowcod	Dkbl	POP	Widow	Yelloweye
Limited Entry Trawl- Non-whiting	10.3	8.6	0.6	253.7	103.5	7.6	0.5
Limited Entry Trawl- Whiting							
At-sea whiting motherships a/		6.7		40.0	22.1	287.0	0.0
At-sea whiting cat-proc a/							0.0
Shoreside whiting a/					0.0		
Tribal whiting		1.3		0.0	0.6	6.1	0.0
Tribal							
Midwater Trawl		1.8		0.0	0.0	40.0	0.0
Bottom Trawl		0.8		0.0	3.7	0.0	0.0
Troll		0.5		0.0	0.0		0.0
Fixed gear		0.3		0.0	0.0	0.0	2.3
Limited Entry Fixed Gear		0.8					1.8
Sablefish	13.4		0.0	0.6	0.3	0.9	
Non-Sablefish			0.1	0.4		0.5	
Open Access: Directed Groundfish			0.1				
Sablefish DTL	0.0	0.2		0.2	0.1	0.0	0.3
Nearshore (North of 40°10' N. lat.)	0.0	2.5		0.0	0.0	0.5	2.2
Nearshore (South of 40°10' N. lat.)	0.1			0.0	0.0		
Other	10.6	1.0		0.0	0.0	0.0	0.1
Open Access: Incidental Groundfish							
CA Halibut	0.1	0.0		0.0	0.0		
CA Gillnet c/	0.5			0.0	0.0	0.0	
CA Sheephead c/				0.0	0.0	0.0	0.0
CPS- wetfish c/	0.3						
CPS- squid d/							
Dungeness crab c/	0.0		0.0	0.0	0.0		
HMS b/		0.0	0.0	0.0			
Pacific Halibut c/	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pink shrimp	0.1	0.1	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
Salmon troll	0.2	0.8	0.0	0.0	0.0	0.3	0.2
Sea Cucumber	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spot Prawn (trap)							
Recreational Groundfish e/							
WA		1.2					2.8
OR		4.3				1.4	3.3
CA	47.8	9.0	0.2			6.6	2.1
EFPs	7.7	0.1	0.2	0.6		2.7	0.1
Research: Includes NMFS trawl shelf-slope surveys, the IPHC halibut survey, and expected impacts from SRPs and LOAs. f/							
	2.0	2.9	0.2	2.0	2.0	1.1	3.0
TOTAL	93.2	42.9	1.4	297.6	132.6	354.8	18.9
2008 OY	218	44.0	4.0	330	150	368	20
Difference	124.8	1.1	2.7	32.5	17.4	13.2	1.1
Percent of OY	42.7%	97.5%	33.8%	90.2%	88.4%	96.4%	94.3%
Key		= either not applicable; trace amount (<0.01 mt); or not reported in available data					

a/ Non-tribal whiting numbers reflect bycatch limits for the non-tribal whiting sectors.

b/ South of 40°10' N. lat.

c/ Mortality estimates are not hard numbers; based on the GMT's best professional judgment.

d/ Bycatch amounts by species unavailable, but bocaccio occurred in 0.1% of all port samples and other rockfish in another 0.1% of all port samples (and squid fisheries usually land their whole catch).

e/ Values in scorecard represent projected impacts for WA and OR. However, harvest guidelines for 2008 are as follows: canary in WA and OR combined = 8.2 mt; yelloweye in WA and OR combined = 6.8 mt.

f/ Research projections updated November 2008.

Table 3 (North) to Part 660, Subpart G -- 2007-2008 Trip Limits for Limited Entry Trawl Gear North of 40°10' N. Lat.

Other Limits and Requirements Apply -- Read § 660.301 - § 660.399 before using this table

