

NATIONAL MARINE FISHERIES SERVICE 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 D.1.a, Attachment 1: List of Groundfish and Halibut Federal Register Notices Published from August 30, 2006 through October 25, 2006.

Agenda Order:

- a. Activity Reports:
 1. Northwest Region
 2. Northwest Science Center
- b. Reports and Comments of Advisory Bodies
- c. Public Comment
- d. Council Discussion

Frank Lockhart
Elizabeth Clarke

PFMC
10/25/06

FEDERAL REGISTER NOTICES

**Groundfish and Halibut Notices
August 30, 2006 through October 25, 2006**

Documents available at NMFS Sustainable Fisheries Groundfish Web Site

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

71 FR 52051. Notice of Availability for Amendment 16-4 to the Pacific Coast Groundfish Fishery Management Plan. NMFS announces that PFMC has submitted Amendment 16-4 for Secretarial review – 9/1/06

71 FR 55462. Environmental Impact Statements and Regulations; Availability of EPA Comments. EIS No. 20060309, ERP No. D-NOA-L91027-00, Pacific Coast Groundfish Fishery Management Plan, 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 - 9/22/06

71 FR 57764. Pacific Coast Groundfish Fishery; Biennial Specifications and Management Measures; Amendment 16-4; Pacific Coast Salmon Groundfish Fishery. NMFS proposes a rule to implement Amendment 16-4 to the Pacific Coast Groundfish Fishery Management Plan and to set the 2007-2008 harvest specifications and management measures for groundfish - 9/29/06

71 FR 57889. Pacific Coast Groundfish Fishery; Specifications and Management Measures; Correction. On August 22, 2006, a temporary rule extension was published in the Federal Register to extend the 2006 optimum yield for darkblotched rockfish caught in the U.S. EEZ. This correction changes the "ACTION" and "DATES" section of the rule - 10/2/06

71 FR 58289 Pacific Coast Groundfish Fishery; Specifications and Management Measures; Inseason Adjustments. NMFS announces changes to management measures in the commercial and recreational Pacific Coast groundfish fisheries - 10/3/06

71 FR 59405. Pacific Coast Groundfish Fishery; End of the Pacific Whiting Primary Season for the Mothership Sector. NMFS announces the end of the 2006 Pacific Whiting Primary Season for the mothership sector on September 29, 2006 at 9:00 p.m. - 10/10/06

71 FR 61967. EPA; Environmental Impact Statements; Notice of Availability. EIS No. 20060433, Final EIS, NOA, 00, Pacific Coast Groundfish Fishery Management Plan, Proposed ABC/OY Specifications and Management Measures for the 2007-2008 Fishery - 10/20/06

GROUND FISH BYCATCH WORK PLAN

Since taking final action on a preferred alternative in the Pacific Coast Groundfish Fishery Management Plan Bycatch Mitigation Program Final Environmental Impact Statement (Bycatch Program FEIS), the Council has considered a bycatch work plan. This preferred alternative also formed the basis for Fishery Management Plan (FMP) Amendment 18, which was approved by the National Marine Fishery Service in September 2006.

At the September 2006 meeting, the Council reviewed another draft of the work plan and received public comment requesting that specific objectives and timetables be described in the work plan. The Council generally concurred with these comments and asked for further revisions to the draft with the intention that the revised version would be made available for public review in advance of the November 2006 meeting. Attachment 1 is the revised work plan. The Council is scheduled to take final action to adopt the work plan at this meeting.

Unlike an FMP amendment or adjustment to management measures, there is no specific criteria for what constitutes final action for something like a work plan. In this context, final action would indicate that the Council is satisfied that at this time the document adequately describes the actions the Council plans to take to further address bycatch in groundfish fisheries, consistent with the FEIS and Amendment 18. The Council may also wish to discuss procedures for the periodic update of the work plan, because it is likely that the timelines and objectives identified in the work plan will need to be changed to reflect actual progress and identify new actions relevant to bycatch mitigation.

Council Action:

1. Adopt Final Groundfish Bycatch Work Plan.

Reference Materials:

1. Agenda Item D.2.a, Attachment 1: Groundfish Bycatch Work Plan.

Agenda Order:

- a. Agenda Item Overview
- b. Reports and Comments of Advisory Bodies
- c. Public Comment
- d. **Council Action:** Adopt Final Groundfish Bycatch Work Plan

Kit Dahl

PFMC
10/27/06

The Pacific Fishery Management Council's Groundfish Bycatch Mitigation Program Work Plan -- November 2006

1. Introduction

Amendment 18 to the groundfish fishery management plan (FMP), implementing the preferred alternative in the Bycatch Mitigation Program Final Environmental Impact Statement, adds language to the FMP to:

- Require the use of current bycatch minimization measures.
- Provide the current standardized bycatch reporting methodology in the FMP.
- Incorporate the Groundfish Strategic Plan goal of reducing overcapacity in all commercial fisheries. (FMP Objective #2: "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 appropriate for a sustainable harvest and low discard rates, and which results in a fishery that is diverse, stable, and profitable. This reduced capacity should lead to more effective management for many other fishery problems.")
- Support the future use of individual fishing quota (IFQ) programs as bycatch reduction tools for appropriate commercial fishery sectors.
- Authorize the use of sector-specific and vessel-specific total catch limit programs to reduce bycatch in appropriate sectors of the fishery.
- Authorize the use of full/maximized retention requirements for selected fisheries, where practicable.

The Groundfish FMP provides information on the fishery, and contains specific requirements for managing the fishery. As a framework plan, it also contains standards and procedures for adopting new management measures, and provides the Council with a range of management measures they may consider for implementation through federal rulemaking. Implementing new management measures most commonly occurs as part of the biennial harvest specifications regulatory process. The Council may also develop regulatory amendments to change or amend federal regulations.

The Council reviewed this work plan at its November 2004, March 2005, September 2005, and November 2005 and September 2006 meetings. At its November 2005 meeting, the Council debated the practicability of implementing the various bycatch mitigation measures made available for use in the groundfish fishery through Amendment 18. The Council determined that, while sector- and vessel-specific bycatch limits could be useful bycatch mitigation measures in some cases, fishery management agencies do not, at this time, have the resources, money, or infrastructure to manage major portions of the groundfish fishery with sector- or vessel-specific bycatch limits. Therefore, the Council is focusing its current efforts on management tools that could be developed and implemented within a 2- to 3-year time frame, in order to evaluate and improve bycatch accounting, reduce bycatch through programs that are practicable for near-term implementation, and build a management infrastructure to support implementation of more complex bycatch reduction measures. As initial steps, the Council directed that this work plan first focus on:

- Requiring permits in the open access sector of the groundfish fishery to better monitor overall participation in the groundfish fishery;

- Analyzing how total catch data is delivered to the Council process, in order to improve the speed of data delivery.

Section 2 of this work plan reviews the range of measures the Council has already implemented. Section 3 discusses additional bycatch mitigation measures under Council development.

At its September 2006 meeting, the Council asked that the work plan be revised to include a preliminary schedule of when groundfish actions related to bycatch minimization are expected to be on the Council's future agendas (see below.)

2. Bycatch Mitigation Measures and Programs Currently in Place

Ongoing management measures and programs implemented by the Council and NMFS that mitigate bycatch include:

- At-sea observer programs in both shore-delivery and sea-delivery groundfish fisheries, including groundfish limited entry trawl, limited entry fixed gear, and open access vessels.
- Large-scale closed areas to reduce protected salmon bycatch: Klamath and Columbia River Conservation Zones.
- Large-scale closed areas to reduce overfished species bycatch: Rockfish Conservation Areas, Cowcod Conservation Areas, Yelloweye Rockfish Conservation Areas.
- Large-scale closed areas to protect groundfish essential fish habitat: 51 new closed areas implemented off West Coast in June 2006.
- Vessel Monitoring System (VMS) requirements for the limited entry fleet to ensure compliance with closed area restrictions.
- Landings limits set for harvest of healthy stocks so that they constrain the incidental catch of overfished species that co-occur with those stocks.
- Season restrictions to reduce directed and incidental catch of overfished species.
- Trawl mesh size, chafing gear, and codend regulations to reduce juvenile fish bycatch.
- Trawl footrope size regulations to reduce access to rocky habitat and rockfish bycatch.
- Selective flatfish trawl regulations to reduce bycatch of rockfish in flatfish fisheries.
- Escape panel requirements for groundfish pots to prevent lost pots from ghost fishing.
- FMP Amendment 14 to reduce capacity in the limited entry fixed gear fleet.
- Trawl buyback to reduce capacity in limited entry trawl fleet.
- Geographically-based harvest guidelines where appropriate, especially in recreational fisheries.
- Total catch limits for canary, darkblotched, and widow rockfish in the non-tribal Pacific whiting sector.

Bycatch mitigation measures and programs developed by the Council and planned for implementation by January 1, 2007:

- Amendment 18 implementing regulations: Require that groundfish fishery management measures take into account the co-occurrence ratios of overfished species with more abundant target stocks; require vessels that participate in the open access groundfish fisheries to carry observers if directed by

NMFS; update the boundary definitions of the Klamath and Columbia River Salmon Conservation Zones and Eureka nearshore area to use latitude and longitude coordinates in a style similar to that of the Groundfish Conservation Areas; and authorize the use of depth-based closed areas as a routine management measure. The purposes for the routine use of depth-based closed areas are: protect and rebuild overfished stocks, prevent the overfishing of any groundfish species, minimize the incidental harvest of any protected or prohibited non-groundfish species, control effort to extend the fishing season, minimize the disruption of traditional commercial fishing and marketing patterns, spread the available recreational catch over a large number of anglers, discourage target fishing while allowing small incidental catches to be landed, and allow small fisheries to operate outside the normal season.

- 2007-2008 Groundfish Harvest Specifications and Management Measures: In addition to those measures already listed above as currently in place, this rulemaking would add three new Yelloweye Rockfish Conservation Areas to constrain yelloweye bycatch, and add an Ocean Salmon Conservation Zone for inseason use to constrain salmon bycatch in the whiting primary season.

Bycatch mitigation measures and programs developed by the Council and planned for implementation in early 2007:

- VMS regulations: Expand VMS program to require that all commercial vessels that take and retain, or possess groundfish in the EEZ, or land groundfish taken in the EEZ, and all trawl vessels that operate in the EEZ, must carry and use VMS units.

3. Bycatch Accounting and Mitigation Measures Under Development

3.1 Total Catch Data Collection, Analysis, and Delivery

In June 2006, per the Council's request, NMFS's Northwest Fisheries Science Center presented a report, *Summary of West Coast Groundfish Observer Program Data Collection and Quality Control Process* (Agenda Item F.1.b., NWFSC Report, June 2006). That report described the data collection and quality control process as occurring in four phases: 1) observer data collection, entry, and initial quality control; 2) identifying and attaching corresponding fish ticket data with observer data; 3) data processing and analysis; 4) validating and delivering discard data, and developing models based on this data, for use in management.

To estimate total catch rates in the groundfish fishery, observer data must be expanded from the observed trips in a particular sector to all of the trips taken in that sector. These expansions require that fish tickets are complete for the time period being analyzed and that fishing depth information for each tow, currently only accessible from trawl logbook records, is available for the entire fleet. In its report, NMFS suggested that the delivery to the Council process of analyzed observer data could be speeded up if fish ticket upload time to the PacFIN data system were shortened; logbook data upload time, particularly for identifying fishing depths, were shortened; fish tickets were more consistent between states; and fish tickets and logbooks were altered to add an identifier for when the trip was associated with an exempted fishing permit. Changing this system will require coordination among and action by the three states, NMFS, and the Pacific States Marine Fisheries Commission as fish tickets and trawl logbooks are state and not federal reporting requirements.

3.2 Inter-Sector Allocation

The Council has previously established formal allocations between different fishery sectors for several species or species groups: 1) all groundfish species between the limited entry and open access commercial fisheries based on relative catch histories of the two fleets; 2) whiting between the shore-based, mothership, and catcher/processor sectors of the groundfish limited entry trawl fleet; and 3) sablefish between the limited entry fixed gear and trawl sectors, sablefish between the endorsed and non-endorsed

portions of the limited entry fixed gear fleet, and sablefish between the three Amendment 14 tier groups. Several of the bycatch mitigation tools provided by Amendment 18 would first require that the Council develop additional groundfish allocations between fishery sectors. Implementing sector- or vessel-specific bycatch cap programs would first require that available groundfish harvest be allocated between sectors and/or vessels. Implementing an individual quota program for any one sector of the groundfish fleet would require groundfish allocations between that sector and the remaining sectors in the fleet. To that end, the Council has released a Notice of Intent to prepare an Inter-Sector Allocation Environmental Impact Statement (EIS). The public comment period on this Notice of Intent ended on June 16, 2006. Scoping for the EIS is continuing and the Groundfish Allocation Committee met in October 2006 to refine a range of alternatives for review at the November 2006 meeting. Any inter-sector allocation would likely require an FMP amendment in addition to the EIS. The FMP requires that FMP amendments be considered over at least three Council meetings.

3.3. *Open Access Sector License Limitation*

When it considered this work plan in November 2005, the Council recommended expanding the current limited access system to cover a larger segment of vessels targeting groundfish. The Council noted that fishery managers cannot currently identify all of the vessels participating in the groundfish fishery. Better identification of the fishery participants would allow fishery managers to better monitor and account for bycatch in the sector, and to better target particular management measures to reduce bycatch in the sector. A license limitation program to reduce effort in the fishery would reduce the number of vessels targeting groundfish and having opportunities to discard incidentally-caught fish.

Currently, a federal limited entry permit is not required for all vessels that land groundfish. A trawl-endorsed permit is required to land groundfish with that gear type (as defined in the FMP and Federal regulations), although certain trawl fisheries catching groundfish incidentally, such as the pink shrimp trawl fishery, may land limited amounts of groundfish consistent with specified limits and under defined gear exemptions. Vessels targeting groundfish without a Federal permit may use fixed gear (longline and pot), but may be subject to lower landing limits (such as the daily trip limit for sablefish) than those vessels with a fixed gear endorsed groundfish limited entry permit. Other legal groundfish commercial gear types, such as vertical hook-and-line, may also land groundfish under the same set of open access landing limits, which are established in biennial specifications. In most cases these open access fisheries are subject to state limited entry programs, as is the case for nearshore groundfish fisheries in Oregon and California. (Washington prohibits commercial groundfish fisheries in state waters.) Like the non-groundfish trawl fisheries, there are other fisheries, such as salmon troll, that may land small amounts of groundfish without those species being their principal target. At their September 2006 meeting, the Council began discussions on developing a permit system for the open access fishery participants. Any such program would require amending the groundfish FMP, a process that requires at least three Council meetings (per the FMP) to complete.

3.4. *Trawl Individual Quota Program*

The Council has been considering the development of a dedicated access privileges program, principally focusing on individual fishing quotas (IFQs) for the groundfish limited entry trawl sector. As discussed above, implementing such a program would require allocating harvest of a wide range of target and non-target species between the limited entry trawl sector and all other groundfish sectors in aggregate (by means of the Inter-Sector Allocation EIS.) The Council has appointed an Ad-hoc Trawl Individual Quota Committee to develop alternatives, which will be analyzed in a separate Trawl Individual Quota Program EIS. Like open access permitting, a trawl IFQ program would require an FMP amendment. The Council has already discussed this issue at several past meetings. The Groundfish Allocation Committee will meet in December 2006 to refine and simplify alternatives under this program. The draft timeline for this

action estimates that, depending on the complexity of the program proposed, a trawl IFQ program could be implemented beginning January 1, 2011.

3.5 *Maximized Retention Program for the Shore-based Whiting Sector*

Federal groundfish regulations require that groundfish catch be sorted at sea because they prohibit retention of groundfish in excess of trip limits, and retention of prohibited species. The shore-based Pacific whiting trawl sector has been operating under an exempted fishing permit (EFP) that allows participating vessels to land their catch without sorting it, and to retain until offloading prohibited species and groundfish in excess of trip limits, in order to allow the unsorted catch to go directly into the hold to better preserve the condition of the whiting flesh. Since 2004, NMFS and the states have operated the EFP with at-sea electronic monitoring, and with a requirement that participating vessels maximize their retention of all catch (eliminate discards as much as possible). Pursuant to the FMP's Amendment 10, the Council may exempt a fishery with an approved monitoring program from the prohibitions from landing unsorted catch and from retaining incidentally-caught salmon as part of that unsorted catch. Amendment 18 made electronic monitoring available as a monitoring tool for use outside of experimental efforts. Implementing such a program for the shore-based whiting sector will require: 1) development of requirements for electronic monitoring system components; 2) development of maximized retention regulations; 3) evaluation of the shore-based total catch monitoring program for the whiting fishery; and 4) development of permanent infrastructures to support inseason monitoring of the shore-based whiting fishery's catch and to support collection and analysis of electronic monitoring system data. An EA is currently under development to support the transition from the EFP to a permanent regulatory framework for the exemptions and required monitoring program. Although Amendment 10 initially envisioned a program for the monitoring of incidental salmon catch, current Council efforts have expanded the intent of the program to ensure better accounting of all bycatch species and to reduce fishery discards.

At the Council's September meeting, NMFS and state agencies reported on issues for Council consideration and needed next steps to move this program to Federal regulation. This program may or may not need an additional FMP amendment. For its November 2006 meeting, the Council plans to adopt a range of alternatives for public review. Depending on the complexity of the program developed, the fishery is expected to transition to Federal regulations in time for the 2008 primary whiting season.

3.6 *Sector- and Vessel-Specific Bycatch Limits*

Per Council recommendations, NMFS has implemented bycatch limits for canary, darkblotched, and widow rockfish taken incidentally in the whiting fishery. At its June 2006 meeting, the Council asked that additional discussions be held at its autumn 2006 meetings on the feasibility of implementing sector-specific overfished species bycatch limits for the three different sectors within the non-tribal whiting fishery. As discussed above, whiting has been allocated between the fishery sectors that target whiting. For overfished species bycatch limits to be implemented for the whiting sectors, those species would have to be allocated between the sectors and an adequate monitoring system would need to be developed and implemented. The Council could recommend that such an allocation be considered as part of the Inter-Sector Allocation EIS, or through some separate action. The trawl IQ program, discussed above, would be a vessel-specific total catch limit program for the trawl sector. Like the trawl IQ program, additional sector- and/or vessel-specific bycatch limit programs could be implemented, if found to be practicable, following the development of inter-sector groundfish allocations for those sectors and development of an adequate monitoring program. A Council evaluation of the total catch data collection, analysis, and delivery program will also be needed to develop an appropriate total catch monitoring program for any sector managed with bycatch limits.

3.7 *Other Bycatch Mitigation Measures the Council May Consider*

Under Amendment 18, Council could also consider the following bycatch mitigation measures for development:

- Integrating EFH- and bycatch-related groundfish closed areas so that where EFH-related closed areas reduce bycatch; that reduction is accounted for in bycatch rate modeling.
- Expanding VMS coverage requirements to commercial passenger fishing vessels that are subject to groundfish closed area restrictions.
- Hot-spot management to either prevent fishing in an area of overfished species abundance, or to allow fishing in an area of target species abundance.

Table 1: Preliminary timetable and deliverables for initiatives identified in the bycatch workplan.

The below schedule and staff assignments are based on current projections of Council and NOAA Fisheries requirements and capabilities. It is subject to revision due to staffing levels, resource availability and unanticipated events.

	Bycatch Data Collection, Analysis, and Delivery	Trawl Individual Quota Program	Shore-Based Whiting Full Retention	Open Access Sector License Limitation	Intersector Allocation	Groundfish Harvest Specifications
2006 Council Meetings						
September						Council recommended inseason action for 10/1/06.
				Planning and Scoping	GAC; preliminary range of alternatives	NOAA implemented inseason action for 10/1/06.
November			Alternatives & core regulations		Adopt preliminary range of alternatives for analysis	Council considers inseason actions for 12/1/06
	PACFIN Meeting to discuss issue	GAC: Review and Simplify Alternatives				NOAA may implement Council inseason recommendations
2007 Council Meetings						
March			Draft EA for final action	At March or April meeting Council holds preliminary scoping meeting; determines process and schedule for action		Council finalizes 2007 whiting ABC/OY. Council considers inseason actions for 4/1/07 .
	NOAA Science Center – 1 st Annual Constituent Mtg on Observation Data Collection & Analysis					NOAA implements 2007 whiting ABC/OY and may implement Council inseason recommendations
April	NOAA Science center					Council considers inseason actions
	center – ongoing discussions with states					NOAA may implement Council inseason recommendations

	Bycatch Data Collection, Analysis, and Delivery	Trawl Individual Quota Program	Shore-Based Whiting Full Retention	Open Access Sector License Limitation	Intersector Allocation	Groundfish Harvest Specifications
June 2007		Council refines Alternatives			Select alternatives for EIS	Council considers inseason actions
			Proposed rule publishes			NOAA may implement Council inseason recommendations
September						Council considers inseason actions
						NOAA may implement Council inseason recommendations
November		Council picks Preferred Alternative	Report on electronic logbooks		Select preferred alternative	Adopt Preliminary ABCs and range of OY alternatives Council considers inseason actions
	PACFIN Meeting – Issue on the agenda; develop workplan					NOAA may implement Council inseason recommendations
2008 Council Meetings						
			Final Rule Publishes			
March						Council finalizes 2008 whiting ABC/OY. Council considers inseason actions for 4/1/08
						NOAA implements 2008 whiting ABC/OY. NOAA may implement Council inseason recommendations

	Bycatch Data Collection, Analysis, and Delivery	Trawl Individual Quota Program	Shore-Based Whiting Full Retention	Open Access Sector License Limitation	Intersector Allocation	Groundfish Harvest Specifications
April		Final Council Action (option 1)	Action for core regulation effective		Final Council Action (option 1)	Adopt 2009-10 preferred ABC/OY alternative and Preliminary range of management measure alternatives Council considers inseason actions for 5/1/08
						NOAA may implement Council inseason recommendations
June 2008		Final Council Action (option 2)			Final Council Action (option 2)	Final adoption of 2009-10 ABCs/OYs & management measures preferred alternatives Council considers inseason actions for 7/1/08
		Complete EA/DEIS; Public review Proposed Rule published				Complete EA/DEIS on 2009-10 fisheries; Public review NOAA may implement Council inseason recommendations Proposed Rule on 2009-20 fisheries published
September						Council considers inseason actions for 10/1/08
						NOAA may implement Council inseason recommendations
November						Council considers inseason actions

	Bycatch Data Collection, Analysis, and Delivery	Trawl Individual Quota Program	Shore-Based Whiting Full Retention	Open Access Sector License Limitation	Intersector Allocation	Groundfish Harvest Specifications
		Final rule published				Final Rule on 2009-10 fisheries Publishes. NOAA may implement Council recommendations

GROUND FISH ADVISORY SUBPANEL REPORT ON GROUND FISH BYCATCH WORK PLAN

The Groundfish Advisory Subpanel (GAP) heard a presentation from Mr. Frank Lockhart on the draft Groundfish Bycatch Work Plan.

In general, the GAP continues to support efforts to increase and improve monitoring, data collection, and analysis; especially mechanisms that move us toward real-time data such as electronic fish tickets. The GAP encourages the Council to urge National Marine Fisheries Service, Pacific States Marine Fisheries Commission, and state agencies to prioritize development of these improved monitoring and reporting programs. Such programs will facilitate development of sector-specific bycatch limits and the trawl individual quota program.

Specific to the draft Bycatch Work Plan, the GAP has some concerns that the time lines outlined in the plan may be unrealistic; and furthermore believes that several of the on-going efforts to reduce bycatch could be impeded by delays in monitoring and data collection improvements. The GAP has additional concerns that attempting to implement several of these projects simultaneously (indicated in Table 1) may result in Council process overload. There is also a significant concern that the annual specifications process will again result in overly restrictive regulations because all of the other efforts remain unaccomplished.

The GAP recommends that the document clearly state that the Bycatch Work Plan is a flexible work plan that can incorporate changes to both the projects and the time lines and that these can be amended easily through the Council process. The document should also explain how the work plan can be amended.

In all cases where references to ongoing research or other work is being completed, the lead agency or organization should be named so that it is clear who is the lead on projects.

In addition to the six programs outlined in Table 1 (page 7, Agenda Item D.2.a, Attachment 1), the GAP recommends an additional column identifying applied research programs dedicated to bycatch reduction. This could be a place to categorize and update ongoing federal and state efforts.

The GAP notes that in Table 1 there are no items related to the Groundfish Individual Trawl Quota (ITQ) program listed for the April and March 2007 meetings. The GAP finds this troubling and believes that ITQs should be addressed at these meetings in order to maintain the current schedule for moving toward implementation.

As stated in previous reports the GAP strongly believes that implementation of intersector allocation and the Groundfish ITQ programs will result in the greatest bycatch reduction for Groundfish fisheries.

GROUND FISH MANAGEMENT TEAM REPORT ON GROUND FISH BYCATCH WORK PLAN

The Groundfish Management Team (GMT) discussed the proposed Bycatch Work Plan and the preliminary timetable presented in Table 1 of Agenda Item D.2.a, Attachment 1. The GMT considers each of the programs listed to be important in achieving the bycatch accounting and reduction objectives explored in Amendment 18. From the perspective of workload priorities, the GMT offers the following comments and recommendations:

Processes and Timing of Issues

The biennial groundfish harvest specifications and management process is mandated in the Groundfish Fishery Management Plan and is regularly scheduled for specific Council meetings, while the other Bycatch Work Plan items may have scheduling flexibility. During those meetings in which biennial harvest specifications and measures will be developed (i.e., November 2007, April 2008, and June 2008), the GMT believes that the majority of its time should be spent developing and discussing proposed harvest specifications and management measures.

The GMT is very concerned, for example, that preliminary 2009-2010 acceptable biological catch/optimum yield alternatives are adopted concurrently with selection of the preferred alternatives for the Trawl Individual Quota Program and the Intersector Allocation Program at the November 2007 meeting. If the GMT is to be fully engaged in these processes, then the GMT recommends that the processes be staggered.

Also, if the Council hopes to implement intersector allocations in the 2009-2010 management cycle, then final Council action on the Intersector Allocation Program needs to occur in advance of the management specifications development. This is not how it is currently proposed under the work plan's timeline.

The GMT also notes that there are other scheduled processes in place that will take up a significant portion of the GMT's meeting time, such as the stock assessment review process in 2007, and the annual review of exempted fishing permit (EFP) applications. These processes are in addition to those presented in Table 1 and would fall on the Council's June, September, and November 2007 agendas.

Emerging Initiatives

The GMT notes that there are emerging groundfish initiatives (Open Access Sector License Limitation, American Fisheries Act Amendment 15 development, and the Gear Switching proposal) that do not yet have dedicated processes nor timetables associated with them. If any of these items are Council priorities, then from a GMT workload perspective, the GMT needs Council guidance on their prioritization.

Summary

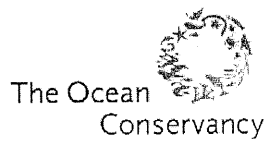
Each of the programs described in the Bycatch Work Plan are important to move forward on. However, the work plan is ambitious with overlapping and competing timelines. The GMT notes that intersector allocation and the TIQ Program, couple with inseason issues and the

scheduled processes noted above, could easily consume all of the GMT's time in 2007. The GMT views its current workload priorities through 2008 to be the 2009-2010 groundfish harvest specifications, the TIQ process, and the intersector allocation process necessary to implement the TIQ Program. Unless the Council re-specifies these priorities, the GMT does not foresee that it will be able to provide adequate analysis and consideration for the other topics under development.

GMT Recommendations:

1. Prioritize the groundfish management items under Council discussion: Intersector Allocation, TIQs, Amendment 10, Open Access Limitation, Amendment 15, and the Gear Switching proposal.

PFMC
11/14/06



November 7, 2006

Chairman Donald Hansen
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 200
Portland, Oregon 97220-1384

Re: Groundfish Bycatch-Reduction Work Plan

Dear Chairman Hansen and Members of the Pacific Council:

We are writing on behalf of NRDC, Pacific Marine Conservation Council, The Ocean Conservancy, Oceana, and our more than 1.5 million members and activists, to comment on the Groundfish Bycatch Work Plan (Agenda Item D.2) (hereinafter, work plan or plan). We urge the Council to improve this work plan before adopting it by: (1) adding gear flexibility to the list of measures covered by the plan; (2) developing a plan for improved observer coverage and hard bycatch caps; and (3) making it recognizable as a work plan by (a) clearly identifying *who* will take *what* steps to achieve the desired bycatch-reduction result for each measure addressed in the plan and (b) clearly identifying *when* key milestones and final results will be achieved.

Overview

As we demonstrate below, this version of the plan includes a detailed schedule only for harvest specifications, a measure already occurring. Bycatch reduction targets for harvest specifications are not discussed; in fact, the Council is using that process this year not to minimize but risk *increasing* bycatch of cowcod (Proposed ABC and Optimum Yield Specifications and Management Measures for the 2007-2008 Pacific Coast Groundfish Fishery EIS p. 285). The plans for most other measures highlighted in the work plan lack meaningful schedules and clear actions necessary to accomplish results. A particularly egregious example of the failure to produce a real work plan is the timetable and deliverables for "bycatch data collection, analysis and delivery," (see work plan pp. 8 and 9) which concludes a year from now with nothing more than a meeting that has "develop workplan" on its agenda. This potentially endless loop is not an effective plan for getting the job done.

Developing a bycatch reduction work plan is particularly important because Amendment 18 contains a laundry list of measures intended to meet the requirement under the Magnuson-Stevens Act (MSA) to account for and minimize bycatch. Many of these measures have yet to be implemented, however, and Amendment 18 contains no schedule

for moving them forward. Amendment 18 thus suffers from one of the same deficiencies that caused the court to find its predecessor, Amendment 13, in violation of the MSA—listing “a series of measures that NMFS and the Council might consider for adoption at some undetermined point in the future.” *Pacific Marine Conservation Council v. Evans*, 200 F. Supp.2d at 1201 (N.D. Cal. 2002). To meet the requirements of the MSA, NMFS and the Council need a serious workplan and definitive schedule for completing the measures in Amendment 18 that have not yet been put in place, rather than the open-ended timetable criticized by the federal courts.

Adopting a work plan makes sense not only from a legal point of view, but also for practical, organizational, and financial reasons. A bycatch reduction work plan could provide valuable information to the public and affected parties, helping them prepare for the future. It can also promote orderly scheduling of regulatory processes and help identify resource needs. By advancing bycatch reduction measures, it can improve the efficiency—and the revenues—of fishing. For those same reasons, we support adoption of procedures for periodic updates of the work plan, as suggested by staff. The preliminary schedule included in this work plan covers only the next two years. An annual update makes sense given the complexity of the Council schedule and the value of anticipating process and resource needs fairly far in advance.

Detailed comments

Add gear flexibility measures. The most important measure missing from this Work Plan, in our view, is gear flexibility. Switching from bottom trawl gear to hook and line or pot gear is a step capable of creating significant reductions in bycatch and bottom habitat impacts relative to current levels. A number of fishermen are actively interested in opportunities for greater flexibility to choose cleaner gears; the sooner the Council moves in this direction, the better. We believe gear flexibility options could be achieved over the next two years if a step-by-step plan were developed, encompassing any needed analysis, infrastructure development, public involvement and pilot testing. While we believe gear switching could be done on a pilot scale without formal inter-sector allocations, such allocations probably constitute the main infrastructure needed before broader scale implementation is possible. We appreciate that the Council and NMFS have begun the sector allocation process, and anticipate completing it (under one scenario) by April 2008. Significant portions of the process needed to develop, evaluate and test gear flexibility measures could be carried out in parallel with the sector allocation process, with adoption scheduled once the allocation process is complete. We see no reason why planning for gear flexibility cannot begin right away, and recommend establishing this set of measures as a priority and adding it to the plan and schedule.

Add improved observer coverage and hard bycatch caps. The Council has recognized that setting hard caps is a useful bycatch minimization tool. The Council’s preferred alternative in the Bycatch Mitigation Program Final Environmental Impact Statement included the use of overfished groundfish catch caps and groundfish discard caps (Bycatch FEIS at ES-7), as does Amendment 18. That amendment found that hard bycatch caps are being used in the whiting fishery but that additional infrastructure is needed before such caps will be appropriate for other groundfish sectors. We disagree

with the work plan's statements that this cannot be done within a 2- to 3-year time frame and therefore no action need be proposed. The bycatch work plan ought to begin to lay out the necessary steps and a timeline for implementing hard bycatch caps, including improved observer coverage and reporting, plus appropriate cap levels for species taken as bycatch. This type of planning is necessary to build the infrastructure necessary for implementing hard bycatch caps.

Add specific actions, actors, results, milestones, and completion dates. Let's use "data collection, analysis and delivery" as an example. The Work Plan (p. 3) summarizes recommendations by NMFS's Northwest Fisheries Science Center to speed up delivery of processed observer data. It does not, however, identify why data should be sped up or by how much. In our view, this set of measures is the foundation for progress on many other measures, and at a minimum is critical for determining total fishing mortality, ensuring accountability, and feeding timely information into stock assessments and the determination of catch levels and management measures. In the recent past, Council members have often found themselves recommending future catch levels and management measures without full information on total mortality levels from the previous year or the success of last year's management measures. We expect that processed data on a monthly basis would be sufficient for improving data delivery for catch specifications and stock assessment purposes.

NMFS's recommendations—e.g. shorten fish ticket upload time; shorten logbook data upload time; ensure fish ticket consistency among states; add identifier to fish tickets and logbooks for EFPs—appear capable of expediting data delivery sufficiently for near-term purposes. Why have they been relegated to a series of apparently aimless meetings, instead of being converted into clear action steps with a timeline and results? In fact, PacFIN has made more progress on this issue already than the work plan anticipates making over the next year.

For other purposes, such as implementing sector bycatch caps and individual or co-operative fishing quotas, the target reporting time for processed data delivery may be weekly or close to real time. The Council and NMFS need to identify: (1) what specific changes are needed to speed up the data collection and delivery process (e.g. electronic logbooks?); and (2) a realistic and appropriate timeframe for making these changes.

Amendment 18 highlights Open Access Limitation as another bycatch reduction measure, but as with other proposed measures, the work plan fails to provide a timetable or identify specific deliverables. Ironically, a hypothetical timeline for this process reviewed by the Council in September 2006 would serve well as a work plan (see Agenda Item C.4.a Attachment 1, Sept. 2006). We suggest incorporating that schedule into the bycatch work plan. If there are caveats about whether sufficient resources are available or modifications that are needed, it would be better to make them than to leave the bycatch work plan schedule vacant.

In closing, we would like to underscore the importance of focused attention on bycatch reduction--to maintain past gains and continue moving forward. To provide that kind of

attention, the Council and NMFS need to strengthen this work plan. We appreciate the opportunity to comment, and look forward to working with all parties to move bycatch reduction measures forward.

Sincerely

Karen Garrison
Natural Resources Defense Council

Peter Huhtala
Pacific Marine Conservation Council

Meghan Jeans
The Ocean Conservancy

Ben Enticknap
Oceana

GROUND FISH STOCK ASSESSMENTS FOR 2007

The Council met in March and April of this year to determine the list of groundfish stocks to be assessed in 2007 to support management decision-making for the 2009 and 2010 fishing seasons. The list of full and updated groundfish stock assessments and the lead agency for each assessment decided at the April Council meeting is as follows:

Stocks Scheduled for Full Assessment	Lead Agency	Stocks Scheduled for Updated Assessment	Lead Agency
Bocaccio	SWFSC	Cowcod	SWFSC
Canary Rockfish	NWFSC	Widow Rockfish	SWFSC
Chilipepper Rockfish	SWFSC	Yelloweye Rockfish	NWFSC
Arrowtooth Flounder	NWFSC	Pacific Ocean Perch	NWFSC
Darkblotched Rockfish	NWFSC	English Sole	NWFSC
Sablefish	NWFSC		
Black Rockfish (coastwide)	ODFW/WDFW		
Longnose Skate	NWFSC		
Spiny Dogfish	WDFW		

Since April, assessment planning for some stocks has been called into question. Therefore, under this agenda item, the Council will reconsider the list of 2007 groundfish stock assessments and adopt a final list of groundfish stock assessments and a schedule for next year.

The Northwest Fisheries Science Center has offered a perspective on the 2007 groundfish stock assessment process and has provided a tentative schedule for 2007 Stock Assessment Review panels (Agenda Item D.3.b, NWFSC Report). The California Department of Fish and Game (CDFG) proposes a new blue rockfish stock assessment be conducted next year authored by CDFG staff (Agenda Item D.3.b, CDFG Report). The Washington Department of Fish and Wildlife has concerns regarding the planned coastwide assessment for black rockfish and other concerns have been raised by various entities regarding other assessments planned for next year. The Council will address these concerns at this meeting and adopt a final list of 2007 groundfish stock assessments.

Council Action:

1. Adopt Final List and Schedule of 2007 Groundfish Stock Assessments.

Reference Materials:

1. Agenda Item D.3.b, NWFSC Report: Northwest Fisheries Science Center Comments on Groundfish Stock Assessments for 2007.
2. Agenda Item D.3.b, CDFG Report: California Department of Fish and Game Report on Groundfish Stock Assessments for 2007.

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 List and Schedule of 2007 Groundfish Assessments

John DeVore

PFMC
10/26/06

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE REPORT ON GROUNDFISH STOCK ASSESSMENTS FOR 2007

The Washington Department of Fish and Wildlife (WDFW) is scheduled to participate in two stock assessment activities in 2007, for black rockfish and spiny dogfish. WDFW has the following comments and recommendations relative to these two assessments:

Black Rockfish

In April, when the 2007 assessment schedule was finalized, we did not realize that the proposed geographic area of the scheduled black rockfish assessment was West Coast-wide, nor did we evaluate whether we had staff resources to contribute to the black rockfish assessment. With regard to the coastwide application, a genetic study conducted in 1995-97 reinforced findings from a major tagging study that there are two separate black rockfish stocks, north and south of Cape Falcon, Oregon. As a reminder, the Council's Groundfish Management Team, estimated the amount of the stock located between Cape Falcon and the Oregon/Washington border and, for ease of management, transferred that amount from the northern assessment area to the south. Based on the results of this genetic study and, as supported by the last Stock Assessment and Review (STAR) panel, WDFW strongly believes that Washington should remain a separate assessment area.

In addition, the present northern black rockfish assessment model incorporates a unique, direct approach to using the available tagging data, which cannot be easily incorporated in the current stock synthesis 2 (SS2) model. WDFW has invested significant resources into our black rockfish tagging program since the last assessment was completed. These tagging data have not yet been collated and summarized into a usable format. However, we believe that it is imperative that the next northern black rockfish assessment includes these tagging data. We also feel strongly that WDFW staff lead the Stock Assessment Team that develops the next northern assessment.

Spiny Dogfish

WDFW staff have contacted representatives from the University of Washington, Alaska Department of Fish and Game, and the Canada Department of Fisheries and Oceans to share and review dogfish biological and fishery data. As dogfish are migratory and we are not aware of any genetic stock differences, we need to develop an assessment that takes into account the transboundary nature of this stock. Further, we believe that the assessment would benefit if we took the time needed to assemble and review all of the data, and cooperatively work with Canada and Alaska representatives, as well as Oregon and California, rather than rush the assessment through the process. Therefore, we would continue to develop a statistical model in the interim, and support rescheduling the spiny dogfish assessment for the 2009 cycle.

If the Council decides to reschedule spiny dogfish for 2009, then we could re-prioritize WDFW staff workloads to work on the northern black rockfish assessment in 2007. However, in order to have time to summarize the Washington tagging data, we would request that the black rockfish Stock Assessment Review (STAR) panel be delayed until the week of June 25.

CALIFORNIA DEPARTMENT OF FISH AND GAME REPORT ON
GROUNDFISH STOCK ASSESSMENTS FOR 2007

Background

At the Pacific Fishery Management Council's (Council's) April 2006 meeting, the Council discussed stock assessment planning for the 2009-2010 fishing season (Agenda Item F.3) and adopted a final list of stocks to be assessed during 2007. While blue rockfish was initially included on the list of species (see Agenda Item F3.b Attachment 1 April 2006) and California Department of Fish and Game (CDFG) was identified to lead the assessment, it was not on the list ultimately adopted (Agenda Item F3.b Supplemental Revised Attachment 1 April 2006). During the discussion, CDFG requested that blue rockfish be removed from the list due to budget constraints that prevented assurance that sufficient staff resources were available to complete the assessment. In addition, California expressed interest in devoting limited resources to pursuing multi-species assessment approaches.

In California, blue rockfish is possibly the most important recreational species that remains unassessed. Blue rockfish represented nearly 40% of all rockfish catch by number on CPFV's and nearly 25% of all rockfish catch on private/rental boats in northern California in 2005 (see tables below). Even though blue rockfish are a small portion of landings in the commercial fishery, nearly 40,000 pounds were reported landed in 2005.

Estimated northern blue rockfish catch in thousands of fish, 2004-2005 [RecFIN, A+B1]

		BLUE ROCKFISH				
		<u>Man-made</u>	<u>Beach/bank</u>	<u>CPFV</u>	<u>Private/Rental</u>	<u>all modes</u>
2004		5.8	5.8	214.8	82.4	308.8
% by mode		1.9%	1.9%	69.5%	26.7%	
2005		2.8	10.2	142.9	160.8	316.8
% by mode		0.9%	3.2%	45.1%	50.8%	

Estimated rockfish catch in thousands of fish, 2004-2005 [RecFIN, A+B1]

		ALL ROCKFISH				
		<u>Man-made</u>	<u>Beach/bank</u>	<u>CPFV</u>	<u>Private/Rental</u>	<u>all modes</u>
2004		25.9	15.8	526.9	364.6	933.3
2005		41.8	23.5	370.0	672.3	1107.5

Proportion of blue rockfish caught to all rockfish caught, 2004-2005

		Proportion of blue rockfish in all rockfish take				
		<u>Man-made</u>	<u>Beach/bank</u>	<u>CPFV</u>	<u>Private/Rental</u>	<u>all modes</u>
2004		22.3%	36.9%	40.8%	22.6%	33.1%
2005		6.7%	43.6%	38.6%	23.9%	28.6%

Proposed Action

Since the April decision, new monies have been identified for CDFG that should increase staff resources sufficiently to allow CDFG to complete a blue rockfish assessment and continue studying multi-species approaches. Preliminary review of available data indicates that sufficient information exists on the California stock of blue rockfish to conduct a modeling exercise. Therefore CDFG proposes that the Council adopt blue rockfish as a stock assessment candidate for 2007.

NORTHWEST FISHERIES SCIENCE CENTER COMMENTS ON GROUNDFISH STOCK ASSESSMENTS FOR 2007

The Northwest Fisheries Science Center is committed to organizing and coordinating a successful STAR panel process for west coast groundfish. We believe that it is important to adhere to the recommendations from the January 2006 Groundfish Stock Assessment Review Workshop. Those recommendations included:

- “Limit the number of full assessments to a maximum of 8-10.”
- “Identify which assessments should be full and which should be updates when recommending an assessment for the next cycle. Also provide the rationale for these recommendations.”
- “Attempt to schedule only 2 full assessment reviews per STAR panel.”
- “More discipline needed in reviews to ensure assessments comply with the Terms of Reference (i.e., updates need to comply by not entertaining new models).”

With regard to assessment updates, the Terms of Reference state,

“To qualify [as an update], a stock assessment must carry forward its fundamental structure from a model that was previously reviewed and endorsed by a STAR panel... In practice there will always be valid reasons for altering a model, ... 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. “

We also believe that is very important to reserve a panel meeting near the end of the review cycle to serve as a “mop-up” panel. The goal of the mop-up panel is to provide a last opportunity for assessment efforts to yield management advice in cases where the **scheduled** STAR panel cannot endorse an assessment by the close of the meeting and where additional analysis can address panel concerns. The mop-up panel in 2005 was fully utilized to provide a final review of three assessments that were initially presented in earlier STAR panels. We intend to plan on the mop-up panel being similarly subscribed in 2007.

In order to complete review of the species on the current list of full assessments for 2007, seven STAR panels would be needed, including the U.S.–Canadian Joint Panel for Pacific hake/whiting, five STAR panels, and a mop-up panel.

The draft 2007 groundfish STAR panel schedule (shown below) was developed using the following criteria:

- 1) Reviews of full assessments are scheduled last if authors are also conducting update assessments earlier in the process;
- 2) STAR panels are not scheduled within one week before or after a Council meeting or during a holiday week;
- 3) The first STAR Panel is scheduled in May so that analysts have adequate time to incorporate the most recent year of data into the assessment (some data will not be ready until early to mid-March);

- 3) The last STAR panel is scheduled for the beginning of August to provide at least two weeks after the STAR panel to finalize the assessment and STAR panel reports for inclusion in the September briefing book;
- 4) The mop-up panel is scheduled after the September Council meeting, in the event the SSC recommends an assessment be sent to the mop-up panel and before the November Council meeting, so post-mop-up assessments and panel reports can be included in the November briefing book.

Table 1. Tentative 2007 Groundfish STAR Panel Schedule

	Species 1	Species 2	Proposed Location	Proposed Dates (2007)	Lead Author Species 1	Lead Author Species 2
US – Canadian Joint Panel	Pacific hake/ whiting	NA	Seattle, WA Silver Cloud Hotel	Feb 5-9	Tom Helser and Steve Martell	NA
STAR Panel #1	black rockfish	None	Portland, OR	May 7-11	David Sampson	NA
STAR Panel #2	bocaccio	chilipepper rockfish	Santa Cruz, CA	May 14-18 or May 21-25	Alec MacCall	John Field
STAR Panel #3	skates	spiny dogfish	Seattle, WA	June 25-29	Vlada Gertseva	Theresa Tsou
STAR Panel #4	darkblotched rockfish	sablefish	Newport, OR	July 16-20	Owen Hamel	Michael Schirripa
STAR Panel #5	canary rockfish	arrowtooth flounder	Seattle, WA	July 30-Aug 3	Ian Stewart	Isaac Kaplan and Tom Helser
Mop-Up	If needed	If needed	Seattle, WA	Oct 1-5	If needed	If needed

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON GROUND FISH STOCK ASSESSMENTS FOR 2007

The Scientific and Statistical Committee (SSC) reviewed the draft plan for Groundfish Stock Assessments for 2007 and discussed several proposed changes to the schedule.