091108

		JAN-FEB	MAR-APR	MAY-JUN	JUL-AUG	SEP-OCT	NOV-DEC
Rockfish Conservation Area (RCA)^{6/}:							
1	North of 48°10.00' N. lat.	shore - modified 200 fm ^{7/}	shore - 200 fm	shore - 150 fm			shore - modified 200 fm ^{7/}
2	48°10.00' N. lat. - 46°38.17' N. lat.	75 fm - modified 200 fm ^{7/}	60 fm - 200 fm	60 fm - 150 fm			75 fm - modified 200 fm ^{7/}
3	46°38.17' N. lat. - 46°16.00' N. lat.		60 fm - 200 fm		60 fm - 150 fm		
4	46°16.00' N. lat. - 45°46.00' N. lat.		75 fm - 200 fm	75 fm - 150 fm		75 fm - 200 fm	
5	45°46.00' N. lat. - 43°20.83' N. lat.		75 fm - 200 fm				
6	43°20.83' N. lat. - 42°40.50' N. lat.	shore - modified 200 fm ^{7/}	shore - 200fm				shore - modified 200 fm ^{7/}
7	42°40.50' N. lat. -40°10.00' N. lat.	75 fm - modified 200 fm ^{7/}	75 fm - 200 fm	60 fm - 200 fm			75 fm - modified 200 fm ^{7/}
Selective flatfish trawl gear is required shoreward of the RCA; all trawl gear (large footrope, selective flatfish trawl, and small footrope trawl gear) is permitted seaward of the RCA. Large footrope trawl gear is prohibited shoreward of the RCA. Midwater trawl gear is permitted only for vessels participating in the primary whiting season.							
See § 660.370 and § 660.381 for Additional Gear, Trip Limit, and Conservation Area Requirements and Restrictions. See §§ 660.390-660.394 and §§ 660.396-660.399 for Conservation Area Descriptions and Coordinates (including RCAs, YRCA, CCAs, Farallon Islands, Cordell Banks, and EFHCAs).							
State trip limits and seasons may be more restrictive than federal trip limits, particularly in waters off Oregon and California.							
8	Minor slope rockfish ^{2/} & Darkblotched rockfish	1,500 lb/ 2 months					
9	Pacific ocean perch	1,500 lb/ 2 months					
10	DTS complex						
11	Sablefish						
12	large & small footrope gear	14,000 lb/ 2 months		19,000 lb/ 2 months	24,000 lb/ 2 months		19,000 lb/ 2 months
13	selective flatfish trawl gear	5,000 lb/ 2 months			7,000 lb/ 2months		
14	multiple bottom trawl gear ^{8/}	5,000 lb/ 2 months			7,000 lb/ 2months		
15	Longspine thornyhead						
16	large & small footrope gear	25,000 lb/ 2 months					
17	selective flatfish trawl gear	3,000 lb/ 2 months					
18	multiple bottom trawl gear ^{8/}	3,000 lb/ 2 months					
19	Shortspine thornyhead						
20	large & small footrope gear	12,000 lb/ 2 months	25,000 lb/ 2 months				
21	selective flatfish trawl gear	3,000 lb/ 2 months					
22	multiple bottom trawl gear ^{8/}	3,000 lb/ 2 months					
23	Dover sole						
24	large & small footrope gear	80,000 lb/ 2 months					90,000 lb/ 2 months
25	selective flatfish trawl gear	40,000 lb/ 2 months	50,000 lb/ 2 months	40,000 lb/ 2 months	50,000 lb/ 2 months		
26	multiple bottom trawl gear ^{8/}	40,000 lb/ 2 months	50,000 lb/ 2 months	40,000 lb/ 2 months	50,000 lb/ 2 months		

TABLE 3 (North)

TABLE 3 (North)

Table 3 (North). Continued

27	Whiting						
28	midwater trawl	Before the primary whiting season: CLOSED. -- During the primary season: mid-water trawl permitted in the RCA. See §660.373 for season and trip limit details. -- After the primary whiting season: CLOSED.					
29	large & small footrope gear	Before the primary whiting season: 20,000 lb/trip. -- During the primary season: 10,000 lb/trip. -- After the primary whiting season: 10,000 lb/trip.					
30	Flatfish (except Dover sole)						
31	Arrowtooth flounder						
32	large & small footrope gear	150,000 lb/ 2 months					
33	selective flatfish trawl gear	10,000 lb/ 2 months					
34	multiple bottom trawl gear ^{8/}	10,000 lb/ 2 months					
35	Other flatfish ^{3/} , English sole, starry flounder, & Petrale sole						
36	large & small footrope gear for Other flatfish ^{3/} , English sole, & starry flounder	110,000 lb/ 2 months	110,000 lb/ 2 months, no more than 30,000 lb/ 2 months of which may be petrale sole.	110,000 lb/ 2 months, no more than 20,000 lb/ 2 months of which may be petrale sole.			110,000 lb/ 2 months
37	large & small footrope gear for Petrale sole	40,000 lb/ 2 months					45,000 lb/ 2 months
38	selective flatfish trawl gear for Other flatfish ^{3/} , English sole, & starry flounder	70,000 lb/ 2 months, no more than 10,000 lb/ 2 months of which may be petrale sole.	70,000 lb/ 2 months, no more than 18,000 lb/ 2 months of which may be petrale sole.	50,000 lb/ 2 months, no more than 18,000 lb/ 2 months of which may be petrale sole.	80,000 lb/ 2 months, no more than 18,000 lb/ 2 months of which may be petrale sole.	80,000 lb/ 2 months, no more than 16,000 lb/ 2 months of which may be petrale sole.	80,000 lb/ 2 months, no more than 10,000 lb/ 2 months of which may be petrale sole.
39	selective flatfish trawl gear for Petrale sole						
40	multiple bottom trawl gear ^{8/}	70,000 lb/ 2 months, no more than 10,000 lb/ 2 months of which may be petrale sole.	70,000 lb/ 2 months, no more than 18,000 lb/ 2 months of which may be petrale sole.	50,000 lb/ 2 months, no more than 18,000 lb/ 2 months of which may be petrale sole.	80,000 lb/ 2 months, no more than 18,000 lb/ 2 months of which may be petrale sole.	80,000 lb/ 2 months, no more than 16,000 lb/ 2 months of which may be petrale sole.	80,000 lb/ 2 months, no more than 10,000 lb/ 2 months of which may be petrale sole.
41	Minor shelf rockfish^{1/}, Shortbelly, Widow & Yelloweye rockfish						
42	midwater trawl for Widow rockfish	Before the primary whiting season: CLOSED. -- During primary whiting season: In trips of at least 10,000 lb of whiting, combined widow and yellowtail limit of 500 lb/ trip, cumulative widow limit of 1,500 lb/ month. Mid water trawl permitted in the RCA. See §660.373 for primary whiting season and trip limit details. -- After the primary whiting season: CLOSED.					
43	large & small footrope gear	300 lb/ 2 months					
44	selective flatfish trawl gear	300 lb/ month	1,000 lb/ month, no more than 200 lb/ month of which may be yelloweye rockfish				300 lb/ month
45	multiple bottom trawl gear ^{8/}	300 lb/ month	300 lb/ 2 months, no more than 200 lb/ month of which may be yelloweye rockfish				300 lb/ month

TABLE 3 (North) cont

Table 3 (North). Continued

46	Canary rockfish			
47	large & small footrope gear	CLOSED		
48	selective flatfish trawl gear	100 lb/ month	300 lb/ month	100 lb/ month
49	multiple bottom trawl gear ^{8/}	CLOSED		
50	Yellowtail			
	midwater trawl	Before the primary whiting season: CLOSED. -- During primary whiting season: In trips of at least 10,000 lb of whiting: combined widow and yellowtail limit of 500 lb/ trip, cumulative yellowtail limit of 2,000 lb/ month. Mid-water trawl permitted in the RCA. See §660.373 for primary whiting season and trip limit details. -- After the primary whiting season: CLOSED.		
51				
52	large & small footrope gear	300 lb/ 2 months		
53	selective flatfish trawl gear	2,000 lb/ 2 months		
54	multiple bottom trawl gear ^{8/}	300 lb/ 2 months		
	Minor nearshore rockfish & Black rockfish			
55				
56	large & small footrope gear	CLOSED		
57	selective flatfish trawl gear	300 lb/ month		
58	multiple bottom trawl gear ^{8/}	CLOSED		
59	Lingcod^{4/}			
60	large & small footrope gear	1,200 lb/ 2 months	4,000 lb/ 2 months	
61	selective flatfish trawl gear		1,200 lb/ 2 months	
62	multiple bottom trawl gear ^{8/}			
63	Pacific cod	30,000 lb/ 2 months	70,000 lb/ 2 months	30,000 lb/ 2 months
64	Spiny dogfish	200,000 lb/ 2 months	150,000 lb/ 2 months	100,000 lb/ 2 months
65	Other Fish^{5/}	Not limited		

TABLE 3 (North) cont

1/ Bocaccio, chilipepper and cowcod are included in the trip limits for minor shelf rockfish.

2/ Splitnose rockfish is included in the trip limits for minor slope rockfish.

3/ "Other flatfish" are defined at § 660.302 and include butter sole, curlfin sole, flathead sole, Pacific sanddab, rex sole, rock sole, and sand sole.

4/ The minimum size limit for lingcod is 24 inches (61 cm) total length.

5/ "Other fish" are defined at § 660.302 and include sharks, skates, ratfish, morids, grenadiers, and kelp greenling.

Cabezon is included in the trip limits for "other fish."

6/ The Rockfish Conservation Area is a gear and/or sector specific closed area generally described by depth contours but specifically defined by lat/long coordinates set out at §§ 660.391-660.394.

7/ The "modified 200 fm" line is modified to exclude certain petrale sole areas from the RCA.

8/ If a vessel has both selective flatfish gear and large or small footrope gear on board during a cumulative limit period (either simultaneously or successively), the most restrictive cumulative limit for any gear on board during the cumulative limit period applies for the entire cumulative limit period.

To convert pounds to kilograms, divide by 2.20462, the number of pounds in one kilogram.

Table 3 (South) to Part 660, Subpart G -- 2007-2008 Trip Limits for Limited Entry Trawl Gear South of 40°10' N. Lat.

Other Limits and Requirements Apply -- Read § 660.301 - § 660.399 before using this table

091108

05/1/00

	JAN-FEB	MAR-APR	MAY-JUN	JUL-AUG	SEP-OCT	NOV-DEC
Rockfish Conservation Area (RCA)^{6/}:						
¹ South of 40°10' N. lat.	100 fm - 150 fm ^{7/}					
All trawl gear (large footrope, selective flatfish trawl, and small footrope trawl gear) is permitted seaward of the RCA. Large footrope trawl gear is prohibited shoreward of the RCA. Midwater trawl gear is permitted only for vessels participating in the primary whiting season.						
See §§ 660.370 and § 660.381 for Additional Gear, Trip Limit, and Conservation Area Requirements and Restrictions. See §§ 660.390-660.394 and §§ 660.396-660.399 for Conservation Area Descriptions and Coordinates (including RCAs, YRCA, CCAs, Farallon Islands, Cordell Banks, and EFHCAs).						
State trip limits and seasons may be more restrictive than federal trip limits, particularly in waters off Oregon and California.						
Minor slope rockfish^{2/} & Darkblotched rockfish						
³ 40°10' - 38° N. lat.	15,000 lb/ 2 months					
⁴ South of 38° N. lat.	55,000 lb/ 2 months					
Splitnose						
⁶ 40°10' - 38° N. lat.	15,000 lb/ 2 months		10,000 lb/ 2 months		15,000 lb/ 2 months	
⁷ South of 38° N. lat.	40,000 lb/ 2 months					
DTS complex						
⁹ Sablefish	14,000 lb/ 2 months		19,000 lb/ 2 months	24,000 lb/ 2 months		19,000 lb/ 2 months
¹⁰ Longspine thornyhead	25,000 lb/ 2 months					
¹¹ Shortspine thornyhead	12,000 lb/ 2 months		25,000 lb/ 2 months			
¹² Dover sole	80,000 lb/ 2 months					90,000 lb/ 2 months
Flatfish (except Dover sole)						
¹⁴ Other flatfish ^{3/} , English sole, & starry flounder	110,000 lb/ 2 months	110,000 lb/ 2 months, no more than 30,000 lb/ 2 months of which may be petrale sole.				110,000 lb/ 2 months
¹⁵ Petrale sole	50,000 lb/ 2 months					65,000 lb/ 2 months
¹⁶ Arrowtooth flounder	10,000 lb/ 2 months					
Whiting						
¹⁸ midwater trawl	Before the primary whiting season: CLOSED. -- During the primary season: mid-water trawl permitted in the RCA. See §660.373 for season and trip limit details. -- After the primary whiting season: CLOSED.					
¹⁹ large & small footrope gear	Before the primary whiting season: 20,000 lb/trip. -- During the primary season: 10,000 lb/trip. -- After the primary whiting season: 10,000 lb/trip.					