Cowcod: Dr. Steve Ralston noted that an improved time series of historic catch data are now available for cowcod. Additionally, it was noted that there was an error in the way selectivity was modeled in the previous assessment. Since changes in catch data and the correction of errors are permitted under the Terms of Reference, the SSC agrees that this assessment should proceed as an update.

Blue Rockfish: Mr. Tom Barnes stated the California Department of Fish and Game is prepared to conduct a stock assessment for blue rockfish. The SSC noted that the Stock Assessment Review (STAR) Panel process for 2007 can accommodate an additional species in the schedule. Preliminary evidence suggests that blue rockfish may be two separate species. The SSC recommends proceeding with a stock assessment to summarize existing information and to evaluate stock status.

Black Rockfish: In lieu of conducting a spiny dogfish stock assessment, Washington Department of Fish and Wildlife (WDFW) has offered to conduct an assessment of the northern stock of black rockfish. The SSC recommends that this assessment, the black rockfish assessment by Oregon Department of Fish and Wildlife, and the blue rockfish assessment should be reviewed together. Similarities in biology and catch statistics will result in an improved STAR Panel review if these assessments are reviewed jointly.

Widow Rockfish/English Sole: At the recent Northwest Fisheries Science Center (NWFSC) Trawl Survey Workshop it was decided that combining the historical triennial trawl survey time series and the new NWFSC trawl survey time series would not be permitted for stock assessment updates. Should an assessment author wish to pursue combining data from the two sources, the burden of proof will reside with the author to demonstrate the validity of the pooled index in a full stock assessment. In the case of widow rockfish and English sole, the assessments are not expected to use the NWFSC shelf trawl survey data, and thus they will both continue to qualify as updates.

Yelloweye Rockfish: The SSC recommends that the yelloweye rockfish stock assessment continues to be conducted as an update. After discussing the WDFW concern related to yelloweye rockfish at the September Council meeting, the SSC concluded that it would be inappropriate to incorporate the catch per unit of effort (CPUE) time series that included Pacific halibut trips in an updated assessment. Specifically, the recently adopted Terms of Reference for Groundfish Stock Assessments stipulates that to qualify as an update “a stock assessment must carry forward its fundamental structure from a model that was previously reviewed and endorsed by a STAR Panel.” Instead, as a potential solution to this problem, it was decided that the Stock Assessment Team should proceed by: (1) preparing a stock assessment update that adheres to the existing Terms of Reference, (2) conducting sensitivity runs of the base model that

incorporate altered time series of CPUE and catch, and (3) presenting those findings to the SSC groundfish subcommittee during its review of stock assessment updates. Depending on the results of the sensitivity run, as well as on whatever other competing demands arise during the course of the five STAR Panels that are planned for the spring/summer of 2007, the groundfish sub-committee may elect to refer the issue to the “mop-up” panel for more thorough evaluation.

The SSC also discussed the concern that the groundfish subcommittee meeting to review updated assessments, tentatively scheduled for Wednesday during the week of the June, 2007 Council meeting, may not facilitate advisory body participation. The SSC is open to discussing an altered schedule for the updated assessment review to accommodate this concern. Additionally, the review of rebuilding analyses should be scheduled at a time that will permit advisory body participation. This activity could potentially be scheduled to occur during the “mop-up” STAR Panel tentatively scheduled for October, 2007.

The following tables summarize the recommended stocks for assessment, and a proposed STAR Panel schedule:

Revised List of Stocks Scheduled for Full Assessment	Lead Agency	Stocks Scheduled for Updated Assessment	Lead Agency
Bocaccio	SWFSC	Cowcod	SWFSC
Canary Rockfish	NWFSC	Widow Rockfish	SWFSC
Chilipepper Rockfish	SWFSC	Yelloweye Rockfish	NWFSC
Arrowtooth Flounder	NWFSC	Pacific Ocean Perch	NWFSC
Darkblotched Rockfish	NWFSC	English Sole	NWFSC
Sablefish	NWFSC		
Black Rockfish (South)	ODFW		
Black Rockfish (North)	WDFW		
Longnose Skate	NWFSC		
Spiny Dogfish	WDFW		
Blue Rockfish (South)	CDFG		
Pacific Whiting	NWFSC/CDFO		

Revised 2007 Groundfish STAR Panel Schedule as Discussed by the SSC

	Species 1	Species 2	Proposed Location	Proposed Dates (2007)	Lead Author Species 1	Lead Author Species 2
US – Canada Joint Panel	Pacific Hake/Whiting	NA	Seattle, WA Silver Cloud Hotel	Feb 5-9	Tom Helser and Steve Martell	NA
STAR Panel #1	Skates	Sablefish	Newport, OR	May 7-11	Vlada Gertseva	Michael Schirripa
STAR Panel #2	Black Rockfish(N&S)	Blue Rockfish	Portland, OR	May 21-25	David Sampson(S) Theresa Tsou (N)	Meisha Key
STAR Panel #3	Bocaccio	Chilipepper rockfish	Santa Cruz, CA	June 25-29	Alec MacCall Steve Ralston	John Field
STAR Panel #4	Darkblotched Rockfish		Seattle, WA	July 16-20	Owen Hamel	
STAR Panel #5	Canary Rockfish	Arrowtooth Flounder	Seattle, WA	July 30-Aug 3	Ian Stewart	Isaac Kaplan & Tom Helser
Mop-Up	If needed	If needed	Seattle, WA	Oct 1-5		

GROUND FISH ADVISORY SUBPANEL REPORT
ON GROUND FISH STOCK ASSESSMENTS FOR 2007

The Groundfish Advisory Subpanel (GAP) discussed the proposed list of full and updated assessments for 2007. The GAP also heard an update from Mr. Tom Jagielo, from the Scientific and Statistical Committee (SSC), regarding the stock assessment process.

The GAP is in agreement with the SSC that spiny dogfish should be removed from the full assessment list. The GAP also agrees that a California blue rockfish assessment should be added to the full assessment list and that the black rockfish assessment should be a coastwide one.

The GAP is also supportive of the stock assessment review (STAR) panel schedule for full assessments recommended by the SSC and has appointed tentative GAP representatives for each of the STAR panels.

Lastly, the GAP has significant concerns regarding the SSC's recommendation to review updated assessments at Council meetings. In addition to the importance of a GAP representative at the update reviews, many additional GAP members will likely want to attend these sessions. In recent years, the GAP has met for several days during each Council meeting making attending the update session impossible if it occurs simultaneously. The GAP recommends that the stock assessment update reviews are conducted outside of regularly scheduled Council meetings.

PFMC
11/14/06

GROUND FISH MANAGEMENT TEAM (GMT) REPORT ON
GROUND FISH STOCK ASSESSMENTS FOR 2007

The GMT and the GAP were briefed by Mr. Tom Jagielo on the SSC's suggested modifications to the list of assessed species and the STAR Panel schedule. We support the SSC recommendations on stock assessment priorities, including the addition of a northern (WA) assessment of black rockfish by WDFW, an assessment of blue rockfish by CDFG staff (either throughout California or south of 40° 10' N lat. only, whichever is determined to be appropriate by the STAT Team), and the postponement of a spiny dogfish assessment to a future assessment cycle.

With respect to scheduling, the GMT is concerned that participation by GMT, GAP and other interested parties will be minimal if SSC review of assessment updates and rebuilding analyses occurs simultaneously with Council meeting work weeks. During a typical Council work week, most GMT, GAP and other interested parties will be unable to devote an entire day or half-day to attend these important reviews. This could lead to dissatisfaction similar to that expressed in the last assessment cycle, when the interaction between STAT Teams, review panels, and Council advisory bodies was widely considered to be insufficient. Consequently, the GMT strongly recommends that such reviews occur outside of the typical Council meeting schedule. The GMT also notes that if time and cost were a constraint to conducting these reviews in a separate Review Panel, a plausible solution might be for the SSC to conduct these reviews on a Sunday preceding a typical Council meeting work week, to minimize travel and participation costs.

GMT RECOMMENDATIONS

1. Adopt the SSC recommendations regarding modifications to the list of species to be assessed and the STAR Panel schedules for reviewing full assessments.
2. Provide guidance regarding the timing of reviews for stock assessment updates and rebuilding analyses.

PFMC
11/14/06

EXEMPTED FISHING PERMITS FOR 2007 FISHERIES

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. Because the EFP fisheries harvest or impact a portion of the overall available harvest, preliminary Council approval and harvest set-asides for EFPs in 2007 (and 2008) were adopted along with 2007-2008 management measures at the June 2006 Council meeting. The 2007 EFP harvest set-asides were 6.9 mt of bocaccio, 0.4 mt of canary rockfish, 0.1 mt of cowcod, 0.4 mt of darkblotched rockfish, 3.6 mt of widow rockfish, and 0.1 mt of yelloweye rockfish.

Applications for EFPs proposed for 2007 were adopted at the September 2006 Council meeting to give Council members, Council advisory bodies, and the general public an opportunity to review these applications and prepare their recommendations for this meeting. The three EFP applications recommended in September for public review and considered for final approval at this meeting are provided as Agenda Items D.4.a, Attachments 1, 2, and 3. The three proposed EFPs are designed to test different hook-and-line gear configurations and strategies to selectively harvest abundant chilipepper rockfish off central California. Specified elements of the EFP applications recommended by the Council include overfished species' bycatch caps (these bycatch caps are collectively within the EFP harvest set-asides specified at the June 2006 meeting), which include a cap of 100 lbs of canary rockfish per vessel in each EFP; that the EFP activities must occur seaward of 80 fm; 100% observer coverage with the cost of observers borne by EFP participants; and a standardized data collection and reporting format coordinated by the California Department of Fish and Game and the NMFS Northwest Fisheries Science Center. The attached EFP applications have been modified according to the recommended changes adopted by the Council in September 2006.

Under this agenda item, the Council will review these modified EFP applications, consider public and advisory body comments, and consider recommending final approval of 2007 EFP applications to NMFS. The Council should also consider recommending a shoreside whiting EFP for the 2007 whiting fishery. Information provided under Agenda Item D.6 may also be helpful for deciding the recommended elements in a shoreside whiting EFP next year.

Council Action: Consider EFP applications for 2007 and recommend final approval to NMFS.

Reference Materials:

1. Agenda Item D.4.a, Attachment 1: Chilipepper Rockfish EFP Application Sponsored by Berkeley.
2. Agenda Item D.4.a, Attachment 2: Chilipepper Rockfish EFP Application Sponsored by Churchman.
3. Agenda Item D.4.a, Attachment 3: Chilipepper Rockfish EFP Application Sponsored by Kraencke.
4. Agenda Item D.4.c, Public Comment.

Agenda Order:

- a. Agenda Item Overview
- b. Reports and Comments of Advisory Bodies
- c. Public Comments
- d. **Council Action:** Approve Final Recommendations to NMFS

John DeVore

PFMC
10/24/06

EXPERIMENTAL FISHING PERMIT APPLICATION

1. Date of Application

November 14, 2006

2. Applicant Name(s)

Washington Department of Fish and Wildlife
48A Devonshire Road
Montesano, WA 98563-9618
Attention: Brian Culver (360) 249-1205

Oregon Department of Fish and Wildlife
2040 SE Marine Science Drive
Newport, OR 97365-5294
Attention: Mark Saelens (541) 867-0300 ext 251

California Department of Fish and Game
411 Burgess Drive
Menlo Park, CA 94025-3488
Attention: Mike Fukushima (415) 581-7358

3. Purposes and Goals of the Proposed Experiment

The goal of the exempted fishery is to implement an observation program at the request of the Pacific Fishery Management Council to enumerate the bycatch in Pacific hake harvests delivered to shoreside processing plants for 10 – 15 percent of all EFP deliveries. The program also seeks to minimize the amount of bycatch in the fishery, including the amount of excess catch experienced due to exceeding the capacity of the vessel.

Pacific hake must be handled quickly to ensure quality, and as a result many vessels dump tows directly into the hold and are unable to sort their catch. The technical purpose of the EFP is to allow delayed (non) sorting from mid-water trawl catches of Pacific hake until the catch is unloaded at a shoreside processing plant. Additionally, in order to sample unsorted total catch shoreside, the EFP must include provisions to allow for potential overages in groundfish trip limits as well as the retention of prohibited species (e.g. salmon and halibut) until offloading. The amounts of groundfish exceeding current trip limits will be forfeited to the state in which the delivery is made and payment made at the port price.

The EFP is also necessary to authorize retention of prohibited species (e.g. salmon and halibut) until shoreside delivery by vessels participating in the observation program.

Current groundfish regulations at 50 CFR 663.7(b) stipulate that prohibited species must be returned to the sea as soon as practicable with a minimum of injury when caught and brought aboard. The EFP would be valid only for landings by permitted vessels at processing plants that have been designated by the States of Washington, Oregon, or California as participants in the observation program. Designated processing plants will have signed agreements with their state, agreeing to set aside prohibited species for biological sampling and disposition, and allow sampling of Pacific hake landings and groundfish bycatch. Participating vessel/operator combinations will also undergo a state and federal violations check to exclude significant fisheries violators from participating in an exempted fishery.

There are two options for disposal of incidentally caught prohibited species brought ashore: (1) donate to a local food share or other appropriate charitable organization, or (2) reduction in the fish meal plant. Option 1 is preferred, but salmon caught by trawls are often in poor condition, and they are also very perishable. In addition to enumerating each prohibited species, other data to be collected include length, sex, and weight. Salmon snouts from appropriately marked fish will be collected for coded wire tag retrieval.

Another goal of this EFP fishery is to document the bycatch of other groundfish species encountered while target fishing for Pacific hake. Biological data (age, weight, length, otoliths, and sex) will be collected for Pacific hake, sablefish, yellowtail rockfish, widow rockfish, Pacific mackerel, and jack mackerel, and other species as needed and available.

4. Justification

The EFP is requested so that an accurate count of incidentally caught salmon can be generated, and estimates of groundfish bycatch rates can be obtained from shoreside deliveries of Pacific hake. An EFP provides legal protection for trawlers and processors that have possession of incidentally caught prohibited species, and also provides legal protection from overages of groundfish resulting from targeted fishing trips for hake.

5. Statement of Project Significance

Enumeration of incidentally caught species is the primary purpose for this EFP. Monitoring the bycatch of salmon in the Pacific hake fishery and is also a requirement of the ESA Section 7 consultation. Estimation of groundfish bycatch and collection of biological information to support stock assessment work is an additional purpose. Results from this project will be used to develop regulations for managing and monitoring this fishery without the need for an EFP each year.

6. Vessels to be covered by the EFP

List to be provided at a later date.

7. Species and Amounts to be Harvested

The target species to be harvested is Pacific hake (*Merluccius productus*). The preliminary U.S. Pacific hake harvest guideline in 2007 will be determined at the March 2007 council meeting based on the February assessment. In both 2005 and 2006, the U.S. Pacific hake fishery was allocated an optimum yield of 265,069 mt. The corresponding shore-based allocation was 97,469 mt. According to current federal management specifications for 2007 and 2008, the entire Pacific hake fishery will be conducted under a cap of 4.7 mt of canary rockfish (subject to change based on Council action taken in November, 2006), and 200 mt of widow rockfish in 2007. Based on bycatch information from our EFP program during 2005 **(bold)** and 2006, the following table shows catches of salmon, overfished species of rockfish, sablefish, and other species that would be expected in the shoreside sector in 2007. These expected bycatch totals would need adjustment if the 2007 shores-based allocation were decreased or increased from the current level.

<u>Species/Species Group</u>	<u>Bycatch Rate (no/mt.)</u>	<u>Expected Bycatch (number)</u>
Chinook salmon	0.009- 0.041	839- 4,018
Halibut	0.0005 -0.0007	46-71
<u>Species/Species Group</u>	<u>Bycatch Rate (kilograms)</u>	<u>Expected Bycatch (kg)</u>
Sablefish	0.114- 0.230	11,123- 22,419
Widow Rockfish	0.507- 0.793	49,376- 77,153
Yellowtail Rockfish	1.600- 1.750	155,355- 170,434
Canary Rockfish	0.016- 0.023	1,628- 2,223
Yelloweye Rockfish	0.000077- 0.000092	9 -75
Darkblotched Rockfish	0.023- 0.055	2,277- 5,337
Boccacio Rockfish	0.0018 -0.0027	176 -264
Lingcod	0.060	5,868 -5,870
POP	0.0014- 0.0053	139- 517
*Misc. Rockfish	0.172- 0.319	16,798- 31,063
Mackerel	0.065- 0.846	6,343- 82,430
Walleye Pollock	0.0000020- 1.930	2- 187,897
American shad	0.385- 1.633	37,509- 159,050
Pacific herring	0.0075 -0.155	7,340 -15,092
Spiny dogfish	0.352- 0.971	34,317- 94,553
**Other Misc. Fish	0.090- 0.255	8,733- 24,840

*Misc rockfish includes market categories of nearshore, shelf, and slope rockfish, and shortbelly rockfish, and chilipepper rockfish.

**Other misc. fish include: Pacific cod, shark, squid, octopus, flatfish (other than halibut), and skates.

8. Conduct of Fishing Experiment

Fishing will occur in the exclusive economic zone (EEZ) in the International North Pacific Fisheries Commission (INPFC) Eureka, Columbia and Vancouver areas. Ports of interest are Ilwaco and Westport, WA; Astoria, Newport and Charleston, OR; and Crescent City and Eureka, CA. Trawls, which conform to current legal requirements for midwater trawls, will be used to capture the target species. The season will open June 15, 2007 (April 1 off northern California), and will likely run through late-July or early-August depending on optimum yield. The EFP should be valid through the end of December, to allow for any delay in shore-based allocation attainment.

As in 2005 and 2006, the fishery will use electronic monitoring (on board video) to ensure compliance with the maximized retention stipulations of the permit. Shoreside sampling will provide accurate estimates of the total catch for each fishing trip. Electronic monitoring will also allow gross estimation of the amount of hake discard and provides an evaluation tool for vessel operators to use to minimize their excess catch.

The program will continue to rely on industry funding to pay for plant observers, part of the salary for a coordinator and data analyst assistant, supplies, and travel to processing plants and meetings. This is funded by processors that pay into a PSMFC fund based on their projected relative landings of hake in the 2007 fishery. At this time, funding for electronic monitoring is uncertain.

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 24, 2006

Applicant: Steven A. Berkeley
Long Marine Lab, University of California, Santa Cruz,
100 Shaffer Road
Santa Cruz, CA 95060

Phone: 831-459-3530

Email: stevenab@ucsc.edu

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 2004, chilipepper landings were 58.3 mt (http://www.st.nmfs.gov/pls/webpls/MF_ANNUAL_LANDINGS.RESULTS) of a 2000 mt OY. Area closures to protect overfished rockfish species have effectively closed access to this resource.

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 a relatively abundant species of rockfish, chilipepper, the fishery for which is constrained by the current rockfish area closures (RCA), implemented to protect overfished rockfish species. Despite the generally depressed condition of many west coast groundfish stocks, there are some 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 under commercial fishing conditions. 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 2007 to fish inside the current RCA using otherwise legal open access fixed gear. 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. 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. 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 37.30 degrees), at depths of approximately 80-120 fm, but no shallower than 80 fm. This depth range is currently within the RCA (60-120 fm February -September and from 30-150 fm the rest of the year) established to protect overfished rockfish species.

To ensure that this experimental fishery has a minimal impact on overfished rockfish species, we are requesting caps on the fishery as follows:

Widow rockfish: 1,440 lb (0.7 mt) annual cap calculated as a maximum 3% by weight of expected chilipepper take
Bocaccio: 7,200 lb (3.3 mt) annual cap calculated as a maximum 15% by weight of expected chilipepper take
Canary: 20 lb bimonthly per vessel, 100 lb annually per vessel, 300 lb annual cap for all vessels
Cowcod: 50 lb annual cap
Yelloweye: 50 lb annual cap
Darkblotched: 50 lb bimonthly per vessel cap, 0.4 mt annual cap for all vessels

Under the terms of this EFP, each vessel will carry an observer with the cost of observer coverage borne by EFP participants. 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 following extrapolations 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.

All vessels participating in this EFP fishery will be required to carry an observer. 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).

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. The applicant, Steve Berkeley, 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 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.

Vessel to participate in this EFP fishery will be chosen on their ability to accommodate an observer and their willingness to maintain detailed catch data and their willingness to fish for an entire year.

APPLICATION FOR ISSUANCE OF AN EXEMPTED FISHING PERMIT TO TEST A
SUSTAINABLE HOOK AND LINE FISHERY FOR CHILIPEPPER ROCKFISH INSIDE THE
NON TRAWL RCA IN CENTRAL CALIFORNIA (40°10' N LAT.-34°27' N LAT.)

Date of application: 5/21/06 (Modified 10/24/06)

Applicant Name:

Josh Churchman
1 Opal Road
Bollinas, CA 94924
(415) 868 0982

John Mellor
Ed Paasch
Kurt Hochberg

Purposes and Goals of the Proposed Experiment

The goal of the exempted fishery is to develop a method for harvesting the abundant stocks of chilipepper rockfish in the central California region (40°10' N Lat.-38° N Lat.), and minimize the take of non-target species (canary, cowcod, yelloweye).

- Design a sustainable hook and line fishery for limited entry and open access vessels,
- Restore a historic method for a total retention fishery,
- Bring back a community based fishery for rockfish.

The specific goals of the experiment are to:

- evaluate the effectiveness of vertically-fished gear using a maximum of one hundred hooks,
- measure bycatch of non target species.

Disposition of Fish Harvested under the Exempted Fishing Permit (EFP)

Species caught within normal trip limits may be retained and sold. All fish taken over species caps will be forfeited.

Justification Explaining Why an EFP is Warranted

The traditional "fixed gear" fishery has two tragic flaws. First, is the fact that it is a bottom contact fishery. Central California contains three national marine sanctuaries whose guidelines prohibit any disturbance of the benthic habitat. Any EFP for this area should strive to be a non-bottom contact fishery. The second flaw is the fact that too many hooks are deployed on any given set. If the set lands on a spot with the wrong kind of fish, the impact is greater as the number of hooks increases.

The chilipepper rockfish is often found in mid-water. A vertical line will fish a suspended shoal of fish as well as a horizontal line and the vertical line does not need to contact the bottom to be effective.

Statement of Project Significance

The three major ports in this area at Bodega Bay, San Francisco Bay, and Half Moon Bay. All three of these ports have had significant historic hook and lone landings. The ex-vessel values of hook and line caught fish have always been much higher than trawl caught fish of the same species, so more boats catching fewer fish will make more money to support these three diminishing fishing communities.

If there is an open access fishery planned for the future in this area a vertical hook and line, hand operated equipment only alternative may be a consideration for the “go slow” approach.

Vessels to be Covered by the EFP

FV Palo FG 27309 GF 0056 Josh Churchman	Bodega Bay
FV Hazel A FG 44951 GF 0125 Ed Paasch	Bodega Bay
FV High Hopes FG 40156 L 07874 John Mellor	San Francisco Bay
FV Rouge FG 40158 Kurt Hochberg	San Francisco Bay

Species and Amounts to be Harvested

The target species to be harvested is the Chilipepper rockfish (*Sebastes goodei*).

Overfished species bycatch caps:

Bocaccio	7.3 mt
Canary	400 lbs; 100 lbs annually per vessel
Cowcod	225 lbs
Yelloweye	225 lbs

The Bocaccio rockfish (*Sebastes paucispinis*) is often found with the chilipepper. The Bocaccio is much larger than the chilipepper and the pounds per fish difference is significant. The incidental take of Bocaccio is the only significant non target interaction anticipated in this EFP proposal.

Other EFP Specifications

All fishing will take place seaward of 80 fm.

All vessels will carry an observer and agree to pay any reasonable cost for the observer.

All vessels will declare the time and place of landing to allow access to interested biologists.

All vessels will have a VMS system.

A standardized data collection and reporting format will be coordinated by the California Department of Fish and Game and the NMFS Northwest Fisheries Science Center.

Contact person:

Josh Churchman
1 Opal Road 5op
Bollinas, Ca 94924
(415) 868 0982

Proposal

The goal of this exempted fishing permit (EFP) is to demonstrate it is possible to harvest healthy stocks of Chilipepper Rockfish while avoiding other species deemed less healthy. This EFP would allow ~~a limited number of~~ one vessels ~~(6)~~ to take Chilipepper rockfish shoreward of the RCA boundary line using trolled hook and line gear known as “carpet runner” gear. At this time pursuing this underealized resource is economically unfeasible due to Chilipepper rockfish being considered part of the 200 pound bimonthly shelf rockfish limit. Allowing Chilipepper rockfish to be in a separate category and increasing the limit to 2000 pounds per month would make this a viable fishery. This would provide an alternative to replace lost fishing opportunities available to small vessels as a result of other closures. By allowing fishing with selective gear in the present RCA, the fishing would be done in the area where the targeted fish are found in the greatest numbers. There would be 100% retention of legal fish with only prohibited species being discarded. Trips would have 100% observer coverage to document and record the species caught.

Long Term Goal

The long term goal of this project is to provide access to Chilipepper rockfish stocks in the open access category fisherman. The monthly limits would be set by the biological abundance data. It is not known how many vessels would participate so the season may need adjustments to control the overall take.

Rationale:

1. The California Department of Fish and Game, in their regulations encourages experimental fishing methods (section 8606). This section allows new types of commercial fishing gear and methods in areas otherwise closed. Carpet runner gear allows for the use of existing salmon fishing machinery with limited expenditure for modifications.
2. The Chilipepper rockfish stock is healthy and harvest should be allowed if it is proven that non-target fish stocks can be avoided. A quote from a DFG document: dfg.ca.gov/MRD/MLPA/response/shelf “A few shelf rockfish species such as Chilipepper and Yellowtail appear to be comparatively healthy; their allowable take has been set at levels below the potential yield to protect the weaker species that tend to be caught with them, such as Bocaccio and Canary”.
3. The fishing gear proposed can be set at a depth that is less likely to have contact non-target species such as Canary rockfish (further from the bottom). Cowcod and Yelloweye rockfish are not commonly found in the proposed fishing area. During

several salmon fishing trips within the RCA in 2005 the abundance of Chilipepper rockfish was noted. No Bocaccio rockfish were encountered with the trolled salmon gear during those trips.

4. Trolled gear, unlike trawl gear, has a relatively small catch capacity. The number of hooks used limits the catch in any one “set” so any contact with non-targeted species would be limited. The tows are much shorter in duration than trawl tows and the vessel can easily move to another fishing area if non-targeted species are encountered.
5. The fish caught by hook and line are handled much differently than trawl caught fish. Their superior appearance allows them to be more easily sold in the round for a higher price than trawl fish destined for the fillet market. The large ethnic communities in the San Francisco Bay area represent a consistently reliable market for this high quality round fish. A similar fish, Ocean Perch, are currently being imported from Canada to fill this market. Hook and line fishing seems to be a way of allowing a small harvest of a healthy resource for the most economic benefit to small vessel fishermen.
- ~~6. The limited availability of observers presents a challenge, however most vessels are already fishing in the groundfish fishery where observers are required. If the experimental fishing were done during the period the observer was already required to be aboard the vessel there would not be a net increase in observer coverage. The assumed higher catch rate fishing Chilipepper rockfish over nearshore fishing would allow the limit to be reached with fewer trips so it is possible the number of observer covered trips could actually be reduced.~~
6. This EFP will have 100% observer coverage with the cost of observers borne by the EFP participant.
7. 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.

Fishing Gear

The fishing gear would consist of the following elements: A vertical 3/32 diameter stainless steel cable attached to a 50 pound lead ball. A horizontal main line of 400 pound test monofilament line with crimped stops and swivels placed approximately every 30 inches. Attached to the swivel are an approximately 12 inches of 80 pound test monofilament line and an artificial shrimp fly. The main line would contain a maximum of 200 hooks. The main line is deployed and retrieved from a separate reel. The main line is overlayed with a piece of plastic carpet runner between wraps to prevent the hooks from tangling.

Fishing Technique

The vessel will motor through areas known to hold Chilipepper rockfish. Once a school of fish is located using depth sounder readings, a test line using a maximum of 6 hooks will be lowered to the indicated depth to determine the species of fish present. If other non-target species are found, a new location will be sought. If Chilipepper rockfish are present, the boat will be positioned to troll the gear through the school of fish at the depth noted by depth sounder readings. The hooks will be kept at least 10 fathoms from the bottom by noting the amount of main line extended.

Bycatch Caps

Pounds

	Per Vessel	Per Vessel	Annually
Species	2 mo. Period	Annually	All vessels
Widow/yellowtail	200	600	3600
Bocaccio	200	600	3600
Canary	20	40	240
Cowcod	1 fish	1 fish	6 fish
Yelloweye	1 fish	1 fish	6 fish
Target species			
Chilipepper	4000	16,000	96,000
<i>Bocaccio</i>	<i>1.6 mt</i>		
<i>Canary</i>	<i>100 lbs</i>		
<i>Cowcod</i>	<i>50 lbs</i>		
<i>Yelloweye</i>	<i>50 lbs</i>		

Applicant Information:

Applicants:	Robert Kraencke 280 Douglane Ave. San Jose, Ca. 95117 Phone: 408-887-4567	Jerry Pemberton 426 Beach Street Half Moon Bay, Ca. 94019 Phone 650-619-0388
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Vessel: Lady LeBlanc
F&G 49548

Fishing Area: Latitude 38° N lat. to 36°50' N lat.
Depth 80 to 100 fm, but no shallower than 80 fm

Time Period: April – November for a 2 year period

**Application for Issuance of an Exempted Fishing Permit to Replace Trawling with
Fixed Gear Fishing off the Central California Coast**

The Central California Sustainable Groundfish Fishery Plan

A. **Date of application:** November, 2006

Applicant Contacts: Rod Fujita, Environmental Defense (ED)
Chuck Cook, The Nature Conservancy (TNC)

C. **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:**

Goals:

1. To provide an experimental method to reduce the rate of bycatch of the traditional trawling fishing fleet of Morro Bay through gear switching to hook and line and traps. The project would test the effectiveness of this method in reducing the rate of bycatch and include well-defined and standardized data collection and dissemination to stakeholders.
2. To provide a pilot project for gear switching that would provide information and lessons to stakeholders in advance of a likely larger gear-switching effort associated with the transition of trawling permits to an ITQ system.

According to the Council's November 2006 Situation Summary, the purpose of an EFP should be to "provide a process for testing innovative fishing gears and strategies to substantiate methods for prosecuting sustainable and risk-averse fishing opportunities". This EFP would substantiate a method (leasing 7 trawl permits on condition of gear-switching to fixed gear) for prosecuting a sustainable and risk-averse fishing opportunity (by allowing participating fishermen to access productive, high value stocks with greatly reduced bycatch/discard and habitat damage relative to trawling, reducing risks of catching overfished species and of harming habitat).

Seven trawl permits have already been purchased by The Nature Conservancy (TNC) in the project area. The acquisition of these permits have created an opportunity for stakeholders to work together towards an innovative approach aimed at transforming this local fishery to more sustainable practices, while also proving information and lessons associated with this fishing management strategy. The project would also help this fishing community address large local economic losses that have resulted from the higher fuel costs, reduction in fish purchasers, federal trawl buyout, and other regulation and conservation measures.

This EFP would help increase fishing opportunity in the study area by allowing fishermen to use fixed gear to catch fish currently associated with trawl permit trip limits. The EFP will require 100% NMFS-certified observer coverage of participating vessels so to maximize the amount of data and information that can be gathered from the project. It is anticipated that a cost-sharing agreement between TNC/ED and participating fishermen will be established to pay for the observer coverage. TNC/ED will also work with the Council, Department of Fish and Game and other stakeholders to identify the most effective data gathering and dissemination system for this project.

This EFP is an element of the Central California Sustainable Groundfish Plan (attached). There is a direct nexus with the goals of this Plan and the goals of the PFMC and NOAA-Fisheries of the west coast groundfish Fishery Management Plan (FMP), such as:

- Prevent overfishing by managing for appropriate harvest levels and prevent any net loss of the habitat of living marine resources; specifically, by reducing discard mortality.
- Maximize the value of the groundfish resource as a whole.
- Achieve optimum yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities
- Minimize bycatch and waste
- Protect Essential Fish Habitat

The EFP will also fulfill several goals and guidelines articulated in the PFMC's Groundfish Strategic Plan:

- Create incentives for fishing in ways that are consistent with management goals and objectives (p. 7)
- Licenses, endorsements, or quotas established through management or capacity reduction may be limited to specific areas through exclusive area registration and consider port landing requirements (p. 14)
- Implement an at-sea observer program (p. 14)

The study will apply to vessels fishing out of Morro Bay and Port San Luis, California, an area that has been especially impacted by capacity reduction. Preference for eligibility will be given to fishermen residing in San Luis Obispo.

Finally, we hope to show that implementation of gear-switching will prove more tractable on a smaller scale (San Luis Obispo County) than on the scale of the entire PFMC area of jurisdiction. The greatest constraint on fishing opportunity,

maximization of value, and the achievement of the other FMP and strategic plan goals for this fishery is the bycatch of depleted species. This also constitutes one of the most important conservation problems caused by this fishery.

The EFP will assist the PFMC in achieving the goals set forth in the FMP and strategic plan allowing participating fishermen to switch gears from trawling to fixed gear. This will reduce bycatch and discard. Lower bycatch and discard rates of depleted species should increase fishing opportunity on more productive species caught in the same habitats, thereby increasing yield and reducing waste.

Disposition of the species harvested under the EFP will be as follows:

- Species caught within the normal current trip limits may be retained and sold by the vessel.
- All rockfish caught while targeting shelf groundfish during the EFP must be retained and offloaded. Overages of rockfish must be surrendered.

D. Valid justification explaining why issuance of an EFP is warranted:

Since 1998, the PFMC has initiated rebuilding plans for several species that have been depleted below the minimum stock size threshold. Regulations such as small trip limits designed to protect these species and allow them to rebuild have resulted in severe constraints on fishing opportunity for more productive species, reducing overall yield and economic performance while at the same time creating incentives for discard, creating a major economic and conservation problem.

While the reduction of bycatch and discard is an overall goal for the west coast groundfish fishery, implementation of the many excellent recommendations for achieving it (bycatch caps, transferable bycatch allowances, high levels of observer coverage, closed areas) have been and will be limited by available financial resources. In the short term, this EFP should allow fishermen participants to reduce bycatch and discards and to access more fish, reducing threats to fishing infrastructure and livelihoods that have arisen from greatly reduced landings in recent years. This EFP will also allow the PFMC and NOAA-Fisheries to test the efficacy of this gear-switching approach on a smaller, more tractable scale, providing valuable data for broader application. If the benefits are substantial, the EFP may inspire other areas or groups of fishermen to proactively carry observers or video monitoring equipment in order to justify gear-switching, potentially extending the flexibility granted under this EFP to the rest of the fleet).

An additional justification for issuing this EFP is the crisis resulting from reduced trawl landings in Morro Bay. Landings in these ports must increase as soon as possible if fishing infrastructure and historic fishing heritage are to be preserved in the face of severe threats. Several fishermen in the study area once fished vertical hook and line gear, and reduced their fishing effort on rockfish in response to reduced rockfish trip limits and the RCAs. This EFP would allow these fishermen to demonstrate their ability to target rockfish with minimal bycatch and habitat impact.

Upon successful demonstration of this ability, they would be accorded greater access to the fish resources. Such fishing techniques will be critical for transitioning groundfish fisheries to lower volume, higher value fisheries. This transition will be essential for maintaining the economic and ecological health of the groundfishery.

E. A statement of whether the proposed exempted fishing has broader significance than the applicant's individual goals.

We believe that the information collected during this experiment will have broader significance than our specific goals, and in fact will be applicable to fisheries throughout California and the West Coast.

- This EFP will greatly enhance observer coverage and may induce other vessels to carry observers if this is made a condition of gear-switching.
- Data on bycatch and discard reduction at the smaller scale of this EFP will indicate the potential for reduction fleet-wide as a result of gear-switching, providing both information vital for decision-making and inspiration for other fishermen and areas to reduce bycatch and discard proactively
- Participants in project would agree to abide by smaller caps for critically over fished species, leaving a larger total fishing allocation of these species for the possible utilization of the larger trawl fleet.

F. Vessels covered under the EFP:

Fishermen eligible to apply for participation in the EFP will include those who reside in the project area of San Luis Obispo County (where TNC's trawl permit acquisitions took place) and/or those who have historically fished out of ports in the project area. The eligible vessels and fishing methods will include a mix of hook/line and pot vessels.

Any EFP may be canceled and made available to another vessel if the permitted vessel: 1) does not follow the terms and conditions of the permit; 2) fails to follow federal or State fishing regulations; 3) does not prosecute the fishery using the bycatch reduction methods specified in the EFP; or 4) does not reasonably accommodate the observer or cooperate with the applicant.

A permitted vessel may withdraw once from the EFP program and resume participation the following month.

G. 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:

The primary target species are slope rockfish and the DTS complex and perhaps some experimental trapping of flatfish.

The maximum allowed catch (cap) for target species will be tied directly to the trip limits already established for limited entry fixed gear. However, actual catches would count against the total trawl fleet allocation and individual limited entry trawl trip limits. Fishing participants would be subject to all established regulations, trip limits and other guidelines for limited entry fixed gear.

The program requires full retention of rockfish. All rockfish species will be landed and surrendered to enhance biological sampling and to document the actual rockfish mortality and discard rates, with catch thresholds in place for overfished rockfish species to ensure that take remains below allocated bycatch caps. The EFP thresholds for incidental take of overfished stocks will be applied as follows:

- Proposed total annual EFP catch thresholds for overfished species (for 7 trawl permits):
 - Boccacio: 1000 lbs
 - Cowcod: 250 lbs
 - Canary: 250 lbs

H. For each vessel covered by the EFP, the approximate time(s) and place(s) fishing will take place:

The test fishery will be conducted from April 2007 through April 2008, with the expectation that TNC/ED will apply for a one year renewal in April 2008. The EFP will be valid in those Pacific Ocean waters adjacent to the California coast between Point Conception and 36 degree latitude.

I. All participating vessels under the authority of the EFP:

- Must exclusively employ legal gear as specified in Federal Register 50 CFR Ch. VI (10–1–02 Edition) Subpart G—**West Coast Groundfish** Fisheries, 660.301 Purpose and scope.
- Must apply and submit a fishing plan for approval. Fishing plans must meet the following specifications:
 - Proposed gear type and practices to be used to prosecute fishery under the EFP permit
 - Commitment to carry an observer
 - Commitment to abide by the terms of the EFP, including bycatch, discard, and directed catch caps and habitat protection regulations
 - Commitment to land all fish caught under the authority of the EFP into the ports within the project area

J. Signature of the applicant:

GROUND FISH ADVISORY SUBPANEL REPORT
ON EXEMPTED FISHING PERMITS FOR 2007 FISHERIES

The Groundfish Advisory Subpanel (GAP) reviewed the three chilipepper exempted fishing permits (EFPs) forwarded from the September 2006 Council meeting for final approval at this meeting. While the GAP initially supported passage of these three EFPs, we no longer can support their approval and implementation. This decision was made after careful deliberation of new information provided to the GAP with regard to available canary rockfish for Groundfish fisheries during the 2007 season. While the applicants were confident of their ability to prosecute the EFPs cleanly and with minimal impact to canary rockfish, the GAP now believes that the lower levels of canary available to prosecute Groundfish fisheries in 2007 precludes implementation of these experimental fisheries.

With regard to the newest EFP proposal submitted by The Nature Conservancy and Environmental Defense, the GAP is not supportive of its approval through the current EFP process. In addition to the late submission of the application, several of the criteria outlined in Council Operating Procedure #19 have not been met. Lastly, the GAP is uncertain if the EFP process is the correct avenue to advance a “gear switching” scheme that creates a “de-facto” quota program for a small number of permits. The GAP notes that the Groundfish trawl individual fishing quota process also includes a gear switching option where this type of reallocation approach can be more fully and fairly vetted. While Morro Bay may be a good location to explore regional management options, a plan amendment with a full National Environmental Policy Act process is the correct avenue to further this particular approach.

The GAP continues to support the innovative approaches afforded through the EFP process, and applauds applicants for thinking “outside of the box.” However, the GAP questions whether the EFP bycatch set-asides of overfished species with extremely low optimum yields aren’t better applied to ongoing research opportunities. For example, cooperative research efforts currently underway on canary rockfish will likely be compromised in 2007 due to unavailable incidental canary harvest for this research.

While the GAP is disappointed that the shoreside whiting fishery will once again take place under the EFP process, the GAP supports proceeding with this process for the 2007 season and urges the Council to continue implementing measures for Amendment 10 in an expeditious manner to avoid a repeat situation for 2008 fishery.

PFMC
11/14/06

GROUND FISH MANAGEMENT TEAM REPORT ON EXEMPTED FISHING PERMITS (EFP) FOR 2007 FISHERIES

Before engaging in a discussion about the EFP proposals presently before the Council, the Groundfish Management Team (GMT) reviewed the updated November scorecard for 2007. This scorecard shows that the total amount of canary rockfish from all sectors currently exceeds the optimum yield (OY). The GMT notes that the canary rockfish hard bycatch cap for the whiting EFP is currently included in the 2007 scorecard as part of the non-tribal shorebased whiting fishery. However, if the Council chooses to adopt any of the non-whiting EFPs, then this will impact the canary that is available for directed fisheries planned for next year.

Shorebased Pacific Whiting EFP

The GMT supports approval of the 2007 shoreside whiting EFP with the understanding that a Federal/state/industry workgroup will be established during the Amendment 10 (D.6) Council action. This group will immediately begin the process of identifying modification of the EFP's status quo requirements to more closely match how the fishery will operate without an EFP under Federal regulations when Amendment 10 is implemented. These modifications should be forwarded as recommendations to National Marine Fisheries Service (NMFS) as soon as possible (e.g. end of January 2007).

Chilipepper Rockfish EFPs

The GMT reviewed these EFPs relative to evaluation criteria in the Council's Operating Procedure (COP) on EFPs. In regard to the three chilipepper rockfish EFPs, the GMT would like the following additions or clarifications to be made:

- For the EFP application provided in Attachment 2 (Churchman & Mellor) and the EFP application provided in Attachment 3 (Kraencke), apply the same caps, on a per vessel basis, for darkblotched and widow rockfish as identified in the EFP application provided in Attachment 1 (Berkeley).
- For the Churchman & Mellor EFP, apply the same caps, on a per vessel basis, for cowcod and yelloweye rockfish as identified in the other two chilipepper EFPs.
- For the Churchman & Mellor EFP, provide more information on the proposed gear, including information on deployment, the number of hooks per set, and how gear will be kept off the bottom.
- For the Kraencke EFP, add text that indicates that the 50-pound lead ball will be kept off the bottom at all times.
- For the Berkeley EFP, limit the number of hooks to that allowed under 2007 regulations.

- For the Churchman & Mellor EFP and the Kraencke EFP, add text to the proposal indicating that at a minimum there will be full retention of all overfished groundfish species with amounts in excess of caps to be surrendered to the California Department of Fish and Game.

In addition, trip limits for chilipepper are not provided in the Berkeley or Churchman & Mellor EFPs, while the Kraencke EFP indicates a trip limit that is higher than currently allowed. Current chilipepper trip limits are set on the basis of the associated bycatch of overfished species. Since the EFP has hard bycatch caps, the GMT sees no rationale for establishing chilipepper trip limits as long as the overall catch of chilipepper remains below the harvest guideline.

The GMT believes that each of these EFP applications should be considered separately with each standing on its own merit.

The GMT recommends that the data from each EFP be coordinated through one source, preferably an agency such as the California Department of Fish and Game.

Nature Conservancy and Environmental Defense EFP

The GMT reviewed the EFP application from the Nature Conservancy (TNC) and Environmental Defense (ED), which proposes the initiation of a slope groundfish fishery by vessels with trawl permits (and bycatch allowances) that use non-trawl gear. Additionally, Mr. Chuck Cook and other representatives from the TNC were present to provide clarifications and corrections to the application. Mr. Cook noted the following changes to the application:

- the goal of the EFP is to reduce bycatch of overfished species by 50 percent from that under trawl gear and to serve as a pilot project for the potential implementation of gear switching within the trawl individual quota program.
- the maximum number of participants initially noted in the application was 23; however, this has been revised to a maximum of 7
- the preferred gear for the EFP is vertical longline and traps
- the target species for the EFP would be minor slope rockfish and sablefish
- funding has been identified to cover costs of observers, so applicants would cover 100% of observer costs; they will also provide information on data collection and reporting
- the EFP could commence after newly trained observers are available.

The GMT brought forward the concern that the canary distributions on the 2007 scorecard are currently in deficit. GMT noted that concerns of canary bycatch within this EFP could be reduced if the EFP was executed south of 36° in depths seaward of the Rockfish Conservation Area (RCA) line of 150 fm. The GMT therefore recommended that these area and depth restrictions be included in the EFP. The GMT also recommended that the canary and cowcod total caps be reduced to 250 pounds for each species and that at a minimum, all overfished groundfish species must be retained with amounts in excess of caps to be surrendered to the California Department of Fish and Game.

The GMT recommended that Mr. Cook provide an amended EFP application to the Council that incorporates the aforementioned changes.

After conversations with Mr. Cook, the GMT reviewed the COP for EFPs and discussed the scientific merit of the proposal.

Foremost, the GMT notes that the TNC application was not submitted according to the standard COP. As such, the proposal was not reviewed in September and the GMT was unable to provide recommendations for improvement prior to the November Council meeting.

Additionally, the GMT reviewed whether the TNC proposal meets the EFP goals which are to "...provide a process for testing innovative fishing gears and strategies to substantiate methods for prosecuting sustainable and risk-averse fishing opportunities..." This EFP proposes the use of legal and traditional gear with strategies that the GMT believes can be prosecuted under the current regulatory framework, under open access limits.

The GMT notes that observer coverage has been sparse in the southern and central California regions and management would benefit from these additional data provided by observer coverage provided by the EFP. However, the purpose of an EFP should not solely be for the purpose of collecting additional observer data. Furthermore, this data gap could be resolved by increased deployment of WCGOP observers in this area.

The GMT suggests that the merit of gear switching for bycatch reduction and habitat protection may be explored through other Council groundfish initiatives.

In addition to the above, the GMT notes that canary rockfish is fully prescribed in the 2007 fishery and if this EFP is approved, further reductions will need to be made in the directed groundfish fishery.

The GMT provides the abovementioned considerations to the Council, but the GMT does not have a formal recommendation for approval of this EFP.

Recommendations

- 1. The GMT recommends adoption of the 2007 shoreside whiting EFP.**
- 2. Assuming that the scorecard is balanced, the GMT recommends that the Council consider adoption of the three chilipepper EFPs and the TNC proposals.**
- 3. If the Council adopts the EFPs, then the GMT recommends amendment of the EFPs as outlined above.**

PFMC
11/15/06



November 7, 2006

Chairman Donald Hansen
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Re: Proposed Exempted Fishing Permits

Dear Chairman Hansen and Members of the Council:

On behalf of the Natural Resources Defense Council, the Pacific Marine Conservation Council and The Ocean Conservancy and more than 1.5 million members and activists we represent, we would like to express our support for approval of the four exempted fishing permit (EFP) applications for 2007 fisheries, with minor clarifications.

All four applications (Item D.4. a, Attachments 1-3, and Item D.4.c Public Comment) would provide valuable information on fishing practices that show creativity and promise as clean, low-impact ways to fish for groundfish. All four applications appear to meet appropriate standards. They provide 100% observer coverage. And they restrict catch of vulnerable species to low levels that stay within, as a whole, the amounts the Council previously set aside for this purpose and scorecard reserves (or in the case of Item D.4.c., well below the catch of recently bought-out permits). All the proposals could help inform choices about future management measures designed to lower bycatch while allowing fishing for healthier stocks.

The proposal to “Replace Trawling with Fixed Gear Fishing off the Central Coast of California” (Item D.4.c Public Comment) has an additional advantage. Allowing willing fishermen to switch from trawl gear to lower impact gears has long been considered a measure with significant bycatch reduction potential. Amendment 18 contains bycatch reduction measures such as flexibility to switch gears and creation of greater opportunities to fish with cleaner gears (Amendment 18, Section 6.5.3.3). This EFP provides a chance to try out such measures in practice, learn more about how to best structure a gear-switching program, begin to assess its benefits, and identify and mitigate potential adverse impacts.

This EFP, furthermore, provides a testing ground for gear switching thanks to unique conditions that would be very difficult for the Council to create without resources that are very hard to come by (e.g. the recent buyout of trawl permits in Morro Bay). This is an

opportunity that offers conservation benefits, clear advantages for fishermen in the area, and useful information for the Council's planning purposes.

The alternative to approving this EFP, in contrast, would be a loss on all those counts. The development of a rule to permit or encourage gear switching could take a couple of years and is not currently scheduled. That means that fishermen who want gear flexibility are unlikely to have a chance to try it out soon without going through an EFP. We believe this EFP provides the right kind of safeguards for a useful experiment with gear switching, on a considerably quicker timetable than would otherwise be possible.

We suggest minor clarifications to the proposal under Item D.4.c before it is finalized:

1. Clarify on p. 2 paragraph 3 the maximum number of participants (estimated to be 10 on p. 5, not 23 as stated here).
2. Clarify on p. 4, Section F that while vessels used for trawl, hook and line and pot fishing are eligible for this permit, trawling is not an acceptable fishing practice under this permit.

We understand that these EFPs have been submitted to public review and/or significant consultation with affected parties. We also support making any changes needed to ensure that the allowances in these EFPs stay within OYs based on more recently available information for species like canary. For all these reasons and with that caveat, we urge you to approve these EFPs.

Sincerely,

Karen Garrison
NRDC

Peter Huhtala
Pacific Marine Conservation Council

Meghan Jeans
The Ocean Conservancy

**Application for Issuance of an Exempted Fishing Permit to Replace Trawling with
Fixed Gear Fishing off the Central California Coast**

The Central California Sustainable Groundfish Fishery Plan

A. **Date of application:** November, 2006

Applicant Contacts: Rod Fujita, Environmental Defense (ED)
Chuck Cook, The Nature Conservancy (TNC)

C. **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:**

Goals:

1. To provide an experimental method to reduce the rate of bycatch of the traditional trawling fishing fleet of Morro Bay through gear switching to hook and line and traps. The project would test the effectiveness of this method in reducing the rate of bycatch and include well-defined and standardized data collection and dissemination to stakeholders.
2. To provide a pilot project for gear switching that would provide information and lessons to stakeholders in advance of a likely larger gear-switching effort associated with the transition of trawling permits to an ITQ system.

According to the Council's November 2006 Situation Summary, the purpose of an EFP should be to "provide a process for testing innovative fishing gears and strategies to substantiate methods for prosecuting sustainable and risk-averse fishing opportunities". This EFP would substantiate a method (leasing 7 trawl permits on condition of gear-switching to fixed gear) for prosecuting a sustainable and risk-averse fishing opportunity (by allowing participating fishermen to access productive, high value stocks with greatly reduced bycatch/discard and habitat damage relative to trawling, reducing risks of catching overfished species and of harming habitat).

Seven trawl permits have already been purchased by The Nature Conservancy (TNC) in the project area. The acquisition of these permits have created an opportunity for stakeholders to work together towards an innovative approach aimed at transforming this local fishery to more sustainable practices, while also proving information and lessons associated with this fishing management strategy. The project would also help this fishing community address large local economic losses that have resulted from the higher fuel costs, reduction in fish purchasers, federal trawl buyout, and other regulation and conservation measures.

This EFP would help increase fishing opportunity in the study area by allowing fishermen to use fixed gear to catch fish currently associated with trawl permit trip limits. The EFP will require 100% NMFS-certified observer coverage of participating vessels so to maximize the amount of data and information that can be gathered from the project. It is anticipated that a cost-sharing agreement between TNC/ED and participating fishermen will be established to pay for the observer coverage. TNC/ED will also work with the Council, Department of Fish and Game and other stakeholders to identify the most effective data gathering and dissemination system for this project.

This EFP is an element of the Central California Sustainable Groundfish Plan (attached). There is a direct nexus with the goals of this Plan and the goals of the PFMC and NOAA-Fisheries of the west coast groundfish Fishery Management Plan (FMP), such as:

- Prevent overfishing by managing for appropriate harvest levels and prevent any net loss of the habitat of living marine resources; specifically, by reducing discard mortality.
- Maximize the value of the groundfish resource as a whole.
- Achieve optimum yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities
- Minimize bycatch and waste
- Protect Essential Fish Habitat

The EFP will also fulfill several goals and guidelines articulated in the PFMC's Groundfish Strategic Plan:

- Create incentives for fishing in ways that are consistent with management goals and objectives (p. 7)
- Licenses, endorsements, or quotas established through management or capacity reduction may be limited to specific areas through exclusive area registration and consider port landing requirements (p. 14)
- Implement an at-sea observer program (p. 14)

The study will apply to vessels fishing out of Morro Bay and Port San Luis, California, an area that has been especially impacted by capacity reduction. Preference for eligibility will be given to fishermen residing in San Luis Obispo.

Finally, we hope to show that implementation of gear-switching will prove more tractable on a smaller scale (San Luis Obispo County) than on the scale of the entire PFMC area of jurisdiction. The greatest constraint on fishing opportunity,

maximization of value, and the achievement of the other FMP and strategic plan goals for this fishery is the bycatch of depleted species. This also constitutes one of the most important conservation problems caused by this fishery.

The EFP will assist the PFMC in achieving the goals set forth in the FMP and strategic plan allowing participating fishermen to switch gears from trawling to fixed gear. This will reduce bycatch and discard. Lower bycatch and discard rates of depleted species should increase fishing opportunity on more productive species caught in the same habitats, thereby increasing yield and reducing waste.

Disposition of the species harvested under the EFP will be as follows:

- Species caught within the normal current trip limits may be retained and sold by the vessel.
- All rockfish caught while targeting shelf groundfish during the EFP must be retained and offloaded. Overages of rockfish must be surrendered.

D. Valid justification explaining why issuance of an EFP is warranted:

Since 1998, the PFMC has initiated rebuilding plans for several species that have been depleted below the minimum stock size threshold. Regulations such as small trip limits designed to protect these species and allow them to rebuild have resulted in severe constraints on fishing opportunity for more productive species, reducing overall yield and economic performance while at the same time creating incentives for discard, creating a major economic and conservation problem.

While the reduction of bycatch and discard is an overall goal for the west coast groundfish fishery, implementation of the many excellent recommendations for achieving it (bycatch caps, transferable bycatch allowances, high levels of observer coverage, closed areas) have been and will be limited by available financial resources. In the short term, this EFP should allow fishermen participants to reduce bycatch and discards and to access more fish, reducing threats to fishing infrastructure and livelihoods that have arisen from greatly reduced landings in recent years. This EFP will also allow the PFMC and NOAA-Fisheries to test the efficacy of this gear-switching approach on a smaller, more tractable scale, providing valuable data for broader application. If the benefits are substantial, the EFP may inspire other areas or groups of fishermen to proactively carry observers or video monitoring equipment in order to justify gear-switching, potentially extending the flexibility granted under this EFP to the rest of the fleet).

An additional justification for issuing this EFP is the crisis resulting from reduced trawl landings in Morro Bay. Landings in these ports must increase as soon as possible if fishing infrastructure and historic fishing heritage are to be preserved in the face of severe threats. Several fishermen in the study area once fished vertical hook and line gear, and reduced their fishing effort on rockfish in response to reduced rockfish trip limits and the RCAs. This EFP would allow these fishermen to demonstrate their ability to target rockfish with minimal bycatch and habitat impact.

Upon successful demonstration of this ability, they would be accorded greater access to the fish resources. Such fishing techniques will be critical for transitioning groundfish fisheries to lower volume, higher value fisheries. This transition will be essential for maintaining the economic and ecological health of the groundfishery.

E. A statement of whether the proposed exempted fishing has broader significance than the applicant's individual goals.

We believe that the information collected during this experiment will have broader significance than our specific goals, and in fact will be applicable to fisheries throughout California and the West Coast.

- This EFP will greatly enhance observer coverage and may induce other vessels to carry observers if this is made a condition of gear-switching.
- Data on bycatch and discard reduction at the smaller scale of this EFP will indicate the potential for reduction fleet-wide as a result of gear-switching, providing both information vital for decision-making and inspiration for other fishermen and areas to reduce bycatch and discard proactively
- Participants in project would agree to abide by smaller caps for critically over fished species, leaving a larger total fishing allocation of these species for the possible utilization of the larger trawl fleet.

F. Vessels covered under the EFP:

Fishermen eligible to apply for participation in the EFP will include those who reside in the project area of San Luis Obispo County (where TNC's trawl permit acquisitions took place) and/or those who have historically fished out of ports in the project area. The eligible vessels and fishing methods will include a mix of hook/line and pot vessels.

Any EFP may be canceled and made available to another vessel if the permitted vessel: 1) does not follow the terms and conditions of the permit; 2) fails to follow federal or State fishing regulations; 3) does not prosecute the fishery using the bycatch reduction methods specified in the EFP; or 4) does not reasonably accommodate the observer or cooperate with the applicant.

A permitted vessel may withdraw once from the EFP program and resume participation the following month.

G. 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:

The primary target species are slope rockfish and the DTS complex and perhaps some experimental trapping of flatfish.

The maximum allowed catch (cap) for target species will be tied directly to the trip limits already established for limited entry fixed gear. However, actual catches would count against the total trawl fleet allocation and individual limited entry trawl trip limits. Fishing participants would be subject to all established regulations, trip limits and other guidelines for limited entry fixed gear.

The program requires full retention of rockfish. All rockfish species will be landed and surrendered to enhance biological sampling and to document the actual rockfish mortality and discard rates, with catch thresholds in place for overfished rockfish species to ensure that take remains below allocated bycatch caps. The EFP thresholds for incidental take of overfished stocks will be applied as follows:

- Proposed total annual EFP catch thresholds for overfished species (for 7 trawl permits):
 - Boccacio: 1000 lbs
 - Cowcod: 250 lbs
 - Canary: 250 lbs

H. For each vessel covered by the EFP, the approximate time(s) and place(s) fishing will take place:

The test fishery will be conducted from April 2007 through April 2008, with the expectation that TNC/ED will apply for a one year renewal in April 2008. The EFP will be valid in those Pacific Ocean waters adjacent to the California coast between Point Conception and 36 degree latitude.

I. All participating vessels under the authority of the EFP:

- Must exclusively employ legal gear as specified in Federal Register 50 CFR Ch. VI (10–1–02 Edition) Subpart G—West Coast Groundfish Fisheries, 660.301 Purpose and scope.
- Must apply and submit a fishing plan for approval. Fishing plans must meet the following specifications:
 - Proposed gear type and practices to be used to prosecute fishery under the EFP permit
 - Commitment to carry an observer
 - Commitment to abide by the terms of the EFP, including bycatch, discard, and directed catch caps and habitat protection regulations
 - Commitment to land all fish caught under the authority of the EFP into the ports within the project area

J. Signature of the applicant:

CONSIDERATION OF INSEASON ADJUSTMENTS

The Council set optimum yield (OY) levels and various management measures for the 2006 and 2007 groundfish management seasons with the understanding these management measures will likely need to be adjusted periodically through the biennial management period with the goal of attaining, but not exceeding, the OYs. The Groundfish Management Team (GMT) and the Groundfish Advisory Subpanel (GAP) will begin meeting on Monday, November 13, 2006 (see Ancillary B and Ancillary C agendas) to discuss and recommend inseason adjustments to ongoing 2006 and upcoming 2007 groundfish fisheries.

Under this agenda item, the Council is to consider advisory body advice and public comment on the status of ongoing and upcoming fisheries and recommended inseason adjustments prior to adopting final changes. The Council may provide guidance to the GMT and GAP prior to making final inseason adjustments under Agenda Item D.8 on Friday, November 17, 2006, or make final inseason adjustments under this agenda item. If the latter course is chosen, the Council may cancel Agenda Item D.8 or direct that opportunity be provided to confirm or clarify the Council decision under Agenda Item D.8.

Council Action:

- 1. Consider information on the status of ongoing and upcoming fisheries.**
- 2. Consider and adopt inseason adjustments as necessary.**

Reference Materials:

1. Agenda Item D.5.c, ODFW Report: Oregon Department of Fish and Wildlife Report on Inseason Action and Request for Council Action.

Agenda Order:

- a. Agenda Item Overview
 - b. Report of the Groundfish Management Team
 - c. Agency and Tribal Comments
 - d. Reports and Comments of Advisory Bodies
 - e. Public Comment
 - f. **Council Action:** Adopt Preliminary or Final Recommendations for Adjustments to 2006 and 2007 Fisheries
- John DeVore
Susan Ashcraft

PFMC
10/26/06

OREGON DEPARTMENT OF FISH AND WILDLIFE REPORT ON INSEASON ACTION
AND REQUEST FOR COUNCIL ACTION

The Oregon Department of Fish and Wildlife (ODFW) requests that the Council take action, concurrent with the state, to prohibit the retention of cabezon in Oregon's recreational ocean boat fishery.

Based on catch estimates through July and projections from historical temporal catch patterns, the state harvest limit for cabezon, which was 15.9 mt, has been reached. Additionally, analysis of the angler effort through Labor Day also suggested that the harvest limit would be attained by late September. State harvest limits apply to landings by recreational ocean boats and do not include shore catch and discards. Effective 11:59 pm on Friday, September 22, 2006, cabezon retention in the recreational ocean and estuary boat fisheries was prohibited. Shore fisheries, including shore-based diving, angling and spear fishing, were not affected by this closure.

The most recent landings update, which includes data through September 3, 2006, confirmed that the management measure was appropriate; cabezon landings were 14.9 mt, or 94 percent of the harvest limit.

THE GROUNDFISH MANAGEMENT TEAM (GMT) REPORT
ON CONSIDERATION OF INSEASON ADJUSTMENTS
FOR 2006 AND 2007

STATUS OF 2006 FISHERIES

The Groundfish Management Team (GMT) reviewed inseason catch estimates to date and would like to draw the Council's attention to three issues.

Petrale Sole: The GMT reviewed catch levels and forecasts for petrale sole. Projections suggest the total catch will come under the OY, which is equal to the ABC. The GMT discussed the factors that could lead to catch levels above projections and the associated risk of exceeding the ABC/OY. The GMT believes that the risk of exceeding the ABC/OY for this species is low. The most recent QSM report estimates petrale sole catch to be 2,130 mt out of an ABC/OY of 2,762, meaning there are approximately 630 mt remaining for period 6. Although there is little recent data to inform period 6 projections since the period 6 petrale fishery has largely been closed the last couple of years, the GMT believes that ongoing fisheries will not exceed the ABC/OY for several reasons: 1) industry has stated that petrale sole have not yet migrated to the petrale areas; 2) weather is expected to remain poor in the near future which should dampen effort; 3) the Dungeness crab fishery is expected to open in December along much of the coast and many trawl vessels are expected to switch their focus to that fishery when it opens; and 4) the period 6 trawl fishery has a cumulative limit in place for 2006 to control catch levels which was not in place prior to 2006. In spite of these issues, the GMT would like to point out that: the fleet is capable of catching in excess of 1,000 mt during a single period (like it did in the winter of 2005); there is a lack of information to inform this year's period 6 projections; and overfishing on petrale sole occurred last year. The GMT identified two ways of managing period 6 catches of petrale sole: 1) close the petrale areas in December, or 2) monitor inseason catches and request industry take voluntary action to reduce petrale sole catches if catch rates appear too high.

Sablefish south of 36° N lat.: According to available information, the closure of the open access sablefish daily trip limit fishery north of 36° N lat. caused a shift of effort from those areas to the Conception management area. Catch rates for sablefish in the Conception area increased substantially beginning in October, and industry has asserted that sablefish landings have been in excess of 3 mt per day in Morro Bay alone. The most recent QSM report estimates catch in this area to be 89.1 mt out of an OY of 271 mt. If current catch rates continue through the end of the year, it is likely the sablefish OY will be exceeded in this area. The GMT discussed ways to control the catch of sablefish and believes a combination of a daily trip limit reduction and the introduction of a monthly catch limit is the best approach to slowing the catch rate of sablefish.

Limits currently in place for December are 500 lbs. per day, or 1 landing per week of up to 1,050 lbs. The GMT recommends changing the December limits to 300 lbs. per day, or 1 landing per week of up to 1,050 lbs. not to exceed 3,000 lbs. in one month.

Oregon Recreational Groundfish

Oregon recreational catch estimates through July and projections from historical temporal catch patterns indicated that the Oregon state harvest limit for cabezon, which was 15.9 mt, has been reached. State harvest limits apply to landings by recreational ocean boats and do not include shore catch and discards. Effective 11:59 pm on Friday, September 22, 2006, cabezon retention in the recreational ocean and estuary boat fisheries was prohibited. Shore fisheries, including shore-based diving, angling and spear fishing, were not affected by this closure. The most recent landings update, which includes data through September 3, 2006, confirmed that the management measure was appropriate; cabezon landings were 14.9 mt, or 94 percent of the harvest limit.

The GMT therefore recommends that the Council adopt conforming regulations to prohibit the retention of cabezon in Oregon's recreational ocean boat fishery.

Other Groundfish Fisheries

The GMT reviewed catch levels and projections for other groundfish fisheries and does not believe that available information warrants inseason adjustments to other ongoing fisheries.

2007 FISHERIES

Canary Rockfish: Based on recently available data, the GMT believes that scorecard projections available at the June and September meetings no longer represent the best projection of canary rockfish catch in 2007. In particular, research catches of canary rockfish in 2006 were substantially larger than originally predicted. If research catch is this high again in 2007, the increase places catch levels in the scorecard over the canary rockfish OY. The GMT explored ways of reducing canary impacts. While savings were found for some sectors, the estimated impacts (which include harvest guidelines for recreational fisheries and bycatch limits for the whiting fishery) remain 1.7 mt over the OY.

The GMT explored several ways to reduce canary impacts in directed commercial and recreational groundfish fisheries and believes that – with currently available data – notable changes in groundfish fisheries would need to occur to achieve catch levels that remain below the OY. For example, a wholesale reduction of 5 percent across all groundfish fisheries and elimination of proposed EFPs would bring estimated catch levels to amounts below the OY. If the Council chose to reduce canary catches by 5 percent the LE bottom trawl fishery may not have access to a 100 fathom line in the northern areas during the year or, alternatively, may experience a loss of target species opportunity on the continental shelf; recreational groundfish fisheries may need to be restricted to areas closer to shore or experience shorter seasons or reduced bag limits; and directed open access fisheries may need to be restricted to areas closer to shore or have lower trip limits on target species. The GMT was unable to develop any recommendations for achieving the necessary reductions in canary rockfish pre-season, though

the GMT compiled information that may help the Council in determining which sectors need to be constrained to achieve the necessary reductions.

As part of the 2007 fishing year, the GMT will be using updated observer data and revised bycatch models. This new information will most likely change the impacts that are estimated with scheduled regulations. Because of this schedule, the GMT considered waiting until March to analyze revised regulations that will reduce canary impacts to harvest targets specified by the Council at this meeting. The GMT would appreciate guidance on whether revised regulations need to be developed at this meeting, or whether revised regulations can be developed at the March meeting when more recent observer data is available. The GMT believes waiting until March is still early enough in the year that canary rockfish catch levels should be minimal when inseason adjustments take place because fisheries with canary impacts largely begin later in the year. If the Council recommends new management measures be analyzed and adopted at this meeting, the GMT will bring those measures forward for Council review during the Friday inseason agenda item.

In order to assist the Council in identifying reductions in the scorecard that will bring catch levels to amounts within the OY, the GMT has prepared a canary bycatch scorecard showing: the original impact estimates from the 2007-2008 harvest specifications EIS, the newly revised impact estimates that have incorporated the most recently available data, and subsequent columns that reduce directed groundfish fisheries proportionally and eliminate EFPs (Table 1). While the Council could elect to reduce the impacts of canary in some fisheries more than others, the GMT provides these proportional reduction columns as an example of what would occur if the Council maintained originally scheduled catch sharing percentages across the directed groundfish sectors. In addition, the GMT has provided estimated impacts for the LE trawl whiting sectors and recreational groundfish sectors for comparison against the respective bycatch limits and harvest guidelines.

Daily Trip Limit Fisheries for Sablefish North and South of 36° N lat: Based on anticipated salmon fishing opportunities next year, the GMT believes that effort in the Open Access (OA) DTL fishery will be equivalent or higher than effort in this year's fishery. The GMT received requests from industry to reduce the OA DTL limits north of the Conception area to ensure that an OA DTL fishery can be prosecuted for the majority of the 2007 fishing year. The GMT explored available information and recommends that OA DTL fishery limits in the North be changed from 300 lbs. per day, or one landing per week of up to 1,000 lbs., not to exceed 3,000 lbs. per 2 months to 300 lbs. per day, or one landing per week of up to 700 lbs., not to exceed 2,100 lbs. per 2 months. In the Conception area, the GMT recommends the LE and OA daily and weekly limits be aligned with the OA daily and weekly limits in the North from January through March to limit the incentive for additional vessels to move into the Conception area (the GMT notes that no LE/OA allocation exists for sablefish in the Conception area) and to prevent early attainment of both the Northern and Southern sablefish OY. These limits will be revisited at the March 2007 Council meeting.

GMT Recommendations

1. Adopt a mechanism to control the catch of petrale sole through the end of 2006 if deemed necessary.
2. Reduce sablefish daily trip limit fishery limits south of 36° N lat. to 300 lbs. per day, or 1 landing per week of up to 1,050 lbs not to exceed 3,000 lbs. in one month starting December 1, 2006.
3. Adopt recreational fishery regulations that are consistent with Oregon's recreational groundfish fishery for the remainder of 2006.
4. Reduce the open access sablefish daily trip limit fishery limits north of 36° N lat. to 300 lbs. per day, or one landing per week of up to 700 lbs., not to exceed 2,100 lbs. per 2 months beginning January 1.
5. Reduce the sablefish daily trip limit fishery limits south of 36° N lat. to 300 lbs per day, or one landing per week of up to 700 lbs. beginning January 1 and revisit in March 2007.
6. Identify reductions in canary bycatch for the 2007 fishery that will keep catch levels under the OY and adopt those reductions as harvest guidelines, bycatch limits, or harvest placeholders where appropriate.

PFMC
11/14/06

Table 1 - Canary Impact Scenarios for 2007:

5% and 10% Proportional reduction for all groundfish-target sectors (with and without EFP set-asides)

11/14/2006 17:38

Fishery	Spex EIS	Nov 2006 update	Alt 1: 5% reduction	Alt 2: 5% reduction (no EFPs)	Alt 3: Canary minus 10%	Alt 4: Canary minus 10% (no EFPs)
Limited Entry Trawl- Non-whiting	7.9	7.9	7.5	7.5	7.1	7.1
Limited Entry Trawl- Whiting 2/						
At-sea whiting motherships	4.7	4.7	4.5	4.5	4.3	4.3
At-sea whiting cat-proc						
Shoreside whiting						
Tribal whiting 6/	1.6	0.7	0.7	0.7	0.7	0.7
Tribal						
Midwater Trawl	1.8	1.8	1.8	1.8	1.8	1.8
Bottom Trawl	0.8	0.8	0.8	0.8	0.8	0.8
Troll	0.5	0.5	0.5	0.5	0.5	0.5
Fixed gear	0.3	0.3	0.3	0.3	0.3	0.3
Limited Entry Fixed Gear	0.9	0.9	0.9	0.9	0.8	0.8
Open Access: Directed Groundfish	2.1	2.1	2.0	2.0	1.9	1.9
Open Access: Incidental Groundfish						
CA Halibut 5/	0.1	0.0	0.0	0.0	0.0	0.0
CA Gillnet b/						
CA Sheephead b/						
CPS- wetfish b/						
CPS- squid c/						
Dungeness crab b/						
HMS b/	0.0	0.0	0.0	0.0	0.0	0.0
Pacific Halibut b/	0.0	0.0	0.0	0.0	0.0	0.0
Pink shrimp	0.1	0.1	0.1	0.1	0.1	0.1
Ridgeback prawn	0.0	0.0	0.0	0.0	0.0	0.0
Salmon troll 3/	2.0	0.8	0.8	0.8	0.8	0.8
Sea Cucumber	0.0	0.0	0.0	0.0	0.0	0.0
Spot Prawn (trap)						
Recreational Groundfish d/ 4/						
WA	8.2	8.2	7.8	7.8	7.4	7.4
OR						
CA	9.0	9.0	8.6	8.6	8.1	8.1
Research: Includes NMFS trawl shelf-slope surveys, the IPHC halibut survey, and expected impacts from SRPs and LOAs.						
	3.0	7.5	7.5	7.5	7.5	7.5
Non-EFP Total	43.0	45.3	43.8	43.8	42.1	42.1
EFPs - Chilipepper EFPs	0.4	0.4	0.4	0.0	0.4	0.0
- TNC/ED EFP	0.2	0.2	0.2	0.0	0.2	0.0
EFP Subtotal	0.6	0.6	0.6	0.0	0.6	0.0
TOTAL	43.6	45.9	44.4	43.8	42.7	42.1
2007 OY	44.0	44.0	44.0	44.0	44.0	44.0
Difference	0.4	-1.9	-0.4	0.2	1.3	1.9
Percent of OY	99.0%	104.3%	100.9%	99.5%	97.0%	95.7%

2/ This number is a total catch Cap and would require a regulation change to the Cap to adjust downward.

3/ The reduced estimate for salmon bycatch assumes a low harvest season similar to 2006.

4/ These numbers are Harvest Guidelines which would require a regulation change to adjust the HGs downward.

5/ The CA halibut number was decreased as a result of the California state restrictions on bottom trawling in state waters

6/ The tribal whiting estimate was decreased as a result of more recent bycatch information

NOTE: Estimated impacts for 2007 recreational fisheries are 5.7 mt of canary for Oregon and Washington combined, and 8.4 mt for California. Preliminary information from the 2006 LE trawl whiting fishery indicates that fishery took 2.6 mt of canary rockfish

OREGON DEPARTMENT OF FISH AND WILDLIFE REPORT ON INSEASON ACTION
AND REQUEST FOR COUNCIL ACTION

The Oregon Department of Fish and Wildlife (ODFW) requests that the Council take action, concurrent with the state, to prohibit the retention of cabezon in Oregon's recreational ocean boat fishery.

Based on catch estimates through July and projections from historical temporal catch patterns, the state harvest limit for cabezon, which was 15.9 mt, has been reached. Additionally, analysis of the angler effort through Labor Day also suggested that the harvest limit would be attained by late September. State harvest limits apply to landings by recreational ocean boats and do not include shore catch and discards. Effective 11:59 pm on Friday, September 22, 2006, cabezon retention in the recreational ocean and estuary boat fisheries was prohibited. Shore fisheries, including shore-based diving, angling and spear fishing, were not affected by this closure.

The most recent landings update, which includes data through September 3, 2006, confirmed that the management measure was appropriate; cabezon landings were 14.9 mt, or 94 percent of the harvest limit.

GROUND FISH ADVISORY SUBPANEL REPORT ON CONSIDERATION OF INSEASON ADJUSTMENTS

The Groundfish Advisory Subpanel (GAP) discussed potential inseason adjustments for the remainder of the 2006 season and the beginning of the 2007 season and has the following recommendations and comments.

2006 Season

Petrale Sole

With regard to Petrale sole the GAP recommends no change to current management measures. The GAP believes that the current harvest rates and anticipated behavior over the last period of the season will keep the Petrale harvest within specified limits.

2007 Season

Sablefish

The GAP recommends changes to the open access sablefish fishery north of 36 degrees for the beginning of 2007 as follows: decrease from 3,000 to 2,100 per 2 months and one 700 pound landing per week. Daily limit is 300 pounds. The daily trip limits (DTL) fishery optimum yield (OY) will be reduced by 1/3 next year and the increased effort expected in the northern management area under the higher limits could result in significant catches during the first few months of the season. Because the Council will not have an opportunity to take action until the March Council meeting, the GAP fears that a reasonable fishery for the remainder of the year may not be possible.

For south of 36 degrees, the GAP recommends for the open access and limited entry DTL fisheries a 300 lb/day, 700 lb landing per week with no cumulative cap.

Canary Rockfish

The GAP heard a report from the Groundfish Management Team (GMT) about the need to balance the scorecard with the new canary rockfish research catch, which is higher than previously projected. Our understanding is that this higher projection is due to the unexpectedly large research catches of canary in 2006. In order to balance the scorecard for 2007 to stay within the canary rockfish OY, reductions are necessary to projected catches in commercial and recreational fisheries. The GAP discussed the GMT's proposed across-the-board reductions and while it may appear "fair" on the surface, realizes that in essence, it is an unreasonable approach. Several fisheries have already endured severe cuts to accommodate other fisheries and for these same fisheries to now take additional cuts on an equal basis with all other sectors the GAP believes is excessive.

The GMT asked the GAP for suggestions about where additional savings may come from. GAP members were reluctant to sit at the table and cut the throats of their neighbors in other sectors. We are upset at being put into this position once again and are unwilling to argue for each other's demise. The situation is so dire that the GAP actually discussed the possibility of eliminating research knowing full well that we will never get out of our current dilemma without continued research. There are obvious trade-offs to be made. By reducing anticipated catch by as much as 10% across the board, several fisheries will suffer such significant hardship that recreational and

commercial infrastructure could cease to exist. These cuts will be made in order to facilitate research. The same research that will eventually get us out of the management box we are in. However, by the time management and science catch up to each other, there may no longer be fishermen to prosecute these fisheries. This is the trade-off we are being asked to consider and ultimately make recommendations on and the GAP is anxious to hear the guidance provided to the GMT before we make further recommendations.

PFMC
11/15/06

SHORE-BASED WHITING MONITORING PROGRAM

The Exempted Fishing Permit (EFP) process has been employed each year since 1992 to monitor the shore-based Pacific whiting fleet. Since the EFP process is only a temporary response to this issue, a permanent monitoring program that is implemented through Federal regulations needs to be developed and adopted. This program should meet the requirements to monitor incidental catches of salmon in the shore-based whiting fishery, as stipulated in the 1992 Biological Opinion that analyzed effects of the Pacific Coast groundfish fishery on Endangered Species Act (ESA)-listed salmon stocks. Such a program would also allow for accurate tracking of depleted groundfish species mortality.

The 1992 Biological Opinion had identified the need for continued monitoring of the whiting fishery to evaluate impacts on salmon, and specifically emphasized the need to monitor the emerging shoreside fishery because fishing patterns and bycatch rates were likely to differ from those observed on the at-sea processors. It is intended for the new regulations to respond to these requirements through a standardized reporting methodology and adequate monitoring of maximized retention and so allow for efficient prosecution of the fishery, maintenance of product quality, and minimization of discard.

In September, the Council provided initial guidance on development of draft alternatives for the monitoring program. The Council requested that two meetings between Federal and state agencies and industry members occur prior to the November Council meeting. The first session, held on September 29, was to provide input on the preliminary draft monitoring program alternatives and accompanying regulations. The second session occurred on October 27, and allowed for discussions with industry on the use of cameras for monitoring catcher vessels delivering to motherships.

Based on the initial guidance from the Council and from input during the September 29 session, National Marine Fisheries Service (NMFS) Northwest Region (NWR) staff has developed a draft set of monitoring program alternatives and accompanying draft regulations to be implemented in the 2008 fishery. The Council will review the draft alternatives and may modify them prior to approving them for public review. The draft alternatives are provided in Agenda Item C.6.b, Supplemental Attachment 2: Chapters 1 and 2 of the Environmental Assessment. The primary difference between the action alternatives is that Alternative 3 verifies maximized retention via at-sea and shoreside observers, while Alternative 4 verifies maximized retention via Electronic Monitoring Systems (EMS) and shoreside monitors. The action alternatives have been structured to allow for analysis of both monitoring to support fleetwide bycatch limits and a higher level of monitoring to allow for sector-specific bycatch limits. Using Council guidance and public comment, NMFS NWR staff will complete the Environmental Assessment (EA) and provide a final draft to the Council in March 2007, at which time the Council will take final action on the proposed alternatives. NMFS will then publish the proposed rule prior to April 15, 2008, the start date of the California whiting season.

Given this timeline, 2007 will serve as a transition year, in which the EFPs issued to participating vessels will have requirements as similar as possible to the proposed Federal regulations. In addition, temporary processor regulations will be established to test the conversion of state processor requirements to Federal regulations. Under Agenda Item D.4, the Council will consider approval of a final recommendation to NMFS on the 2007 EFP for the sector.

Council Task:

1. Adopt Alternatives and Draft Regulations for Analysis and Public Review.

Reference Materials:

1. Agenda Item C.6.b, Attachment 1: Potential regulations needed to implement Pacific whiting monitoring programs defined as alternatives 3 and 4.
2. Agenda Item C.6.b, Supplemental Attachment 2: Chapters 1 and 2 of the Environmental Assessment.

Agenda Order:

- a. Agenda Item Overview
 - b. NMFS Report
 - c. Agency and Tribal Comments
 - d. Reports and Comments of Advisory Bodies
 - e. Public Comment
 - f. **Council Action:** Adopt Alternatives and Draft Regulations for Analysis and Public Review
- Laura Bozzi
Yvonne deReynier

PFMC

10/26/06

**A MAXIMIZED RETENTION AND MONITORING PROGRAM
FOR THE PACIFIC WHITING SHORESIDE FISHERY**

**IMPLEMENTING AMENDMENT 10
TO THE PACIFIC COAST GROUND FISH FISHERY MANAGEMENT PLAN**

PRELIMINARY DRAFT ENVIRONMENTAL ASSESSMENT

Lead Agency	National Oceanic and Atmospheric Administration National Marine Fisheries Service Northwest Regional Office Seattle, Washington
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Abstract: This Environmental Assessment (EA) analyzes the effects of establishing a maximized retention and monitoring program in the Pacific whiting shoreside fishery off the coast of Washington, Oregon, and California. A maximized retention program will allow NMFS to: account for Chinook salmon catch as specified in the Endangered Species Act section 7 Biological Opinion for Chinook salmon catch in the Pacific groundfish fishery; meet standardized bycatch reporting requirements specified by the Magnuson-Stevens Fishery Conservation and Management Act; collect biological data on catch that would otherwise not be available; and create the regulatory structure necessary to efficiently manage the Pacific whiting fishery without an exempted fishing permit. The proposed program is expected to aid in the sustainable management of the Pacific Coast salmon and groundfish stocks while benefitting the fishery participants by allowing the fishery to be prosecuted efficiently and the quality of Pacific whiting to be maintained. This EA analyzes the effects that a maximized retention program with different approaches for catch monitoring has on the socioeconomic, biological, and physical environments.

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1.0 PURPOSE OF AND NEED FOR ACTION

1.1 Introduction

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), 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.

[November 2006 PFMC Meeting Note: This document contains drafts of Chapters 1 and 2; subsequent chapters are scheduled to be available for the March 2007 PFMC meeting.]

- Chapter Three contains a description of the socioeconomic, biological, and physical characteristics of the affected environment.
- Chapter Four examines the socioeconomic, biological, and physical impacts of the alternative management actions.
- Chapter Five provides a list of references for this document.

1.2 Summary of the Proposed Action

The proposed action is to create the regulatory framework for a maximized retention program for the Pacific whiting shoreside fishery. The program would include a monitoring mechanism for catch accounting that is adequate to maintain the integrity of the program and ensure that resource management objectives are being met.

Council consideration of this action has developed from several issues and priorities under recent Council discussion and analysis. In 1996, the Council adopted a combined amendment to the groundfish and salmon FMPs: Amendment 10 for groundfish and Amendment 12 for salmon. Under that amendment, the FMPs allowed for salmonids to be retained in the whiting trawl fishery (otherwise prohibited for all net gear) when the fishery was managed with a Council-approved monitoring program. As discussed in more detail below, the shore-based whiting fishery is managed annually under an exempted fishing permit (EFP) that provides the required monitoring program. Subsequent to that FMP amendment, several new West Coast salmon evolutionarily significant units (ESUs) have been listed under the ESA, and the Magnuson-Stevens Act was amended to place greater emphasis on both rebuilding overfished fish stocks and minimizing bycatch in all managed fisheries.

Amendments 16-1 through 16-3 (2004) set rebuilding plans into the FMP, now under consideration for revision via Amendment 16-4 (2006). Amendment 16-4 would set new rebuilding parameters for seven overfished groundfish species, four of which have historically been incidentally taken in the whiting fisheries: canary rockfish, widow rockfish, darkblotched rockfish, and Pacific Ocean Perch. Amendment 18 (2006) to the FMP sets the Council's bycatch programs and policies into the FMP. The Council's developmental discussions for Amendment 18 led the Council to also re-consider its management of the shore-based whiting sector as an EFP fishery. This action is intended transition the shore-based whiting fishery from annual EFPs to management via long-term Federal regulations, in keeping with the goals and objectives of the FMP, and with Council and NMFS objectives under the ESA and the Magnuson-Stevens Act.

1.3 Purpose and Need for the Proposed Action

The Pacific whiting shoreside fishery needs to have a catch accounting system in place to: accurately track the incidental take of Chinook salmon as required in the ESA section 7 Biological Opinion for Chinook salmon catch in the Pacific whiting fishery; to meet the standardized reporting methodology defined by the Magnuson-Stevens Act; and to provide the opportunity to collect biological data necessary for stock assessments. The purpose of the proposed action is to create the regulatory structure necessary to efficiently prosecute and manage the Pacific whiting shoreside fishery without an EFP while providing accurate catch data such that the ESA and Magnuson-Stevens Act requirements are adequately met.

The purpose of the proposed action is to:

- Establish a standardized reporting methodology for the collection and verification of accurate catch data for the Pacific whiting shoreside fishery
- Establish a monitoring mechanism that is adequate to maintain the integrity of the maximized retention program.
- Establish a program that minimizes discarding of catch to the extent practicable.
- Establish a program that benefits shore-based Pacific whiting sector participants by allowing the fishery to be prosecuted efficiently.

1.4 Management of the Pacific Whiting Shoreside Fishery

In 1991, the first year that the Pacific whiting fishery was fully a domestic fishery (i.e. all available harvest was fully utilized by domestic fishing entities,) vessels in the at-sea processing sector began to voluntarily carry observers to provide much needed catch data. In 1992, when significant landings of whiting were expected to be harvested by the shore-based sector, an observer program was established through the use of EFPs. EFPs allow vessels to engage in activities that are otherwise illegal for the purpose of collecting information that may lead to a management decision or to addressing specific environmental concerns (50 CFR 600.10 and 600.745.) The Pacific whiting shoreside fishery has continued to be managed under EFPs since 1992.

Each year, EFPs have been issued to vessels in the Pacific whiting shoreside fishery to allow unsorted catch to be landed at shoreside processing facilities. The EFPs have specified the terms and conditions that participating vessels must follow to be included. The Shoreside Whiting Observation Program (SHOP), a coordinated monitoring effort by the States of Oregon, Washington, and California, was established to provide catch data from vessels fishing under the EFPs. Although the program's structure and priorities have changed over the years, the SHOP has had the primary responsibility of monitoring the Pacific whiting shoreside fishery and providing catch data to NMFS for management of the fishery.

From 1992 to 1994, catch composition sampling was given highest priority in the management of this fishery. During the 1992-1994 period, SHOP set a goal of having observers sample 30 percent of the deliveries while at sea and having observers sample 20 percent of the unobserved deliveries while at the processing facility (Saelens (ODFW,) pers. comm 10/12/06). The at-sea observer's role was to confirm retention of the catch. By 1995, the SHOP sampling goal had declined to 10 percent of the landings and the sampling priority had shifted, with more emphasis being given to the collection of biological information on Pacific whiting and select bycatch species. The sampling rate was decreased following a statistical analysis that had indicated that

there was no significant difference between the fish ticket data and observer data on this fishery. Given the fishery management needs in 1995, it was determined that fish ticket data was an **adequate representation of species composition for landed catch.**

Management of the salmon and groundfish fisheries has changed substantially since the early 1990's. Since 1992, new salmon ESUs have been listed under the ESA, and several groundfish species that are incidentally taken in the Pacific whiting fishery have been declared overfished. To allow the Pacific whiting fishery full access to the Pacific whiting OY, the bycatch of overfished species has been managed with overfished species "bycatch limits," which, if any one of the species limits are met, would result in the closure of the whiting fishery. Although the groundfish management priorities have changed and incentives to misreport catch have increased, the SHOP sampling goal for shoreside landings has remained at 10 percent of deliveries while at the processing facility.

The Pacific whiting fishery is managed under a "primary" season structure where vessels harvest whiting until the sector allocation is reached and the fishery is closed. This is different from most West Coast groundfish fisheries, which are managed under a "trip limit" structure, where catch limits are specified by gear type and species (or species group) and vessels can land catch up to the specified limits. Incidental catch of groundfish in the Pacific whiting fishery, however, is managed under the trip limits structure. Vessels fishing under the Pacific whiting EFPs are allowed to land unsorted catch, including species in excess of the trip limits, and species such as salmon that would otherwise be illegal to have on board the vessel. Without an EFP, groundfish regulations at 50 CFR 660.306(b) require vessels to sort their catch at sea. Vessels fishing for whiting without EFPs must discard as soon as practicable all prohibited species (including salmon and halibut), protected species, non-groundfish species, and groundfish species in excess of cumulative limits at sea.

50 CFR 660.370 (Groundfish) Specifications and management measures * * *

(e) *Prohibited species.* Groundfish species or species groups under the PCGFMP for which quotas have been achieved and/or the fishery closed are prohibited species. In addition, the following are prohibited species:

- (1) Any species of salmonid.
- (2) Pacific halibut.
- (3) Dungeness crab caught seaward of Washington or Oregon.

Unlike the at-sea sectors of the Pacific whiting fishery, where catch is sorted and processed shortly after it has been taken, vessels in the shoreside fishery must hold primary season whiting on the vessel for several hours or days until it can be offloaded at a shore processor. Whiting deteriorates rapidly, so it must be handled quickly and immediately chilled to maintain product quality. This is particularly true if the whiting is to be used to make surimi (a fish paste product). The quality or grade of surimi is highly dependent on the freshness of the whiting, which demands careful handling and immediate cooling or processing for the fishery to be economically feasible. Because rapid cooling can retard whiting flesh deterioration, many vessels prefer to dump their unsorted catch directly below deck into the refrigerated salt water tanks. However, dumping the unsorted catch into the refrigerated salt water tanks precludes the immediate sorting or sampling of the catch. As a primary season fishery, fishers prefer to quickly and efficiently handle the catch so they can return to port for offloading. Given the primary season structure of the fishery, quick and efficient trips result in greater catch for each

participating vessel.

1.4.1. ESA Opinions and Thresholds for the Pacific Whiting Fishery

NMFS has issued Biological Opinions under the ESA pertaining to the effects of the Pacific Coast groundfish FMP fisheries on Chinook salmon on August 10, 1990, November 26, 1991, August 28, 1992, September 27, 1993, May 14, 1996, and December 15, 1999. The August 1992, Biological Opinion included an analysis of the effects of the Pacific whiting fishery on listed Chinook salmon. The Biological Opinions have concluded that Chinook is the salmon species most likely to be affected by the groundfish fishery, while other salmon species are rarely encountered in the whiting and other groundfish fisheries. The analysis determined that there was a spatial/temporal overlap between the whiting fishery and the distribution of ESA listed Chinook salmon such that it could result in incidental take of listed salmon. The 1992 Biological Opinion included an incidental take statement that authorized the incidental take of 0.05 salmon per metric ton of Pacific whiting. The Biological Opinion identified the need for continued monitoring of the whiting fishery to evaluate impacts on salmon, and specifically emphasized the need to monitor the emerging shoreside fishery because fishing patterns and bycatch rates were likely to differ from those observed on the at-sea processors.