TABLE 3 (South)

TABLE 3 (South)

Table 3 (South). Continued

20	Minor shelf rockfish^{1/}, Chilipepper, Shortbelly, Widow, & Yelloweye rockfish			
21	large footrope or midwater trawl for Minor shelf rockfish & Shortbelly	300 lb/ month		
22	large footrope or midwater trawl for Chilipepper	2,000 lb/ 2 months	12,000 lb/ 2 months	8,000 lb/ 2 months
23	large footrope or midwater trawl for Widow & Yelloweye	CLOSED		
24	small footrope trawl for Minor Shelf, Shortbelly, Widow & Yelloweye	300 lb/ month		
25	small footrope trawl for Chilipepper	2,000 lb/ 2 months		5,000 lb/ 2 months
26	Bocaccio			
27	large footrope or midwater trawl	300 lb/ 2 months		
28	small footrope trawl	CLOSED		
29	Canary rockfish			
30	large footrope or midwater trawl	CLOSED		
31	small footrope trawl	100 lb/ month	300 lb/ month	100 lb/ month
32	Cowcod	CLOSED		
33	Minor nearshore rockfish & Black rockfish			
34	large footrope or midwater trawl	CLOSED		
35	small footrope trawl	300 lb/ month		
36	Lingcod^{4/}			
37	large footrope or midwater trawl	1,200 lb/ 2 months	4,000 lb/ 2 months	
38	small footrope trawl		1,200 lb/ 2 months	
39	Pacific cod	30,000 lb/ 2 months	70,000 lb/ 2 months	30,000 lb/ 2 months
40	Spiny dogfish	200,000 lb/ 2 months	150,000 lb/ 2 months	100,000 lb/ 2 months
41	Other Fish^{5/} & Cabezon	Not limited		

TABLE 3 (South) cont

1/ Yellowtail is included in the trip limits for minor shelf rockfish.

2/ POP is included in the trip limits for minor slope rockfish

3/ "Other flatfish" are defined at § 660.302 and include butter sole, curlfin sole, flathead sole, Pacific sanddab, rex sole, rock sole, and sand sole.

4/ The minimum size limit for lingcod is 24 inches (61 cm) total length.

5/ Other fish are defined at § 660.302 and include sharks, skates, ratfish, morids, grenadiers, and kelp greenling.

6/ The Rockfish Conservation Area is a gear and/or sector specific closed area generally described by depth contours but specifically defined by lat/long coordinates set out at §§ 660.391-660.394.

7/ South of 34°27' N. lat., the RCA is 100 fm - 150 fm along the mainland coast; shoreline - 150 fm around islands

To convert pounds to kilograms, divide by 2.20462, the number of pounds in one kilogram.

Table 4 (North) to Part 660, Subpart G -- 2007-2008 Trip Limits for Limited Entry Fixed Gear North of 40°10' N. Lat.

Other Limits and Requirements Apply -- Read § 660.301 - § 660.399 before using this table

091108

	JAN-FEB	MAR-APR	MAY-JUN	JUL-AUG	SEP-OCT	NOV-DEC	
Rockfish Conservation Area (RCA)^{6/}:							
1	North of 46°16' N. lat.		shoreline - 100 fm				
2	46°16' N. lat. - 40°10' N. lat.		30 fm - 100 fm				
See § 660.370 and § 660.382 for Additional Gear, Trip Limit, and Conservation Area Requirements and Restrictions. See §§ 660.390-660.394 and §§ 660.396-660.399 for Conservation Area Descriptions and Coordinates (including RCAs, YRCA, CCAs, Farallon Islands, Cordell Banks, and EFHCAs).							
State trip limits and seasons may be more restrictive than federal trip limits, particularly in waters off Oregon and California.							
3	Minor slope rockfish ^{2/} & Darkblotched rockfish		4,000 lb/ 2 months				
4	Pacific ocean perch		1,800 lb/ 2 months				
5	Sablefish		300 lb/ day, or 1 landing per week of up to 1,000 lb, not to exceed 5,000 lb/ 2 months	500 lb/ day, or 1 landing per week of up to 1,000 lb, not to exceed 5,000 lb/ 2 months		500 lb/ day, or 1 landing per week of up to 1,500 lb, not to exceed 6,500 lb/ 2 months	
6	Longspine thornyhead		10,000 lb/ 2 months				
7	Shortspine thornyhead		2,000 lb/ 2 months				
8	Dover sole		5,000 lb/ month South of 42° N. lat., when fishing for "other flatfish," vessels using hook-and-line gear with no more than 12 hooks per line, using hooks no larger than "Number 2" hooks, which measure 11 mm (0.44 inches) point to shank, and up to two 1 lb (0.45 kg) weights per line are not subject to the RCAs.				
9	Arrowtooth flounder						
10	Petrale sole						
11	English sole						
12	Starry flounder						
13	Other flatfish ^{1/}						
14	Whiting		10,000 lb/ trip				
15	Minor shelf rockfish ^{2/} , Shortbelly, Widow, & Yellowtail rockfish		200 lb/ month				
16	Canary rockfish		CLOSED				
17	Yelloweye rockfish		CLOSED				
18	Minor nearshore rockfish & Black rockfish						
19	North of 42° N. lat.		5,000 lb/ 2 months, no more than 1,200 lb of which may be species other than black or blue rockfish ^{3/}				
20	42° - 40°10' N. lat.		6,000 lb/ 2 months, no more than 1,200 lb of which may be species other than black or blue rockfish ^{3/}				
21	Lingcod ^{4/}		CLOSED	800 lb/ 2 months		400 lb/ month	CLOSED
22	Pacific cod		1,000 lb/ 2 months				
23	Spiny dogfish		200,000 lb/ 2 months	150,000 lb/ 2 months	100,000 lb/ 2 months		
24	Other fish ^{5/}		Not limited				