NMFS reinitiated a formal section 7 consultation under the ESA in 2005 for both the Pacific whiting midwater trawl fishery and the groundfish bottom trawl fishery. The December 19, 1999 Biological Opinion had defined an 11,000 Chinook incidental take threshold for the Pacific whiting fishery. During the 2005 Pacific whiting season, the 11,000 fish Chinook incidental take threshold was exceeded, triggering reinitiation. NMFS prepared a Supplemental Biological Opinion dated March 11, 2006, which addressed salmon take in both the Pacific whiting midwater trawl and groundfish bottom trawl fisheries. In that Supplemental Biological Opinion, NMFS concluded that catch rates of salmon in the 2005 whiting fishery were consistent with expectations considered during prior consultations. Chinook bycatch has averaged about 7,300 over the last 15 years and has only occasionally exceeded the reinitiation trigger of 11,000. Since 1999, annual Chinook bycatch has averaged about 8,450. The Chinook ESUs most likely affected by the whiting fishery has generally improved in status since the 1999 section 7 consultation. Although these species remain at risk, as indicated by their ESA listing, NMFS concluded that the higher observed bycatch in 2005 does not require a reconsideration of its prior "no jeopardy" conclusion with respect to the fishery. For the groundfish bottom trawl fishery, NMFS concluded that incidental take in the groundfish fisheries is within the overall limits articulated in the Incidental Take Statement of the 1999 Biological Opinion. The groundfish bottom trawl limit from that opinion was 9,000 fish annually. NMFS will continue to monitor and collect data to analyze take levels. NMFS also reaffirmed its prior determination that implementation of the Groundfish FMP is not likely to jeopardize the continued existence of any of the affected ESUs.

1.4.2 Amendment 10 and Subsequent FMP Developments

In 1996, to address the treatment and disposition of salmon in the shore-based sector of the whiting fishery, an EA was prepared to analyze amendments to both the groundfish FMP (FMP

Amendment 10) and salmon FMP (FMP Amendment 12). The 1996 EA analyzed two management alternatives regarding the retention of salmon taken with groundfish trawl gear. The first alternative was to maintain the then current salmon and groundfish FMPs, under which retention of salmon in the groundfish trawl fisheries would not have been permitted and the practice of retaining salmon in the Pacific whiting shoreside fishery was only authorized under an EFP. The second and preferred alternative was to maintain salmon as a prohibited species in the groundfish FMP and add trawl gear to the list of gears that may retain salmon if allowed under other pertinent regulations such as salmon fishing regulations at 50 CFR Part 660, Subpart H. The preferred alternative also included a provision for the salmon FMP to be amended to allow retention of salmonids in the trawl fishery when a Council approved monitoring program, one that meets certain minimum guidelines, was established in the shore-based whiting fishery (PFMC 1996). At their October 21 - 25, 1996, meeting the Council recommended the preferred alternative including the temporary use of EFPs to monitor the incidental take of salmon until a permanent monitoring program could be implemented. Both the salmon and groundfish FMPs were amended to include the provisions of the preferred alternative, however implementing regulations for the Pacific whiting shoreside fishery were never adopted.

In 1996, the Sustainable Fisheries Act (SFA) amended the Magnuson Fishery Conservation and Management Act (and renamed it to the Magnuson-Stevens Fishery Conservation and Management Act). The SFA required that FMPs establish a standardized reporting methodology to assess the amounts and types of bycatch in a fishery, and required that FMPs identify and rebuild overfished stocks. The Council set a standard, added to the FMP via Amendment 16-1, that groundfish stocks with depletion levels that fall below 25 percent of estimated unfished biomass level are to be considered overfished. At this time, seven stocks continue to be managed via overfished species rebuilding plans: bocaccio, canary rockfish, cowcod, darkblotched rockfish, Pacific ocean perch (POP,) widow rockfish, and yelloweye rockfish.

Amendment 16-1 set a framework for overfished species rebuilding parameters and requirements into the FMP and set an initial requirement that NMFS implement an observer program in the groundfish fishery through a Council-approved federal regulatory framework. Amendments 16-2 and 16-3 revised the FMP to include rebuilding plans for the seven overfished species identified above, plus lingcod. Lingcod was most recently assessed in 2005 and declared rebuilt at that time, the coastwide stock having exceeded the FMP's rebuilding goal of a stock size of at least 40 percent of estimated unfished biomass level. Amendment 16-4, which is currently under NOAA review for approval, partial approval, or disapproval, would revise the rebuilding parameters for the seven species currently managed via rebuilding plans.

Amendment 18 to the FMP, approved September 2006, revised the FMP to include the Council's bycatch minimization policies, programs, and requirements. Among other requirements, the FMP as revised by Amendment 18 now includes a detailed discussion of the groundfish fishery's standardized total catch reporting and compliance monitoring program (Section 6.4). At the same time that the Council was developing Amendment 18, it was also taking a look back at Amendment 10 to determine how to move the shore-based sector of the whiting fishery out of EFP management. Amendment 18 includes provisions that facilitate that move to a long-term Federal regulatory structure: parameters for electronic monitoring programs in Section 6.4.1.1,

and parameters for full retention programs in 6.5.3.1.

1.5 Environmental Review Process and Public Scoping

The purpose of the environmental review process is to determine the range of issues that the NEPA document (in this case the EA) needs to address. The environmental review process is intended to ensure that problems are identified early and properly reviewed; issues of little significance do not consume time and effort; and that the draft NEPA document is thorough and balanced. The environmental review process should: identify the public and agency concerns; clearly define the environmental issues and alternatives to be examined in the NEPA document; eliminate non-significant issues; identify related issues; and identify state and local agency requirements that must be addressed. The following public review and scoping presented in this document is in reference to the development of a regulatory amendment for a full retention and monitoring program in the Pacific whiting shoreside fishery.

An EA was prepared in 1996 and considered amending both the groundfish FMP (FMP Amendment 10) and salmon FMP (FMP Amendment 12) to address the treatment and disposition of salmon in the Pacific whiting shoreside fishery. This EA considers an action to revise Federal groundfish regulations to move the shore-based whiting fishery out of EFP management, in support of FMP provisions from Amendment 10 and the subsequent FMP amendments described above. The Council began discussions on this current iteration of shore-based whiting sector management discussions at its 200X meeting.

In April 2003, NMFS Northwest Region staff met with the Northwest Fisheries Science Center (NWFSC) and West Coast groundfish Observer Program (WCGOP) staff to begin discussion on the development of a monitoring program to support a full retention management structure in the Pacific whiting shoreside fishery. This was followed in May 2003, by a meeting with the staff from Washington Department of Fish and Wildlife (WDFW), Oregon Department of Fish and Wildlife (ODFW), and California Department of Fish and Game (CDFG) to further discuss the development of Federal regulations for a full retention and monitoring program.

In September 2003, NMFS brought a preliminary EA before the Council that contained a range of alternatives for the Council to consider. The Council recommend that the range of alternatives be further developed prior to public review, therefore NMFS held a public scoping meeting on December 8, 2003, in Newport, Oregon to further engage Federal and State personnel and to involve industry in the development of the alternatives. NMFS Northwest Region staff met with staff from WDFW, ODFW, and CDFG as well as with individuals from Archipelago Marine Research Ltd.¹ (Archipelago) and the Pacific whiting shoreside industry to discuss full retention and monitoring.

¹Archipelago Marine Research Ltd is a world leader in the field of fisheries monitoring and marine environmental assessment. Based in Victoria, British Columbia, Archipelago has been providing marine biological services since 1978.

At its June 2004, meeting in Foster City, California the Council reviewed the initial EA and adopted a revised range of alternatives for public review. Following this meeting, the alternatives were revised and a draft EA was sent out for public review in August 2004. The Council was scheduled to select a preferred alternative at their October 31 - November 5, 2004, meeting in Portland, Oregon, however the selection of a preferred alternative was delayed.

In November 2004, NMFS Northwest Region staff meet with representatives from NMFS Office for Law Enforcement (OLE), WCGOP, WDFW, ODFW, and CDFG to discuss the 2005 Pacific whiting shoreside fishery, the application of EMS technology, and the development of full retention requirements. In 2005, the fishery was managed under EFPs.

In November 2005, NMFS Northwest Region staff meet with representatives from NMFS OLE, the WCGOP, ODFW, and CDFG to discuss the 2006 fishery, available resources for monitoring, sampling at shoreside processing facilities, and the use of an EFP for the 2006 fishery. In 2006, the fishery was managed under EFPs.

In addition to the meetings described above, prior to the start of the 2004, 2005 and 2006 whiting seasons, NMFS and Archipelago staff have attended the ODFW-sponsored meetings for EFP participants. The outcome of data collection to evaluate EMS and monitoring as well as the range of alternative management actions have been discussed at these meetings. Fruitful discussions at these meetings helped shape the range of alternatives presented and analyzed in this EA.

In May 2006, NMFS Northwest Region staff met with representatives from, WCGOP, WDFW, ODFW, and CDFG to further discuss the development of a Federal program to replace the need for annual EFPs. In July 2006, NMFS Northwest Region staff meet with technical staff from, WCGOP, WDFW, ODFW, and CDFG to discuss technical issues associated with implementing a monitoring program in the Pacific whiting shoreside fishery. The purpose of the monitoring program was reaffirmed during the meeting. Discussions focused on the data reporting needs and the current reporting structures in each states; the need to reduce under reporting and delayed fish ticket submissions; the different state approaches to sampling catch at shoreside processing facilities; and the use of bycatch limits to reduce impacts on overfished species. In August 2006, NMFS Northwest Region staff and representatives from, WCGOP, WDFW, ODFW, and CDFG discussed the outcome of the technical meeting and held further discussions on the implementation of a Pacific whiting shoreside fishery monitoring program.

At the Council's September 2006, meeting in Foster City, California, NMFS presented a summary of the discussions it had held with the states, and suggested a process and schedule for implementing Federal regulations for a maximized retention and monitoring program for the shore-based whiting sector. The Council received public comment on the issue before providing guidance to NMFS on the range of alternatives for consideration in the EA. At this same meeting, the Council recommended that NMFS host a listening session to allow the states and fishery participants to further present NMFS staff with information concerns on the Pacific whiting shoreside monitoring program development. The listening session was held on September 29, 2006, and participants included NMFS staff, WCGOP, ODFW, CDFG, and

industry stakeholders.

1.5.1 Issues and Concerns Raised Through Scoping

While the initial purpose of the proposed action was to develop and implement a monitoring program for the treatment and disposition of incidentally taken salmon in the shore-based whiting fishery, the importance of establishing full retention and monitoring options to reduce bycatch and track multiple aspects of the shore-based whiting fishery became apparent through the scoping process. Below is a summary of issues that stakeholders asked NMFS to take into consideration when preparing the EA and regulatory amendment:

Full/Maximized retention:

- The need to consider the merits of a full retention program
- The need to define full retention
- Need for an allowance to sort catch at sea
- The need to discontinue annual EFPs
- The importance of having industry support for a monitoring program
- The need to verify catch shoreside

Monitoring:

- The need to have clearly defined objectives for the monitoring program
- The need for the monitoring program to be built on the existing EFP infrastructure
- The need for consistency across states
- Resources available to implement a monitoring program differ by state
- The need for appropriate monitoring levels
- Allowing discard at sea would require observers to be aboard the vessels
- Using Federal observers on catcher vessels is an inefficient use of resources
- The logistics of port sampling is difficult/unusual for NMFS's WCGOP
- Implementation of a monitoring program must be appropriate for IFQs
- Having PSMFC administer a NOAA directed observation program
- How the need for industry samplers changes
- If weighmasters are appropriate

EMS:

- Letting vessel owner/operators have access to their EMS images
- Insurance and liability concerns for industry with video cameras
- The need to protect vessel owner/operators
- The need to address data confidentiality and privacy rights
- The adequacy of EMS testing for supporting a rulemaking
- The need to have more than one company providing EMS services
- The failure rate of EMS
- The time it takes to do analysis

Overages:

- The need to ensure that overages are handled appropriately
- The need for port-specific market values of overage fish

Recordkeeping and Reporting:

- The ability to track bycatch with an audit process
- The ability to audit logbooks for discard
- The need for almost realtime data to monitor bycatch limits
- The applicability of current paper logbooks for this fishery
- The need to have a way to correct fish tickets
- If program includes electronic fish ticket, there is a need to meet the requirements of all three states
- Processors need to have a specific person responsible for bycatch accounting

Costs:

- The funding source
- The need for improved cost estimates
- The cost to the fishery of full retention monitoring program
- The costs relative to the economic importance of the fishery to each state
- The inclusion of Federal, State, and/or Industry funding options
- The shore-based whiting fleet's ability to fund a monitoring program

Other:

- The use of Pacific whiting shoreside fishery hard bycatch caps
- The use of individual vessel bycatch caps
- The possible use of a "penalty box" system
- The importance of the States and industry to be involved in the process
- The need to accommodate the early California fishery
- The use of permit endorsements

1.6 Decision to be Made

From the information in this EA, NMFS must decide whether or not to establish a maximized retention and monitoring program for the Pacific whiting shoreside fishery. It must also be determined if the proposed action and/or preferred alternative would or would not be a major Federal action, significantly affecting the quality of the human environment. If NMFS determines that the proposed action would not significantly affect the quality of the human environment, then a Finding of No Significant Impact (FONSI) may be prepared and a full retention and monitoring program may be implemented in the shore-based whiting fishery. If the NMFS determines that the action would significantly affect the Pacific Coast groundfish fishery, then preparation of an Environmental Impact Statement will be required.

1.7 Applicable Federal Permits, Licences, or Authorizations Needed in Conjunction with Implementing this Proposal

A Pacific Coast groundfish limited entry permit with a shoreside whiting endorsement is being considered as part of Alternatives 3 and 4. Such an endorsement would not be restrictive, except that it would only be available to vessels with trawl-endorsed limited entry permits. The purpose of the endorsement is to support fishery monitoring logistics; the endorsement would be an annual declaration by a vessel owner/operator of an intent to fish in the primary Pacific whiting shoreside fishery, so that the pool of vessels requiring monitoring is known to managers in advance of the season.

2.0 ALTERNATIVES

2.1 Introduction

This chapter describes the alternative management actions that could be taken to eliminate the need to issue EFPs for management and monitoring the Pacific whiting shoreside fishery. When developing the alternatives, the primary issues taken into consideration were:

- The management approach for the fishery,
- Federal permits and endorsements,
- Recordkeeping and reporting,
- Methods of monitoring catcher vessels at sea, including the funding mechanisms,
- Methods for monitoring catch at the shoreside processors, including the funding mechanisms, and,
- The disposition of overage fish and prohibited species.

Four different approaches to managing and monitoring the Pacific whiting shoreside fishery are defined and analyzed in this EA. The following four alternatives are being considered:

- Alternative 1: (No Action) - Require all vessels participating in the Pacific whiting shoreside fishery to sort their catch at sea. Vessels would be included in the pool of vessels that are sampled by the existing WCGOP.
- Alternative 2: (Status Quo) - Continue to use EFPs and manage the fishery as a maximized retention fishery. NMFS would continue to support video monitoring and analysis, while the states would continue to manage the EFPs.
- Alternative 3: (Groundfish Observers) - Adopt Federal regulations for a maximized retention program with Federal or industry funded observers. Observers would monitor catch retention at sea and collect catch data at the processing facility for fish ticket verification.
- Alternative 4: (Electronic Monitoring System) - Adopt Federal regulations for a maximized retention program with Federal or industry funded EMS and catch monitors. EMS would be used to monitor full retention at sea and catch monitors would collect catch data at the processing facility for fish ticket verification.

The No Action Alternative (Alternative 1) defines the default management structure that would occur if EFPs were discontinued and no other program were implemented for the Pacific whiting shoreside fishery. Alternative 2 defines the Status Quo management structure under annual EFPs. Alternatives 3 and 4 define different approaches for establishing a standardized reporting methodology. The purpose of the programs specified under Alternatives 3 and 4 is to minimize the discarding of catch, while allowing for the collection of accurate total catch data such that the integrity of the management structure chosen for the Pacific whiting shoreside fishery can be

maintained. Alternatives 3 and 4, offer suboptions for funding provisions and processing of overage fish that are identified as 3A, 3B, 4A and 4B. Alternatives 2, 3, and 4 are expected to benefit the Pacific whiting shoreside fishery by allowing the fishery to be prosecuted efficiently, and by allowing the quality of Pacific whiting products to be maintained. Table 2.1, outlines and compares the four alternatives as they relate to the primary issues identified at the beginning of this section.

Table 2.1. A comparison of different monitoring programs for the shore-based whiting fishery.				
Issues	Alternative 1 (No Action) Trip Limit Regime	Alternative 2 (Status Quo) Maximized Retention with annual EFPs	Alternative 3 (Groundfish Observers) Maximized Retention with Observers	Alternative 4 (EMS and Catch monitors) Maximized Retention with EMS and Catch Monitors
Management structure	<ul style="list-style-type: none"> • Trip limits for species other than whiting • Catch sorted at sea • Whiting OY likely to be constrained by projected bycatch of overfished species 	<ul style="list-style-type: none"> • Issue annual EFPs • Maximized retention • Whiting OY may be fully available with fleetwide bycatch limits for overfished species 	<ul style="list-style-type: none"> • Implement Federal regulations • Maximized retention • Whiting OY may be fully available with fleetwide bycatch limits for overfished species • With high coverage level, may be adequate to support sector bycatch limits. 	<ul style="list-style-type: none"> • Implement Federal regulations • Maximized retention • Whiting OY may be fully available with fleetwide bycatch limits for overfished species • With high coverage level, may be adequate to support sector bycatch limits.
Federal permits and endorsements	<ul style="list-style-type: none"> • Vessels required to have limited entry permit with trawl endorsement 	<ul style="list-style-type: none"> • Vessels required to have limited entry permit with trawl endorsement • Voluntary EFP permit issued annually 	<ul style="list-style-type: none"> • Vessels required to have limited entry permit with trawl endorsement • Annual whiting endorsement to identify intent to fish 	<ul style="list-style-type: none"> • Vessels required to have limited entry permit with trawl endorsement • Annual whiting endorsement to identify intent to fish
Recordkeeping and reporting	<ul style="list-style-type: none"> • Paper trawl logs • Paper fish tickets • No Federal reporting requirements 	<ul style="list-style-type: none"> • Paper trawl logs - with discard events noted • Paper fish tickets • Begin field testing of electronic logbooks and fish tickets in 2007 	<ul style="list-style-type: none"> • When fully developed, (as early as 2008) require electronic logbooks and fish tickets • Daily fish ticket submission requirements for bycatch limit monitoring 	<ul style="list-style-type: none"> • When fully developed, (as early as 2008) require electronic logbooks and fish tickets • Daily fish ticket submission requirements for bycatch limit monitoring

Issues	Alternative 1 (No Action) Trip Limit Regime	Alternative 2 (Status Quo) Maximized Retention with annual EFPs	Alternative 3 (Groundfish Observers) Maximized Retention with Observers		Alternative 4 (EMS and Catch monitors) Maximized Retention with EMS and Catch Monitors	
Monitoring shore-based catcher vessels at-sea	<ul style="list-style-type: none"> • WCGOP observers quantify discards at sea; vessel selected at random from pool of all trawl vessels 	<ul style="list-style-type: none"> • EMS on vessels to monitor maximized retention • NMFS issues EFPs • States manage EFP participation • NMFS coordinates EMS monitoring 	<ul style="list-style-type: none"> • Observers monitor maximized retention at sea and quantify discard 		<ul style="list-style-type: none"> • EMS used to monitor maximized retention at sea 	
			3A Federally	3B Industry funded	4A Federally funded	4B Industry funded
			<ul style="list-style-type: none"> • WCGOP selects vessels at random from pool of all trawl vessels • NMFS deploys observers 	<ul style="list-style-type: none"> • Direct pay by industry a/ • NMFS funds infrastructure • Vessels procure observer from permitted provider 	<ul style="list-style-type: none"> • WCGOP observers selected at random from pool of all trawl vessels • NMFS coordinates EMS • NMFS funds EMS analysis 	<ul style="list-style-type: none"> • Direct pay by industry a/ • NMFS funds EMS analysis • Vessels procure EMS service from permitted provider
Monitoring shoreside processors	<ul style="list-style-type: none"> • OR - Port samplers collect fish tickets, prepare landing and prohibited species summaries. Industry samplers collect species composition samples and biological data • WA & CA – Port samplers collect fish tickets, species composition samples and biological data 	<ul style="list-style-type: none"> • OR - Port samplers collect fish tickets, prepare landing and prohibited species summaries. Industry samplers collect species composition samples and biological data • WA & CA – Port samplers collect fish tickets, species composition samples and biological data • States collects and summarize fish ticket data inseason 	<ul style="list-style-type: none"> • Observers sample deliveries at processing facility to collect data for fish ticket verification; salmon counts; and biological data; • State port sampler effort may be used elsewhere 		<ul style="list-style-type: none"> • Monitors observe weighing and collect data for fish ticket verification; • State port samplers continue to collect biological data 	
			3A Federally funded	3B Industry funded	4A Federally funded	4B Industry funded
			<ul style="list-style-type: none"> • WCGOP observers b/ • NMFS deploys observers 	<ul style="list-style-type: none"> • Direct pay by industry a/ 	<ul style="list-style-type: none"> • WCGOP observers b/ 	<ul style="list-style-type: none"> • Direct pay by industry a/

Issues	Alternative 1 (No Action) Trip Limit Regime	Alternative 2 (Status Quo) Maximized Retention with annual EFPs	Alternative 3 (Groundfish Observers) Maximized Retention with Observers		Alternative 4 (EMS and Catch monitors) Maximized Retention with EMS and Catch Monitors	
Disposition of Overage Fish	<ul style="list-style-type: none"> No overages landed 	<ul style="list-style-type: none"> Overages reported on fish tickets or overage tickets Vessel abandons overage and value remitted to state upon landing Prohibited species donated State enforcement tracks compliance 	<ul style="list-style-type: none"> Overages reported on fish tickets and sales abandoned or donated to charity 		<ul style="list-style-type: none"> Overages reported on fish tickets and sales abandoned or donated to charity 	
			3A State system (Status Quo)	3B Federal system	4A State system (Status Quo)	4B Federal system
			<ul style="list-style-type: none"> Overage fish abandoned to state Prohibited species donated State enforcement tracks compliance 	<ul style="list-style-type: none"> Profit from sale of overage fish illegal Donation program 	<ul style="list-style-type: none"> Overage fish abandoned to state Prohibited species donated State enforcement tracks compliance 	<ul style="list-style-type: none"> Profit from sales of overage fish illegal Donation program

a/ The legal and policy issues for new direct pay observer programs, where industry members pay directly for observer services, have not yet been fully explored.

b/ Vessel and processor observers may or may not be the same individual and would depend on the chosen sample design.

2.2 Alternatives

2.2.1 Alternative 1 (No Action): Trip Limit Regime

Management Structure: Under this alternative the management of the Pacific whiting shorebased fishery would revert to a trip limit regime. All catch would be required to be sorted at sea. Vessels using midwater trawl gear in the Pacific whiting shoreside fishery would be subject to prohibitions specified at 50 CFR 660.306 (a)(2) and (6), and 50 CFR 660.405 (a)(1), which prohibit the retention of prohibited species as defined at §§ 660.302 and 660.370 (e), and prohibit the retention of groundfish in excess of cumulative trip limits.

Federal permits and endorsements: A Pacific Coast groundfish limited entry permit with a trawl endorsement would be required to participate in the fishery.

Recordkeeping and Reporting: No Federal reports are required of fishers or processors under the No Action Alternative. Federal regulations at 50 CFR 660.303 would continue to require vessels to make and/or file, retain, or make available any and all reports (i.e., logbooks, fish tickets, etc.) of groundfish harvests and landings as required by the applicable state law.

Monitoring Shore-based Catcher Vessels At Sea: Under the No Action Alternative, the WCGOP would be responsible for providing at-sea observer coverage for Pacific whiting shoreside vessels as specified at 50 CFR 660.314 (c)(2). When notified by NMFS of any requirement to carry an observer, the regulations at 50 CFR 660.303 (i)(5) prohibit a vessel from taking and retaining, possessing, or landing any groundfish without a WCGOP observer.

The sampling priorities for WCGOP observers deployed to trawl vessels are to collect data that are used for total catch estimates of each groundfish species or species group over the entire fishing year, and to collect fishery dependent biological data that are otherwise not available on shore. The WCGOP sets coverage priorities for different fisheries and fleets that comprise the groundfish fishery. Observers are deployed on vessels in the active sampling unit or pool of vessels selected for coverage. Vessels in the pool are generally selected at random. However, in the case of the open access fishery observers may be deployed on vessels of opportunity². The proportion of a particular fishery or fleet that receives observer coverage is based on the WCGOP coverage plan.

Although the WCGOP strives for a 20 percent coverage level of vessels in the bottom trawl fisheries, it is likely the Pacific whiting shoreside fishery would be given a lower coverage priority when considering: 1) the data needs of the Pacific whiting fishery relative to the total catch data needs for the entire groundfish fishery, 2) the limited number of observers available to be deployed, 3) current data available from other sectors of the Pacific whiting fishery, and 4) the availability of historical data that can be factored in to catch estimates.

Monitoring Shoreside Processors: Under the No Action Alternative, each state would continue to hire, train, and pay for port biologists to: collect fish ticket data; complete landing summaries;

²A vessel of opportunity is a vessel that was not prescheduled for coverage; rather, it is a vessel that was contacted prior to leaving on a fishing trip and was willing and able to carry an observer for that trip.

and, to collect biological data. Additional port samplers may also be funded by the Pacific States Marine Fish Commission (PSMFC). In the state of Oregon, industry samplers may continue to be used to collect biological data from whiting and other groundfish that are landed on whiting trips.

Disposition of Overage Fish: Under this alternative there are no allowances for landing legal overages. Therefore, all overage fish would need to be abandoned.

2.2.2 Alternative 2 (Status Quo): Maximized Retention under Annual Exempted Fishing Permits

Management Structure: Under the Status Quo Alternatives, the fishery would continue to operate under annual EFPs. Each year, the three states would submit an EFP request to NMFS and NMFS would issue EFPs. The three states would continue to coordinate all EFP activities including: identification of interested vessels; hosting mandatory meetings; preparing designated shoreside whiting processor agreements; coordination of inseason data collection and transmission to NMFS; and, preparation of year end summaries.

Under this alternative, a maximized retention program would be defined within the terms and conditions of the EFPs. Vessels targeting Pacific whiting with midwater trawl gear during the primary season for the shore-based sector would be allowed to land unsorted catch that may include species that are currently prohibited by regulations at 50 CFR 660.306 (a)(2) and (6), and 50 CFR 660.405 (a)(1). Maximized retention encourages full retention of all catch while recognizing that minor discard events that include large animals (>6ft in length) and minor levels of operational discard may occur.

Federal permits and endorsements: A Pacific Coast groundfish limited entry permit with a trawl endorsement would be required to participate in the fishery. In addition, each participating vessel would need to apply for and be issued an EFP.

Recordkeeping and Reporting: Under the No Action alternative, Federal regulations at 50 CFR 660.303 would continue to require vessels to make and/or file, retain, or make available any and all reports (i.e., logbooks, fish tickets, etc.) of groundfish harvests and landings as required by the applicable state law. Recordkeeping and reporting requirements needed to support the maximized retention program would be specified within the terms and conditions of the EFP.

Field testing of electronic logbooks could be conducted under the EFP. When requested by the states, NMFS or PSMFC, selected vessels would be required to use electronic logbooks. As the system became more fully developed, the terms and conditions of the EFPs could require all vessels to carry and use electronic logbooks.

Under the terms and conditions of the EFP, vessels may only land catch at processing facilities that are listed as a designated processor. Each state would continue to hold designated processor agreements with the Pacific whiting shoreside processing facilities. Specific requirements for how deliveries of Pacific whiting must be sorted and reported, and how overage fish and prohibited species are to be handled would continue to be specified in the designated processor agreements and state regulations. In the absence of a temporary rulemaking that puts recordkeeping and reporting requirements for Pacific whiting shoreside processing facilities into regulation for 2007, field testing of electronic fish tickets would be on a voluntary basis.

Monitoring Shore-based Catcher Vessels At Sea: Under the Status Quo Alternative, observer and other monitoring requirements would continue to be specified in the terms and conditions of the EFPs.

Vessels could be required to carry a state-sponsored sampler or a WCGOP observer to collect data at-sea when requested. The terms and conditions of the EFPs specify that observer regulations at 50 CFR 660.306 and 50 CFR 660.314 regarding vessel responsibilities and prohibitions, would apply to both state samplers and WCGOP observers. Observer coverage requirements at 50 CFR 660.360 and 50 CFR 660.314 are independent of the EFP, meaning when notified by NMFS of any requirement to carry an observer under regulations specified at 50 CFR 660.314 (c)(2), a vessel is prohibited from taking and retaining, possessing, or landing any groundfish without a WCGOP observer (50 CFR 660.303 (i)(5)). However, given the full retention management approach for the fishery, the Pacific whiting shoreside fishery would likely be a low priority for WCGOP observer coverage.

Requirements for vessels to have EMS would continue to be specified in the terms and conditions of the EFP and NMFS would continue to maintain a service contract with a qualified EMS provider. Vessel responsibilities specified in the EFP would continue to include: requirement to have EMS coverage to conduct EFP fishing; requirement for EMS installations; prohibition from intentionally damaging EMS equipment; responsibility for scheduling EMS equipment maintenance and data retrieval; need to conduct regular system checks; and, responsibility for scheduling EMS removal. Violations of the terms and conditions of an EFP would continue to be a violation of Federal regulations at 50 CFR 660.306 (a) (4).

Monitoring Shoreside Processors: Under the Status Quo Alternative, the State would continue to hire, train, and pay for port biologists to collect fish ticket data; complete landing summaries, and collect biological data; and verify salmon counts. Additional port samplers may also be funded by the PSMFC. In the state of Oregon, industry samplers would continue to be used to take species composition data, and to collect biological data from groundfish.

Disposition of Overage Fish: Under the Status Quo Alternative, unless otherwise specified, the terms and conditions of the EFP would continue to require vessels to abandon overage fish and prohibited species to the state of landing. Each state would be responsible for the distribution, tracking, and sales of the overage fish. How overages are handled would likely vary between states.

2.2.3 Alternative 3 (Groundfish Observers): a Maximized Retention Program with Observer Monitoring

Management Structure: Under Alternative 3, a maximized retention program would be specified in Federal regulation. The groundfish regulations would be revised to allow vessels targeting Pacific whiting with midwater trawl gear during the primary season for the shore-based sector to land unsorted catch that may include species that are currently prohibited by regulations at 50 CFR 660.306 (a)(2) and (6), and 50 CFR 660.405 (a)(1). Maximized retention encourages full retention of all catch while recognizing that minor discard events that include large animals (>6ft in length) and minor levels of operational discard may occur.

Federal permits and endorsements: A Pacific Coast groundfish limited entry permit with a trawl endorsement would be required. A Pacific whiting shoreside endorsement is being considered as part of this alternative. Such an endorsement could be attached to any limited entry permit with

a trawl endorsement. The purpose of the endorsement would be to indicate the vessels' intent to fish in the Pacific whiting shoreside fishery.

Recordkeeping and Reporting: Under Alternative 3, recordkeeping and reporting requirements would be specified in Federal regulation. The recordkeeping and reporting requirements would be adequate to support a real-time inseason data system (i.e. preliminary catch weights would be available in a central data base within 24 hours of catch being weighed at the processing facility) as is needed for managing fleetwide or sector bycatch limits. To the extent possible, Federal recordkeeping and reporting requirements would be consistent with state regulatory requirements so that the burden of unnecessary duplication can be avoided.

As software becomes more fully developed and is adequately field tested, vessels may be required to submit electronic vessel logbooks. Requirements for vessels to use electronic logbooks could be as early as 2008. However, it should be noted that implementation of a maximized retention program under this alternative would not be delayed by the electronic logbooks development process. If such software is not adequately developed by the effective date of the final action, interim action would be taken and electronic logbook requirements would be adopted into final regulation at a later date.

As software for electronic fish tickets becomes more fully developed and is adequately field tested, processors would be required to submit electronic fish tickets daily. Requirements for processors to use electronic fish tickets could be implemented as early as 2008. Additional submission requirements for consistency with state law may be necessary, with requirements varying between states. Processors may be required to submit printed electronic fish tickets or state paper fish tickets to meet state regulatory requirements. As with electronic vessel logbooks, it should be noted that implementation of a maximized retention program under this alternative would not be delayed by the electronic fish ticket development process.

To support electronic recordkeeping and reporting, computer hardware and software requirements for vessels and processing facilities would be specified in Federal regulation. Vessels and processors would be required to provide particular computer hardware, operating system, and basic software (i.e. Microsoft Access version 2000 or later). Logbook and fish ticket software would be provided at no cost by NMFS or PSMFC.

Monitoring Shore-based Catcher Vessels At Sea: Under Alternative 3, observer coverage requirements would be specified in Federal regulation for vessels that target Pacific whiting during the primary season for the shore-based sector. Observers would be deployed on vessels in the Pacific whiting shoreside fishery to monitor compliance with maximized retention regulations and to estimate species and weight of catch that may be discarded at sea. Observers would: provide documentation on compliance with maximized retention regulations; may be able to estimate species and quantities of discarded groundfish; and may collect biological data that would otherwise not be available at the processing facility (i.e. marine mammal and seabird interactions).

Alternatives 3A and 3B: Alternative 3 is further divided into Alternatives 3A for Federally funded observers and Alternative 3B for industry funded observers.

Under Alternative 3A, NMFS would use Federally appropriated funds to provide observers for monitoring whiting vessels at-sea. This is the funding approach currently used in the non-whiting groundfish fisheries. At this time, the WCGOP funds are the

only Federal funds appropriated for hiring observers for the Pacific Coast groundfish fishery. Under this alternative, existing WCGOP funds would be used to provide observer coverage for the Pacific whiting shoreside fishery. Selection of vessels for observer coverage would likely be similar to that described under Alternative 1, the No Action Alternative, or WCGOP could choose to include the whiting vessels in the same coverage pool as non-whiting trawl fisheries. In the non-whiting or bottom trawl fisheries, vessels are randomly selected from the pool of all trawl vessels. Because existing resources would need to cover a larger pool of vessels, coverage levels in the non-whiting fisheries would be reduced below current levels during the summer months.

Under Alternative 3B, vessel owners or operators would be required by regulation to procure the services of a NMFS-certified or -permitted observer from a NMFS permitted observer provider. This type of observer is commonly referred to as a “pay-as-you-go” or “third party” observer³. This is the funding approach currently used in the mothership and catcher processor sectors of the whiting fishery. NMFS would be required to use existing funds for administrative and analytical infrastructure unless an amendment to the Magnuson-Stevens Act was made to allow NMFS to accept funds directly from industry for administrative and analytical infrastructure costs. Under a Federally regulated pay-as-you-go or third party system fishery participants would be responsible for: making arrangements with a NMFS permitted observer provider; having an observer available for their vessels; and, paying the observer providers directly for the observer costs. The observer providers collect the fees directly from the vessels, recruit qualified individuals, provide insurance and benefits to the observers, deploy the observers, and assure that the observer data is delivered to NMFS.

Monitoring Shoreside Processors: Under Alternative 3, processors would be required to have an observer: to collect data for estimating total catch of groundfish and verifying the accuracy of fish tickets; and, to quantify the total catch of prohibited species, particularly salmon. Because observers are biological technicians they may also collect biological data on Pacific whiting and other marine species that are landed with Pacific whiting. If adequate observer coverage were obtained under this alternative, industry and port sampler efforts may be available for use in collecting data from non-whiting fishing activities.

³ Although third party observer programs are a legally viable option, at this time the NOAA Fisheries National Observer Program Office is discouraging the agency from approving new third party observer programs. In other fisheries where third party observer programs have been used, there have been: allegations of conflict of interest with some observer providers; competition between observer providers that has been in direct conflict with the agency’s need for high quality observers; and, concerns about the direct relationship between the observer provider and the vessels, which may leave observers vulnerable to coercion and misreporting catch data (*Options for Funding a Fishery Observer Program for The West Coast Groundfish Fishery, June 2000 Report to Congress. Submitted to the Committee on Appropriations, US Senate and House of Representatives, US DOC, NOAA, NMFS*).

Alternatives 3A and 3B: Alternative 3 is further divided into Alternatives 3A for Federally funded observers and Alternative 3B for industry funded observers.

Under Alternative 3A, NMFS would use Federally appropriated funds to provide observers to monitor Pacific whiting deliveries at the shoreside processing facilities. The mechanics of this structure are the same as that described in the previous section (monitoring shore-based catcher vessels at sea) under Alternative 3A. At this time, the WCGOP funds are the only Federal funds appropriated for hiring observers for the Pacific Coast groundfish fishery. Under Alternative 3A, WCGOP observer coverage would be extended to the Pacific whiting shore-based processors. Individual observers assigned to sample at Pacific whiting shoreside processors may be different individuals from the vessel observers and therefore the coverage level would likely to be similar to that described for vessels under Alternative 1, the No Action alternative. Under Alternative 1, the number of observers available to sample at Pacific whiting shoreside processors would be weighed against the need for those same observers to sample other groundfish fisheries to meet the Magnuson-Stevens Act requirements on bycatch accounting. If WCGOP chooses to use the same observer for both the Pacific whiting shoreside vessel and processor, they would likely be included as part of the same coverage pool as non-whiting trawl fisheries. In the non-whiting or bottom trawl fisheries, vessels are randomly selected from the pool of all trawl vessels. Because existing resources would need to cover a larger pool of vessels and processors, coverage levels in the non-whiting fisheries would be reduced below current levels during the summer months.

Under Alternative 3B, Pacific whiting shoreside processors would be required by regulation to procure the services of a NMFS-certified or -permitted observer from a NMFS permitted observer provider. This type of observer is commonly referred to as a “pay-as-you-go” or “third party” observer, and this the funding approach is currently used on processors in the mothership and catcher processor sectors of the whiting fishery. NMFS would be required to use existing funds for administrative and analytical infrastructure because an amendment to the Magnuson-Stevens Act would be required for NMFS to accept funds directly from industry for administrative and analytical infrastructure costs. Under a Federally regulated pay-as-you-go or third party system, fishery participants would be responsible for: making arrangements with a NMFS permitted observer provider; having an observer available for their processing facility; and, paying the observer providers directly for the observer costs. The observer providers collect the fees directly from the processor, recruit qualified individuals, provide insurance and benefits to the observers, deploy the observers, and assure that the observer data is delivered to NMFS.

Disposition of Overage Fish: Federal regulations would specifying how overage fish and prohibited species must be handled.

Alternatives 3A and 3B: Alternative 3 is further divided into Alternative 3A for a state system in which overage fish and prohibited species are abandoned to the state of landing and Alternative 3B for a federal system in which overage fish and prohibited species cannot be sold.

Under Alternative 3A, overage fish would continue to be abandoned to the state of landing. Vessels would be required to abandon all overage fish and prohibited species. The weight and/or number of species being abandoned would be required to be reported

on fish tickets. Payment from the sales of overage fish that are required to be remitted shall be at “fair market” value. This structure was defined above under Alternative 2.

Under Alternative 3B, Federal regulations would prohibit the sale of overage fish and prohibited species. However, overage fish and prohibited species could be donated to a hunger relief organization.

2.2.4 Alternative 4 (Electronic Monitoring System): a Maximized Retention Program with an EMS for Monitoring Vessels at Sea and Catch Monitors for Verification of Fish Ticket Data.

Management Structure: Under Alternative 4, a maximized retention program would be specified in Federal regulation. The groundfish regulations would be revised to allow vessels targeting Pacific whiting with midwater trawl gear during the primary season for the shore-based sector to land unsorted catch that may include species that are currently prohibited by regulations at 50 CFR 660.306 (a)(2) and (6), and 50 CFR 660.405 (a)(1). Maximized retention encourages full retention of all catch while recognizing that minor discard events that include large animals (>6ft in length) and minor levels of operational discard may occur.

Federal permits and endorsements: A Pacific Coast groundfish limited entry permit with a trawl endorsement would be required. A Pacific whiting shoreside endorsement is being considered as part of this alternatives. Such an endorsement could be attached to any limited entry permit with a trawl endorsement. The purpose of the endorsement would be to indicate the vessels’ intent to fish in the Pacific whiting shoreside fishery.

Recordkeeping and Reporting: Under Alternative 4, recordkeeping and reporting requirements would be specified in Federal regulation. The recordkeeping and reporting requirements would be adequate to support a real-time inseason data system (i.e. preliminary catch weights available in central data base within 24 hours of catch being weighed at the processing facility) as is need for managing fleetwide or sector bycatch limits. To the extent possible, Federal recordkeeping and reporting requirements would be consistent with state regulatory requirements so that the burden of unnecessary duplication can be avoided.

As the software becomes more fully developed and is adequately field tested, vessels may be required to submit electronic vessel logbooks. Requirements for vessels to use electronic logbooks could be implemented as early as 2008. However, it should be noted that implementation of a maximized retention program under this alternative would not be delayed by the electronic logbooks development process. If such software is not adequately developed by the effective date of the final action, interim action would be taken and electronic logbook requirements would be adopted into final regulation at a later date.

As software for electronic fish tickets becomes more fully developed and is adequately field tested, processors would be required to submit electronic fish tickets daily. Requirements for processors to use electronic fish tickets could be implemented as early as 2008. Additional submission requirements for consistency with state law may be necessary, with requirements varying between states. Processors may be required to submit printed electronic fish tickets or state paper fish tickets to meet state regulatory requirements. As with electronic vessel logbooks, it should be noted that implementation of a maximized retention program under this alternative would not be delayed by the electronic fish ticket development process.

To support electronic recordkeeping and reporting, computer hardware and software requirements for vessels and processing facilities would be specified in Federal regulation. Vessels and processors would be required to provide particular computer hardware, operating system, and basic software (i.e. Microsoft Access version 2000 or later). Logbook and fish ticket software would be provided at no cost by NMFS or PSMFC.

Monitoring Shore-based Catcher Vessels At Sea: Under Alternative 4, EMS coverage requirements would be specified in Federal regulation for vessels that target Pacific whiting during the primary season for the shore-based sector. EMS would be installed on vessels in the Pacific whiting shoreside fishery to monitor compliance with maximized retention regulations. EMS has been used to document retention and/or discard of catch. EMS is a data collection tool that uses a software operating system connected to an assortment of electronic components, including video recorders, to create a data collection of vessel activities. The EMS is designed to independently monitor vessel fishing activities and provide accurate, timely, and verifiable data. Because EMS would be used as a compliance monitoring tool, NMFS believes it is necessary for 100% of the Pacific whiting trips to be monitored.

EMS requirements specified in Federal regulations would include: EMS service provider permitting process; EMS service provider responsibilities; EMS service provider data confidentiality standards, EMS coverage requirements for vessels; prohibitions against intentionally damaging EMS equipment on vessels; vessel responsibilities for scheduling EMS installations, equipment, maintenance and data retrieval; and, vessel responsibilities for scheduling EMS removal.

Alternatives 4A and 4B: Alternative 4 is further divided into Alternatives 4A for Federally funded EMS and Alternative 4B for industry funded EMS.

Under Alternative 4A, (Status Quo) NMFS would use existing WCGOP funds to provide EMS for monitoring Pacific whiting vessels at-sea. Currently, no money has been specifically appropriated for the implementation of an EMS monitoring program in the Pacific whiting shoreside fishery. Under Alternative 4A, only a small number of EMS units may be provided. Vessels chosen to use EMS could be selected at random from the pool of all Pacific whiting shoreside vessels. Given the need to use WCGOP base funds for observer coverage in non-whiting groundfish fisheries, the availability of Federal funds to provide for EMS coverage in the Pacific whiting shoreside fishery would likely be quite low.

Under Alternative 4B, vessel owners or operators would be required by regulation to procure EMS services from a permitted EMS service provider. NMFS would be required to use base funds for administrative costs and analysis without an amendment to the Magnuson-Stevens Act to allow NMFS to accept funds directly from industry for administrative and analytical infrastructure costs. The fishing industry would be responsible for: making arrangements with an EMS permitted observer provider; having an EMS available for their vessel; and, paying directly for the EMS costs. The EMS service providers collect the fees directly from the vessels; purchase and maintain EMS equipment; provide for timely installation and removal of EMS equipment; and, assure that the EMS data analysis is delivered to NMFS.

Monitoring Shoreside Processors: Under Alternative 4, dockside monitoring at Pacific whiting shoreside facilities would be conducted by catch monitors. The phrase “catch monitor” is being

used in a general sense to describe individuals whose duty station is at the Pacific whiting shoreside processing facilities and who collect independent data that can be used for verification of fish tickets or used to evaluate the accuracy of fish tickets.

Catch monitors under this action could be defined as any of following individuals or be specifically defined to meet the identified needs of the proposed program:

- *Observers* are biological technicians, educated in the natural sciences, trained in species identification and biological sampling. They collect catch and effort data used to estimate total catch;
- *Weigh masters* are standards inspectors that are employed by the states, by independent third parties or are self employed and who are licensed or certified as a weigh master. These individuals are trained in the types and use of commercial scales, species identification, recordkeeping, and non-compliance. Weigh masters monitor weighing activities for accuracy, and sign or certify fish ticket weights;
- *Enforcement technicians* are individuals employed by NMFS OLE who are trained in compliance standards and species identification and who monitor the weighing process for compliance with weighing and sorting requirements (see section 2.3 Alternatives considered but rejected from detailed analysis);
- *Port samplers* are biological aides who are employed by the states or PSMFC and trained in interviewing fishermen, species identification, recordkeeping, and summarizing basic field data;
- *Industry samplers* are individuals directly employed by the processors who have basic training in biological data collection and species identification and who collect basic biological information on the catch and catch composition.

Alternatives 4A and 4B: Alternative 4 is further divided into Alternatives 4A for Federally funded catch monitors and Alternative 4B for industry funded catch monitors.

Under Alternative 4A, NMFS would use Federally appropriated funds to monitor Pacific whiting deliveries at the shoreside processing facilities. At this time there are no Federal funds specifically appropriated for catch monitors for Pacific whiting shoreside processors. Therefore, a Federally funded program would use observers as catch monitors unless other funds became available. This is the same structure as was described above for Alternative 3A in the section titled “monitoring shoreside processors”.

Under Alternative 4B, Pacific whiting shoreside processors would be required by regulation to procure the services of a catch monitor. NMFS would be required to use existing funds for administrative and analytical infrastructure because an amendment to the Magnuson-Stevens Act would be required for NMFS to accept funds directly from industry for administrative and analytical infrastructure costs. Under a Federally regulated third party system, the fishing industry would be responsible for: procuring the services of a catch monitor; having the catch monitor available at the processing facility; assuring that the specified coverage requirements are met; and, paying for the services of the catch monitor.

Disposition of Overage Fish: Federal regulations would specifying how overage fish and prohibited species must be handled.

Alternatives 4A and 4B: Alternative 4 is further divided into Alternative 4A for a state system in which overage fish and prohibited species are abandoned to the state of landing and Alternative 4B for a federal system in which overage fish and prohibited species cannot be sold.

Under Alternative 4A, overage fish would continue to be abandoned to the state of landing. Vessels would be required to abandon all overage fish and prohibited species. The weight and/or number of species being abandoned would be required to be reported on fish tickets. Payment from the sales of overage fish that are required to be remitted shall be at “fair market” value. This structure was defined above under Alternative 2.

Under Alternative 4B, Federal regulations would prohibit the sale of overage fish and prohibited species. However, overage fish and prohibited species could be donated to a hunger relief organization.

2.3 Alternatives Considered but Eliminated from the Detailed Analysis

Approaches that were considered but not analyzed in this document, include:

- Amending the Pacific Coast Groundfish and Pacific salmon FMPs to allow salmon taken with trawl gear to be retained and landed without the development of an adequate monitoring mechanism;
- Using existing Federally funded WCGOP observers at coverage levels that are greater than coverage levels in the non-whiting trawl fisheries to monitor maximized retention at sea;
- Having NMFS enforcement agents or enforcement officers monitor maximized retention at sea or to monitor weighing activities at shoreside processing facilities;
- Having state funded maximized retention monitors at sea or for monitoring weighing activities at shoreside processing facilities;
- A maximized retention program with unmonitored fishing at sea;
- A maximized retention program with less than 100% of the hauls being monitored at sea;
- Vessel owned EMS equipment or EMS equipment from non-permitted service providers;

Amending the Pacific Coast Groundfish and Pacific Salmon FMPs to allow salmon taken with trawl gear to be retained and landed without the an adequate monitoring mechanism.

Management of the salmon and groundfish fisheries has changed substantially since the mid-1990's, when it was first determined that monitoring of salmon retained by vessels using trawl gear was necessary. Since the mid-1990s, new salmon ESUs have been listed under the ESA, commercial salmon fisheries have been severely restricted, and the importance of bycatch reduction and accounting have been mandated by the Magnuson-Stevens Act. Allowing

unmonitored landings of trawl caught salmon would not be consistent with the ESA or the Magnuson-Stevens Act.

Using existing Federally funded WCGOP observers at coverage levels that are greater than coverage levels in the non-whiting trawl fisheries to monitor maximized retention at sea.

The sampling priorities for WCGOP observers deployed to trawl vessels are to collect data that are used for total catch estimates of each groundfish species or species group over the entire fishing year, and to collect fishery dependent biological data that are otherwise not available on shore. The WCGOP sets coverage priorities for different fisheries and fleets that comprise the groundfish fishery. Observers are deployed on vessels in the active sampling unit, and vessels are selected at random for coverage. The target coverage level for a particular fishery or fleet is based on the WCGOP coverage plan, which is driven by total catch and bycatch data needs.

It is likely the Pacific whiting shoreside fishery would be given one of the lowest coverage priorities by the WCGOP when considering: 1) the data needs of the Pacific whiting fishery relative to needs for the entire groundfish fishery, 2) the limited number of observers, 3) data availability from other sectors of the Pacific whiting fishery, and 4) the availability of historical data. To require greater observer coverage would have a direct effect on the ability of the WCGOP to monitor other fisheries and to meet the Magnuson-Stevens Act mandates.

Having NMFS enforcement agents or enforcement officers monitor maximized retention at sea or to monitor weighing activities at shoreside processing facilities.

No funds have been appropriate for the development a catch monitoring program by NMFS OLE.

Having state funded maximized retention monitors at sea or for monitoring weighing activities at shoreside processing facilities.

None of the three states operating in this fishery have funds available for the development or ongoing support of a monitoring program for the Pacific whiting shoreside fishery. Resources available for catch monitoring are limited and can vary greatly between years. Basing future regulatory requirements on an unknown funding base could result in either the fishery being severely constrained or data and monitoring needs being unmet.

A maximized retention program with unmonitored fishing at sea or a maximized retention program with less than 100% of the hauls being monitored at sea.

To verify maximized retention of catch in the Pacific whiting shoreside whiting fishery, it is necessary for all vessels to be monitored from the time that the first haul is retrieved until the time that the catch is offloaded at the processing facility. The sampling scheme applied to the Pacific whiting shoreside fishery is a census, meaning that the total catch values are not derived from estimates or extrapolations, but from actual counts or weights of each species or species complex. NMFS determined that a level of 100% monitoring was the only monitoring level that was appropriate for accurately documenting compliance with maximized retention.

Because the catch of prohibited species and overfished species are rare and intermittent, any discarding at sea of these species would also be rare and intermittent. As only high levels of monitoring are appropriate for documenting such occurrences.

Vessel owned EMS equipment or EMS equipment from non-permitted service providers.

Having equipment that meets a specific performance standard is critical to the success of an EMS based monitoring program. At this time this is a relatively new monitoring tool for

fisheries managements and there are no Federal equipment or performance standards for EMS systems, nor has there been a type approval process developed for EMS systems. The development of either Federal standards or a type approval processes are timely and costly. In the absence of either Federal standards or a type approved process, and given the rapid change in technology, NMFS believes that permitting EMS providers will assure that the EMS equipment used to monitor the Pacific whiting fishery meets the needs of the fishery and fisheries management, while allowing new EMS providers to enter the fishery.

Permitting EMS service providers allows for better oversight of the businesses that handle confidential EMS data. Allowing EMS services to be provided without a permitting process may impair the ability to remove or sanction business who do not provide adequate service or who do not abide by the defined responsibilities.

APPENDIX-A

PACIFIC COAST GROUND FISH FISHERY EXEMPTED FISHING PERMIT (EFP)

AUTHORITY: Title 50, Code of Federal Regulations
Sections 600.745 and 660.406, and Subpart G of part 660

MONITORING INCIDENTAL CATCH IN THE SHORE-BASED PACIFIC WHITING FISHERY

F/V **Vessel name**

PERMIT # **06-HAK-XX**
Pacific Coast Groundfish
Limited Entry Permit # xx

The Administrator of the Northwest Region of the National Marine Fisheries Service (NMFS), acting on behalf of the Secretary of Commerce, hereby permits the fishing vessel **[insert vessel name]**, documentation number **[insert documentation number]**, to engage in the exempted harvest of Pacific Coast groundfish over which the United States exercises fishery management authority under the Magnuson-Stevens Fishery Conservation and Management Act, 16 United States Code 1801 et seq. (Magnuson-Stevens Act), and implementing groundfish regulations at 50 CFR Part 660, Subpart G and section 600.745, and under salmon regulations at 50 CFR 660.406. The exempted fishing must be conducted in accordance with the provisions of the Magnuson-Stevens Act and 50 CFR Parts 600 and 660, Subpart G except as provided in the attached terms and conditions incorporated herein.

This permit implements a cooperative state/Federal/industry observation program to monitor the bycatch of salmon and groundfish in the shore-based component of the Pacific whiting fishery. This permit is valid when signed by both the Regional Administrator and the authorized representative of the vessel owner (hereinafter referred to as the "EFP holder"). It expires 24 hours after notification by the Regional Administrator of termination of this permit, or when any of the provisions listed at E.2. are met, or on 11:59 p.m. PST December 31, 2006, whichever is earlier. It also may be terminated or modified earlier by regulatory action pursuant to 50 CFR Part 660, Subpart G, or revocation, suspension, or modification pursuant to 15 CFR Part 904, or successor regulations, or by the terms and conditions of this permit.

_____ Signature D. Robert Lohn, Regional Administrator Northwest Region National Marine Fisheries Service	_____ Date Signed	_____ Signature XX , EFP holder. By signing this document, the EFP holder agrees that the EFP holder, the vessel owner(s), all vessel operators, and crew members of the vessel will comply with the intent and the terms and conditions of this permit. Further, the EFP holder is responsible for seeing that conditions of this permit are understood by the vessel owner(s), the vessel operator(s) and vessel crew. EFP Holder's Name/Address: name, address, phone, fax XX	_____ Date Signed
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EXEMPTED FISHING PERMIT

MONITORING INCIDENTAL CATCH IN THE SHORE-BASED PACIFIC WHITING FISHERY

TERMS AND CONDITIONS

A. PURPOSE.

The purpose of this exempted fishing permit (EFP) is to evaluate a maximized retention and monitoring program in the shore-based Pacific whiting fishery off the coasts of Washington, Oregon, and California.

The objectives of this maximized retention and monitoring program are to allow efficient prosecution of the shore-based whiting fishery, track total catch in the shore-based whiting fishery, and minimize discard to the extent practicable. If these objectives can be achieved in an efficient and enforceable manner, this maximized retention and monitoring program may be transitioned into Federal regulations. If these objectives cannot be achieved in an efficient and enforceable manner, the shore-based whiting fishery may be required to operate under the Pacific Coast groundfish trip limit management system and sort all catch at sea.

B. BACKGROUND.

A maximized retention program would reduce discards in the Pacific Coast groundfish fishery by enabling the shore-based whiting fleet to land prohibited species as well as groundfish species taken in excess of cumulative trip limits. By allowing vessels to land unsorted catch at processing plants, a maximized retention program helps ensure quality whiting products by enabling catch to be placed in refrigerated seawater tanks immediately after capture. Additionally, a maximized retention and monitoring program will improve the ability of fishery management agencies to track the catch of whiting as well as the incidental catch, including prohibited species as defined in Federal regulation at 50 CFR 660.302 and 660.370(e) (i.e., Pacific salmon, Pacific halibut, and Dungeness crab) and overfished groundfish species (i.e., widow rockfish, darkblotched rockfish, canary rockfish, Pacific ocean perch) in the shore-based whiting fishery, thereby, helping to establish a standardized reporting methodology for this fishery.

Using this EFP to target any species other than whiting is contrary to the intent of this EFP. Use of this EFP to target species other than whiting may result in Federal fishery violations and early attainment of the 2006 optimum yields (OYs) for groundfish species other than whiting. Early OY attainment for groundfish species other than whiting could result in NMFS having to close the coastwide fishery and/or having to terminate the EFPs. If the EFP were terminated, the participants in the shore-based whiting fishery would be required to sort their catch at sea and operate under groundfish trip limit management.

C. SCOPE.

1. This permit applies to all fishing activities by the permitted vessel targeting on Pacific whiting during the effective dates of the permit. **In addition to all applicable terms and conditions in this document, the EFP holder is responsible for instructing all vessel**

operators and crew members concerning the terms and conditions of this permit.

2. This permit authorizes, for limited purposes as described in this permit, the following activities which would otherwise be prohibited by 50 CFR 660.306 (a)(2) and (6) and 50 CFR 660.405 (a)(1):
 - a. Retention, until offloading, of prohibited species (defined at §§660.302 and 660.370(e)) incidentally caught in a midwater trawl;
 - b. Retention, until offloading, of groundfish in excess of trip limits.
3. All other provisions of 50 CFR Part 660, Subpart G, including restrictions specified by or pursuant to 50 CFR 660.323, apply to fishing conducted under this permit.

D. PERMIT CONDITIONS.

1. This permit is valid only for a vessel participating under the States' observation program that is using legal midwater trawl gear to target Pacific whiting, as defined at D.3. during the primary season of the shore-based fishery.
2. All fishing trips by the permitted vessel targeting on Pacific whiting, as defined at D.3., during the effective dates must be conducted in accordance with this permit.
3. A fishing trip targeting on Pacific whiting is defined for the purposes of this permit as a fishing trip resulting in the landing of 10,000 pounds or more of Pacific whiting.
4. If a vessel lands less than 10,000 pounds of Pacific whiting from a fishing trip, then that trip will not be considered as "targeting on Pacific whiting," and therefore that trip will not be governed by this permit. Consequently, for that trip, the vessel must comply with all applicable trip limits and sorting requirements and all fish landed for such a trip will count toward any cumulative trip limits in effect.
5. All groundfish caught in excess of the trip limits set out in this EFP or otherwise implemented by Federal regulation, but required to be retained under this EFP, must be abandoned to the State of landing immediately upon offloading. No vessel can receive payment for any fish landed in excess of any cumulative trip limits in effect, whether those limits are specified in this EFP or in Federal regulation. For 2006, the following incidental groundfish cumulative limits are in effect with this EFP:
 - Lingcod: 600 lb per calendar month
 - Minor slope rockfish, including darkblotched rockfish: 1,000 lb per calendar month
 - Minor shelf, shortbelly, widow and yellowtail rockfish: In trips of at least 10,000 lb of whiting, combined widow and yellowtail limit of 500 lb per trip, with a cumulative widow rockfish limit of 1,500 lb per calendar month, and with a cumulative yellowtail rockfish limit of 2,000 lb per calendar month.
 - Pacific ocean perch: 600 lb per calendar month
 - Pacific cod: 600 lb per calendar month
 - Sablefish: 1,000 lb per calendar month

For all other groundfish species or species groups, the trip limits in Table 3 of 50 CFR Subpart G apply to this fishery. For species that do not have specific midwater trawl trip limits listed in Table 3, the “multiple bottom trawl gear” trip limits apply to vessels fishing under this EFP, even though the participating vessels are required to use midwater gear to participate in this fishery. A copy of the current version of Table 3 is attached to this EFP; Table 3 may be revised as early as July 1, 2006.

6. All prohibited species (defined at §660.302 and 660.370(e)) incidentally caught in a midwater trawl, and required to be retained under this EFP, must be abandoned to the State of landing immediately upon offloading.
7. Regulations governing participation in both the Pacific whiting primary season under this EFP and the bottom trawl groundfish fishery in the same cumulative limit period are found at 50 CFR 660.373(b)(3). During the groundfish cumulative limit periods both before and after the primary whiting season, vessels may use either small and/or large footrope gear, but are subject to the more restrictive trip limits for those entire cumulative limit periods. During the primary whiting season for a sector of the fishery, the limits in D.5., above, apply and are additive to the trip limits for other groundfish species for that fishing period.

E. EFFECTIVE DATES.

1. This permit is effective when signed by the NMFS Regional Administrator and the EFP holder. If the permit is signed by the NMFS Regional Administrator and the EFP holder on different dates, the effective date is the date of the EFP holder’s signature.
2. This permit is only valid while the vessel is participating in the 2006 Pacific whiting primary season for the shore-based sector, as announced Federal regulations at §660.373, unless terminated at an earlier date by one of the following actions:
 - a. At the request of the vessel owner, in which case the permit is terminated on the date requested and no further notification from the Regional Administrator or State is required. The vessel owner is responsible for advising the EFP holder of the termination of the permit.
 - b. At the request of the cooperating State, when the State observation program ends, or when the processing plant(s) designated in Appendix A are no longer included in the sampling program conducted by the State, in which case written notification from the State to the vessel owner is required and termination occurs 24 hours after delivery of the notification or any later time specified in the notification. The vessel owner is responsible for advising the EFP holder of the termination of the permit.
 - c. When the Regional Administrator determines it is necessary to issue amended permits containing additional restrictions, in which case termination occurs upon NMFS receipt of a signed amended permit, or seven days after the NMFS mailing date of the amended permit, whichever occurs first. The vessel owner is responsible for advising the EFP holder of the termination of the permit.
 - d. When the shore-based sector of the Pacific whiting fishery is closed because of

achievement of the allocation, commercial harvest guideline, or species' harvest guideline, in which case termination occurs concurrent with the closure, as announced in the Federal Register, in which case further written notification of the vessel owner is not required.

- e. When the shore-based sector of the Pacific whiting fishery is closed because a commercial whiting fishery bycatch limit has been reached, as announced in the Federal Register, in which case further written notification of the vessel owner is not required.
 - f. When the closure of the shore-based sector of the Pacific whiting fishery is announced in the Federal Register.
3. A copy of this EFP must be carried on board the vessel while EFP fishing and whenever fish caught while fishing under the EFP are onboard the vessel.

F. FISHING RESTRICTIONS.

1. Maximized Retention. All catch, with the exception of unavoidable discards (see paragraph 2.b. below), must be brought onboard the vessel and retained until offloading.
2. Discard. For the purpose of this EFP, discard is defined as any marine organism, such as any groundfish species (including whiting), prohibited species, marine mammals, seabirds, and sea turtles, captured as a result of fishing activity and returned to the sea. **When fishing under this EFP, efforts must be made to minimize discard.** Only certain types of discard, as described below, are authorized under this EFP.
 - a. Size: Large individual marine organisms, such as marine mammals, seabirds, or fish species longer than 6 ft in length, may be discarded. If a large individual marine organism is discarded, the species and reason for discarding must be recorded and labeled "discard" in the logbook required by the State of landing.
 - b. Unavoidable Discard: Unavoidable discard, or discard that results from such things as hazardous weather conditions, unusual codend condition, school density, and net cleaning, must be minimized to the extent practicable. If unavoidable discard occurs, an estimate of the total discard amount for each species, to the extent possible, location of the tow, and reason for discarding must be recorded, and labeled "discard" in the logbook required by the State of landing.
 - c. Avoidable Discard: Avoidable discard, or discard that results from such events as malfunctioning net sensors and/or catching more fish than is necessary to fill the hold, must be minimized to the extent practicable. Vessels will be required to take whatever gear-related steps are necessary (e.g., shortening the codend, operational net sensors) to avoid discard by preventing overfilling of the net and/or hold.
2. Disposition of salmon. Salmon caught under this permit must be retained and abandoned to the State of landing immediately upon offloading.
3. Groundfish trip limits.

- a. Groundfish trip limits will apply to vessels operating under this permit, except that overages in trip limits will not be in violation of 50 CFR 660.306 (a)(6) so long as such overage is surrendered to the State of landing.
 - b. The Regional Administrator may place limits on the overages of groundfish trip limits during the course of the exempted fishery. If such restrictions are necessary, the Regional Administrator will terminate this permit and issue an amended permit containing the additional restrictions on groundfish trip limits as determined necessary by NMFS in consultation with the states.
4. Fishing shoreward of latitude and longitude coordinates approximating the 100-fathom contour
- a. In the Eureka area: This permit **does not** authorize a vessel to take and retain more than 10,000 pounds of Pacific whiting per trip shoreward of latitude and longitude coordinates approximating the 100-fathom contour in the Eureka area (43°00' N. lat. - 40°30' N. lat.).
 - b. Coastwide: If NMFS projects the catch of Chinook salmon in the Pacific whiting fishery to exceed the 11,000 fish, a Salmon Conservation Zone, wherein all fishing for whiting would be prohibited, will be established until the EFP is terminated. NMFS will officially announce the effective date of the Salmon Conservation Zone by email (wcgroundfish@noaa.gov), facsimile and/or email to the state representatives identified in section I.1. of this permit, and/or a Notice to Mariners. Written notice will also be provided to all EFP holders. The Salmon Conservation Zone is defined as: All waters shoreward of a boundary line approximating the 100-fm (183- m) depth contour. Latitude and longitude coordinates defining the boundary line approximating the 100-fm (183-m) depth contour are provided at § 660.393(a).

G. GEAR RESTRICTIONS.

1. Only legal midwater trawl gear described at §660.381 may be used for fishing under this EFP.

H. OBSERVER AND OTHER MONITORING REQUIREMENTS.

1. At-sea observations. If requested, a vessel must carry a state-sponsored sampler or Federal observer to collect data that can be used to evaluate data collected by the EM system identified under H.3. Any state sampler must be approved by NMFS before at-sea deployment. Regulations at 50 CFR 660.306 and 50 CFR 660.314 regarding vessel responsibilities and prohibitions apply to both state samplers and Federal observers.
2. Federal observer coverage requirements at 50 CFR 660.360 and 50 CFR 660.314 are independent of state sampler requirements. Vessels that carry a state-sponsored sampler may also be required to carry a NMFS observer. A state sampler is not a substitute for a Federal observer and a vessel carrying a state sampler is not exempt from Federal observer requirements.
3. Electronic Monitoring (EM) Equipment A vessel fishing under this EFP will be required to

carry electronic monitoring equipment to monitor for at-sea discarding of catch, unless the requirement is specifically waived by NMFS.

- a. A vessel intending to fish under this EFP must schedule a time with the NMFS-specified EM provider for installation of the system. The installation must be scheduled before the vessel leaves port on the next EFP fishing trip. If an EM system is not installed before the next EFP fishing trip, the permit is invalid. However, on a trip-by-trip basis NMFS may choose to waive the requirement for installation if the equipment cannot be installed within 12 hours of the scheduled time.
- b. As necessary, the vessel operator must schedule maintenance of EM equipment and data removal by the NMFS-specified EM provider by scheduling an appointment. If the vessel operator does not schedule these services, it will be a violation of the terms and conditions of this permit.
- c. While EM equipment is aboard the vessel, the system must not be interfered with, damaged, or the power source turned off. If the EM system is interfered with, damaged, or the power source turned off, it will be a violation of the terms and conditions of this permit and the permit.
- d. Vessel operator must regularly check status lights located on the EM system control box to confirm that the EM system is functioning properly. If status lights indicate an EM system malfunction, the vessel must contact the NMFS specified EM provider immediately. For 2005, the NMFS specified EM provider is Archipelago Marine Research Ltd. Contacts: Project manager - Howard McElderry (1-800-663-7152).
- e. At the end of the shore-based whiting primary season or termination of the EFP, the EFP holder must schedule removal of the EM system with the NMFS specified EM provider.

I. NOTIFICATION REQUIREMENTS.

1. If requested, the EFP holder must provide departure and arrival notification to the State or observer program coordinator including reasonable notice of unexpected changes in fishing plans, to allow installation and maintenance of electronic video monitoring equipment, and for deployment of at-sea observers, if any. State coordinators are:

California: Mike Fukushima, California Dept. of Fish and Game, 707- 441-5797.

Oregon: Mark Saelens, Oregon Dept. of Fish and Wildlife, 541-867-0300

Washington: Brian Culver, Wash. Dept. of Fish and Wildlife, 360-249-4628

2. For landings in California, the vessel operator must notify CDFG at least 12 hours before departing port to commence fishing under this permit.

J. REPORTING REQUIREMENTS. It is unlawful to fail to report catches as required while fishing pursuant to an exempted fishing permit (50 CFR 600.725(l)). Failure to maintain the required documents may result in a vessel's inability to obtain a future permit.

1. Trawl Logs. Trawl logbooks must be maintained by the vessel operator as required by the applicable state law. "Exempted Fishing Trip" (or "EFP") must be written in the log for each trip conducted under this permit.

- a. Estimated weight (in pounds) of all species, including, but not limited to, whiting, other groundfish, salmon, Pacific halibut, and Dungeness crab, observed in each tow must be recorded in the logbook.
 - b. If discard occurs, an estimate of the total discard amount for each species, to the extent possible, location of the tow, and reason for discarding must be recorded and labeled "discard" in the logbook, on the line associated with that tow, as required by the State of landing.
 - c. If discard occurs as a result of gear malfunction, a description of the event must be recorded in the logbook and labeled "gear malfunction" in the logbook, on the line associated with that tow.
2. Other Reports. This permit does not relieve any person from any other state or Federal reporting requirements.
 3. Public Release of Information. The fishing activities carried out under this permit, which are otherwise prohibited, are for the purpose of collecting information. The vessel owner, operator, and EFP holder agree to the public release of any and all information obtained as a result of activities conducted under this permit, including EM provider access to logbooks to record information during periodic EM maintenance and service.

K. LANDINGS.

1. All landings must be at processing plants that are listed in the Designated Processor List (DPL) in Appendix A to this EFP. Vessel owners with vessels that participate in both the April 1 shore-based whiting fishery opening (south of 42° N. lat.) and the June 15 fishery opening (coastwide, including north of 42° N. lat.) must ensure that they get an updated DPL prior to June 15, 2006 in order to participate in that coastwide fishery opening.
 - a. The DPL in Appendix A may be revised, after consultation between NMFS and the State observation program coordinator. The observation program coordinators for each state are as follows:

In California: Mike Fukushima, California Dept. of Fish and Game, 707- 441-5797.
In Oregon: Mark Saelens, Oregon Dept. of Fish and Wildlife, 541-867-0300
In Washington: Brian Culver, Washington Dept. of Fish and Wildlife, 360-249-4628
2. All fish caught during an exempted fishing trip must be offloaded at only one designated processing plant (i.e. the offloading of catch from one trip cannot be split between processing plants). Once offloading has begun at a designated processing plant, all fish onboard the vessel must be offloaded at that plant.

L. SANCTIONS.

Failure of the vessel owner, operator, EFP holder, or any person to comply with the terms and conditions of this permit, a notice issued under 50 CFR Part 660, Subpart G, any other applicable provision of 50 CFR Parts 600 and 660 Subpart G, 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)).

M. WAIVER.

The EFP holder 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.

APPENDIX A

EXEMPTED FISHING PERMIT MONITORING INCIDENTAL CATCH IN THE PACIFIC WHITING FISHERY

Vessel Name: **xx**

EFP#: 06-HAK-xx

1. Designated processor(s):

2. Changes to this appendix:

Item Changed

Date Approved

Authorizing Official
Name Agency

A Maximized Retention and Monitoring Program for the Pacific Whiting Shoreside Fishery

FMP Amendment 10

Transition to Regulations

- 2007 fishery prosecuted under EFPs
- Temporary rule to establish processor responsibilities
 - RIR/EA available by early January 2007
 - Proposed rule published by late -January
 - Final Rule effective by April 1

Regulatory Development & Implementation

<u>November 2006</u>	Draft EA chapters 1 & 2 with range of alternatives
<u>March 2007</u>	Draft EA for final Council action
<u>Summer 2007</u>	Proposed rule publishes
<u>Winter 2007-08</u>	Final rule publishes
<u>April 2008</u>	Core regulations in effect

NOTE: Regulations such as E-fish tickets and E-logbooks may become effective later than core regulations.

November 2006

- PFMC considers the range of alternatives
- PFMC provides recommendations on alternatives to be analyzed for March 2007

The Range of Alternatives

- Alt. 1** No Action -- Catch sorted at sea
- Alt. 2** Status Quo -- EFPs and maximized retention
- Alt. 3** Observers -- Federal or industry funded observers & maximized retention
- Alt. 4** Electronic Monitoring System (EMS) – Federal or industry funded EMS, catch monitors & maximized retention

Alternative 1 – No Action

- Catch in excess of trip limits would be prohibited
- LE permit with trawl endorsement
- Paper logbooks & fish tickets
- WCGOP observer coverage ($\approx 20\%$ of deliveries) - vessels randomly selected from all trawl vessels
- Port samplers, plus industry samplers in Oregon
- No legal overages

Alternative 2 - Status Quo

- Maximized retention defined in EFP
- LE permit with trawl endorsement & EFPs
- Paper logbooks until E- logs developed
- EMS to monitor maximized retention at-sea
- States manage EFPs & NMFS coordinates EMS
- Port samplers, plus industry samplers in Oregon
- Overages reported on fish tickets
- Vessels abandon prohibited species & overages to state

Alternative 3 - Observers

- Maximized retention
- LE permit with trawl & annual whiting endorsements
- Logbooks & fish tickets
 - E- logs and E-tickets when adequately developed
 - Daily fish ticket submission
- Observers monitor retention at sea
- Observers at processor to collect data for fish ticket verification, count salmon, & collect biological data
- Prohibited species & overages abandoned or donated

Alternative 3 - Suboptions

Monitoring vessels at sea

- Alt. 3A - Federally funded observers (WCGOP observers)
 - Vessels randomly selected from all trawl vessels (≈20% of deliveries)
- Alt 3B - Industry funded observers
 - Vessels pay directly to permitted provider

Monitoring shoreside processors

- Alt. 3A - Federally funded observers (WCGOP observers)
 - Availability dependent on monitoring needs in other groundfish fisheries
- Alt. 3B - Industry funded observers
 - Processors pay directly to permitted provider

Alternative 3 – Suboptions (continued)

Handling of prohibited species and overages

- Alt. 3A - Prohibited species donated and overages abandoned to state of landing. Sold at fair market value
- Alt. 3B - Profit from sale of prohibited species or overage fish illegal. Create a donation program

Alternative 4 – EMS & Catch Monitors

- Maximized retention
- LE permit with trawl & annual whiting endorsements
- Logbooks and fish tickets
 - E- logs and E-tickets when adequately developed
 - Daily fish ticket submission
- EMS for monitoring retention at sea
- Catch monitors at processor to collect data for verification of fish tickets & salmon counts
- Prohibited species & overages abandoned or donated

Alternative 4 - Suboptions

Funding for monitoring vessels at sea

Alt. 4A - Federally funded EMS

- WCGOP funds availability depends on need to use same funds to monitor other groundfish fisheries to meet the MS-Act requirements

Alt. 4B - Industry funded EMS

- Vessels pay directly to EMS permitted service providers

Funding for monitoring shoreside processors

Alt. 4A - Federally funded catch monitors (WCGOP observers)

- Observers availability depends on need for observers to sample other groundfish fisheries to meet the MS-Act requirements

–

Alt. 4B - Industry funded observers

- Processors pays directly to catch monitor provider

Alternative 4 – Suboptions (continued)

Handling of prohibited species and overages

- Alt. 4A - Prohibited species donated and overages abandoned to state of landing. Sold at fair market value
- Alt. 4B - Profit from sale of prohibited species or overage fish illegal. Create a donation program

Quick Comparison of Concerns

- Alt 1 - Inadequate to support bycatch limits that allow fishery full access to the whiting allocation
- Alt 2 - EFPs are a temporary fix. States & NMFS not interested in continuing. Lacks authority to resolve processor issues
- Alt 3 - Coverage provided by federally funded observers may not be adequate to support bycatch limit management
- Alt 4 - Coverage of federally funded EMS and catch monitors (observers) may not be adequate to support bycatch limit management

What is Needed from PFMC

- Does the PFMC believe that the alternatives in draft Chapter 2 adequately frame the *range* of alternatives?
- Does the PFMC have recommendations for modifying the alternatives (i.e. adding or rejecting any alternatives) before sending them out for public review?
- Is there a PFMC preferred alternative?
- Are there specific shoreside sector monitoring program issues that the PFMC wants analyzed in the EA?

Potential Regulations Needed to Implement Pacific Whiting Monitoring Programs Defined as Alternatives 3 and 4.

	Alternative 3 Maximized Retention with Observers		Alternative 4 Maximized Retention with Electronic Monitoring Systems (EMS) and Catch Monitors	
	3A Federally funded	3B Industry funded	4A Federally funded	4B Industry funded
660.302 Definitions	Add definitions for: a) Whiting shoreside fishery b) Whiting shoreside processor c) Whiting shore-based vessel	Same as 3A	Same as 3A	Same as 3A
660.303 Recordkeeping & reporting	a) Shoreside whiting fishery participants 1) Vessels i) Paper logbooks required until electronic logbook replaces 2) Processors i) Paper fish tickets required until electronic fish ticket replaces	Same as 3A	Same as 3A	Same as 3A
660.305 Vessel identification	NA	NA	a) Vessel Identification 1) Add documentation number that is visible by EMS camera	Same as 4A
660.306 Prohibitions	a) Recordkeeping and reporting 1) Fail to submit records consistent with 660.303 requirements b) Whiting fishery 1) Whiting shore-based vessels i) Fail to abandon overages and prohibited species to state of landing ii) Use gear other than midwater trawl to target whiting iii) Target non-whiting species iv) Fish without an observer when one is required v) Large scale dumping vi) Fail to return to port after large scale dumping event	a) Recordkeeping and reporting 1) Same as 3A b) Whiting fishery 1) Whiting shore-based vessels i) Sell overage catch or prohibited species for profit ii)-vi) Same as 3A	a) Recordkeeping and reporting 1) Same as 3A b) Whiting fishery 1) Whiting shore-based vessels i)-vi) Same as 3A vii) Fish without EMS viii) Knowingly fish with failed EMS ix) Tamper with EMS	a) Recordkeeping and reporting 1) Same as 3A b) Whiting fishery 1) Whiting shore-based vessels i) Sell overage catch or prohibited species for profit ii)-vi) Same as 4A

	Alternative 3 Maximized Retention with Observers		Alternative 4 Maximized Retention with Electronic Monitoring Systems and Catch Monitors	
	3A Federally funded	3B Industry funded	4A Federally funded	4B Industry funded
660.306 Prohibitions (continued)	2) Whiting processors <ul style="list-style-type: none"> i) Receive targeted whiting catch from a vessel without an observer when one is required ii) Fail to sort to whiting fishery standards iii) Fail to weigh catch on approved scale iv) Fail to allow observer access to catch, weighing process, and fish tickets v) Fail to provide reasonable assistance to observer vi) Fail to pay fair market value for overage fish abandoned to the state of landing 	2) Same as 3A	2) Whiting processors <ul style="list-style-type: none"> i) Receive targeted whiting from vessel without EMS ii) Process whiting deliveries without a catch monitor (observer) iii) Fail to sort to whiting fishery standards iv) Fail to allow catch monitor (observer) access to catch, weighing process, and fish tickets v) Fail to provide reasonable assistance to catch monitor (observer) vi) Fail to pay fair market value for overage fish abandoned to the state of landing 3) EMS service providers <ul style="list-style-type: none"> i) Fail to keep images confidential 	2) Same as 4A 3) Same as 4A
660.313 EMS service providers	NA	NA	NA	a) Permits <ul style="list-style-type: none"> 1) Applications 2) Application evaluation 3) Agency determination 4) Transferability 5) Renewal 6) Sanctions b) Responsibilities <ul style="list-style-type: none"> 1) EMS equipment specs 2) EMS data capture specs 3) Installation 4) Maintenance 5) Data analysis 6) Removal 7) Release of EMS data 8) Retention of EMS dat

	Alternative 3 Maximized Retention with Observers		Alternative 4 Maximized Retention with Electronic Monitoring Systems and Catch Monitors	
	3A Federally funded	3B Industry funded	4A Federally funded	4B Industry funded
660.314 Groundfish Observer Program	a) Whiting shore-based vessels 1) Observer coverage requirements b) Whiting shoreside processors 1) Observer coverage requirements 2) Responsibilities i) Maintain safe conditions for observer ii) Provide operational information to observer iii) Provide observer access to catch, weighing process, and fish tickets iv) Reasonable assistance	a) Whiting shore-based vessels 1) Same as 3A 2) Procurement of observer services b) Whiting shoreside processors 1) Same as 3A 2) Same as 3A 3) Procurement of observer services	a) Whiting shoreside processors 1) Observer coverage requirements 2) Responsibilities i) Maintain safe conditions for observer ii) Provide operational information to observer iii) Provide observer access to catch, weighing process, and fish tickets iv) Reasonable assistance Note: With federal funding catch monitors would be federal observers unless new funding for catch monitors became available.	NA
660.334 Limited entry permits - endorsements	NA	NA	a) Whiting fishery endorsement	a) Whiting fishery endorsement
660.370 Specifications and management measures	a) Sorting requirements for whiting fishery	Same as 3A	Same as 3A	Same as 3A
660.373 Pacific whiting fishery	a) Maximized retention program for shore-based vessels 1) Retention requirements i) Large organisms ii) Unavoidable discards iii) Avoidable discards iv) Prohibited species v) Overage fish 2) Landing restrictions 3) Crossover provisions 4) Eureka area limits inside 100 fm	Same as 3A	a) Maximized retention program for shore-based vessels 1) Same as 3A 2) Same as 3A 3) Same as 3A 4) Same as 3A 5) EMS coverage requirements i) Installation ii) Maintenance and data retrieval iii) Removal iv) Required system checks v) Notification requirements if checks show system failure vi) EMS Coverage waiver	a) Maximized retention program for shore-based vessels 1) Same as 3A 2) Same as 3A 3) Same as 3A 4) Same as 3A 5) EMS coverage requirements i) –vi) Same as 4A vii) Procurement of EMS services

	Alternative 3 Maximized Retention with Observers		Alternative 4 Maximized Retention with Electronic Monitoring Systems and Catch Monitors	
	3A Federally funded	3B Industry funded	4A Federally funded	4B Industry funded
660.373 Pacific whiting fishery (continued)	b) Maximum retention program for shoreside processors <ol style="list-style-type: none"> 1) Responsibilities 2) Weights and measures <ol style="list-style-type: none"> i) Scale licensing/testing/ certification by State 3) Electronic fish ticket <ol style="list-style-type: none"> i) Hardware and software requirements 4) Requesting assistance in improving data quality and resolving sampling issues 	<p style="text-align: center;">Same as 3A</p>	b) Maximum retention program for shoreside processors <ol style="list-style-type: none"> 1) Same as 3A 2) Same as 3A 3) Same as 3A 4) Same as 3A 	b) Maximum retention program for shoreside processors <ol style="list-style-type: none"> 1) Responsibilities <ol style="list-style-type: none"> i) Maintain safe conditions for catch monitor ii) Provide operational information to catch monitor iii) Provide catch monitor access to catch, weighing process, and fish tickets. iv) Reasonable assistance 2) Same as 3A 3) Same as 3A 4) Same as 3A 5) Catch monitor coverage requirements 6) Procurement of catch monitor services
	3A State overage system	3B Federal Overage system	4A State overage system	4B Federal Overage system
660.XXX Catch Donation Program	<p style="text-align: center;">NA</p>	a) Prohibited Species and Overage Catch Donation Program <ol style="list-style-type: none"> 1) Authorized species. 2) Authorized distributors 3) Reporting and record- keeping Requirements. 4) Processing, handling, and distribution 	<p style="text-align: center;">NA</p>	a) Prohibited Species and Overage Catch Donation Program <ol style="list-style-type: none"> 1) Authorized species. 2) Authorized distributors 3) Reporting and record- keeping requirements. 4) Processing, handling, and distribution

GROUND FISH ADVISORY SUBPANEL REPORT ON THE SHORE-BASED WHITING MONITORING PROGRAM

The Groundfish Advisory Subpanel (GAP) received a presentation from Ms. Yvonne deReynier (National Marine Fisheries Service-Northwest Region) about planning for implementation of a federal monitoring program for the shoreside Pacific whiting fishery. Ms. deReynier indicated that the current schedule anticipated implementation of the monitoring program for the 2008 fishery. She reviewed the draft alternatives in Agenda item D.6.b.

The GAP was asked to consider if the current range of proposed alternatives was adequate; if the current alternatives needed to be modified; if there was a preferred alternative; and if there were specific issues, such as monitoring and reporting, that should receive particular emphasis in the Environmental Assessment (EA).

The GAP believes the current alternatives represent an adequate range and are appropriate for analysis and public review. The GAP has no recommended modifications. The GAP believes it is premature to select a preferred alternative.

The GAP spent considerable time discussing the monitoring provisions contained in Alternatives 3 and 4, which differ greatly in their reliance on observers or electronic monitoring. The GAP believes that the question of observer monitoring or electronic monitoring (or some blend of the two) will be a major decision for the Council. To best inform this decision, the GAP requests the EA provide specific attention to the comparative costs involved with each of these alternative monitoring regimes, including: start-up costs, maintenance costs, and data management costs. The GAP also recommends the EA analyze continuing to use federal and state management partnerships, which have been very effective in managing the shoreside fishery. Finally, the GAP recommends the Council convene an ad hoc committee comprised of federal and state managers, a GAP representative, and shoreside whiting fishery interests. The ad hoc committee would be tasked with developing a “hybrid alternative” using elements of Alternative 3 and Alternative 4.

GROUND FISH MANAGEMENT TEAM REPORT ON SHORE-BASED WHITING MONITORING PROGRAM

Chapters 1 and 2 of the preliminary draft environmental assessment (EA) for a shore-based whiting monitoring program (Agenda Item D.6.b, Supplemental Attachment 2) was presented by Ms. Yvonne de Reynier during a joint Groundfish Management Team (GMT)/Groundfish Advisory Subpanel (GAP) session. The development of temporary processor regulations for the 2007 fishery that would transition into permanent rules under the amendment for the 2008 fishery is the strong point of the current draft EA. The GMT appreciates the efforts made by Ms. de Reynier, as well as Ms. Becky Renko, to bring the EA to its present form. The subsequent GMT discussion focused on two questions: (1) Do the alternatives presented in the draft EA cover the full range of issues and options that need to be analyzed as a major step towards implementing this amendment for the 2008 fishery, and 2) Are we constructing an appropriate shoreside whiting monitoring program for 2007 that will provide valuable experience and information to support the transition from an exempted fishing permit (EFP) fishery to a fully regulated Federal fishery in 2008?

The GMT views the alternatives presented in the draft EA as a sufficient preliminary starting place for encompassing the full range of analysis that needs to occur, but has the following suggestions:

1. The transition from a long running state sponsored shore-based whiting EFP program to a routine groundfish fishery under full Federal management and monitoring will be a difficult one. The state agencies have been the first line managers of this fishery for over a decade and it would be a great disadvantage to lose their expertise in the development of the amendment. The states are in the best position to identify the full function of monitoring this fishery for conversion to a Federally monitored and regulated fishery. The GMT suggests that state agency specific issues (rows in Table 2.1) need to be identified and included for each of the alternatives. Early identification of any continuing state responsibilities are crucial - unfortunately, sufficient time was not available to identify the specific issues at this meeting. The GMT recommends that an ongoing shoreside whiting workgroup be established to identify specific state responsibilities, and any remaining issues that may have been missed in the draft EA.
2. Aspects of Alternatives 3 and 4 (e.g. Federal funding for 100% at-sea observer or electronic/camera) are unlikely to be feasible in the short-term (2008 implementation) and possibly not the long-term. The GMT encourages the development of a hybrid alternative that is more realistic. A hybrid alternative developed by the workgroup would help alleviate the polarization that is already occurring, and should begin immediately for successful completion by early January 2007. Industry responsibilities are likely to increase under Amendment 10, underscoring the crucial need for industry participation in this workgroup.

3. Any discussion of Amendment 10 invariably brings about concerns regarding how the 2007 shoreside whiting fishery will be managed and monitored relative to productive steps towards the implementation of the amendment. The GMT understands that a 2007 shoreside whiting fishery EFP application has been submitted by the states under the previous EFP agenda item. Assuming that this application is accepted for the 2007 fishery, the GMT is willing to assist with an “overhaul” of the status quo EFP that will move the fishery closer to the regulatory environment that will be required under Amendment 10. The same workgroup mentioned previously could be used for this purpose as well.

GMT Recommendations:

1. Establish an ongoing shoreside whiting workgroup composed of appropriate Federal, state and industry representatives.
2. Direct the workgroup to complete the following tasks by January 22, 2007¹:
 - a. Identify specific state and industry responsibilities, and any remaining issues that may have been missed in the draft EA.
 - b. Develop a “hybrid” alternative for inclusion in the Amendment 10 analysis.
 - c. Overhaul the 2007 EFP requirements to more closely fit the fishery management and monitoring environment that will be required under amendment 10.

PFMC
11/15/06

¹ The workgroup will have a difficult time achieving a January 22 deadline (as the latest date – earlier would be better) for suggested additions/revisions to the Amendment 10 EA. This deadline will afford NMFS the minimum time necessary to incorporate products from the workgroup into the necessary documents for the March 2007 Council Meeting.

INTERSECTOR ALLOCATION FOR TRAWL INDIVIDUAL QUOTAS AND OTHER MANAGEMENT NEEDS

The Council has decided to pursue a Groundfish FMP amendment (Amendment 21) in consideration of formal allocations of groundfish species and species' complexes for sectors of the groundfish fishery. Intersector allocations are needed to support implementation of FMP Amendment 18 bycatch mitigation policies (see Agenda Item D.2 for more details), development of biennial groundfish specifications and management measures, and development of a dedicated access program for the limited entry trawl fishery that contemplates managing this sector using trawl individual quotas (Amendment 20). An environmental impact statement (EIS) will be developed, which will analyze intersector allocation alternatives to support decision-making in this process.

The Council's Groundfish Allocation Committee (GAC) has met four times since January 2005 to discuss intersector allocations. The first three GAC meetings, which occurred in January, May, and November of 2005, discussed issues and data that need to be considered when making intersector allocations. The fourth meeting on October 18-19, 2006, reviewed more detailed catch data and developed recommended intersector allocation alternatives for adoption by the Council as preliminary alternatives for further analysis. The refined set of historical catch data by fishing sector relevant to the intersector allocation process, as presented to or requested by the GAC, are provided in Agenda Item D.7.a, Attachment 1. Agenda Item D.7.b, Attachment 1 provides the draft summary minutes of the most recent GAC meeting including a listing of various features of intersector allocation that were considered (page 18) and using those features, nine intersector alternatives recommended for adoption consideration by the Council (page 19). These draft summary minutes also summarize points made at past GAC meetings concerning the intersector allocation process.

The Council task at this meeting is to adopt a range of preliminary intersector allocation alternatives for further analysis and development. The Council should consider the GAC materials and recommendations; advisory body advice; and public comments before taking action. The Council is expected to revisit the adopted preliminary range of alternatives next year before adopting a refined range of intersector allocation alternatives for intensified analysis in the EIS.

Council staff intends to release a Scoping Information Document after this Council meeting which will contain background information relevant to this process; the data tables in Agenda Item D.7.a, Attachment 1; and the range of preliminary intersector allocation alternatives decided at this meeting. The intent of this scoping document is to provide information for public input on the allocation alternatives and issues to be considered as the intersector allocation EIS moves forward.

Council Action:

1. Adopt Preliminary Intersector Allocation Alternatives for Analysis and Further Development

Reference Materials:

1. Agenda Item D.7.a, Attachment 1: Tables Summarizing Historical Catch Data by Fishing Sector Relevant to the Intersector Allocation Process.
2. Agenda Item D.7.b, Attachment 1: Draft Summary Minutes of the October 18-19, 2006 Groundfish Allocation Committee Meeting.
3. Agenda Item D.7.e, Pubic Comments.