TABLE 4 (North)

1/ "Other flatfish" are defined at § 660.302 and include butter sole, curlfin sole, flathead sole, Pacific sanddab, rex sole, rock sole, and sand sole.

2/ Bocaccio, chilipepper and cowcod are included in the trip limits for minor shelf rockfish and splitnose rockfish is included in the trip limits for minor slope rockfish.

3/ For black rockfish north of Cape Alava (48°09.50' N. lat.), and between Destruction Is. (47°40' N. lat.) and Leadbetter Pnt. (46°38.17' N. lat.), there is an additional limit of 100 lb or 30 percent by weight of all fish on board, whichever is greater, per vessel, per fishing trip.

4/ The minimum size limit for lingcod is 22 inches (56 cm) total length North of 42° N. lat. and 24 inches (61 cm) total length south of 42° N. lat.

5/ "Other fish" are defined at § 660.302 and include sharks, skates, ratfish, morids, grenadiers, and kelp greenling.

Cabezon is included in the trip limits for "other fish."

6/ The Rockfish Conservation Area is a gear and/or sector specific closed area generally described by depth contours but specifically defined by lat/long coordinates set out at §§ 660.391-660.394.

To convert pounds to kilograms, divide by 2.20462, the number of pounds in one kilogram.

Table 4 (South) to Part 660, Subpart G -- 2007-2008 Trip Limits for Limited Entry Fixed Gear South of 40°10' N. Lat.

Other Limits and Requirements Apply -- Read § 660.301 - § 660.399 before using this table

091108

	JAN-FEB	MAR-APR	MAY-JUN	JUL-AUG	SEP-OCT	NOV-DEC
Rockfish Conservation Area (RCA)^{5/}:						
1	40°10' - 34°27' N. lat. 30 fm - 150 fm					
2	South of 34°27' N. lat. 60 fm - 150 fm (also applies around islands)					
See § 660.370 and § 660.382 for Additional Gear, Trip Limit, and Conservation Area Requirements and Restrictions. See §§ 660.390-660.394 and §§ 660.396-660.399 for Conservation Area Descriptions and Coordinates (including RCAs, YRCA, CCAs, Farallon Islands, Cordell Banks, and EFHCAs).						
State trip limits and seasons may be more restrictive than federal trip limits, particularly in waters off Oregon and California.						
3	Minor slope rockfish ^{2/} & Darkblotched rockfish 40,000 lb/ 2 months					
4	Splitnose 40,000 lb/ 2 months					
5	Sablefish					
6	40°10' - 36° N. lat.	300 lb/ day, or 1 landing per week of up to 1,000 lb, not to exceed 5,000 lb/ 2 months		500 lb/ day, or 1 landing per week of up to 1,000 lb, not to exceed 5,000 lb/ 2 months		500 lb/ day, or 1 landing per week of up to 1,500 lb, not to exceed 6,500 lb/ 2 months
7	South of 36° N. lat. 350 lb/ day, or 1 landing per week of up to 1,050 lb					
8	Longspine thornyhead 10,000 lb / 2 months					
9	Shortspine thornyhead					
10	40°10' - 34°27' N. lat. 2,000 lb/ 2 months					
11	South of 34°27' N. lat. 3,000 lb/ 2 months					
12	Dover sole					
13	Arrowtooth flounder					
14	Petrable sole					
15	English sole					
16	Starry flounder					
17	Other flatfish ^{1/}					
18	Whiting 10,000 lb/ trip					
19 Minor shelf rockfish ^{2/} , Shortbelly, Widow rockfish, and Bocaccio (including Chilipepper between 40°10' - 34°27' N. lat.)						
20	40°10' - 34°27' N. lat. Minor shelf rockfish, shortbelly, widow rockfish, bocaccio & chilipepper: 2,500 lb/ 2 months, of which no more than 500 lb/ 2 months may be any species other than chilipepper.					
21	South of 34°27' N. lat.	3,000 lb/ 2 months	CLOSED	3,000 lb/ 2 months		
22 Chilipepper rockfish						
23	40°10' - 34°27' N. lat. Chilipepper included under minor shelf rockfish, shortbelly, widow and bocaccio limits - - See above					
24 South of 34°27' N. lat. 2,000 lb/ 2 months, this opportunity only available seaward of the nontrawl RCA						
25 Canary rockfish CLOSED						
26 Yelloweye rockfish CLOSED						
27 Cowcod CLOSED						
28 Bocaccio						
29 40°10' - 34°27' N. lat. Bocaccio included under Minor shelf rockfish, shortbelly, widow & chilipepper limits -- See above						
30	South of 34°27' N. lat.	300 lb/ 2 months	CLOSED	300 lb/ 2 months		