Agenda Order:

- a. Agenda Item Overview
 - b. Recommendations of the Groundfish Allocation Committee
 - c. Agency and Tribal Comments
 - d. Reports and Comments of Advisory Bodies
 - e. Public Comment
 - f. **Council Action:** Adopt Preliminary Alternatives for Analysis and Further Development
- John DeVore
Don Hansen

PFMC

10/27/06

Tables Summarizing Historical Catch Data by Fishing Sector Relevant to the Intersector Allocation Process

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Table 1. Landings or Deliveries of PFMC- managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004	1995													
	Non-Treaty Sectors											Treaty Sectors		
	LE Trawl Sectors					Non-LE Trawl Sectors								
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	LE Trawl Total	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-LE Trawl Totals			
Stock or Complex	-	-	0.2	1,071.1	1,071.3	42.1	0.3	278.1	69.1	409.2	798.8	-	-	-
Lingcod - coastwide	-	-	0.2	776.7	776.8	8.9	0.3	79.4	59.0	140.2	287.8	-	-	-
N. of 42° (OR & WA)	-	-	-	294.4	294.4	33.2	0.0	198.7	10.1	269.0	511.0	-	-	-
S. of 42° (CA)	-	0.0	0.1	491.4	491.6	1.0	0.0	1.0	8.7	0.3	11.0	1.3	-	1.3
Pacific Cod	61,138.3	39,245.0	74,905.5	61.1	175,349.9	0.9	-	0.2	0.0	0.4	1.5	-	-	-
Pacific Whiting (Coastwide)	4.4	6.5	42.8	3,717.5	3,771.2	1,911.5	776.4	587.7	59.2	2.8	3,337.6	769.3	-	769.3
Sablefish (Coastwide)	4.4	6.5	42.8	3,506.9	3,560.6	1,867.5	776.4	513.0	58.5	2.8	3,218.2	769.3	-	769.3
N. of 36° (Monterey north)	-	-	-	210.6	210.6	44.0	-	74.7	0.7	-	119.4	-	-	-
S. of 36° (Conception area)	13.4	34.9	30.0	844.9	923.2	3.9	0.2	1.8	4.9	0.0	10.8	-	-	-
PACIFIC OCEAN PERCH	4.8	4.2	0.0	31.1	40.1	0.0	-	0.2	-	-	0.2	-	-	-
Shortbelly Rockfish	87.0	131.5	231.5	6,300.7	6,750.6	8.2	0.0	83.5	20.6	6.1	118.4	-	-	-
WIDOW ROCKFISH	0.2	0.2	1.0	687.9	689.3	59.5	-	124.3	12.6	109.3	305.7	0.0	-	0.0
CANARY ROCKFISH	-	-	-	1,475.3	1,475.3	15.7	-	382.1	9.0	10.9	417.7	-	-	-
Chilipepper Rockfish	-	-	-	326.9	326.9	4.3	-	345.7	3.3	33.2	386.4	-	-	-
BOCACCIO	-	-	-	276.7	276.7	1.5	-	22.3	0.3	-	24.1	-	-	-
Splitnose Rockfish	81.4	698.5	298.7	4,036.0	5,114.6	14.6	-	59.3	221.6	29.8	325.3	0.2	-	0.2
Yellowtail Rockfish	5.6	0.2	0.5	1,863.2	1,869.5	32.3	0.1	15.7	2.9	-	51.0	7.1	-	7.1
Shortspine Thornyhead - coastwide	5.6	0.2	0.5	1,215.3	1,221.5	19.0	0.1	5.3	2.7	-	27.1	7.1	-	7.1
N. of 34°27'	-	-	-	648.0	648.0	13.3	-	10.4	0.2	-	23.9	-	-	-
S. of 34°27'	0.0	0.0	2.8	5,378.1	5,380.8	25.9	0.0	27.0	2.4	-	55.3	0.6	-	0.6
Longspine Thornyhead - coastwide	0.0	0.0	2.8	5,378.1	5,380.8	25.9	0.0	27.0	2.4	-	55.3	0.6	-	0.6
N. of 34°27'	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. of 34°27'	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other thornyheads	-	-	-	4.7	4.7	20.2	-	76.9	0.2	-	97.3	-	-	-
COWCOD	-	-	-	0.0	0.0	3.1	-	13.3	0.5	1.7	18.7	-	-	-
DARKBLOTCHED	48.9	3.6	0.5	717.9	771.0	2.0	-	2.2	2.6	-	6.8	-	-	-
YELLOWEYE	-	0.0	0.0	135.7	135.7	26.5	-	40.9	0.3	32.8	100.5	-	-	-
Black Rockfish - coastwide	-	-	0.1	9.2	9.3	34.0	-	224.3	1.2	729.8	989.2	-	-	-
Black Rockfish (WA)	-	-	0.1	3.2	3.3	-	-	-	-	212.9	212.9	-	-	-
Black Rockfish (OR-CA)	-	-	0.0	6.0	6.0	34.0	-	224.3	1.2	516.9	776.4	-	-	-
Minor Rockfish North	-	0.1	-	0.8	0.9	12.6	-	42.7	0.2	34.5	90.0	-	-	-
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	0.4	0.1	0.0	182.1	182.6	4.3	-	14.9	4.7	1.7	25.5	-	-	-
BOCACCIO: N. of Monterrey	28.4	-	0.1	100.4	128.9	10.9	-	3.8	0.2	0.1	15.0	-	-	-
Chilipepper Rockfish: Eureka	1.5	3.4	0.6	267.8	273.3	0.0	-	0.0	0.0	0.6	0.6	-	-	-
Redstripe Rockfish	0.0	0.0	0.0	92.7	92.7	0.0	-	2.2	0.0	0.1	2.3	-	-	-
Silvergrey Rockfish	0.1	0.5	2.8	329.8	333.2	381.7	2.1	160.1	125.9	3.7	673.5	52.0	-	52.0
Other Northern Shelf Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slope Species	-	-	0.0	23.0	23.0	-	-	1.0	0.0	-	1.0	-	-	-
Bank Rockfish	0.0	0.0	0.4	233.2	233.6	0.9	-	0.7	0.0	-	1.6	-	-	-
Sharpchin Rockfish, north	24.6	0.2	0.1	113.9	138.7	0.8	-	0.6	0.2	-	1.6	-	-	-
Splitnose Rockfish: N. of Monterrey	0.3	0.0	0.1	105.8	106.1	1.8	-	2.7	0.0	-	4.5	-	-	-
Yellowmouth Rockfish	3.9	3.7	0.1	242.7	250.4	133.4	0.1	1.1	7.9	0.0	148.6	-	-	-
Other Northern Slope Rockfish	-	-	-	8.9	8.9	18.1	0.0	286.0	4.1	339.4	647.6	-	-	-
Minor Rockfish South	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	0.2	0.2	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	42.8	42.8	36.4	-	108.9	1.0	33.3	179.6	-	-	-
Yellowtail Rockfish	-	-	-	143.1	143.1	47.0	0.0	428.6	20.6	353.6	849.9	-	-	-
Other Southern Shelf Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slope Species	-	-	-	310.5	310.5	4.0	-	69.3	0.5	0.2	74.0	-	-	-
Bank Rockfish	-	-	-	127.8	127.8	54.2	0.1	148.2	0.6	2.8	205.8	-	-	-
Blackgill Rockfish	-	-	-	5.1	5.1	0.1	-	0.6	-	-	0.7	-	-	-
Sharpchin Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	64.4	64.4	4.4	0.0	11.5	0.7	0.1	16.8	-	-	-
Other Southern Slope Rockfish	-	-	-	0.0	0.0	3.2	0.0	13.7	14.9	101.8	133.6	-	-	-
California scorpionfish	-	-	-	-	-	1.6	-	87.2	1.8	68.8	159.5	-	-	-
Cabezon (off CA only)	0.0	0.0	0.4	10,410.9	10,411.3	3.2	0.2	2.2	84.9	-	90.5	0.8	-	0.8
Dover Sole	0.0	0.0	0.0	1,112.7	1,112.7	0.0	-	1.9	13.2	-	15.1	-	-	-
English Sole	0.0	0.0	0.0	1,620.7	1,620.7	0.9	-	6.9	15.3	0.7	23.8	-	-	-
Petrale Sole (coastwide)	0.0	0.0	0.0	1,278.7	1,278.7	0.0	-	-	8.4	0.1	8.5	-	-	-
N of 40°10'	-	-	-	342.0	342.0	0.9	-	6.9	6.9	0.7	15.4	-	-	-
S of 40°10'	0.2	1.5	0.2	2,298.8	2,298.8	1.5	0.1	0.7	20.0	-	22.3	0.1	-	0.1
Arrowtooth Flounder	-	-	-	52.7	52.7	0.0	-	0.2	8.4	3.8	12.4	-	-	-
Starry Flounder	0.4	0.1	0.0	2,379.9	2,380.4	0.5	-	6.1	49.8	16.8	73.2	-	-	-
Other Flatfish	-	-	-	1.5	1.5	0.6	-	3.3	0.0	37.0	40.9	-	-	-
Kelp Greenling	145.4	40.7	0.1	358.4	544.6	7.3	0.0	0.8	0.2	19.8	28.1	-	-	-
Spiny Dogfish	-	0.0	0.1	855.5	855.7	63.1	0.0	76.6	16.1	222.9	378.7	-	-	-
Other Fish	61,589	40,175	75,519	48,913	226,197	3,000	780	3,769	810	2,608	10,973	832	0	832
SECTOR TOTALS														

Table 1. Landings or Deliveries of PFMC-managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004

Stock or Complex	1996													
	Non-Treaty Sectors											Treaty Sectors		
	LE Trawl Sectors					Non-LE Trawl Sectors								
	At-Sea Catcher-Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	LE Trawl Total	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-LE Trawl Totals	Shoreside	At-Sea	Treaty Totals
Lingcod - coastwide	-	-	1.0	1,194.5	1,195.5	54.0	0.1	238.8	64.4	510.2	867.5	1.2	-	1.2
N. of 42° (OR & WA)	-	-	1.0	904.9	905.9	10.2	0.1	110.9	48.2	147.3	316.8	1.2	-	1.2
S. of 42° (CA)	-	-	0.0	289.6	289.6	43.8	-	127.9	16.2	362.9	550.7	-	-	-
Pacific Cod	-	-	0.5	433.6	434.1	1.4	0.0	0.5	8.6	0.6	11.1	0.7	0.1	0.8
Pacific Whiting (Coastwide)	65,726.3	43,255.3	85,047.7	33.5	194,062.7	0.3	-	45.1	1.2	1.3	47.9	-	15,013.3	15,013.3
Sablefish (Coastwide)	6.7	0.1	39.5	4,095.6	4,142.0	2,072.2	537.1	640.8	81.9	2.8	3,334.8	853.5	0.0	853.5
N. of 36° (Monterey north)	6.7	0.1	39.5	3,881.5	3,927.9	1,986.4	537.1	599.2	81.6	2.8	3,207.1	853.5	0.0	853.5
S. of 36° (Conception area)	-	-	-	214.1	214.1	85.8	-	41.6	0.3	-	127.7	-	-	-
PACIFIC OCEAN PERCH	3.9	2.4	35.5	829.1	870.8	9.7	0.2	0.9	6.0	-	16.8	-	0.0	0.0
Shortbelly Rockfish	6.2	-	0.0	35.4	41.5	0.0	-	0.0	0.4	0.1	0.6	-	-	-
WIDOW ROCKFISH	119.8	133.2	610.9	5,366.2	6,230.1	7.8	0.0	47.1	13.8	24.6	93.3	-	11.5	11.5
CANARY ROCKFISH	0.1	1.4	3.7	957.4	962.6	67.8	0.0	156.3	25.7	86.8	336.6	0.1	0.0	0.1
Chilipepper Rockfish	-	-	-	1,392.1	1,392.1	12.4	-	277.7	9.5	32.8	332.4	-	-	-
BOCACCO	-	-	-	275.3	275.3	6.7	-	149.0	1.8	93.0	250.5	-	-	-
Splitnose Rockfish	-	-	-	401.1	401.1	0.9	-	4.5	0.1	0.1	5.6	-	-	-
Yellowtail Rockfish	237.2	375.9	526.3	4,142.7	5,282.0	32.6	0.1	71.0	310.9	31.7	446.3	0.6	92.6	93.2
Shortspine Thornyhead - coastwide	2.0	-	1.3	1,497.1	1,500.3	78.1	0.2	14.4	1.3	0.0	93.9	7.3	-	7.3
N. of 34°27'	2.0	-	1.3	1,070.3	1,073.5	18.8	0.2	2.4	1.1	0.0	22.5	7.3	-	7.3
S. of 34°27'	-	-	-	426.8	426.8	59.3	-	12.0	0.1	-	71.4	-	-	-
Longspine Thornyhead - coastwide	-	-	3.9	4,699.1	4,703.0	96.1	0.0	9.5	0.9	-	106.5	0.2	-	0.2
N. of 34°27'	-	-	3.9	4,699.1	4,703.0	79.1	0.0	9.2	0.9	-	89.2	0.2	-	0.2
S. of 34°27'	-	-	-	-	-	17.0	-	0.3	-	-	17.3	-	-	-
Other thornyheads	-	-	-	43.9	43.9	49.5	0.0	17.0	0.1	-	66.5	-	-	-
COWCOD	-	-	-	0.0	0.0	1.9	-	13.9	0.0	5.6	21.5	-	-	-
DARKBLOTCHED	6.2	0.9	6.2	720.2	733.5	1.6	-	0.6	2.5	0.0	4.7	-	-	-
YELLOWEYE	0.5	-	0.3	99.6	100.3	35.6	-	35.6	0.7	30.2	102.1	-	-	-
Black Rockfish - coastwide	-	-	0.1	17.4	17.5	22.8	-	218.7	1.1	777.7	1,020.4	-	-	-
Black Rockfish (WA)	-	-	-	-	-	-	-	-	-	234.9	234.9	-	-	-
Black Rockfish (OR-CA)	-	-	0.1	17.4	17.5	22.8	-	218.7	1.1	542.8	785.5	-	-	-
Minor Rockfish North	-	-	0.0	0.0	0.0	12.7	-	42.3	0.1	47.6	102.7	-	-	-
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BOCACCO: N. of Monterey	0.1	0.1	0.9	128.4	129.5	7.6	-	20.0	2.5	0.4	30.5	-	0.0	0.0
Chilipepper Rockfish: Eureka	0.0	-	0.0	102.6	102.7	4.2	-	9.9	0.5	-	14.6	-	-	-
Redstripe Rockfish	0.2	0.5	16.0	204.6	221.3	0.0	-	0.6	0.0	0.1	0.8	-	-	-
Silvergrey Rockfish	0.0	0.0	1.5	238.0	239.5	0.2	-	0.2	2.1	0.0	2.5	-	-	-
Other Northern Shelf Rockfish	0.1	0.2	5.9	362.3	368.4	327.9	2.6	118.7	206.4	3.9	659.4	36.1	-	36.1
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	0.0	24.2	24.2	0.2	-	0.5	0.0	-	0.8	-	-	-
Sharpchin Rockfish, north	-	0.0	2.0	204.6	206.6	-	-	0.0	0.5	-	0.5	-	-	-
Splitnose Rockfish: N. of Monterey	5.4	14.8	0.2	70.8	91.2	-	-	-	0.1	-	0.1	-	-	-
Yellowmouth Rockfish	0.0	0.1	0.6	111.0	111.7	0.8	-	0.1	0.1	-	1.0	-	0.0	0.0
Other Northern Slope Rockfish	8.2	0.4	1.7	221.4	231.7	74.4	-	9.6	9.2	0.6	97.7	0.0	0.0	0.0
Minor Rockfish South	-	-	-	18.6	18.6	36.1	-	285.5	4.6	489.9	816.0	-	-	-
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	-	-	-	-	-	-	0.1	0.1	-	-	-
Yellowtail Rockfish	-	-	-	71.4	71.4	8.5	-	36.4	1.9	96.1	142.9	-	-	-
Other Southern Shelf Rockfish	-	-	-	134.3	134.3	77.1	0.3	369.8	17.8	415.8	880.8	-	-	-
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	495.5	495.5	0.9	-	32.8	0.6	21.8	56.1	-	-	-
Blackgill Rockfish	-	-	-	151.1	151.1	112.4	0.3	98.2	0.1	-	211.0	-	-	-
Sharpchin Rockfish	-	-	-	20.1	20.1	0.0	-	0.1	0.0	-	0.1	-	-	-
Yellowmouth Rockfish	-	-	-	0.0	0.0	-	-	0.0	-	-	0.0	-	-	-
Other Southern Slope Rockfish	-	-	-	52.7	52.7	2.0	-	11.4	2.1	0.2	15.7	-	-	-
California scorpionfish	-	-	-	-	-	3.7	-	12.1	9.5	166.6	191.9	-	-	-
Cabezon (off CA only)	-	-	-	-	-	0.6	-	109.2	3.5	84.9	198.2	-	-	-
Dover Sole	0.1	-	11.4	12,064.6	12,076.1	4.1	0.4	4.1	96.8	-	105.5	1.1	-	1.1
English Sole	0.0	0.0	2.0	1,116.8	1,118.8	0.0	-	0.9	31.0	0.0	31.9	0.0	-	0.0
Petrale Sole (coastwide)	-	-	2.0	1,793.8	1,795.8	0.3	0.0	2.1	24.7	0.6	27.7	0.0	-	0.0
N of 40°10'	-	-	2.0	1,354.9	1,356.9	0.1	0.0	0.1	20.1	0.0	20.4	0.0	-	0.0
S of 40°10'	-	-	-	438.9	438.9	0.2	-	2.0	4.6	0.6	7.4	-	-	-
Arrowtooth Flounder	0.2	0.4	1.2	2,184.6	2,186.3	0.2	0.0	0.2	5.7	-	6.1	0.0	0.1	0.1
Starry Flounder	-	-	0.0	37.1	37.2	0.0	-	0.2	14.7	3.1	18.0	0.0	-	0.0
Other Flatfish	0.2	0.0	6.9	1,814.6	1,821.7	0.5	0.0	5.7	84.4	53.7	144.4	0.0	0.0	0.0
Kelp Greenling	-	-	-	0.0	0.0	0.4	-	3.8	0.1	54.1	58.5	-	-	-
Spiny Dogfish	46.7	40.4	7.2	189.8	284.1	22.2	-	29.2	0.3	21.7	73.5	2.5	195.5	198.0
Other Fish	-	-	1.1	743.9	745.0	577.1	0.0	297.7	22.5	82.9	980.3	-	0.0	0.0
SECTOR TOTALS	66,170	43,826	86,337	48,791	245,124	3,825	541	3,443	1,073	3,142	12,028	903	15,313	16,217

Table 1. Landings or Deliveries of PFMC-managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004

Stock or Complex	1997													
	Non-Treaty Sectors											Treaty Sectors		
	LE Trawl Sectors					Non-LE Trawl Sectors								
	At-Sea Catcher-Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	LE Trawl Total	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-LE Trawl Totals	Shoreside	At-Sea	Treaty Totals
Lingcod - coastwide	-	-	0.6	1,161.1	1,161.6	65.2	0.4	278.8	59.9	430.8	835.1	0.7	-	0.7
N. of 42° (OR & WA)	-	-	0.5	849.3	849.7	28.0	0.3	131.8	47.4	165.4	373.0	0.7	-	0.7
S. of 42° (CA)	-	-	0.1	311.8	311.9	37.3	0.1	147.0	12.4	265.4	462.1	-	-	-
Pacific Cod	-	0.0	0.0	588.0	588.1	0.6	-	1.3	3.7	0.3	5.9	1.0	0.0	1.0
Pacific Whiting (Coastwide)	70,809.6	50,154.6	87,324.9	78.4	208,367.5	0.8	0.0	0.0	6.3	0.7	7.9	-	24,827.6	24,827.6
Sablefish (Coastwide)	0.6	0.2	40.3	3,689.0	3,730.1	2,423.0	433.4	503.6	46.3	3.5	3,409.7	805.2	0.3	805.5
N. of 36° (Monterey north)	0.6	0.2	40.3	3,535.5	3,576.6	2,320.2	433.1	498.4	45.8	3.5	3,301.1	805.2	0.3	805.5
S. of 36° (Conception area)	-	-	-	153.5	153.5	102.7	0.2	5.2	0.5	-	108.6	-	-	-
PACIFIC OCEAN PERCH	2.0	1.6	21.7	665.5	690.8	1.6	0.4	1.7	4.0	-	7.7	-	6.5	6.5
Shortbelly Rockfish	0.5	0.3	0.0	78.3	79.1	-	-	-	0.1	0.0	0.1	-	-	-
WIDOW ROCKFISH	72.6	125.5	163.3	6,206.5	6,567.9	8.8	-	61.1	10.5	42.9	123.3	-	9.6	9.6
CANARY ROCKFISH	1.0	0.7	1.1	794.4	797.2	79.3	0.0	214.6	22.7	145.9	462.5	0.0	1.7	1.7
Chilipepper Rockfish	-	-	-	1,535.6	1,535.6	13.6	-	394.2	4.7	73.6	486.1	-	-	-
BOCACIO	-	-	-	220.4	220.4	11.8	-	69.1	1.0	156.6	238.5	-	-	-
Splitnose Rockfish	-	-	-	430.8	430.8	0.8	-	6.7	0.4	-	7.9	-	-	-
Yellowtail Rockfish	120.1	180.1	226.5	1,304.0	1,830.7	36.4	-	99.8	157.6	41.1	334.9	1.1	121.3	122.4
Shortspine Thornyhead - coastwide	0.4	0.0	0.2	1,394.9	1,395.6	52.2	0.2	2.8	2.8	-	58.0	7.7	-	7.7
N. of 34°27'	0.4	0.0	0.2	1,001.0	1,001.7	21.5	0.2	1.2	2.7	-	25.6	7.7	-	7.7
S. of 34°27'	-	-	-	393.9	393.9	30.7	-	1.6	0.1	-	32.4	-	-	-
Longspine Thornyhead - coastwide	-	-	0.1	3,841.1	3,841.2	69.6	0.0	12.6	3.3	-	85.5	0.1	-	0.1
N. of 34°27'	-	-	0.1	3,841.1	3,841.2	56.3	0.0	12.6	3.3	-	72.2	0.1	-	0.1
S. of 34°27'	-	-	-	-	-	13.3	-	-	0.0	-	13.3	-	-	-
Other thornyheads	-	-	-	37.5	37.5	75.2	-	3.9	1.0	-	80.1	-	-	-
COWCOD	-	-	-	-	-	1.3	-	4.0	0.2	2.5	7.9	-	-	-
DARKBLOTCHED	1.8	1.7	2.2	811.4	817.1	0.5	-	0.2	5.6	-	6.3	-	-	-
YELLOWWEYE	0.0	-	0.1	83.3	83.5	47.5	-	52.4	0.6	35.8	136.2	-	-	-
Black Rockfish - coastwide	-	-	0.1	23.9	24.0	42.8	-	237.0	6.6	629.1	915.4	-	-	-
Black Rockfish (WA)	-	-	-	1.0	1.0	-	-	-	-	180.4	180.4	-	-	-
Black Rockfish (OR-CA)	-	-	0.1	22.9	23.0	42.8	-	237.0	6.6	448.7	735.0	-	-	-
Minor Rockfish North	-	-	-	0.3	0.3	12.3	-	60.6	0.0	84.5	157.5	-	-	-
Nearshore Species	-	-	-	0.3	0.3	12.3	-	60.6	0.0	84.5	157.5	-	-	-
Shelf Species	-	-	-	0.3	0.3	12.3	-	60.6	0.0	84.5	157.5	-	-	-
BOCACIO: N. of Monterey	0.1	0.2	0.5	158.0	158.7	2.7	-	6.0	0.5	0.4	9.7	-	0.3	0.3
Chilipepper Rockfish: Eureka	-	0.0	0.1	58.9	59.0	3.0	-	15.4	0.7	0.1	19.1	-	-	-
Redstripe Rockfish	0.0	1.0	0.2	138.7	139.9	0.0	-	0.0	0.4	0.4	0.8	-	0.3	0.3
Silvergrey Rockfish	0.1	0.0	1.1	84.6	85.8	1.3	-	2.8	0.1	0.0	4.2	-	-	-
Other Northern Shelf Rockfish	0.0	0.0	5.3	414.9	420.2	249.2	2.0	122.6	38.7	5.7	418.3	29.5	-	29.5
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	0.2	13.3	13.5	-	-	0.2	0.1	-	0.3	-	-	-
Sharpchin Rockfish, north	0.0	0.0	0.1	218.4	218.5	0.0	-	0.0	0.4	-	0.4	-	-	-
Splitnose Rockfish: N. of Monterey	15.1	2.0	0.1	131.7	148.8	0.0	-	0.0	0.8	-	0.8	-	-	-
Yellowmouth Rockfish	0.0	-	0.0	83.4	83.5	-	-	-	0.5	-	0.5	-	0.0	0.0
Other Northern Slope Rockfish	11.5	9.7	0.6	216.4	238.2	15.1	1.0	1.8	5.3	0.0	29.7	-	-	-
Minor Rockfish South	-	-	-	13.2	13.2	54.0	0.0	257.5	4.8	544.2	860.5	-	-	-
Nearshore Species	-	-	-	13.2	13.2	54.0	0.0	257.5	4.8	544.2	860.5	-	-	-
Shelf Species	-	-	-	13.2	13.2	54.0	0.0	257.5	4.8	544.2	860.5	-	-	-
Redstripe Rockfish	-	-	-	2.9	2.9	-	-	-	-	0.3	0.3	-	-	-
Yellowtail Rockfish	-	-	-	174.2	174.2	39.6	-	111.1	0.5	401.8	552.9	-	-	-
Other Southern Shelf Rockfish	-	-	-	82.4	82.4	85.4	0.0	233.7	23.7	237.7	580.5	-	-	-
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	376.1	376.1	0.4	-	30.6	0.8	11.7	43.6	-	-	-
Blackgill Rockfish	-	-	-	129.8	129.8	69.0	1.9	68.1	0.7	-	139.7	-	-	-
Sharpchin Rockfish	-	-	-	99.9	99.9	-	-	0.1	0.0	-	0.1	-	-	-
Yellowmouth Rockfish	-	-	-	0.6	0.6	-	-	-	-	-	-	-	-	-
Other Southern Slope Rockfish	-	-	-	40.2	40.2	0.5	-	7.5	0.2	0.5	8.6	-	-	-
California scorpionfish	-	-	-	5.8	5.8	0.7	-	15.9	10.8	103.9	131.1	-	-	-
Cabezon (off CA only)	-	-	-	-	-	9.2	-	120.9	2.0	60.0	192.1	-	-	-
Dover Sole	-	-	2.2	10,052.0	10,054.2	2.0	0.6	0.5	72.4	-	75.6	0.6	0.0	0.6
English Sole	-	0.0	3.5	1,433.3	1,436.8	0.0	-	0.2	65.6	-	65.9	0.1	-	0.1
Petrale Sole (coastwide)	-	-	2.6	1,876.9	1,879.6	1.6	0.0	0.6	62.3	0.3	64.8	0.0	-	0.0
N of 40°10'	-	-	2.6	1,402.2	1,404.9	0.2	0.0	0.0	56.3	0.1	56.6	0.0	-	0.0
S of 40°10'	-	-	-	474.7	474.7	1.4	-	0.6	6.0	0.2	8.2	-	-	-
Arrowtooth Flounder	0.1	0.1	0.4	2,338.3	2,338.8	0.3	0.2	0.0	4.3	-	4.8	-	0.2	0.2
Starry Flounder	-	-	0.0	74.4	74.4	0.0	-	0.3	28.9	3.3	32.5	0.0	-	0.0
Other Flatfish	0.0	0.0	12.9	1,999.7	2,012.6	0.9	-	7.1	152.9	38.6	199.5	0.0	-	0.0
Kelp Greenling	-	-	-	-	-	2.4	-	19.2	0.1	36.2	57.9	-	-	-
Spiny Dogfish	139.2	68.3	3.3	336.1	547.0	2.5	-	82.4	0.7	5.1	90.8	-	111.5	111.5
Other Fish	0.1	0.1	0.1	575.3	575.6	296.5	-	147.0	18.6	65.2	527.3	-	-	-
SECTOR TOTALS	71,175	50,546	87,814	44,074	253,609	3,780	440	3,256	834	3,163	11,479	846	25,079	25,925

Table 1. Landings or Deliveries of PFMC-managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004

Stock or Complex	1998													
	Non-Treaty Sectors											Treaty Sectors		
	LE Trawl Sectors					Non-LE Trawl Sectors								
	At-Sea Catcher-Processors	At Sea Motherships	Shoreside Whiting Trawl	Shoreside Non-whiting LE Trawl	LE Trawl Total	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-LE Trawl Totals	Shoreside	At-Sea	Treaty Totals
Lingcod - coastwide	-	-	1.0	211.0	212.0	24.8	0.5	88.8	20.3	354.2	488.7	2.4	-	2.4
N. of 42° (OR & WA)	-	-	0.4	137.5	137.9	13.8	0.2	32.2	13.0	100.7	159.9	2.4	-	2.4
S. of 42° (CA)	-	-	0.6	73.6	74.1	11.1	0.4	56.6	7.3	253.5	328.8	-	-	-
Pacific Cod	-	-	2.5	403.2	405.7	0.9	0.0	0.4	2.4	1.5	5.2	2.2	0.0	2.2
Pacific Whiting (Coastwide)	70,372.3	49,666.4	87,769.4	43.5	207,851.6	0.6	-	27.6	15.9	0.1	44.3	-	24,507.7	24,507.7
Sablefish (Coastwide)	27.2	0.5	30.3	2,111.2	2,169.3	1,195.4	385.6	180.0	31.8	2.9	1,795.8	444.9	-	444.9
N. of 36° (Monterey north)	27.2	0.5	30.3	1,999.9	2,058.0	1,100.2	385.6	176.7	31.2	2.9	1,696.6	444.9	-	444.9
S. of 36° (Conception area)	-	-	-	111.2	111.2	95.3	-	3.3	0.6	-	99.2	-	-	-
PACIFIC OCEAN PERCH	14.8	8.3	26.0	599.6	648.7	0.1	0.0	0.2	1.2	-	1.5	-	0.4	0.4
Shortbelly Rockfish	0.0	-	1.4	18.7	20.2	0.0	-	0.0	0.2	0.0	0.3	-	-	-
WIDOW ROCKFISH	120.9	173.7	368.9	3,344.9	4,008.4	12.2	-	155.4	10.3	52.4	230.2	0.0	14.8	14.8
CANARY ROCKFISH	0.3	2.5	1.1	888.7	892.5	105.5	0.0	165.8	19.1	81.3	371.7	0.4	2.7	3.1
Chillipepper Rockfish	-	-	-	1,036.1	1,036.1	15.6	-	266.5	11.7	7.3	301.1	-	-	-
BOCACCO	-	-	-	55.5	55.5	7.5	-	70.0	2.1	51.4	130.9	-	-	-
Splitnose Rockfish	-	-	-	1,304.3	1,304.3	0.1	-	45.3	8.9	0.3	54.6	-	-	-
Yellowtail Rockfish	63.7	334.8	505.7	1,626.8	2,530.9	43.7	0.0	123.7	156.1	64.0	387.5	6.2	159.0	165.3
Shortspine Thornyhead - coastwide	2.5	0.0	1.3	1,167.3	1,171.1	57.5	0.2	0.9	1.5	-	60.1	3.7	0.0	3.7
N. of 34°27'	2.5	0.0	1.3	843.2	847.1	16.7	0.2	0.5	1.3	-	18.7	3.7	0.0	3.7
S. of 34°27'	-	-	-	324.0	324.0	40.7	0.0	0.4	0.3	-	41.4	-	-	-
Longspine Thornyhead - coastwide	0.0	-	0.1	2,214.1	2,214.3	15.4	-	0.1	2.7	-	18.2	0.0	-	0.0
N. of 34°27'	0.0	-	0.1	2,214.1	2,214.3	4.5	-	0.0	2.6	-	7.2	0.0	-	0.0
S. of 34°27'	-	-	-	-	-	10.9	-	0.1	0.1	-	11.0	-	-	-
Other thornyheads	-	-	-	16.6	16.6	29.7	-	1.7	0.6	-	32.0	-	-	-
COWCOD	-	-	-	-	-	0.6	-	1.1	0.2	2.8	4.8	-	-	-
DARKBLOTCHED	6.9	12.9	7.0	895.6	922.4	6.2	0.0	11.0	10.6	-	27.8	-	0.0	0.0
YELLOWEYE	0.0	-	0.3	29.1	29.5	15.8	-	22.4	0.1	39.0	77.4	-	-	-
Black Rockfish - coastwide	-	-	0.7	81.1	81.8	33.3	0.2	175.6	1.1	693.0	903.2	-	-	-
Black Rockfish (WA)	-	-	0.7	17.6	18.3	-	-	-	-	224.4	224.4	-	-	-
Black Rockfish (OR-CA)	-	-	0.0	63.5	63.5	33.3	0.2	175.6	1.1	468.7	678.8	-	-	-
Minor Rockfish North	-	-	-	4.5	4.5	19.1	-	50.9	0.2	83.4	153.7	-	-	-
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BOCACCO: N. of Monterrey	0.0	1.0	0.4	91.0	92.4	0.9	-	7.8	0.7	0.5	9.7	0.0	0.6	0.6
Chillipepper Rockfish: Eureka	0.0	0.0	0.5	70.8	71.3	0.2	-	0.5	2.0	-	2.7	-	-	-
Redstripe Rockfish	0.0	0.0	0.5	109.4	110.0	0.0	-	0.0	0.2	0.2	0.5	0.0	1.7	1.7
Silvergrey Rockfish	0.2	0.0	4.5	181.3	186.0	0.0	-	0.9	-	0.2	1.1	-	-	-
Other Northern Shelf Rockfish	2.1	0.0	20.3	548.5	571.0	248.9	2.9	95.7	43.6	8.2	399.4	29.6	-	29.6
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	0.0	2.7	2.7	0.5	-	0.3	0.0	-	0.9	-	-	-
Sharpchin Rockfish, north	-	0.1	0.6	101.6	102.3	0.0	-	0.0	0.7	-	0.8	0.0	-	0.0
Splitnose Rockfish: N. of Monterrey	4.4	0.9	17.1	142.3	164.7	0.1	-	0.2	2.8	-	3.0	-	-	-
Yellowmouth Rockfish	0.0	2.9	0.0	39.3	42.2	-	0.0	0.0	0.0	-	0.0	-	-	-
Other Northern Slope Rockfish	16.0	3.4	1.5	160.8	181.7	76.1	0.1	1.6	3.5	0.1	90.5	0.0	-	0.0
Minor Rockfish South	-	-	-	0.8	0.8	34.3	2.8	228.4	2.7	486.3	754.6	-	-	-
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	0.6	0.6	0.0	-	0.0	-	0.0	0.1	-	-	-
Yellowtail Rockfish	-	-	-	122.9	122.9	24.8	0.0	167.2	1.0	111.6	304.5	-	-	-
Other Southern Shelf Rockfish	-	-	-	119.3	119.3	62.5	0.1	209.1	20.7	203.2	495.5	-	-	-
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	416.7	416.7	9.2	-	137.4	0.3	2.4	149.4	-	-	-
Blackgill Rockfish	-	-	-	114.4	114.4	90.5	0.1	22.5	0.2	-	113.3	-	-	-
Sharpchin Rockfish	-	-	-	10.2	10.2	0.0	-	0.1	0.0	-	0.1	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Southern Slope Rockfish	-	-	-	28.0	28.0	2.2	0.1	7.0	0.5	0.6	10.4	-	-	-
California scorpionfish	-	-	-	-	-	0.9	-	32.2	7.6	82.9	123.5	-	-	-
Cabezon (off CA only)	-	-	-	-	-	2.2	3.1	168.7	2.8	73.3	250.0	-	-	-
Dover Sole	0.0	0.0	9.0	7,940.8	7,949.9	1.7	0.3	0.3	52.9	-	55.2	2.0	-	2.0
English Sole	-	0.0	3.1	1,108.6	1,111.8	0.0	-	0.4	26.0	-	26.4	0.8	-	0.8
Petrale Sole (coastwide)	-	-	3.5	1,425.8	1,429.3	0.6	-	0.4	25.3	0.0	26.3	1.5	-	1.5
N of 40°10'	-	-	3.5	1,165.2	1,168.7	0.2	-	-	17.9	0.0	18.1	1.5	-	1.5
S of 40°10'	-	-	-	260.6	260.6	0.4	-	0.4	7.4	-	8.2	-	-	-
Arrowtooth Flounder	0.1	0.7	8.0	3,154.2	3,163.1	0.6	0.1	0.0	5.4	-	6.1	0.1	0.5	0.7
Starry Flounder	-	-	0.4	70.5	71.0	0.0	-	0.1	25.4	8.0	33.5	-	-	-
Other Flatfish	0.3	0.0	8.4	1,506.2	1,515.0	1.1	-	4.0	65.2	14.3	84.5	1.1	0.0	1.1
Kelp Greenling	-	-	-	0.0	0.0	1.3	0.4	15.8	0.0	18.6	36.1	-	-	-
Spiny Dogfish	57.8	162.3	57.7	400.7	678.4	0.7	-	2.0	0.2	2.5	5.3	-	98.8	98.8
Other Fish	0.7	0.3	0.3	620.4	621.7	157.7	0.9	73.0	26.7	65.9	324.3	-	0.2	0.2
SECTOR TOTALS	70,690	50,371	88,852	34,540	244,453	2,301	398	2,563	613	2,512	8,396	495	24,786	25,281

Table 1. Landings or Deliveries of PFMC-managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004

Stock or Complex	1999													
	Non-Treaty Sectors											Treaty Sectors		
	LE Trawl Sectors					Non-LE Trawl Sectors								
	At-Sea Catcher-Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	LE Trawl Total	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-LE Trawl Totals	Shoreside	At-Sea	Treaty Totals
Lingcod - coastwide	-	-	0.6	202.1	202.7	32.1	0.3	73.8	45.7	462.0	614.0	3.2	-	3.2
N. of 42° (OR & WA)	-	-	0.6	120.6	121.2	22.1	0.2	32.2	37.2	119.0	210.7	3.2	-	3.2
S. of 42° (CA)	-	-	0.0	81.5	81.5	10.1	0.1	41.6	8.6	343.0	403.3	-	-	-
Pacific Cod	0.0	-	0.2	275.8	276.1	1.3	-	0.3	1.7	0.4	3.6	1.2	0.1	1.3
Pacific Whiting (Coastwide)	67,671.8	47,374.5	83,393.8	25.3	198,465.3	0.0	-	0.4	0.2	2.3	2.9	-	25,836.6	25,836.6
Sablefish (Coastwide)	0.7	1.3	3.5	3,109.5	3,115.0	1,739.1	707.5	310.8	58.6	0.3	2,816.4	710.5	0.0	710.5
N. of 36° (Monterey north)	0.7	1.3	3.5	3,026.3	3,031.8	1,652.8	707.5	298.7	58.5	0.3	2,717.8	710.5	0.0	710.5
S. of 36° (Conception area)	-	-	-	83.1	83.1	86.3	-	12.1	0.1	-	98.6	-	-	-
PACIFIC OCEAN PERCH	9.4	4.1	7.5	513.4	534.4	1.1	0.1	0.3	9.0	-	10.6	0.0	1.2	1.2
Shortbelly Rockfish	-	-	5.5	2.2	7.7	-	-	-	0.4	-	0.4	-	0.0	0.0
WIDOW ROCKFISH	104.1	57.0	194.3	3,647.3	4,002.8	15.4	-	39.7	12.7	32.7	100.5	0.2	36.5	36.7
CANARY ROCKFISH	1.0	0.3	1.9	491.3	494.4	62.4	-	69.5	38.7	98.5	269.1	0.6	4.3	4.9
Chilipepper Rockfish	-	-	-	781.9	781.9	12.9	-	97.7	7.0	24.5	142.2	-	-	-
BOCACCIO	-	-	-	31.2	31.2	4.4	-	22.5	1.3	124.1	152.2	-	-	-
Splitnose Rockfish	-	-	-	205.2	205.2	0.6	-	0.2	0.2	0.0	1.0	-	-	-
Yellowtail Rockfish	426.3	266.3	477.3	1,595.4	2,765.4	34.2	-	39.2	68.2	25.8	167.5	16.0	469.9	485.8
Shortspine Thornyhead - coastwide	0.0	-	0.4	706.4	706.9	99.2	0.1	7.4	1.4	0.6	108.6	6.1	0.0	6.1
N. of 34°27'	0.0	-	0.4	520.2	520.6	16.3	0.1	0.0	1.0	0.5	17.8	6.1	0.0	6.1
S. of 34°27'	-	-	-	186.3	186.3	82.9	0.0	7.4	0.4	0.1	90.7	-	-	-
Longspine Thornyhead - coastwide	-	-	0.2	1,750.2	1,750.5	26.0	-	1.9	2.6	-	30.4	-	-	-
N. of 34°27'	-	-	0.2	1,750.2	1,750.5	11.8	-	1.1	2.6	-	15.5	-	-	-
S. of 34°27'	-	-	-	-	-	14.2	-	0.8	0.0	-	15.0	-	-	-
Other thornyheads	-	-	-	36.1	36.1	4.1	-	0.9	0.2	-	5.3	-	-	-
COWCOD	-	-	-	-	-	0.3	-	1.8	0.0	5.6	7.7	-	-	-
DARKBLOTCHED	6.9	4.2	0.6	341.2	353.0	0.8	-	0.2	7.8	-	8.8	0.0	0.0	0.0
YELLOWEYE	0.0	-	0.1	27.0	27.1	50.7	-	16.3	0.8	48.3	116.1	0.0	-	0.0
Black Rockfish - coastwide	0.0	-	0.0	4.6	4.6	17.9	-	152.9	2.6	606.4	779.8	-	-	-
Black Rockfish (WA)	-	-	-	-	-	-	-	-	-	154.2	154.2	-	-	-
Black Rockfish (OR-CA)	0.0	-	0.0	4.6	4.6	17.9	-	152.9	2.6	452.1	625.5	-	-	-
Minor Rockfish North	-	-	-	0.1	0.1	15.6	-	45.0	0.0	64.9	125.6	-	-	-
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BOCACCIO: N. of Monterey	0.2	0.1	0.1	43.1	43.6	2.9	-	5.4	0.6	0.8	9.7	0.0	1.0	1.0
Chilipepper Rockfish: Eureka	-	1.2	0.1	43.7	45.0	-	-	0.0	3.5	0.0	3.5	-	-	-
Redstripe Rockfish	0.6	1.6	0.1	32.9	35.1	-	-	-	0.2	0.1	0.3	0.0	4.8	4.8
Silvergrey Rockfish	0.1	0.3	0.1	73.6	74.1	0.5	-	0.2	0.0	0.1	0.8	0.0	0.0	0.0
Other Northern Shelf Rockfish	0.0	0.0	4.7	204.4	209.1	240.5	2.8	29.9	40.1	9.4	322.7	27.2	0.0	27.2
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	13.2	13.2	-	-	-	0.1	-	0.1	-	-	-
Sharpchin Rockfish, north	0.0	0.0	0.1	52.9	53.0	0.0	-	0.0	0.4	-	0.4	0.0	0.0	0.0
Splitnose Rockfish: N. of Monterey	6.4	-	2.8	55.3	64.5	0.0	-	0.0	1.0	-	1.1	-	-	-
Yellowmouth Rockfish	0.2	0.0	-	28.2	28.4	-	-	-	0.0	-	0.0	-	-	-
Other Northern Slope Rockfish	4.6	7.4	1.2	159.9	173.1	6.6	-	1.5	6.3	0.0	24.9	0.1	-	0.1
Minor Rockfish South	-	-	-	13.0	13.0	14.9	4.2	183.8	2.3	498.6	703.7	-	-	-
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	0.2	0.2	-	-	-	-	0.1	0.1	-	-	-
Yellowtail Rockfish	-	-	-	14.3	14.3	6.2	-	23.5	0.5	205.5	235.6	-	-	-
Other Southern Shelf Rockfish	-	-	-	21.0	21.0	25.9	0.1	53.8	9.6	461.9	551.3	-	-	-
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	18.7	18.7	0.0	-	7.4	0.4	4.9	12.7	-	-	-
Blackgill Rockfish	-	-	-	27.6	27.6	15.8	0.3	8.4	0.1	0.3	24.9	-	-	-
Sharpchin Rockfish	-	-	-	0.5	0.5	-	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Southern Slope Rockfish	-	-	-	27.9	27.9	0.5	0.0	2.6	0.2	0.4	3.7	-	-	-
California scorpionfish	-	-	-	-	-	0.1	-	30.3	7.8	139.6	177.7	-	-	-
Cabezon (off CA only)	-	-	-	-	-	0.8	2.9	119.3	2.0	43.4	168.4	-	-	-
Dover Sole	0.0	-	0.0	9,003.0	9,003.0	2.4	0.1	0.4	119.0	-	122.0	5.3	-	5.3
English Sole	0.0	0.0	0.1	874.7	874.9	0.0	-	0.1	33.9	-	34.0	0.3	0.0	0.3
Petrale Sole (coastwide)	-	-	0.2	1,448.9	1,449.1	0.3	-	0.1	36.1	0.1	36.6	0.2	-	0.2
N of 40°10'	-	-	0.2	1,184.2	1,184.4	0.2	-	-	32.5	0.0	32.7	0.2	-	0.2
S of 40°10'	-	-	-	264.7	264.7	0.1	-	0.1	3.6	0.1	3.9	-	-	-
Arrowtooth Flounder	2.6	0.6	3.4	5,258.7	5,265.2	1.6	0.0	0.0	14.6	-	16.2	6.0	3.2	9.2
Starry Flounder	-	-	0.0	29.5	29.5	0.0	-	0.2	25.1	4.9	30.3	-	-	-
Other Flatfish	0.0	0.0	1.8	1,869.3	1,871.1	0.4	0.0	4.7	68.2	22.5	95.8	0.4	0.0	0.4
Kelp Greenling	-	-	-	-	-	3.8	0.6	34.7	0.0	23.4	62.6	-	-	-
Spiny Dogfish	121.5	150.8	39.8	421.7	733.8	38.4	0.2	8.9	0.0	11.0	58.5	0.4	191.8	192.2
Other Fish	0.2	0.1	0.2	317.6	318.1	101.4	-	102.6	34.3	76.8	315.1	-	0.0	0.0
SECTOR TOTALS	68,357	47,870	84,141	33,800	234,167	2,581	719	1,499	666	3,000	8,475	778	26,549	27,327

Table 1. Landings or Deliveries of PFMC-managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004

Table 1. Landings or Deliveries of PFMC- managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004	2000													
	Non-Treaty Sectors												Treaty Sectors	
	LE Trawl Sectors					Non-LE Trawl Sectors								
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	LE Trawl Total	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-LE Trawl Totals	Shoreside	At-Sea	Treaty Totals
Stock or Complex														
Lingcod - coastwide	-	-	0.9	59.9	60.8	15.5	0.3	37.3	27.6	278.5	359.3	3.1	-	3.1
N. of 42° (OR & WA)	-	-	0.8	32.8	33.6	10.5	0.2	17.2	25.6	84.5	138.0	3.1	-	3.1
S. of 42° (CA)	-	-	0.1	27.1	27.1	5.0	0.0	20.2	2.0	194.0	221.3	-	-	-
Pacific Cod	0.2	-	0.1	275.0	275.2	1.1	-	0.0	1.8	-	3.0	2.1	0.0	2.1
Pacific Whiting (Coastwide)	67,803.1	46,657.1	85,827.9	16.1	200,304.2	0.1	-	0.0	0.1	-	0.2	-	6,252.4	6,252.4
Sablefish (Coastwide)	45.7	0.9	2.7	2,625.8	2,675.1	1,708.4	699.2	444.4	70.6	0.2	2,922.7	705.7	0.0	705.7
N. of 36° (Monterey north)	45.7	0.9	2.7	2,589.6	2,638.9	1,639.1	699.2	428.3	70.1	0.2	2,836.9	705.7	0.0	705.7
S. of 36° (Conception area)	-	-	-	36.2	36.2	69.3	-	16.1	0.4	-	85.8	-	-	-
PACIFIC OCEAN PERCH	6.5	2.9	0.4	139.0	148.8	0.4	-	0.0	0.4	0.0	0.8	0.0	0.0	0.0
Shortbelly Rockfish	0.9	0.0	2.3	17.1	20.3	-	-	-	-	-	-	-	-	-
WIDOW ROCKFISH	69.8	156.3	83.2	3,689.3	3,998.7	5.4	-	15.0	3.2	15.4	39.0	0.9	9.6	10.5
CANARY ROCKFISH	0.9	0.6	1.1	31.8	34.3	7.6	-	5.5	13.8	94.3	121.2	0.4	0.9	1.3
Chilipepper Rockfish	-	-	-	356.1	356.1	8.4	-	47.5	2.4	39.2	97.5	-	-	-
BOCACCIO	-	-	-	17.2	17.2	2.3	-	4.9	0.8	111.9	120.0	-	-	-
Splitnose Rockfish	-	-	-	82.9	82.9	5.2	-	0.3	0.0	-	5.5	-	-	-
Yellowtail Rockfish	269.5	267.8	190.2	2,551.1	3,278.5	3.8	-	2.4	100.4	23.9	130.5	35.4	99.1	134.5
Shortspine Thornyhead - coastwide	19.5	0.2	1.9	753.0	774.6	51.5	0.1	7.6	0.4	-	59.6	4.1	-	4.1
N. of 34°27'	19.5	0.2	1.9	474.0	495.6	12.0	0.1	0.4	0.2	-	12.7	4.1	-	4.1
S. of 34°27'	-	-	-	279.0	279.0	39.6	-	7.2	0.2	-	47.0	-	-	-
Longspine Thornyhead - coastwide	0.0	-	0.6	1,406.6	1,407.2	51.4	-	7.3	0.8	-	59.5	-	-	-
N. of 34°27'	0.0	-	0.6	1,406.6	1,407.2	31.4	-	0.4	0.8	-	32.7	-	-	-
S. of 34°27'	-	-	-	-	-	20.0	-	6.8	-	-	26.8	-	-	-
Other thornyheads	-	-	-	53.9	53.9	9.8	-	3.7	0.0	-	13.6	-	-	-
COWCOD	-	-	-	-	-	0.0	-	0.3	0.1	6.2	6.6	-	-	-
DARKBLOTCHED	3.8	4.8	3.9	236.1	248.6	9.5	-	0.5	1.6	-	11.7	0.0	-	0.0
YELLOWEYE	4.1	-	0.0	1.2	5.3	4.3	-	2.1	0.2	27.8	34.4	0.0	-	0.0
Black Rockfish - coastwide	1.2	-	0.0	1.7	2.9	20.1	-	127.9	3.7	595.8	747.5	-	-	-
Black Rockfish (WA)	-	-	-	-	-	-	-	-	-	143.3	143.3	-	-	-
Black Rockfish (OR-CA)	1.2	-	0.0	1.7	2.9	20.1	-	127.9	3.7	452.4	604.2	-	-	-
Minor Rockfish North	-	-	-	0.3	0.3	11.5	0.7	27.5	0.8	57.0	97.4	0.0	-	0.0
Nearshore Species	-	-	-	0.3	0.3	11.5	0.7	27.5	0.8	57.0	97.4	0.0	-	0.0
Shelf Species	-	-	-	0.3	0.3	11.5	0.7	27.5	0.8	57.0	97.4	0.0	-	0.0
BOCACCIO: N. of Monterey	0.4	1.8	0.5	4.0	6.7	0.0	-	0.0	0.0	1.0	1.1	0.1	0.3	0.4
Chilipepper Rockfish: Eureka	-	8.8	27.9	14.0	50.7	0.1	-	0.0	0.5	0.0	0.7	-	-	-
Redstripe Rockfish	0.6	1.3	0.0	4.7	6.6	-	-	-	-	0.0	0.0	0.1	0.1	0.2
Silvergrey Rockfish	0.0	0.1	0.0	1.3	1.4	-	-	-	0.0	0.1	0.1	0.0	-	0.0
Other Northern Shelf Rockfish	0.0	0.0	2.2	27.5	29.7	24.3	0.3	6.8	5.0	5.2	41.5	22.3	0.0	22.3
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	0.0	-	0.1	3.0	3.1	0.1	-	0.0	0.1	-	0.2	-	-	-
Sharpchin Rockfish, north	0.0	0.0	0.0	12.2	12.3	0.1	-	0.0	0.0	-	0.2	0.0	-	0.0
Splitnose Rockfish: N. of Monterey	13.1	2.3	9.9	33.4	58.7	0.9	-	0.1	0.5	-	1.5	-	-	-
Yellowmouth Rockfish	0.1	0.0	-	11.3	11.4	-	-	-	-	-	-	0.0	-	0.0
Other Northern Slope Rockfish	65.0	1.5	4.5	223.4	294.4	43.2	4.8	2.4	8.4	0.1	65.2	9.3	-	9.3
Minor Rockfish South	-	-	-	0.4	0.4	19.3	0.4	133.6	2.7	423.6	579.6	-	-	-
Nearshore Species	-	-	-	0.4	0.4	19.3	0.4	133.6	2.7	423.6	579.6	-	-	-
Shelf Species	-	-	-	0.4	0.4	19.3	0.4	133.6	2.7	423.6	579.6	-	-	-
Redstripe Rockfish	-	-	-	-	-	0.0	-	0.2	-	0.2	0.4	-	-	-
Yellowtail Rockfish	-	-	-	21.6	21.6	1.8	-	4.5	0.9	134.0	141.2	-	-	-
Other Southern Shelf Rockfish	-	-	-	7.9	7.9	10.3	-	21.9	5.5	317.9	355.6	-	-	-
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	78.6	78.6	6.4	-	2.6	0.0	2.7	11.8	-	-	-
Blackgill Rockfish	-	-	-	52.4	52.4	29.1	0.0	3.6	0.3	-	33.1	-	-	-
Sharpchin Rockfish	-	-	-	0.4	0.4	0.0	-	-	-	-	0.0	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Southern Slope Rockfish	-	-	-	13.5	13.5	6.5	-	1.6	0.2	-	8.3	-	-	-
California scorpionfish	-	-	-	-	-	0.0	-	11.5	6.0	89.5	107.0	-	-	-
Cabezon (off CA only)	-	-	-	-	-	2.7	0.5	109.1	4.2	41.2	157.7	-	-	-
Dover Sole	0.3	0.0	5.3	8,665.8	8,671.3	1.6	1.1	0.5	63.9	-	67.0	0.9	0.0	0.9
English Sole	0.1	0.2	1.7	736.0	738.0	0.0	-	0.0	26.2	-	26.2	0.5	0.1	0.5
Petrale Sole (coastwide)	-	-	1.7	1,821.0	1,822.7	0.4	-	0.1	50.4	0.2	51.0	0.0	-	0.0
N of 40°10'	-	-	1.7	1,554.6	1,556.3	0.3	-	-	47.1	0.0	47.4	0.0	-	0.0
S of 40°10'	-	-	-	266.4	266.4	0.1	-	0.1	3.3	0.1	3.6	-	-	-
Arrowtooth Flounder	3.8	4.1	4.0	3,250.7	3,262.6	1.0	0.9	0.1	18.4	-	20.4	0.2	1.9	2.0
Starry Flounder	-	-	0.0	34.2	34.2	0.0	-	0.3	12.2	6.2	18.6	-	-	-
Other Flatfish	5.1	1.7	1.3	1,506.0	1,514.1	0.2	-	7.5	45.4	64.7	117.9	0.1	0.0	0.1
Kelp Greenling	-	-	-	-	-	4.3	0.2	38.0	0.3	35.3	78.1	-	-	-
Spiny Dogfish	25.6	53.6	34.6	267.9	381.8	313.9	-	4.7	2.0	10.0	330.6	2.8	37.2	40.0
Other Fish	1.1	0.1	0.3	231.9	233.5	34.7	0.0	119.1	21.4	55.5	230.6	-	0.0	0.0
SECTOR TOTALS	68,340	47,166	86,210	29,337	231,053	2,417	708	1,203	504	2,438	7,276	788	6,402	7,190

Table 1. Landings or Deliveries of PFMC-managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004

Table 1. Landings or Deliveries of PFMC- managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004	2001													
	Non-Treaty Sectors											Treaty Sectors		
	LE Trawl Sectors					Non-LE Trawl Sectors								
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	LE Trawl Total	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-LE Trawl Totals	Shoreside	At-Sea	Treaty Totals
Lingcod - coastwide	-	-	0.8	56.9	57.6	16.2	1.3	57.9	17.0	258.5	350.9	4.3	-	4.3
N. of 42° (OR & WA)	-	-	0.8	30.3	31.1	12.5	1.3	28.2	14.5	96.2	152.6	4.3	-	4.3
S. of 42° (CA)	-	-	-	26.6	26.6	3.7	0.0	29.7	2.5	162.4	198.3	-	-	-
Pacific Cod	0.0	-	0.1	316.9	317.0	1.3	-	0.4	1.5	0.0	3.2	4.0	0.2	4.2
Pacific Whiting (Coastwide)	58,627.6	35,622.1	73,332.2	15.2	167,597.1	0.2	-	-	64.8	0.0	65.0	-	6,080.0	6,080.0
Sablefish (Coastwide)	21.0	0.5	52.5	2,495.3	2,569.3	1,342.7	552.6	467.1	45.4	2.9	2,410.8	658.7	0.0	658.7
N. of 36° (Monterey north)	21.0	0.5	52.5	2,466.9	2,540.9	1,244.0	552.6	454.0	44.1	2.8	2,297.4	658.7	0.0	658.7
S. of 36° (Conception area)	-	-	-	28.4	28.4	98.7	-	13.1	1.3	0.1	113.3	-	-	-
PACIFIC OCEAN PERCH	19.7	0.1	0.1	187.4	207.2	0.0	0.0	0.0	0.1	-	0.1	0.0	0.7	0.7
Shortbelly Rockfish	0.0	27.2	0.6	4.4	32.2	-	-	0.3	-	0.0	0.3	-	-	-
WIDOW ROCKFISH	139.7	27.7	44.3	1,729.5	1,941.1	1.3	0.0	12.9	1.4	13.8	29.4	7.4	3.3	10.7
CANARY ROCKFISH	0.7	1.1	1.4	23.0	26.2	7.0	0.0	4.9	3.7	46.2	61.8	2.5	2.4	4.9
Chilipepper Rockfish	-	-	-	297.3	297.3	2.9	-	27.0	0.8	51.9	82.6	-	-	-
BOCACCIO	-	-	-	13.3	13.3	2.4	-	6.0	0.5	109.0	118.0	-	-	-
Splitnose Rockfish	-	-	0.0	90.3	90.3	0.9	-	1.1	0.1	-	2.2	-	-	-
Yellowtail Rockfish	33.2	89.7	101.6	1,474.0	1,698.4	3.5	-	1.3	68.0	19.2	92.1	98.7	87.0	185.7
Shortspine Thornyhead - coastwide	15.2	0.0	0.8	469.4	485.4	50.8	0.2	1.6	0.5	-	53.1	5.0	-	5.0
N. of 34°27'	15.2	0.0	0.7	347.7	363.7	8.4	0.2	0.1	0.2	-	8.9	5.0	-	5.0
S. of 34°27'	-	-	0.0	121.7	121.7	42.3	-	1.5	0.3	-	44.2	-	-	-
Longspine Thornyhead - coastwide	-	-	2.3	1,125.6	1,127.9	36.9	0.0	6.5	0.7	-	44.1	-	-	-
N. of 34°27'	-	-	2.3	1,125.6	1,127.9	12.6	0.0	0.2	0.6	-	13.4	-	-	-
S. of 34°27'	-	-	-	-	-	24.2	-	6.4	0.1	-	30.7	-	-	-
Other thornyheads	-	-	-	21.5	21.5	22.8	-	3.4	0.2	-	26.4	-	-	-
COWCOD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DARKBLOTCHED	11.5	0.6	5.1	152.6	169.7	2.2	0.0	0.3	0.4	-	3.0	0.1	-	0.1
YELLOWEYE	-	-	-	2.0	2.0	6.5	-	2.9	0.0	24.1	33.5	0.0	-	0.0
Black Rockfish - coastwide	-	0.0	-	0.9	0.9	45.3	0.0	198.0	2.6	742.0	987.8	-	-	-
Black Rockfish (WA)	-	-	-	-	-	-	-	-	-	175.7	175.7	-	-	-
Black Rockfish (OR-CA)	-	0.0	-	0.9	0.9	45.3	0.0	198.0	2.6	566.3	812.2	-	-	-
Minor Rockfish North	-	-	-	0.5	0.5	19.5	0.1	37.3	0.4	52.5	109.8	0.0	-	0.0
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BOCACCIO: N. of Monterrey	0.2	0.1	0.7	12.1	13.1	-	-	0.0	0.0	1.6	1.6	0.2	0.8	1.0
Chilipepper Rockfish: Eureka	0.2	3.3	0.8	136.4	140.8	0.2	-	-	0.2	0.0	0.3	-	-	-
Redstripe Rockfish	0.1	11.3	-	6.1	17.5	-	-	-	-	0.1	0.1	0.7	0.4	1.1
Silvergrey Rockfish	0.1	0.0	-	4.3	4.4	0.1	-	0.0	-	0.0	0.1	0.0	0.0	0.0
Other Northern Shelf Rockfish	0.2	0.0	0.9	28.9	30.0	20.0	0.0	4.8	3.1	4.1	32.1	9.3	-	9.3
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	0.2	0.0	-	0.4	0.7	-	-	-	-	-	-	-	-	-
Sharpchin Rockfish, north	1.7	0.0	0.0	4.7	6.4	-	-	-	0.0	-	0.0	0.0	0.6	0.7
Splitnose Rockfish: N. of Monterrey	23.8	1.6	1.9	14.8	42.2	-	-	-	0.2	-	0.2	-	-	-
Yellowmouth Rockfish	-	-	-	4.5	4.5	-	-	-	0.0	-	0.0	-	0.0	0.0
Other Northern Slope Rockfish	20.1	0.5	0.6	112.9	134.1	21.8	2.6	3.8	2.1	0.0	36.2	25.8	-	25.8
Minor Rockfish South	-	-	-	0.3	0.3	16.3	-	131.1	2.5	484.8	634.7	-	-	-
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	-	-	0.0	-	0.0	-	-	0.0	-	-	-
Yellowtail Rockfish	-	-	-	1.3	1.3	1.1	-	1.2	0.2	56.0	58.5	-	-	-
Other Southern Shelf Rockfish	-	-	-	21.6	21.6	8.2	-	15.3	4.7	210.9	239.1	-	-	-
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	81.9	81.9	4.6	-	10.4	0.3	0.4	15.7	-	-	-
Blackgill Rockfish	-	-	0.0	89.9	89.9	27.1	-	12.0	0.3	-	39.4	-	-	-
Sharpchin Rockfish	-	-	-	0.0	0.0	-	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Southern Slope Rockfish	-	-	0.0	19.8	19.8	8.6	-	1.8	0.7	0.1	11.3	-	-	-
California scorpionfish	-	-	-	0.0	0.0	0.0	-	14.3	4.9	113.5	132.8	-	-	-
Cabezon (off CA only)	-	-	-	-	-	1.1	-	66.2	5.4	57.0	129.7	-	-	-
Dover Sole	1.5	0.0	4.6	6,820.2	6,826.3	1.1	0.5	1.1	32.4	-	35.1	2.1	-	2.1
English Sole	0.1	0.0	1.3	959.3	960.7	0.0	-	0.3	24.1	-	24.4	3.2	0.0	3.2
Petrale Sole (coastwide)	-	-	1.8	1,775.9	1,777.8	0.5	0.0	1.0	35.7	0.1	37.3	0.9	-	0.9
N of 40°10'	-	-	1.8	1,495.9	1,497.8	0.5	0.0	0.0	32.3	0.0	32.8	0.9	-	0.9
S of 40°10'	-	-	-	280.0	280.0	-	-	1.0	3.4	0.1	4.5	-	-	-
Arrowtooth Flounder	2.7	0.9	1.3	2,451.3	2,456.2	0.6	0.4	0.6	1.6	0.2	3.4	0.4	0.7	1.1
Starry Flounder	-	-	-	32.8	32.8	0.0	-	0.1	15.5	381.4	397.0	0.0	-	0.0
Other Flatfish	17.9	0.5	1.0	1,570.8	1,590.3	0.2	-	8.2	76.5	48.2	133.2	1.7	0.0	1.7
Kelp Greenling	-	-	-	0.0	0.0	5.1	0.1	34.1	0.3	72.2	111.8	-	-	-
Spiny Dogfish	67.6	9.8	12.6	333.2	423.3	216.3	-	0.7	3.7	9.4	230.2	-	153.3	153.3
Other Fish	0.5	0.2	2.4	231.8	234.9	63.2	7.1	86.8	20.3	63.6	241.0	-	-	-
SECTOR TOTALS	59,006	35,797	73,572	23,192	191,566	1,959	565	1,223	443	2,824	7,019	825	6,330	7,154

Table 1. Landings or Deliveries of PFMC-managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004

Stock or Complex	2002												
	Non-Treaty Sectors											Treaty Sectors	
	LE Trawl Sectors					Non-LE Trawl Sectors						Treaty Sectors	
	At-Sea Catcher-Processors	At Sea Motherships	Shoreside Whiting Trawl	Shoreside Non-whiting LE Trawl	LE Trawl Total	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-LE Trawl Totals		
Stock or Complex	Processors	Motherships	Trawl	LE Trawl	Total	Line Gear	Pot Gear	Directed OA	Incidental OA	Recreational	Totals	Shoreside	At-Sea
Lingcod - coastwide	-	-	0.4	99.5	99.9	10.8	1.4	68.4	13.6	605.3	699.4	11.3	-
N. of 42° (OR & WA)	-	-	0.4	63.0	63.3	6.3	1.3	30.4	11.0	173.0	221.9	11.3	-
S. of 42° (CA)	-	-	0.0	36.5	36.5	4.4	0.1	38.0	2.5	432.3	477.4	-	-
Pacific Cod	-	-	0.4	690.2	690.6	0.5	-	0.3	2.0	5.0	7.9	58.3	0.0
Pacific Whiting (Coastwide)	36,341.5	26,593.4	45,507.1	17.8	108,459.7	0.3	-	-	183.0	0.3	183.6	-	21,815.3
Sablefish (Coastwide)	20.6	0.4	131.9	1,414.3	1,567.2	1,040.0	359.8	380.8	29.7	6.6	1,816.8	436.6	0.5
N. of 36° (Monterey north)	20.6	0.4	131.9	1,365.2	1,518.2	929.6	359.8	356.4	23.8	6.6	1,676.1	436.6	0.5
S. of 36° (Conception area)	-	-	-	49.0	49.0	110.4	-	24.4	5.8	-	140.6	-	-
PACIFIC OCEAN PERCH	1.4	2.2	0.2	146.6	150.5	0.2	0.2	0.0	0.0	0.0	0.4	0.3	0.2
Shortbelly Rockfish	0.5	0.1	0.1	0.1	0.7	-	-	-	-	-	-	-	-
WIDOW ROCKFISH	114.8	20.4	5.1	254.9	395.2	0.0	0.0	0.5	0.4	2.9	3.7	12.7	19.5
CANARY ROCKFISH	1.6	0.8	0.5	41.5	44.5	1.6	-	0.2	1.4	23.9	27.1	3.2	2.8
Chilipepper Rockfish	-	-	-	153.8	153.8	0.5	-	3.2	0.2	89.6	93.4	-	-
BOCACCIO	-	-	-	17.7	17.7	0.5	-	2.7	0.4	9.3	12.9	-	-
Splitnose Rockfish	-	-	-	55.7	55.7	1.3	-	1.3	0.1	-	2.6	-	-
Yellowtail Rockfish	12.9	1.4	42.5	691.5	748.3	0.6	0.0	2.1	28.6	21.0	52.2	259.9	179.3
Shortspine Thornyhead - coastwide	11.9	0.0	0.2	652.7	664.9	102.8	0.2	2.6	1.3	1.1	108.0	4.8	0.0
N. of 34°27'	11.9	0.0	0.2	414.2	426.3	7.8	0.2	0.1	0.1	1.1	9.2	4.8	0.0
S. of 34°27'	-	-	-	238.6	238.6	95.0	-	2.5	1.2	-	98.7	-	-
Longspine Thornyhead - coastwide	-	-	-	1,876.8	1,876.8	12.0	0.0	2.3	0.2	-	14.4	-	-
N. of 34°27'	-	-	-	1,876.4	1,876.4	1.9	0.0	0.2	0.1	-	2.2	-	-
S. of 34°27'	-	-	-	0.5	0.5	10.0	-	2.1	0.1	-	12.2	-	-
Other thornyheads	-	-	-	52.1	52.1	5.3	-	0.8	0.1	-	6.1	-	-
COWCOD	-	-	-	0.0	0.0	0.0	-	-	-	0.2	0.3	-	-
DARKBLOTCHED	2.2	0.9	0.0	106.5	109.7	0.2	0.1	0.4	0.6	0.0	1.2	1.5	0.1
YELLOWEYE	0.0	-	0.0	1.0	1.0	0.0	0.0	0.0	0.3	7.4	7.8	2.2	-
Black Rockfish - coastwide	-	-	-	3.2	3.2	21.9	0.4	194.2	1.7	620.7	838.9	-	-
Black Rockfish (WA)	-	-	-	0.3	0.3	-	-	-	-	176.2	176.2	-	-
Black Rockfish (OR-CA)	-	-	-	2.9	2.9	21.9	0.4	194.2	1.7	444.5	662.7	-	-
Minor Rockfish North	-	-	-	-	-	-	-	-	-	-	-	-	-
Nearshore Species	-	-	0.0	0.7	0.7	11.5	0.1	37.8	0.0	36.0	85.4	0.1	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-
BOCACCIO: N. of Monterrey	0.0	0.2	0.1	5.7	6.0	-	-	-	0.0	1.9	1.9	0.9	0.4
Chilipepper Rockfish: Eureka	3.0	1.9	0.5	8.5	13.9	-	-	-	-	0.0	0.0	0.0	-
Redstripe Rockfish	3.3	0.0	0.0	2.7	6.0	-	-	-	0.0	0.0	0.0	0.4	1.7
Silvergrey Rockfish	0.0	-	0.1	2.3	2.4	0.1	-	-	0.3	0.1	0.5	0.2	0.0
Other Northern Shelf Rockfish	3.9	0.2	0.1	24.9	29.0	3.4	0.2	4.0	0.6	4.5	12.7	6.6	0.0
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	0.1	-	0.0	0.1	-	-	-	-	-	-	-	-
Sharpchin Rockfish, north	0.1	0.0	0.0	5.3	5.5	-	-	-	0.0	-	0.0	0.2	0.0
Splitnose Rockfish: N. of Monterrey	11.1	0.3	0.0	7.1	18.5	0.0	-	-	0.0	-	0.0	0.3	-
Yellowmouth Rockfish	0.6	-	-	2.1	2.7	-	-	-	-	0.1	-	-	-
Other Northern Slope Rockfish	0.3	0.5	0.2	63.9	64.9	42.9	1.9	1.7	0.7	0.0	53.8	17.0	-
Minor Rockfish South	-	-	-	-	-	-	-	-	-	-	-	-	-
Nearshore Species	-	-	-	0.8	0.8	7.8	-	101.5	1.8	532.8	643.8	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellowtail Rockfish	-	-	-	1.9	1.9	0.0	-	0.4	0.1	24.6	25.2	-	-
Other Southern Shelf Rockfish	-	-	-	12.8	12.8	4.5	-	11.7	1.7	307.4	325.4	-	-
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	275.7	275.7	2.0	-	19.1	0.0	0.1	21.2	-	-
Blackgill Rockfish	-	-	-	63.2	63.2	38.9	-	38.4	0.5	3.0	80.8	-	-
Sharpchin Rockfish	-	-	-	0.3	0.3	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Southern Slope Rockfish	-	-	-	37.3	37.3	3.9	-	1.4	0.2	0.6	6.0	-	-
California scorpionfish	-	-	-	0.0	0.0	0.6	-	9.5	3.3	56.4	69.8	-	-
Cabezon (off CA only)	-	-	-	-	-	1.7	-	46.2	2.5	30.1	80.5	-	-
Dover Sole	0.7	0.0	1.6	6,262.9	6,265.1	1.0	0.7	0.3	17.1	-	19.1	16.1	-
English Sole	0.1	0.0	1.7	1,124.1	1,126.0	-	-	0.1	9.4	0.0	9.5	40.2	-
Petrale Sole (coastwide)	-	-	0.6	1,759.1	1,759.7	0.7	0.0	0.2	14.2	4.0	19.1	20.6	-
N of 40°10'	-	-	0.6	1,534.7	1,535.3	0.7	0.0	-	13.1	0.0	13.9	20.6	-
S of 40°10'	-	-	-	224.4	224.4	-	-	0.2	1.1	4.0	5.3	-	-
Arrowtooth Flounder	2.2	0.0	0.7	2,073.8	2,076.6	5.1	0.3	0.2	1.3	0.1	7.0	3.2	3.5
Starry Flounder	-	-	0.0	36.3	36.3	0.2	-	0.1	11.2	14.8	26.3	0.1	-
Other Flatfish	11.4	0.2	0.3	1,603.7	1,615.6	0.1	-	7.1	40.9	39.3	87.3	19.9	0.0
Kelp Greenling	-	-	-	0.0	0.0	6.2	0.2	54.9	0.3	150.4	212.0	-	-
Spiny Dogfish	35.9	1.2	11.4	436.9	485.3	403.7	0.0	4.4	18.3	13.9	440.3	1.2	262.2
Other Fish	-	-	-	182.9	182.9	60.5	6.8	100.5	18.1	129.8	315.8	-	-
SECTOR TOTALS	36,580	26,624	45,706	20,271	129,181	1,793	372	1,099	406	2,743	6,420	918	22,286

Table 1. Landings or Deliveries of PFMC-managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004

Stock or Complex	2003													
	Non-Treaty Sectors											Treaty Sectors		
	LE Trawl Sectors					Non-LE Trawl Sectors								
	At-Sea Catcher-Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	LE Trawl Total	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-LE Trawl Totals	Shoreside	At-Sea	Treaty Totals
Lingcod - coastwide	-	-	0.4	58.5	58.9	7.2	1.2	64.9	10.8	1,206.7	1,290.8	22.3	-	22.3
N. of 42° (OR & WA)	-	-	0.4	46.5	46.9	5.2	0.9	31.1	6.5	207.5	251.1	22.3	-	22.3
S. of 42° (CA)	-	-	0.0	12.0	12.1	2.0	0.3	33.8	4.3	999.2	1,039.7	-	-	-
Pacific Cod	0.2	-	0.0	1,023.7	1,024.0	2.3	0.0	0.5	7.0	11.8	21.6	213.8	0.5	214.4
Pacific Whiting (Coastwide)	41,214.4	26,021.5	51,190.2	22.7	118,448.8	0.7	-	-	43.1	0.1	43.9	4,078.9	19,376.1	23,454.9
Sablefish (Coastwide)	16.6	0.3	41.4	2,233.7	2,292.0	1,303.7	602.8	585.5	36.1	8.0	2,536.1	602.4	0.1	602.6
N. of 36° (Monterey north)	16.6	0.3	41.4	2,155.9	2,214.3	1,197.1	602.8	557.9	29.0	8.0	2,394.8	602.4	0.1	602.6
S. of 36° (Conception area)	-	-	-	77.7	77.7	106.6	-	27.7	7.0	-	141.3	-	-	-
PACIFIC OCEAN PERCH	5.0	0.1	0.3	126.6	132.0	0.3	0.0	0.0	0.0	-	0.4	0.1	1.1	1.2
Shortbelly Rockfish	0.5	0.0	0.0	0.2	0.8	-	-	0.3	-	-	0.3	-	-	-
WIDOW ROCKFISH	11.6	0.7	12.5	4.0	28.8	0.0	-	1.1	0.2	1.3	2.6	9.3	2.1	11.5
CANARY ROCKFISH	0.2	0.1	0.1	7.6	7.9	0.1	0.0	-	0.2	29.7	30.0	1.5	0.7	2.1
Chilipepper Rockfish	-	-	-	7.3	7.3	0.1	-	0.1	0.1	0.0	0.3	-	-	-
BOCACCIO	-	-	-	0.1	0.1	0.2	-	0.2	0.0	10.8	11.2	-	-	-
Splitnose Rockfish	-	-	-	150.4	150.4	0.4	-	0.1	0.0	0.1	0.7	-	-	-
Yellowtail Rockfish	1.7	0.6	43.9	90.7	137.0	0.5	0.0	1.3	4.7	23.0	29.5	273.2	34.0	307.1
Shortspine Thornyhead - coastwide	15.5	0.2	0.6	636.9	653.1	155.2	0.3	2.1	0.6	0.1	158.4	5.8	-	5.8
N. of 34°27'	15.5	0.2	0.6	434.1	450.3	6.7	0.3	0.0	0.2	0.1	7.2	5.8	-	5.8
S. of 34°27'	-	-	-	202.8	202.8	148.6	-	2.1	0.5	-	151.2	-	-	-
Longspine Thornyhead - coastwide	-	-	0.0	1,526.3	1,526.4	19.3	0.0	0.3	0.0	-	19.7	0.1	-	0.1
N. of 34°27'	-	-	0.0	1,526.3	1,526.4	8.8	0.0	0.1	0.0	-	9.0	0.1	-	0.1
S. of 34°27'	-	-	-	-	-	10.5	-	0.2	0.0	-	10.7	-	-	-
Other thornyheads	-	-	-	42.9	42.9	3.4	-	0.3	0.2	-	3.9	-	-	-
COWCOD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DARKBLOTCHED	4.2	0.1	0.3	78.9	83.5	0.2	0.0	0.3	0.0	-	0.5	0.0	0.0	0.0
YELLOWEYE	0.0	-	-	1.0	1.0	0.1	0.0	0.0	0.2	10.2	10.4	0.3	-	0.3
Black Rockfish - coastwide	-	-	-	0.8	0.8	16.7	0.1	156.2	0.9	1,176.9	1,350.8	-	-	-
Black Rockfish (WA)	-	-	-	-	-	-	-	-	-	175.9	175.9	-	-	-
Black Rockfish (OR-CA)	-	-	-	0.8	0.8	16.7	0.1	156.2	0.9	1,001.1	1,174.9	-	-	-
Minor Rockfish North	-	-	-	0.2	0.2	2.7	0.0	23.5	0.2	41.7	68.1	0.0	-	0.0
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BOCACCIO: N. of Monterrey	0.1	-	-	7.5	7.6	-	-	0.0	0.0	1.3	1.3	0.2	0.2	0.4
Chilipepper Rockfish: Eureka	0.1	1.1	9.5	0.6	11.3	-	-	-	-	0.0	0.0	-	-	-
Redstripe Rockfish	5.0	0.0	-	0.7	5.7	-	-	-	0.0	0.1	0.1	0.9	0.2	1.1
Silvergrey Rockfish	0.0	0.0	-	1.8	1.8	-	-	-	-	0.1	0.1	-	0.0	0.0
Other Northern Shelf Rockfish	3.0	0.0	0.4	8.2	11.6	4.5	0.0	3.5	0.4	5.3	13.7	1.1	-	1.1
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	0.0	0.0	-	-	-	-	-	-	-	-	-
Sharpchin Rockfish, north	2.4	0.1	-	3.4	5.9	-	-	-	-	-	-	1.1	-	1.1
Splitnose Rockfish: N. of Monterrey	11.6	0.3	0.0	5.2	17.1	0.0	-	0.0	-	-	0.0	-	-	-
Yellowmouth Rockfish	0.0	0.0	-	2.9	2.9	-	-	-	-	-	-	-	-	-
Other Northern Slope Rockfish	2.2	0.2	0.5	108.4	111.2	23.8	3.8	2.4	0.2	0.0	36.9	18.8	-	18.8
Minor Rockfish South	-	-	-	0.4	0.4	1.5	-	64.0	1.6	639.2	706.3	-	-	-
Nearshore Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellowtail Rockfish	-	-	-	0.4	0.4	-	-	0.4	0.6	18.9	20.0	-	-	-
Other Southern Shelf Rockfish	-	-	-	2.3	2.3	1.8	-	6.6	2.0	346.4	356.8	-	-	-
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	86.9	86.9	0.1	-	15.8	0.0	1.0	16.9	-	-	-
Blackgill Rockfish	-	-	-	54.5	54.5	71.6	-	62.6	0.7	-	134.9	-	-	-
Sharpchin Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Southern Slope Rockfish	-	-	-	45.6	45.6	6.4	-	4.4	0.4	1.1	12.3	-	-	-
California scorpionfish	-	-	-	-	-	-	-	2.2	2.2	89.4	93.8	-	-	-
Cabezon (off CA only)	-	-	-	-	-	0.1	-	37.8	1.9	96.1	135.9	-	-	-
Dover Sole	0.9	0.0	4.4	7,298.6	7,303.8	0.8	1.3	0.5	13.0	0.0	15.4	32.9	-	32.9
English Sole	0.0	0.0	0.7	789.3	790.1	-	-	0.0	18.9	0.0	18.9	67.7	-	67.7
Petrale Sole (coastwide)	-	-	2.0	1,901.1	1,903.1	0.5	-	0.1	52.3	0.2	53.1	84.2	-	84.2
N. of 40°10'	-	-	2.0	1,674.3	1,676.3	0.5	-	0.1	51.1	0.1	51.9	84.2	-	84.2
S. of 40°10'	-	-	-	226.8	226.8	-	-	-	1.2	0.1	1.3	-	-	-
Arrowtooth Flounder	2.8	0.0	1.4	2,284.5	2,288.8	3.6	0.1	0.1	14.5	0.1	18.4	22.6	1.4	24.0
Starry Flounder	-	-	0.0	32.6	32.6	0.0	-	0.1	14.1	16.0	30.1	0.0	-	0.0
Other Flatfish	6.6	0.2	0.5	1,518.4	1,525.7	0.3	0.0	2.2	38.8	53.3	94.6	11.0	0.0	11.0
Kelp Greenling	-	-	-	0.0	0.0	3.2	0.0	21.9	0.1	88.8	114.0	-	-	-
Spiny Dogfish	10.1	1.0	4.2	197.0	212.4	192.9	-	52.8	0.1	18.0	263.8	3.8	257.5	261.3
Other Fish	0.0	0.1	-	222.4	222.5	47.7	1.0	104.7	14.9	75.7	244.1	-	0.4	0.4
SECTOR TOTALS	41,315	26,027	51,313	20,585	139,240	1,872	611	1,219	281	3,971	7,961	5,452	19,674	25,126

Table 1. Landings or Deliveries of PFMC-managed Groundfish by West Coast Fishery Sectors (mt): 1995 to 2004

Stock or Complex	2004													
	Non-Treaty Sectors											Treaty Sectors		
	LE Trawl Sectors					Non-LE Trawl Sectors								
	At-Sea Catcher-Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	LE Trawl Total	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-LE Trawl Totals	Shoreside	At-Sea	Treaty Totals
Lingcod - coastwide	-	-	4.0	55.6	59.6	9.0	2.8	73.2	8.9	311.6	405.5	23.8	-	23.8
N. of 42° (OR & WA)	-	-	3.9	40.0	43.9	6.3	2.0	33.3	5.3	182.0	228.9	23.8	-	23.8
S. of 42° (CA)	-	-	0.1	15.7	15.7	2.7	0.7	39.9	3.6	129.7	176.6	-	-	-
Pacific Cod	0.0	-	1.0	1,088.6	1,089.7	4.7	0.0	0.4	0.2	12.6	18.0	307.7	0.0	307.7
Pacific Whiting (Coastwide)	73,174.7	24,102.0	89,641.0	14.6	186,932.4	0.3	-	-	0.1	1.0	1.4	6,848.3	23,459.2	30,307.5
Sablefish (Coastwide)	19.4	9.4	130.6	2,229.9	2,389.3	1,480.4	625.4	515.1	33.0	2.8	2,656.5	712.5	0.1	712.6
N. of 36° (Monterey north)	19.4	9.4	130.6	2,149.7	2,309.1	1,403.6	625.4	493.5	28.1	2.8	2,553.3	712.5	0.1	712.6
S. of 36° (Conception area)	-	-	-	80.2	80.2	76.8	-	21.6	4.8	0.0	103.2	-	-	-
PACIFIC OCEAN PERCH	0.9	0.1	1.0	112.8	114.8	0.0	0.0	0.0	-	-	0.1	3.9	0.0	3.9
Shortbelly Rockfish	0.0	0.0	0.0	0.1	0.1	-	-	0.0	-	-	0.0	-	-	-
WIDOW ROCKFISH	8.2	11.4	28.3	8.4	56.3	0.1	0.0	0.1	0.1	15.3	15.6	21.5	1.5	22.9
CANARY ROCKFISH	0.5	4.1	1.2	6.5	12.2	0.0	-	0.0	0.1	16.4	16.6	3.1	0.6	3.7
Chillipepper Rockfish	-	-	-	39.0	39.0	2.3	-	1.3	0.6	6.0	10.1	-	-	-
BOCACCO	-	-	-	6.1	6.1	2.1	-	3.8	0.1	62.5	68.5	-	-	-
Splitnose Rockfish	-	-	-	163.1	163.1	0.0	-	0.1	0.0	-	0.1	-	-	-
Yellowtail Rockfish	6.3	12.2	117.8	86.1	222.4	1.2	-	2.2	8.0	35.3	46.7	351.8	29.0	380.9
Shortspine Thornyhead - coastwide	5.3	0.0	0.5	537.0	542.8	133.3	0.4	0.5	0.3	0.0	134.5	6.4	-	6.4
N. of 34°27'	5.3	0.0	0.5	376.1	381.9	5.4	0.4	0.3	0.0	-	6.1	6.4	-	6.4
S. of 34°27'	-	-	-	160.9	160.9	127.9	-	0.2	0.3	0.0	128.4	-	-	-
Longspine Thornyhead - coastwide	0.0	-	0.0	758.4	758.4	8.5	-	0.1	0.3	-	8.8	0.0	-	0.0
N. of 34°27'	0.0	-	0.0	758.4	758.4	0.9	-	0.0	0.3	-	1.2	0.0	-	0.0
S. of 34°27'	-	-	-	-	-	7.6	-	0.0	0.0	-	7.6	-	-	-
Other thornyheads	-	-	-	0.8	0.8	24.2	-	0.9	0.0	-	25.1	-	-	-
COWCOD	-	-	-	-	-	-	-	-	-	0.5	0.5	-	-	-
DARKBLOTCHED	4.4	3.0	2.1	187.6	197.1	0.2	0.0	0.5	0.0	-	0.7	0.1	-	0.1
YELLOWWEYE	-	0.0	0.0	0.3	0.3	0.0	0.0	-	0.5	7.0	7.6	0.8	-	0.8
Black Rockfish - coastwide	-	-	-	2.5	2.5	12.3	0.0	165.7	1.5	684.7	864.3	-	-	-
Black Rockfish (WA)	-	-	-	-	-	-	-	-	-	214.8	214.8	-	-	-
Black Rockfish (OR-CA)	-	-	-	2.5	2.5	12.3	0.0	165.7	1.5	469.9	649.5	-	-	-
Minor Rockfish North	-	-	-	1.2	1.2	1.7	-	21.9	0.1	37.7	61.3	0.0	-	0.0
Nearshore Species	-	-	-	1.2	1.2	1.7	-	21.9	0.1	37.7	61.3	0.0	-	0.0
Shelf Species	-	-	-	1.2	1.2	1.7	-	21.9	0.1	37.7	61.3	0.0	-	0.0
BOCACCO: N. of Monterrey	0.1	0.1	0.0	3.9	4.1	-	-	-	-	0.4	0.4	0.2	0.1	0.2
Chillipepper Rockfish: Eureka	1.1	0.9	20.5	1.7	24.2	-	-	-	0.0	0.0	0.0	-	-	-
Redstripe Rockfish	2.0	0.4	-	0.2	2.5	-	-	-	0.0	0.0	0.0	0.0	0.1	0.1
Silvergrey Rockfish	0.0	0.1	-	0.5	0.6	0.1	-	0.0	-	0.0	0.1	0.0	0.0	0.0
Other Northern Shelf Rockfish	0.0	0.0	1.5	5.1	6.6	3.3	0.2	2.4	0.5	4.0	10.4	3.7	0.0	3.7
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	0.1	-	0.0	3.0	3.1	-	-	-	-	-	-	-	-	-
Sharpchin Rockfish, north	0.3	-	-	18.7	19.0	-	-	-	-	-	-	0.0	-	0.0
Splitnose Rockfish: N. of Monterrey	8.4	0.2	0.6	19.6	28.8	-	-	0.0	0.0	-	0.0	0.0	-	0.0
Yellowmouth Rockfish	0.0	-	-	9.7	9.7	-	0.0	-	-	-	0.0	0.0	-	0.0
Other Northern Slope Rockfish	14.3	0.0	3.3	108.5	126.1	32.7	3.3	3.3	0.1	0.0	43.8	23.3	-	23.3
Minor Rockfish South	-	-	-	0.1	0.1	1.8	-	82.3	1.1	352.3	437.5	-	-	-
Nearshore Species	-	-	-	0.1	0.1	1.8	-	82.3	1.1	352.3	437.5	-	-	-
Shelf Species	-	-	-	0.1	0.1	1.8	-	82.3	1.1	352.3	437.5	-	-	-
Redstripe Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellowtail Rockfish	-	-	-	0.2	0.2	0.0	-	1.1	0.2	12.6	13.9	-	-	-
Other Southern Shelf Rockfish	-	-	-	1.9	1.9	6.4	-	19.8	1.2	276.3	303.7	-	-	-
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	109.8	109.8	0.1	-	20.3	-	0.5	20.8	-	-	-
Blackgill Rockfish	-	-	-	100.4	100.4	42.7	-	27.3	0.3	0.0	70.4	-	-	-
Sharpchin Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Southern Slope Rockfish	-	-	-	19.4	19.4	5.6	1.0	3.5	0.2	-	10.3	-	-	-
California scorpionfish	-	-	-	-	-	0.0	-	1.6	1.9	43.9	47.4	-	-	-
Cabezon (off CA only)	-	-	-	-	-	0.4	-	47.3	1.8	39.8	89.2	-	-	-
Dover Sole	0.1	0.0	0.0	6,629.0	6,629.2	1.5	0.7	0.3	3.7	0.0	6.2	83.6	-	83.6
English Sole	0.0	0.0	0.7	865.9	866.6	-	-	0.2	5.9	-	6.1	81.1	-	81.1
Petrale Sole (coastwide)	-	-	0.3	1,860.4	1,860.6	1.1	0.0	0.1	5.2	0.5	6.8	84.1	-	84.1
N of 40°10'	-	-	0.3	1,596.2	1,596.4	1.1	0.0	0.1	3.8	0.1	5.1	84.1	-	84.1
S of 40°10'	-	-	-	264.2	264.2	-	-	-	1.4	0.3	1.7	-	-	-
Arrowtooth Flounder	1.1	0.0	0.6	2,236.8	2,238.5	1.0	0.3	0.1	0.8	0.0	2.3	81.9	1.9	83.8
Starry Flounder	-	-	0.0	79.5	79.5	-	-	0.1	21.3	5.5	26.9	2.3	-	2.3
Other Flatfish	1.7	0.2	0.4	1,192.3	1,194.6	0.4	-	3.8	41.0	45.7	91.0	17.3	0.0	17.3
Kelp Greenling	-	-	-	-	-	2.6	-	22.7	0.0	80.3	105.7	-	-	-
Spiny Dogfish	331.6	9.8	30.3	125.1	496.9	131.4	-	91.4	0.1	2.4	225.3	40.1	273.9	314.0
Other Fish	0.7	0.3	0.2	109.2	110.4	23.9	-	101.4	11.2	80.8	217.4	-	0.4	0.4
SECTOR TOTALS	73,581	24,154	89,986	18,800	206,521	1,935	634	1,215	150	2,138	6,078	8,698	23,767	32,464

Table 2a. Share (%) of Non-Treaty Landings
or Deliveries of PFMC-managed Groundfish
by West Coast Fishery Sectors: 1995 to 2004