TABLE 4 (South)

TABLE 4 (South)

Table 4 (South). Continued

31	Minor nearshore rockfish & Black rockfish							
32	Shallow nearshore	600 lb/ 2 months	CLOSED	800 lb/ 2 months	900 lb/ 2 months	800 lb/ 2 months	600 lb/ 2 months	
33	Deeper nearshore							
34	40°10' - 34°27' N. lat.	700 lb/ 2 months	CLOSED	700 lb/ 2 months		600 lb/ 2 months	700 lb/ 2 months	
35	South of 34°27' N. lat.	500 lb/ 2 months		600 lb/ 2 months				
36	California scorpionfish	600 lb/ 2 months	CLOSED	600 lb/ 2 months	800 lb/ 2 months		600 lb/ 2 months	
37	Lingcod ^{3/}	CLOSED		800 lb/ 2 months			400 lb/ month	CLOSED
38	Pacific cod	1,000 lb/ 2 months						
39	Spiny dogfish	200,000 lb/ 2 months		150,000 lb/ 2 months	100,000 lb/ 2 months			
40	Other fish ^{4/} & Cabezon	Not limited						

TABLE 4 (South)

1/ "Other flatfish" are defined at § 660.302 and include butter sole, curlfin sole, flathead sole, Pacific sanddab, rex sole, rock sole, and sand sole.

2/ POP is included in the trip limits for minor slope rockfish. Yellowtail is included in the trip limits for minor shelf rockfish.

3/ The minimum size limit for lingcod is 24 inches (61 cm) total length.

4/ "Other fish" are defined at § 660.302 and include sharks, skates, ratfish, morids, grenadiers, and kelp greenling.

5/ The Rockfish Conservation Area is a gear and/or sector specific closed area generally described by depth contours but specifically defined by lat/long coordinates set out at §§ 660.391-660.394, except that the 20-fm depth contour off California is defined by the depth contour and not coordinates.

To convert pounds to kilograms, divide by 2.20462, the number of pounds in one kilogram.

Table 5 (North) to Part 660, Subpart G -- 2007-2008 Trip Limits for Open Access Gears North of 40°10' N. Lat.

Other Limits and Requirements Apply -- Read § 660.301 - § 660.399 before using this table

031708

	JAN-FEB	MAR-APR	MAY-JUN	JUL-AUG	SEP-OCT	NOV-DEC	
Rockfish Conservation Area (RCA)^{6/}:							
1	North of 46°16' N. lat.		shoreline - 100 fm				
2	46°16' N. lat. - 40°10' N. lat.		30 fm - 100 fm				
See § 660.370 and § 660.383 for Additional Gear, Trip Limit, and Conservation Area Requirements and Restrictions. See §§ 660.390-660.394 and §§ 660.396-660.399 for Conservation Area Descriptions and Coordinates (including RCAs, YRCA, CCAs, Farallon Islands, Cordell Banks, and EFHCAs).							
State trip limits and seasons may be more restrictive than federal trip limits, particularly in waters off Oregon and California.							
3	Minor slope rockfish^{1/} & Darkblotched rockfish		Per trip, no more than 25% of weight of the sablefish landed				
4	Pacific ocean perch		100 lb/ month				
5	Sablefish		300 lb/ day, or 1 landing per week of up to 800 lb, not to exceed 2,400 lb/ 2 months	300 lb/ day, or 1 landing per week of up to 800 lb, not to exceed 2,200 lb/ 2 months			
6	Thornyheads		CLOSED				
7	Dover sole		3,000 lb/month, no more than 300 lb of which may be species other than Pacific sanddabs. South of 42° N. lat., when fishing for "other flatfish," vessels using hook-and-line gear with no more than 12 hooks per line, using hooks no larger than "Number 2" hooks, which measure 11 mm (0.44 inches) point to shank, and up to two 1 lb (0.45 kg) weights per line are not subject to the RCAs.				
8	Arrowtooth flounder						
9	Petrale sole						
10	English sole						
11	Starry flounder						
12	Other flatfish^{2/}						
13	Whiting		300 lb/ month				
14	Minor shelf rockfish^{1/}, Shortbelly, Widow, & Yellowtail rockfish		200 lb/ month				
15	Canary rockfish		CLOSED				
16	Yelloweye rockfish		CLOSED				
17	Minor nearshore rockfish & Black rockfish						
18	North of 42° N. lat.		5,000 lb/ 2 months, no more than 1,200 lb of which may be species other than black or blue rockfish ^{3/}				
19	42° - 40°10' N. lat.		6,000 lb/ 2 months, no more than 1,200 lb of which may be species other than black or blue rockfish ^{3/}				
20	Lingcod^{4/}		CLOSED	400 lb/ month			CLOSED
21	Pacific cod		1,000 lb/ 2 months				
22	Spiny dogfish		200,000 lb/ 2 months	150,000 lb/ 2 months	100,000 lb/ 2 months		
23	Other Fish^{5/}		Not limited				

TABLE 5 (North)

Table 5 (North). Continued

24	PINK SHRIMP NON-GROUNDFISH TRAWL (not subject to RCAs)		TABLE 5 (North) con't
25	North	Effective April 1 - October 31: Groundfish: 500 lb/day, multiplied by the number of days of the trip, not to exceed 1,500 lb/trip. The following sublimits also apply and are counted toward the overall 500 lb/day and 1,500 lb/trip groundfish limits: lingcod 300 lb/month (minimum 24 inch size limit); sablefish 2,000 lb/month; canary, thornyheads and yelloweye rockfish are PROHIBITED. All other groundfish species taken are managed under the overall 500 lb/day and 1,500 lb/trip groundfish limits. Landings of these species count toward the per day and per trip groundfish limits and do not have species-specific limits. The amount of groundfish landed may not exceed the amount of pink shrimp landed.	
26	SALMON TROLL		
27	North	Salmon trollers may retain and land up to 1 lb of yellowtail rockfish for every 2 lbs of salmon landed, with a cumulative limit of 200 lb/month, both within and outside of the RCA. This limit is within the 200 lb per month combined limit for minor shelf rockfish, widow rockfish and yellowtail rockfish, and not in addition to that limit. All groundfish species are subject to the open access limits, seasons and RCA restrictions listed in the table above.	

1/ Bocaccio, chilipepper and cowcod rockfishes are included in the trip limits for minor shelf rockfish.

Splitnose rockfish is included in the trip limits for minor slope rockfish.

2/ "Other flatfish" are defined at § 660.302 and include butter sole, curlfin sole, flathead sole, Pacific sanddab, rex sole, rock sole, and sand sole.

3/ For black rockfish north of Cape Alava (48°09.50' N. lat.), and between Destruction Is. (47°40' N. lat.) and Leadbetter Pnt. (46°38.17' N. lat.), there is an additional limit of 100 lbs or 30 percent by weight of all fish on board, whichever is greater, per vessel, per fishing trip.

4/ The minimum size limit for lingcod is 22 inches (56 cm) total length North of 42° N. lat. and 24 inches (61 cm) total length south of 42° N. lat.

5/ "Other fish" are defined at § 660.302 and include sharks, skates, ratfish, morids, grenadiers, and kelp greenling.

Cabezon is included in the trip limits for "other fish."

6/ The Rockfish Conservation Area is a gear and/or sector specific closed area generally described by depth contours but specifically defined by lat/long coordinates set out at §§ 660.391-660.394.

To convert pounds to kilograms, divide by 2.20462, the number of pounds in one kilogram.

Table 5 (South) to Part 660, Subpart G -- 2007-2008 Trip Limits for Open Access Gears South of 40°10' N. Lat.

Other Limits and Requirements Apply -- Read § 660.301 - § 660.399 before using this table

070108

	JAN-FEB	MAR-APR	MAY-JUN	JUL-AUG	SEP-OCT	NOV-DEC
Rockfish Conservation Area (RCA)^{5/}:						
1	40°10' - 34°27' N. lat.	30 fm - 150 fm				
2	South of 34°27' N. lat.	60 fm - 150 fm (also applies around islands)				
See § 660.370 and § 660.383 for Additional Gear, Trip Limit, and Conservation Area Requirements and Restrictions. See §§ 660.390-660.394 and §§ 660.396-660.399 for Conservation Area Descriptions and Coordinates (including RCAs, YRCA, CCAs, Farallon Islands, Cordell Banks, and EFHCAs).						
State trip limits and seasons may be more restrictive than federal trip limits, particularly in waters off Oregon and California.						
3	Minor slope rockfish^{1/} & Darkblotched rockfish					
4	40°10' - 38° N. lat.	Per trip, no more than 25% of weight of the sablefish landed				
5	South of 38° N. lat.	10,000 lb/ 2 months				
6	Splitnose	200 lb/ month				
7	Sablefish					
8	40°10' - 36° N. lat.	300 lb/ day, or 1 landing per week of up to 800 lb, not to exceed 2,400 lb/ 2 months	300 lb/ day, or 1 landing per week of up to 800 lb, not to exceed 2,200 lb/ 2 months			
9	South of 36° N. lat.	300 lb/ day, or 1 landing per week of up to 700 lb		300 lb/ day, or 1 landing per week of up to 700 lb, not to exceed 1,000 lb/ 1 month	300 lb/ day, or 1 landing per week of up to 700 lb, not to exceed 2,100 lb/ 2 months	
10	Thornyheads					
11	40°10' - 34°27' N. lat.	CLOSED				
12	South of 34°27' N. lat.	50 lb/ day, no more than 1,000 lb/ 2 months				
13	Dover sole	3,000 lb/month, no more than 300 lb of which may be species other than Pacific sanddabs. South of 42° N. lat., when fishing for "other flatfish," vessels using hook-and-line gear with no more than 12 hooks per line, using hooks no larger than "Number 2" hooks, which measure 11 mm (0.44 inches) point to shank, and up to two 1 lb (0.45 kg) weights per line are not subject to the RCAs.				
14	Arrowtooth flounder					
15	Petrale sole					
16	English sole					
17	Starry flounder					
18	Other flatfish^{2/}					
19	Whiting	300 lb/ month				
20	Minor shelf rockfish^{1/}, Shortbelly, Widow & Chilipepper rockfish					
21	40°10' - 34°27' N. lat.	300 lb/ 2 months	CLOSED	200 lb/ 2 months	300 lb/ 2 months	
22	South of 34°27' N. lat.	750 lb/ 2 months		750 lb/ 2 months		1,000 lb/ 2 months
23	Canary rockfish	CLOSED				
24	Yelloweye rockfish	CLOSED				
25	Cowcod	CLOSED				
26	Bocaccio					
27	40°10' - 34°27' N. lat.	200 lb/ 2 months	CLOSED	100 lb/ 2 months	200 lb/ 2 months	
28	South of 34°27' N. lat.	100 lb/ 2 months		100 lb/ 2 months		

TABLE 5 (South)

Table 5 (South). Continued

29	Minor nearshore rockfish & Black rockfish						
30	Shallow nearshore	600 lb/ 2 months	CLOSED	800 lb/ 2 months	900 lb/ 2 months	800 lb/ 2 months	600 lb/ 2 months
31	Deeper nearshore						
32	40°10' - 34°27' N. lat.	700 lb/ 2 months	CLOSED	700 lb/ 2 months		600 lb/ 2 months	700 lb/ 2 months
33	South of 34°27' N. lat.	500 lb/ 2 months		600 lb/ 2 months			
34	California scorpionfish	600 lb/ 2 months	CLOSED	600 lb/ 2 months	800 lb/ 2 months		600 lb/ 2 months
35	Lingcod ^{3/}	CLOSED		400 lb/ month			CLOSED
36	Pacific cod	1,000 lb/ 2 months					
37	Spiny dogfish	200,000 lb/ 2 months		150,000 lb/ 2 months	100,000 lb/ 2 months		
38	Other Fish ^{4/} & Cabezon	Not limited					
39	RIDGEBACK PRAWN AND, SOUTH OF 38°57.50' N. LAT., CA HALIBUT AND SEA CUCUMBER NON-GROUNDFISH TRAWL						
40	NON-GROUNDFISH TRAWL Rockfish Conservation Area (RCA) for CA Halibut, Sea Cucumber & Ridgeback Prawn:						
41	40°10' - 38° N. lat.	100 fm - modified 200 fm ^{6/}	100 fm - 150 fm			100 fm - modified 200 fm ^{6/}	
42	38° - 34°27' N. lat.	100 fm - 150 fm					
43	South of 34°27' N. lat.	100 fm - 150 fm along the mainland coast; shoreline - 150 fm around islands					
44		Groundfish: 300 lb/trip. Trip limits in this table also apply and are counted toward the 300 lb groundfish per trip limit. The amount of groundfish landed may not exceed the amount of the target species landed, except that the amount of spiny dogfish landed may exceed the amount of target species landed. Spiny dogfish are limited by the 300 lb/trip overall groundfish limit. The daily trip limits for sablefish coastwide and thornyheads south of Pt. Conception and the overall groundfish "per trip" limit may not be multiplied by the number of days of the trip. Vessels participating in the California halibut fishery south of 38°57.50' N. lat. are allowed to (1) land up to 100 lb/day of groundfish without the ratio requirement, provided that at least one California halibut is landed and (2) land up to 3,000 lb/month of flatfish, no more than 300 lb of which may be species other than Pacific sanddabs, sand sole, starry flounder, rock sole, curlfin sole, or California scorpionfish (California scorpionfish is also subject to the trip limits and closures in line 31).					
45	PINK SHRIMP NON-GROUNDFISH TRAWL GEAR (not subject to RCAs)						
46	South	Effective April 1 - October 31: Groundfish: 500 lb/day, multiplied by the number of days of the trip, not to exceed 1,500 lb/trip. The following sublimits also apply and are counted toward the overall 500 lb/day and 1,500 lb/trip groundfish limits: lingcod 300 lb/ month (minimum 24 inch size limit); sablefish 2,000 lb/ month; canary, thornyheads and yelloweye rockfish are PROHIBITED. All other groundfish species taken are managed under the overall 500 lb/day and 1,500 lb/trip groundfish limits. Landings of these species count toward the per day and per trip groundfish limits and do not have species-specific limits. The amount of groundfish landed may not exceed the amount of pink shrimp landed.					

TABLE 5 (South) cont'

TABLE 5 (South) cont

1/ Yellowtail rockfish is included in the trip limits for minor shelf rockfish and POP is included in the trip limits for minor slope rockfish.

2/ "Other flatfish" are defined at § 660.302 and include butter sole, curlfin sole, flathead sole, Pacific sanddab, rex sole, rock sole, and sand sole.

3/ The size limit for lingcod is 24 inches (61 cm) total length.

4/ "Other fish" are defined at § 660.302 and include sharks, skates, ratfish, morids, grenadiers, and kelp greenling.

5/ The Rockfish Conservation Area is a gear and/or sector specific closed area generally described by depth contours but specifically defined by lat/long coordinates set out at §§ 660.391-660.394, except that the 20-fm depth contour off California is defined by the depth contour and not coordinates.

6/ The "modified 200 fm" line is modified to exclude certain petrale sole areas from the RCA.

To convert pounds to kilograms, divide by 2.20462, the number of pounds in one kilogram.