1995										
Stock or Complex	Non-Treaty Sectors									
	Trawl Sectors				Non-Trawl Sectors					
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-Treaty Total (mt)
Lingcod - coastwide	-	-	0.0%	57.3%	2.3%	0.0%	14.9%	3.7%	21.9%	1,870.0
N. of 42° (OR & WA)	-	-	0.0%	73.0%	0.8%	0.0%	7.5%	5.5%	13.2%	1,064.6
S. of 42° (CA)	-	-	-	36.6%	4.1%	0.0%	24.7%	1.3%	33.4%	805.4
Pacific Cod	-	0.0%	0.0%	97.8%	0.2%	0.0%	0.2%	1.7%	0.1%	502.6
Pacific Whiting (Coastwide)	34.9%	22.4%	42.7%	0.0%	0.0%	-	0.0%	0.0%	0.0%	175,351.5
Sablefish (Coastwide)	0.1%	0.1%	0.6%	52.3%	26.9%	10.9%	8.3%	0.8%	0.0%	7,108.8
N. of 36° (Monterey north)	0.1%	0.1%	0.6%	51.7%	27.5%	11.5%	7.6%	0.9%	0.0%	6,778.8
S. of 36° (Conception area)	-	-	-	63.8%	13.3%	-	22.6%	0.2%	-	330.0
PACIFIC OCEAN PERCH	1.4%	3.7%	3.2%	90.5%	0.4%	0.0%	0.2%	0.5%	0.0%	934.0
Shortbelly Rockfish	12.0%	10.4%	0.0%	77.1%	0.1%	-	0.5%	-	-	40.3
WIDOW ROCKFISH	1.3%	1.9%	3.4%	91.7%	0.1%	0.0%	1.2%	0.3%	0.1%	6,869.0
CANARY ROCKFISH	0.0%	0.0%	0.1%	69.1%	6.0%	-	12.5%	1.3%	11.0%	995.0
Chilipepper Rockfish	-	-	-	77.9%	0.8%	-	20.2%	0.5%	0.6%	1,893.0
BOCACCIO	-	-	-	45.8%	0.6%	-	48.5%	0.5%	4.7%	713.3
Splitnose Rockfish	-	-	-	92.0%	0.5%	-	7.4%	0.1%	-	300.8
Yellowtail Rockfish	1.5%	12.8%	5.5%	74.2%	0.3%	-	1.1%	4.1%	0.5%	5,439.9
Shortspine Thornyhead - coastwide	0.3%	0.0%	0.0%	97.0%	1.7%	0.0%	0.8%	0.2%	-	1,920.5
N. of 34°27'	0.4%	0.0%	0.0%	97.3%	1.5%	0.0%	0.4%	0.2%	-	1,248.6
S. of 34°27'	-	-	-	96.4%	2.0%	-	1.6%	0.0%	-	671.9
Longspine Thornyhead - coastwide	0.0%	0.0%	0.1%	98.9%	0.5%	0.0%	0.5%	0.0%	-	5,436.2
N. of 34°27'	0.0%	0.0%	0.1%	98.9%	0.5%	0.0%	0.5%	0.0%	-	5,436.2
S. of 34°27'	-	-	-	-	-	-	-	-	-	0.0
Other thornyheads	-	-	-	4.6%	19.8%	-	75.4%	0.2%	-	102.0
COWCOD	-	-	-	0.2%	16.6%	-	71.2%	2.7%	9.4%	18.7
DARKBLOTCHED	6.3%	0.5%	0.1%	92.3%	0.3%	-	0.3%	0.3%	-	777.8
YELLOWWEYE	-	0.0%	0.0%	57.4%	11.2%	-	17.3%	0.1%	13.9%	236.2
Black Rockfish - coastwide	-	-	0.0%	0.9%	3.4%	-	22.5%	0.1%	73.1%	998.5
Black Rockfish (WA)	-	-	0.0%	1.5%	-	-	-	-	98.5%	216.2
Black Rockfish (OR-CA)	-	-	0.0%	0.8%	4.3%	-	28.7%	0.1%	66.1%	782.3
Minor Rockfish North										
Nearshore Species	-	0.1%	-	0.9%	13.9%	-	46.9%	0.2%	38.0%	90.9
Shelf Species										
BOCACCIO: N. of Monterey	0.2%	0.1%	0.0%	87.5%	2.1%	-	7.1%	2.3%	0.8%	208.2
Chilipepper Rockfish: Eureka	19.7%	-	0.1%	69.8%	7.6%	-	2.7%	0.1%	0.0%	143.9
Redstripe Rockfish	0.6%	1.2%	0.2%	97.8%	0.0%	-	0.0%	0.0%	0.2%	273.9
Silvergrey Rockfish	0.0%	0.0%	0.0%	97.5%	0.0%	-	2.3%	0.0%	0.1%	95.1
Other Northern Shelf Rockfish	0.0%	0.0%	0.3%	32.8%	37.9%	0.2%	15.9%	12.5%	0.4%	1,006.7
Slope Species										
Bank Rockfish	-	-	0.0%	95.8%	-	-	4.1%	0.1%	-	24.0
Sharpchin Rockfish, north	0.0%	0.0%	0.2%	99.1%	0.4%	-	0.3%	0.0%	-	235.2
Splitnose Rockfish: N. of Monterey	17.5%	0.1%	0.1%	81.1%	0.6%	-	0.4%	0.1%	-	140.3
Yellowmouth Rockfish	0.2%	0.0%	0.1%	95.6%	1.6%	-	2.5%	0.0%	-	110.7
Other Northern Slope Rockfish	1.0%	0.9%	0.0%	61.8%	34.0%	0.0%	0.3%	2.0%	0.0%	392.9
Minor Rockfish South										
Nearshore Species	-	-	-	1.4%	2.8%	0.0%	43.6%	0.6%	51.7%	656.5
Shelf Species										
Redstripe Rockfish	-	-	-	100.0%	-	-	-	-	-	0.2
Yellowtail Rockfish	-	-	-	19.3%	16.4%	-	48.9%	0.5%	15.0%	222.5
Other Southern Shelf Rockfish	-	-	-	14.4%	4.7%	0.0%	43.2%	2.1%	35.6%	993.0
Slope Species										
Bank Rockfish	-	-	-	80.8%	1.0%	-	18.0%	0.1%	0.0%	384.5
Blackgill Rockfish	-	-	-	38.3%	16.2%	0.0%	44.4%	0.2%	0.8%	333.6
Sharpchin Rockfish	-	-	-	87.4%	2.1%	-	10.5%	-	-	5.8
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	0.0
Other Southern Slope Rockfish	-	-	-	79.4%	5.4%	0.0%	14.2%	0.9%	0.1%	81.2
California scorpionfish	-	-	-	0.0%	2.4%	0.0%	10.3%	11.1%	76.2%	133.6
Cabezon (off CA only)	-	-	-	-	1.0%	-	54.7%	1.1%	43.2%	159.5
Dover Sole	0.0%	0.0%	0.0%	99.1%	0.0%	0.0%	0.0%	0.8%	-	10,501.8
English Sole	0.0%	0.0%	0.0%	98.7%	0.0%	-	0.2%	1.2%	-	1,127.7
Petrale Sole (coastwide)	0.0%	0.0%	0.0%	98.5%	0.1%	-	0.4%	0.9%	0.0%	1,644.5
N of 40°10'	0.0%	0.0%	0.0%	99.3%	0.0%	-	-	0.6%	0.0%	1,287.2
S of 40°10'	-	-	-	95.7%	0.3%	-	1.9%	1.9%	0.2%	357.4
Arrowtooth Flounder	0.0%	0.1%	0.0%	99.0%	0.1%	0.0%	0.0%	0.9%	-	2,321.0
Starry Flounder	-	-	-	80.9%	0.0%	-	0.3%	12.9%	5.9%	65.1
Other Flatfish	0.0%	0.0%	0.0%	97.0%	0.0%	-	0.2%	2.0%	0.7%	2,453.6
Kelp Greenling	-	-	-	3.6%	1.4%	-	7.8%	0.1%	87.1%	42.5
Spiny Dogfish	25.4%	7.1%	0.0%	62.6%	1.3%	0.0%	0.1%	0.0%	3.5%	572.7
Other Fish	-	0.0%	0.0%	69.3%	5.1%	0.0%	6.2%	1.3%	18.1%	1,234.3

Table 2a. Share (%) of Non-Treaty Landings
or Deliveries of PFMC-managed Groundfish
by West Coast Fishery Sectors: 1995 to 2004

1996										
Stock or Complex	Non-Treaty Sectors									
	Trawl Sectors				Non-Trawl Sectors					
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-Treaty Total (mt)
Lingcod - coastwide	-	-	0.0%	57.9%	2.6%	0.0%	11.6%	3.1%	24.7%	2,063.0
N. of 42° (OR & WA)	-	-	0.1%	74.0%	0.8%	0.0%	9.1%	3.9%	12.0%	1,222.7
S. of 42° (CA)	-	-	0.0%	34.5%	5.2%	-	15.2%	1.9%	43.2%	840.3
Pacific Cod	-	-	0.1%	97.4%	0.3%	0.0%	0.1%	1.9%	0.1%	445.2
Pacific Whiting (Coastwide)	33.9%	22.3%	43.8%	0.0%	0.0%	-	0.0%	0.0%	0.0%	194,110.6
Sablefish (Coastwide)	0.1%	0.0%	0.5%	54.8%	27.7%	7.2%	8.6%	1.1%	0.0%	7,476.7
N. of 36° (Monterey north)	0.1%	0.0%	0.6%	54.4%	27.8%	7.5%	8.4%	1.1%	0.0%	7,135.0
S. of 36° (Conception area)	-	-	-	62.6%	25.1%	-	12.2%	0.1%	-	341.8
PACIFIC OCEAN PERCH	0.4%	0.3%	4.0%	93.4%	1.1%	0.0%	0.1%	0.7%	-	887.6
Shortbelly Rockfish	14.6%	-	0.0%	84.0%	0.0%	-	0.1%	1.0%	0.2%	42.1
WIDOW ROCKFISH	1.9%	2.1%	9.7%	84.9%	0.1%	0.0%	0.7%	0.2%	0.4%	6,323.3
CANARY ROCKFISH	0.0%	0.1%	0.3%	73.7%	5.2%	0.0%	12.0%	2.0%	6.7%	1,299.2
Chilipepper Rockfish	-	-	-	80.7%	0.7%	-	16.1%	0.6%	1.9%	1,724.5
BOCACCIO	-	-	-	52.4%	1.3%	-	28.3%	0.4%	17.7%	525.8
Splitnose Rockfish	-	-	-	98.6%	0.2%	-	1.1%	0.0%	0.0%	406.6
Yellowtail Rockfish	4.1%	6.6%	9.2%	72.3%	0.6%	0.0%	1.2%	5.4%	0.6%	5,728.2
Shortspine Thornyhead - coastwide	0.1%	-	0.1%	93.9%	4.9%	0.0%	0.9%	0.1%	0.0%	1,594.2
N. of 34°27'	0.2%	-	0.1%	97.7%	1.7%	0.0%	0.2%	0.1%	0.0%	1,096.0
S. of 34°27'	-	-	-	85.7%	11.9%	-	2.4%	0.0%	-	498.2
Longspine Thornyhead - coastwide	-	-	0.1%	97.7%	2.0%	0.0%	0.2%	0.0%	-	4,809.5
N. of 34°27'	-	-	0.1%	98.1%	1.7%	0.0%	0.2%	0.0%	-	4,792.1
S. of 34°27'	-	-	-	-	98.2%	-	1.8%	-	-	17.3
Other thornyheads	-	-	-	39.8%	44.8%	0.0%	15.4%	0.1%	-	110.4
COWCOD	-	-	-	0.0%	8.6%	-	64.9%	0.2%	26.3%	21.5
DARKBLOTCHED	0.8%	0.1%	0.8%	97.6%	0.2%	-	0.1%	0.3%	0.0%	738.2
YELLOWEYE	0.2%	-	0.1%	49.2%	17.6%	-	17.6%	0.4%	14.9%	202.4
Black Rockfish - coastwide	-	-	0.0%	1.7%	2.2%	-	21.1%	0.1%	74.9%	1,037.8
Black Rockfish (WA)	-	-	-	-	-	-	-	-	100.0%	234.9
Black Rockfish (OR-CA)	-	-	0.0%	2.2%	2.8%	-	27.2%	0.1%	67.6%	803.0
Minor Rockfish North	-	-	0.0%	0.0%	12.3%	-	41.2%	0.1%	46.3%	102.8
Nearshore Species	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-
BOCACCIO: N. of Monterey	0.0%	0.1%	0.6%	80.2%	4.7%	-	12.5%	1.6%	0.2%	160.0
Chilipepper Rockfish: Eureka	0.0%	-	0.0%	87.5%	3.6%	-	8.4%	0.4%	-	117.2
Redstripe Rockfish	0.1%	0.2%	7.2%	92.1%	0.0%	-	0.3%	0.0%	0.1%	222.1
Silvergrey Rockfish	0.0%	0.0%	0.6%	98.3%	0.1%	-	0.1%	0.9%	0.0%	242.0
Other Northern Shelf Rockfish	0.0%	0.0%	0.6%	35.2%	31.9%	0.2%	11.5%	20.1%	0.4%	1,027.9
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	0.0%	96.9%	0.9%	-	2.1%	0.1%	-	25.0
Sharpchin Rockfish, north	-	0.0%	1.0%	98.8%	-	-	0.0%	0.2%	-	207.1
Splitnose Rockfish: N. of Monterey	5.9%	16.2%	0.2%	77.6%	-	-	-	0.1%	-	91.3
Yellowmouth Rockfish	0.0%	0.1%	0.5%	98.5%	0.7%	-	0.1%	0.1%	-	112.7
Other Northern Slope Rockfish	2.5%	0.1%	0.5%	68.0%	22.9%	-	3.0%	2.8%	0.2%	325.5
Minor Rockfish South	-	-	-	2.2%	4.3%	-	34.2%	0.6%	58.7%	834.6
Nearshore Species	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	-	-	-	-	-	100.0%	0.1
Yellowtail Rockfish	-	-	-	33.3%	3.9%	-	17.0%	0.9%	44.8%	214.3
Other Southern Shelf Rockfish	-	-	-	13.2%	7.6%	0.0%	36.4%	1.7%	41.0%	1,015.1
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	89.8%	0.2%	-	5.9%	0.1%	4.0%	551.6
Blackgill Rockfish	-	-	-	41.7%	31.0%	0.1%	27.1%	0.0%	-	362.1
Sharpchin Rockfish	-	-	-	99.3%	0.1%	-	0.6%	0.0%	-	20.2
Yellowmouth Rockfish	-	-	-	81.3%	-	-	18.8%	-	-	0.0
Other Southern Slope Rockfish	-	-	-	77.0%	2.9%	-	16.6%	3.1%	0.3%	68.5
California scorpionfish	-	-	-	-	1.9%	-	6.3%	5.0%	86.8%	191.9
Cabezon (off CA only)	-	-	-	-	0.3%	-	55.1%	1.8%	42.8%	198.2
Dover Sole	0.0%	-	0.1%	99.0%	0.0%	0.0%	0.0%	0.8%	-	12,181.5
English Sole	0.0%	0.0%	0.2%	97.1%	0.0%	-	0.1%	2.7%	0.0%	1,150.7
Petrale Sole (coastwide)	-	-	0.1%	98.4%	0.0%	0.0%	0.1%	1.4%	0.0%	1,823.5
N of 40°10'	-	-	0.1%	98.4%	0.0%	0.0%	0.0%	1.5%	0.0%	1,377.3
S of 40°10'	-	-	-	98.3%	0.0%	-	0.4%	1.0%	0.1%	446.3
Arrowtooth Flounder	0.0%	0.0%	0.1%	99.6%	0.0%	0.0%	0.0%	0.3%	-	2,192.5
Starry Flounder	-	-	0.1%	67.4%	0.1%	-	0.3%	26.6%	5.6%	55.1
Other Flatfish	0.0%	0.0%	0.4%	92.3%	0.0%	0.0%	0.3%	4.3%	2.7%	1,966.1
Kelp Greenling	-	-	-	0.1%	0.7%	-	6.5%	0.2%	92.5%	58.5
Spiny Dogfish	13.1%	11.3%	2.0%	53.1%	6.2%	-	8.2%	0.1%	6.1%	357.6
Other Fish	-	-	0.1%	43.1%	33.5%	0.0%	17.3%	1.3%	4.8%	1,725.3

Table 2a. Share (%) of Non-Treaty Landings
or Deliveries of PFMC-managed Groundfish
by West Coast Fishery Sectors: 1995 to 2004

1997										
Stock or Complex	Non-Treaty Sectors									
	Trawl Sectors				Non-Trawl Sectors					
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-Treaty Total (mt)
Lingcod - coastwide	-	-	0.0%	58.1%	3.3%	0.0%	14.0%	3.0%	21.6%	1,996.7
N. of 42° (OR & WA)	-	-	0.0%	69.5%	2.3%	0.0%	10.8%	3.9%	13.5%	1,222.7
S. of 42° (CA)	-	-	0.0%	40.3%	4.8%	0.0%	19.0%	1.6%	34.3%	774.0
Pacific Cod	-	0.0%	0.0%	99.0%	0.1%	-	0.2%	0.6%	0.1%	594.0
Pacific Whiting (Coastwide)	34.0%	24.1%	41.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	208,375.4
Sablefish (Coastwide)	0.0%	0.0%	0.6%	51.7%	33.9%	6.1%	7.1%	0.6%	0.0%	7,139.8
N. of 36° (Monterey north)	0.0%	0.0%	0.6%	51.4%	33.7%	6.3%	7.2%	0.7%	0.1%	6,877.7
S. of 36° (Conception area)	-	-	-	58.6%	39.2%	0.1%	2.0%	0.2%	-	262.1
PACIFIC OCEAN PERCH	0.3%	0.2%	3.1%	95.3%	0.2%	0.1%	0.2%	0.6%	-	698.5
Shortbelly Rockfish	0.6%	0.4%	0.0%	98.8%	-	-	-	0.1%	0.1%	79.2
WIDOW ROCKFISH	1.1%	1.9%	2.4%	92.8%	0.1%	-	0.9%	0.2%	0.6%	6,691.2
CANARY ROCKFISH	0.1%	0.1%	0.1%	63.1%	6.3%	0.0%	17.0%	1.8%	11.6%	1,259.7
Chilipepper Rockfish	-	-	-	76.0%	0.7%	-	19.5%	0.2%	3.6%	2,021.6
BOCACCIO	-	-	-	48.0%	2.6%	-	15.1%	0.2%	34.1%	458.9
Splitnose Rockfish	-	-	-	98.2%	0.2%	-	1.5%	0.1%	-	438.6
Yellowtail Rockfish	5.5%	8.3%	10.5%	60.2%	1.7%	-	4.6%	7.3%	1.9%	2,165.6
Shortspine Thornyhead - coastwide	0.0%	0.0%	0.0%	96.0%	3.6%	0.0%	0.2%	0.2%	-	1,453.6
N. of 34°27'	0.0%	0.0%	0.0%	97.4%	2.1%	0.0%	0.1%	0.3%	-	1,027.2
S. of 34°27'	-	-	-	92.4%	7.2%	-	0.4%	0.0%	-	426.3
Longspine Thornyhead - coastwide	-	-	0.0%	97.8%	1.8%	0.0%	0.3%	0.1%	-	3,926.7
N. of 34°27'	-	-	0.0%	98.2%	1.4%	0.0%	0.3%	0.1%	-	3,913.3
S. of 34°27'	-	-	-	-	100.0%	-	-	0.0%	-	13.3
Other thornyheads	-	-	-	31.9%	63.9%	-	3.3%	0.8%	-	117.6
COWCOD	-	-	-	-	16.9%	-	49.8%	2.0%	31.3%	7.9
DARKBLOTCHED	0.2%	0.2%	0.3%	98.5%	0.1%	-	0.0%	0.7%	-	823.4
YELLOWWEYE	0.0%	-	0.1%	37.9%	21.6%	-	23.8%	0.3%	16.3%	219.7
Black Rockfish - coastwide	-	-	0.0%	2.5%	4.6%	-	25.2%	0.7%	67.0%	939.4
Black Rockfish (WA)	-	-	-	0.5%	-	-	-	-	99.5%	181.3
Black Rockfish (OR-CA)	-	-	0.0%	3.0%	5.6%	-	31.3%	0.9%	59.2%	758.1
Minor Rockfish North	-	-	-	0.2%	7.8%	-	38.4%	0.0%	53.5%	157.7
Nearshore Species	-	-	-	0.2%	7.8%	-	38.4%	0.0%	53.5%	157.7
Shelf Species	-	-	-	0.2%	7.8%	-	38.4%	0.0%	53.5%	157.7
BOCACCIO: N. of Monterey	0.0%	0.1%	0.3%	93.8%	1.6%	-	3.6%	0.3%	0.3%	168.4
Chilipepper Rockfish: Eureka	-	0.0%	0.1%	75.4%	3.8%	-	19.7%	0.9%	0.1%	78.1
Redstripe Rockfish	0.0%	0.7%	0.1%	98.6%	0.0%	-	0.0%	0.3%	0.2%	140.7
Silvergrey Rockfish	0.1%	0.0%	1.2%	94.0%	1.5%	-	3.1%	0.1%	0.1%	90.0
Other Northern Shelf Rockfish	0.0%	0.0%	0.6%	49.5%	29.7%	0.2%	14.6%	4.6%	0.7%	838.4
Slope Species	-	-	-	0.2%	7.8%	-	38.4%	0.0%	53.5%	157.7
Bank Rockfish	-	-	1.3%	96.4%	-	-	1.6%	0.7%	-	13.8
Sharpchin Rockfish, north	0.0%	0.0%	0.0%	99.8%	0.0%	-	0.0%	0.2%	-	218.9
Splitnose Rockfish: N. of Monterey	10.1%	1.3%	0.1%	88.0%	0.0%	-	0.0%	0.5%	-	149.7
Yellowmouth Rockfish	0.1%	-	0.0%	99.3%	-	-	-	0.6%	-	84.0
Other Northern Slope Rockfish	4.4%	3.7%	0.2%	82.8%	5.8%	0.4%	0.7%	2.0%	0.0%	261.3
Minor Rockfish South	-	-	-	1.5%	6.2%	0.0%	29.5%	0.6%	62.3%	873.7
Nearshore Species	-	-	-	1.5%	6.2%	0.0%	29.5%	0.6%	62.3%	873.7
Shelf Species	-	-	-	1.5%	6.2%	0.0%	29.5%	0.6%	62.3%	873.7
Redstripe Rockfish	-	-	-	90.8%	-	-	-	-	9.2%	3.2
Yellowtail Rockfish	-	-	-	24.0%	5.4%	-	15.3%	0.1%	55.2%	727.2
Other Southern Shelf Rockfish	-	-	-	12.4%	12.9%	0.0%	35.2%	3.6%	35.9%	662.9
Slope Species	-	-	-	1.5%	6.2%	0.0%	29.5%	0.6%	62.3%	873.7
Bank Rockfish	-	-	-	89.6%	0.1%	-	7.3%	0.2%	2.8%	419.6
Blackgill Rockfish	-	-	-	48.2%	25.6%	0.7%	25.3%	0.3%	-	269.5
Sharpchin Rockfish	-	-	-	99.9%	-	-	0.1%	0.0%	-	100.0
Yellowmouth Rockfish	-	-	-	100.0%	-	-	-	-	-	0.6
Other Southern Slope Rockfish	-	-	-	82.4%	1.0%	-	15.3%	0.3%	1.0%	48.9
California scorpionfish	-	-	-	4.2%	0.5%	-	11.6%	7.9%	75.8%	136.9
Cabezon (off CA only)	-	-	-	-	4.8%	-	63.0%	1.0%	31.2%	192.1
Dover Sole	-	-	0.0%	99.2%	0.0%	0.0%	0.0%	0.7%	-	10,129.8
English Sole	-	0.0%	0.2%	95.4%	0.0%	-	0.0%	4.4%	-	1,502.7
Petrale Sole (coastwide)	-	-	0.1%	95.5%	0.1%	0.0%	0.0%	3.2%	0.0%	1,944.4
N of 40°10'	-	-	0.2%	95.9%	0.0%	0.0%	0.0%	3.9%	0.0%	1,461.5
S of 40°10'	-	-	-	98.3%	0.3%	-	0.1%	1.2%	0.0%	482.9
Arrowtooth Flounder	0.0%	0.0%	0.0%	99.8%	0.0%	0.0%	0.0%	0.2%	-	2,343.7
Starry Flounder	-	-	0.0%	69.6%	0.0%	-	0.3%	27.0%	3.1%	107.0
Other Flatfish	0.0%	0.0%	0.6%	90.4%	0.0%	-	0.3%	6.9%	1.7%	2,212.1
Kelp Greenling	-	-	-	-	4.1%	-	33.1%	0.2%	62.6%	57.9
Spiny Dogfish	21.8%	10.7%	0.5%	52.7%	0.4%	-	12.9%	0.1%	0.8%	637.8
Other Fish	0.0%	0.0%	0.0%	52.2%	26.9%	-	13.3%	1.7%	5.9%	1,102.9

Table 2a. Share (%) of Non-Treaty Landings
or Deliveries of PFMC-managed Groundfish
by West Coast Fishery Sectors: 1995 to 2004

1998										
Stock or Complex	Non-Treaty Sectors									
	Trawl Sectors				Non-Trawl Sectors					
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-Treaty Total (mt)
Lingcod - coastwide	-	-	0.1%	30.1%	3.5%	0.1%	12.7%	2.9%	50.5%	700.7
N. of 42° (OR & WA)	-	-	0.1%	46.2%	4.6%	0.1%	10.8%	4.4%	33.8%	297.8
S. of 42° (CA)	-	-	0.1%	18.3%	2.7%	0.1%	14.0%	1.8%	62.9%	402.9
Pacific Cod	-	-	0.6%	98.1%	0.2%	0.0%	0.1%	0.6%	0.4%	410.8
Pacific Whiting (Coastwide)	33.8%	23.9%	42.2%	0.0%	0.0%	-	0.0%	0.0%	0.0%	207,895.8
Sablefish (Coastwide)	0.7%	0.0%	0.8%	53.2%	30.1%	9.7%	4.5%	0.8%	0.1%	3,965.0
N. of 36° (Monterey north)	0.7%	0.0%	0.8%	53.3%	29.3%	10.3%	4.7%	0.8%	0.1%	3,754.6
S. of 36° (Conception area)	-	-	-	52.9%	45.3%	-	1.6%	0.3%	-	210.4
PACIFIC OCEAN PERCH	2.3%	1.3%	4.0%	92.2%	0.0%	0.0%	0.0%	0.2%	-	650.3
Shortbelly Rockfish	0.1%	-	6.8%	91.7%	0.0%	-	0.0%	1.2%	0.1%	20.4
WIDOW ROCKFISH	2.9%	4.1%	8.7%	78.9%	0.3%	-	3.7%	0.2%	1.2%	4,238.6
CANARY ROCKFISH	0.0%	0.2%	0.1%	70.3%	8.3%	0.0%	13.1%	1.5%	6.4%	1,264.3
Chilipepper Rockfish	-	-	-	77.5%	1.2%	-	19.9%	0.9%	0.5%	1,337.1
BOCACCIO	-	-	-	29.8%	4.0%	-	37.5%	1.1%	27.6%	186.4
Splitnose Rockfish	-	-	-	96.0%	0.0%	-	3.3%	0.7%	0.0%	1,358.9
Yellowtail Rockfish	2.2%	11.5%	17.3%	55.7%	1.5%	0.0%	4.2%	5.3%	2.2%	2,918.4
Shortspine Thornyhead - coastwide	0.2%	0.0%	0.1%	94.8%	4.7%	0.0%	0.1%	0.1%	-	1,231.2
N. of 34°27'	0.3%	0.0%	0.2%	97.4%	1.9%	0.0%	0.1%	0.1%	-	865.8
S. of 34°27'	-	-	-	88.7%	11.1%	0.0%	0.1%	0.1%	-	365.4
Longspine Thornyhead - coastwide	0.0%	-	0.0%	99.2%	0.7%	-	0.0%	0.1%	-	2,232.5
N. of 34°27'	0.0%	-	0.0%	99.7%	0.2%	-	0.0%	0.1%	-	2,221.4
S. of 34°27'	-	-	-	-	99.1%	-	0.5%	0.5%	-	11.0
Other thornyheads	-	-	-	34.2%	61.1%	-	3.5%	1.2%	-	48.6
COWCOD	-	-	-	-	13.6%	-	22.8%	4.4%	59.2%	4.8
DARKBLOTCHED	0.7%	1.4%	0.7%	94.3%	0.6%	0.0%	1.2%	1.1%	-	950.2
YELLOWWEYE	0.0%	-	0.3%	27.3%	14.8%	-	20.9%	0.1%	36.5%	106.8
Black Rockfish - coastwide	-	-	0.1%	8.2%	3.4%	0.0%	17.8%	0.1%	70.4%	985.0
Black Rockfish (WA)	-	-	0.3%	7.3%	-	-	-	-	92.5%	242.7
Black Rockfish (OR-CA)	-	-	0.0%	8.6%	4.5%	0.0%	23.7%	0.1%	63.1%	742.4
Minor Rockfish North	-	-	-	-	-	-	-	-	-	-
Nearshore Species	-	-	-	2.8%	12.1%	-	32.2%	0.1%	52.8%	158.1
Shelf Species	-	-	-	-	-	-	-	-	-	-
BOCACCIO: N. of Monterey	0.0%	0.9%	0.4%	89.1%	0.8%	-	7.6%	0.7%	0.4%	102.1
Chilipepper Rockfish: Eureka	0.0%	0.0%	0.7%	95.7%	0.2%	-	0.6%	2.8%	-	74.0
Redstripe Rockfish	0.0%	0.0%	0.5%	99.1%	0.0%	-	0.0%	0.2%	0.2%	110.5
Silvergrey Rockfish	0.1%	0.0%	2.4%	96.9%	0.0%	-	0.5%	-	0.1%	187.1
Other Northern Shelf Rockfish	0.2%	0.0%	2.1%	56.5%	25.7%	0.3%	9.9%	4.5%	0.8%	970.4
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	0.4%	75.3%	13.4%	-	9.7%	1.2%	-	3.5
Sharpchin Rockfish, north	-	0.1%	0.6%	98.6%	0.0%	-	0.0%	0.7%	-	103.0
Splitnose Rockfish: N. of Monterey	2.6%	0.5%	10.2%	84.9%	0.0%	-	0.1%	1.7%	-	167.7
Yellowmouth Rockfish	0.0%	6.8%	0.1%	92.9%	-	0.0%	0.0%	0.1%	-	42.3
Other Northern Slope Rockfish	6.1%	1.3%	0.6%	61.1%	28.9%	0.0%	0.6%	1.3%	0.0%	263.2
Minor Rockfish South	-	-	-	-	-	-	-	-	-	-
Nearshore Species	-	-	-	0.1%	4.5%	0.4%	30.2%	0.4%	64.4%	755.4
Shelf Species	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	87.9%	0.5%	-	4.5%	-	7.1%	0.7
Yellowtail Rockfish	-	-	-	28.8%	5.8%	0.0%	39.1%	0.2%	26.1%	427.5
Other Southern Shelf Rockfish	-	-	-	19.4%	10.2%	0.0%	34.0%	3.4%	33.0%	614.8
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	73.6%	1.6%	-	24.3%	0.1%	0.4%	566.1
Blackgill Rockfish	-	-	-	50.2%	39.8%	0.0%	9.9%	0.1%	-	227.7
Sharpchin Rockfish	-	-	-	99.0%	0.2%	-	0.9%	0.0%	-	10.3
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	0.0
Other Southern Slope Rockfish	-	-	-	73.0%	5.8%	0.3%	18.2%	1.3%	1.5%	38.4
California scorpionfish	-	-	-	-	0.7%	-	26.1%	6.1%	67.1%	123.5
Cabezon (off CA only)	-	-	-	-	0.9%	1.3%	67.5%	1.1%	29.3%	250.0
Dover Sole	0.0%	0.0%	0.1%	99.2%	0.0%	0.0%	0.0%	0.7%	-	8,005.1
English Sole	-	0.0%	0.3%	97.4%	0.0%	-	0.0%	2.3%	-	1,138.2
Petrale Sole (coastwide)	-	-	0.2%	98.0%	0.0%	-	0.0%	1.7%	0.0%	1,455.6
N of 40°10'	-	-	0.3%	98.2%	0.0%	-	-	1.5%	0.0%	1,186.8
S of 40°10'	-	-	-	96.9%	0.1%	-	0.1%	2.8%	-	268.8
Arrowtooth Flounder	0.0%	0.0%	0.3%	99.5%	0.0%	0.0%	0.0%	0.2%	-	3,169.2
Starry Flounder	-	-	0.4%	67.5%	0.0%	-	0.1%	24.3%	7.6%	104.4
Other Flatfish	0.0%	0.0%	0.5%	94.2%	0.1%	-	0.2%	4.1%	0.9%	1,599.5
Kelp Greenling	-	-	-	0.1%	3.6%	1.1%	43.7%	0.0%	51.5%	36.1
Spiny Dogfish	8.5%	23.7%	8.4%	58.6%	0.1%	-	0.3%	0.0%	0.4%	683.7
Other Fish	0.1%	0.0%	0.0%	65.6%	16.7%	0.1%	7.7%	2.8%	7.0%	946.0

Table 2a. Share (%) of Non-Treaty Landings
or Deliveries of PFMC-managed Groundfish
by West Coast Fishery Sectors: 1995 to 2004

1999										
Stock or Complex	Non-Treaty Sectors									
	Trawl Sectors					Non-Trawl Sectors				
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-Treaty Total (mt)
Lingcod - coastwide	-	-	0.1%	24.7%	3.9%	0.0%	9.0%	5.6%	56.6%	816.7
N. of 42° (OR & WA)	-	-	0.2%	36.3%	6.7%	0.1%	9.7%	11.2%	35.9%	331.9
S. of 42° (CA)	-	-	0.0%	16.8%	2.1%	0.0%	8.6%	1.8%	70.7%	484.8
Pacific Cod	0.0%	-	0.1%	98.6%	0.4%	-	0.1%	0.6%	0.1%	279.7
Pacific Whiting (Coastwide)	34.1%	23.9%	42.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	198,468.2
Sablefish (Coastwide)	0.0%	0.0%	0.1%	52.4%	29.3%	11.9%	5.2%	1.0%	0.0%	5,931.4
N. of 36° (Monterey north)	0.0%	0.0%	0.1%	52.6%	28.7%	12.3%	5.2%	1.0%	0.0%	5,749.7
S. of 36° (Conception area)	-	-	-	45.7%	47.5%	-	6.7%	0.1%	-	181.7
PACIFIC OCEAN PERCH	1.7%	0.8%	1.4%	94.2%	0.2%	0.0%	0.1%	1.7%	-	544.9
Shortbelly Rockfish	-	-	67.9%	27.3%	-	-	-	4.8%	-	8.1
WIDOW ROCKFISH	2.5%	1.4%	4.7%	88.9%	0.4%	-	1.0%	0.3%	0.8%	4,103.3
CANARY ROCKFISH	0.1%	0.0%	0.2%	64.3%	8.2%	-	9.1%	5.1%	12.9%	763.5
Chilipepper Rockfish	-	-	-	84.6%	1.4%	-	10.6%	0.8%	2.7%	924.1
BOCACCIO	-	-	-	17.0%	2.4%	-	12.3%	0.7%	67.7%	183.4
Splitnose Rockfish	-	-	-	99.5%	0.3%	-	0.1%	0.1%	0.0%	206.2
Yellowtail Rockfish	14.5%	9.1%	16.3%	54.4%	1.2%	-	1.3%	2.3%	0.9%	2,932.9
Shortspine Thornyhead - coastwide	0.0%	-	0.1%	86.6%	12.2%	0.0%	0.9%	0.2%	0.1%	815.5
N. of 34°27'	0.0%	-	0.1%	96.6%	3.0%	0.0%	0.0%	0.2%	0.1%	538.5
S. of 34°27'	-	-	-	67.2%	29.9%	0.0%	2.7%	0.2%	0.0%	277.0
Longspine Thornyhead - coastwide	-	-	0.0%	98.3%	1.5%	-	0.1%	0.1%	-	1,780.9
N. of 34°27'	-	-	0.0%	99.1%	0.7%	-	0.1%	0.1%	-	1,765.9
S. of 34°27'	-	-	-	-	95.0%	-	5.0%	0.0%	-	15.0
Other thornyheads	-	-	-	87.2%	10.0%	-	2.3%	0.6%	-	41.4
COWCOD	-	-	-	-	4.0%	-	23.0%	0.6%	72.5%	7.7
DARKBLOTCHED	1.9%	1.2%	0.2%	94.3%	0.2%	-	0.1%	2.2%	-	361.8
YELLOWEYE	0.0%	-	0.1%	18.8%	35.4%	-	11.4%	0.5%	33.7%	143.2
Black Rockfish - coastwide	0.0%	-	0.0%	0.6%	2.3%	-	19.5%	0.3%	77.3%	784.4
Black Rockfish (WA)	-	-	-	-	-	-	-	-	100.0%	154.2
Black Rockfish (OR-CA)	0.0%	-	0.0%	0.7%	2.8%	-	24.3%	0.4%	71.7%	630.2
Minor Rockfish North	-	-	-	0.1%	12.4%	-	35.8%	0.0%	51.7%	125.7
Nearshore Species	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-
BOCACCIO: N. of Monterey	0.5%	0.3%	0.3%	80.9%	5.4%	-	10.0%	1.2%	1.6%	53.3
Chilipepper Rockfish: Eureka	-	2.4%	0.1%	90.2%	-	-	0.0%	7.2%	0.0%	48.5
Redstripe Rockfish	1.6%	4.5%	0.2%	92.9%	-	-	-	0.6%	0.2%	35.4
Silvergrey Rockfish	0.2%	0.4%	0.2%	98.1%	0.7%	-	0.2%	0.0%	0.2%	75.0
Other Northern Shelf Rockfish	0.0%	0.0%	0.9%	38.4%	45.2%	0.5%	5.6%	7.5%	1.8%	531.8
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	98.9%	-	-	-	1.1%	-	13.3
Sharpchin Rockfish, north	0.1%	0.0%	0.1%	99.1%	0.0%	-	0.0%	0.8%	-	53.4
Splitnose Rockfish: N. of Monterey	9.7%	-	4.3%	84.3%	0.0%	-	0.0%	1.6%	-	65.6
Yellowmouth Rockfish	0.6%	0.0%	-	99.4%	-	-	-	0.0%	-	28.4
Other Northern Slope Rockfish	2.5%	3.9%	0.7%	85.3%	3.5%	-	0.8%	3.3%	0.0%	187.5
Minor Rockfish South	-	-	-	1.8%	2.1%	0.6%	25.6%	0.3%	69.6%	716.7
Nearshore Species	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	60.0%	-	-	-	-	40.0%	0.4
Yellowtail Rockfish	-	-	-	5.7%	2.5%	-	9.4%	0.2%	82.2%	249.9
Other Southern Shelf Rockfish	-	-	-	3.7%	4.5%	0.0%	9.4%	1.7%	80.7%	572.3
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	59.5%	0.0%	-	23.6%	1.3%	15.6%	31.5
Blackgill Rockfish	-	-	-	52.6%	30.2%	0.5%	16.0%	0.2%	0.6%	52.5
Sharpchin Rockfish	-	-	-	100.0%	-	-	-	-	-	0.5
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	0.0
Other Southern Slope Rockfish	-	-	-	88.3%	1.6%	0.0%	8.3%	0.6%	1.2%	31.6
California scorpionfish	-	-	-	-	0.0%	-	17.0%	4.4%	78.6%	177.7
Cabezon (off CA only)	-	-	-	-	0.5%	1.7%	70.8%	1.2%	25.8%	168.4
Dover Sole	0.0%	-	0.0%	98.7%	0.0%	0.0%	0.0%	1.3%	-	9,124.9
English Sole	0.0%	0.0%	0.0%	96.2%	0.0%	-	0.0%	3.7%	-	908.9
Petrale Sole (coastwide)	-	-	0.0%	97.5%	0.0%	-	0.0%	2.4%	0.0%	1,485.7
N of 40°10'	-	-	0.0%	97.3%	0.0%	-	-	2.7%	0.0%	1,217.1
S of 40°10'	-	-	-	98.6%	0.0%	-	0.0%	1.3%	0.0%	268.6
Arrowtooth Flounder	0.0%	0.0%	0.1%	99.6%	0.0%	0.0%	0.0%	0.3%	-	5,281.5
Starry Flounder	-	-	0.0%	49.3%	0.0%	-	0.4%	42.0%	8.3%	59.8
Other Flatfish	0.0%	0.0%	0.1%	95.0%	0.0%	0.0%	0.2%	3.5%	1.1%	1,966.9
Kelp Greenling	-	-	-	-	6.1%	0.9%	55.4%	0.1%	37.5%	62.6
Spiny Dogfish	15.3%	19.0%	5.0%	53.2%	4.8%	0.0%	1.1%	0.0%	1.4%	792.3
Other Fish	0.0%	0.0%	0.0%	50.2%	16.0%	-	16.2%	5.4%	12.1%	633.1

Table 2a. Share (%) of Non-Treaty Landings
or Deliveries of PFMC-managed Groundfish
by West Coast Fishery Sectors: 1995 to 2004

2000										
Stock or Complex	Non-Treaty Sectors									
	Trawl Sectors					Non-Trawl Sectors				
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-Treaty Total (mt)
Lingcod - coastwide	-	-	0.2%	14.3%	3.7%	0.1%	8.9%	6.6%	66.3%	420.0
N. of 42° (OR & WA)	-	-	0.5%	19.1%	6.1%	0.1%	10.0%	14.9%	49.2%	171.6
S. of 42° (CA)	-	-	0.0%	10.9%	2.0%	0.0%	8.1%	0.8%	78.1%	248.4
Pacific Cod	0.1%	-	0.0%	98.8%	0.4%	-	0.0%	0.7%	-	278.2
Pacific Whiting (Coastwide)	33.9%	23.3%	42.8%	0.0%	0.0%	-	0.0%	0.0%	-	200,304.4
Sablefish (Coastwide)	0.8%	0.0%	0.0%	46.9%	30.5%	12.5%	7.9%	1.3%	0.0%	5,597.8
N. of 36° (Monterey north)	0.8%	0.0%	0.0%	47.3%	29.9%	12.8%	7.8%	1.3%	0.0%	5,475.8
S. of 36° (Conception area)	-	-	-	29.7%	56.8%	-	13.2%	0.4%	-	122.0
PACIFIC OCEAN PERCH	4.4%	1.9%	0.2%	92.9%	0.2%	-	0.0%	0.3%	0.0%	149.6
Shortbelly Rockfish	4.2%	0.0%	11.5%	84.3%	-	-	-	-	-	20.3
WIDOW ROCKFISH	1.7%	3.9%	2.1%	91.4%	0.1%	-	0.4%	0.1%	0.4%	4,037.7
CANARY ROCKFISH	0.6%	0.4%	0.7%	20.4%	4.9%	-	3.5%	8.9%	60.6%	155.6
Chilipepper Rockfish	-	-	-	78.5%	1.9%	-	10.5%	0.5%	8.6%	453.6
BOCACCIO	-	-	-	12.5%	1.7%	-	3.6%	0.6%	81.6%	137.1
Splitnose Rockfish	-	-	-	93.8%	5.9%	-	0.3%	0.0%	-	88.4
Yellowtail Rockfish	7.9%	7.9%	5.6%	74.8%	0.1%	-	0.1%	2.9%	0.7%	3,409.0
Shortspine Thornyhead - coastwide	2.3%	0.0%	0.2%	90.3%	6.2%	0.0%	0.9%	0.0%	-	834.2
N. of 34°27'	3.8%	0.0%	0.4%	93.3%	2.4%	0.0%	0.1%	0.0%	-	508.3
S. of 34°27'	-	-	-	85.6%	12.1%	-	2.2%	0.1%	-	325.9
Longspine Thornyhead - coastwide	0.0%	-	0.0%	95.9%	3.5%	-	0.5%	0.1%	-	1,466.6
N. of 34°27'	0.0%	-	0.0%	97.7%	2.2%	-	0.0%	0.1%	-	1,439.8
S. of 34°27'	-	-	-	74.6%	-	-	25.4%	-	-	26.8
Other thornyheads	-	-	-	79.9%	14.5%	-	5.5%	0.0%	-	67.5
COWCOD	-	-	-	-	0.6%	-	3.8%	1.0%	94.6%	6.6
DARKBLOTCHED	1.5%	1.8%	1.5%	90.7%	3.7%	-	0.2%	0.6%	-	260.3
YELLOWWEYE	10.3%	-	0.0%	3.0%	10.8%	-	5.3%	0.6%	70.0%	39.7
Black Rockfish - coastwide	0.2%	-	0.0%	0.2%	2.7%	-	17.0%	0.5%	79.4%	750.4
Black Rockfish (WA)	-	-	-	-	-	-	-	-	100.0%	143.3
Black Rockfish (OR-CA)	0.2%	-	0.0%	0.3%	3.3%	-	21.1%	0.6%	74.5%	607.1
Minor Rockfish North										
Nearshore Species	-	-	-	0.3%	11.7%	0.7%	28.2%	0.8%	58.3%	97.7
Shelf Species										
BOCACCIO: N. of Monterey	5.7%	22.4%	7.0%	51.1%	0.2%	-	0.3%	0.4%	13.0%	7.8
Chilipepper Rockfish: Eureka	-	17.1%	54.2%	27.3%	0.3%	-	0.0%	1.1%	0.0%	51.4
Redstripe Rockfish	8.9%	20.1%	0.1%	70.4%	-	-	-	-	0.5%	6.7
Silvergrey Rockfish	1.2%	6.6%	0.2%	86.0%	-	-	-	0.2%	5.8%	1.5
Other Northern Shelf Rockfish	0.0%	0.1%	3.1%	38.6%	34.1%	0.4%	9.6%	7.0%	7.3%	71.2
Slope Species										
Bank Rockfish	0.4%	-	2.8%	91.2%	3.2%	-	0.2%	2.1%	-	3.2
Sharpchin Rockfish, north	0.3%	0.0%	0.3%	98.0%	1.2%	-	0.1%	0.1%	-	12.4
Splitnose Rockfish: N. of Monterey	21.7%	3.9%	16.4%	55.5%	1.5%	-	0.1%	0.9%	-	60.2
Yellowmouth Rockfish	0.9%	0.0%	-	99.1%	-	-	-	-	-	11.4
Other Northern Slope Rockfish	18.4%	0.4%	1.3%	63.2%	12.2%	1.4%	0.7%	2.4%	0.0%	353.3
Minor Rockfish South										
Nearshore Species	-	-	-	0.1%	3.3%	0.1%	23.0%	0.5%	73.0%	580.1
Shelf Species										
Redstripe Rockfish	-	-	-	-	11.1%	-	45.1%	-	43.8%	0.4
Yellowtail Rockfish	-	-	-	13.3%	1.1%	-	2.8%	0.5%	82.4%	162.7
Other Southern Shelf Rockfish	-	-	-	2.2%	2.8%	-	6.0%	1.5%	87.5%	363.5
Slope Species										
Bank Rockfish	-	-	-	87.0%	7.1%	-	2.9%	0.0%	3.0%	90.4
Blackgill Rockfish	-	-	-	61.3%	34.1%	0.0%	4.2%	0.3%	-	85.4
Sharpchin Rockfish	-	-	-	92.7%	7.3%	-	-	-	-	0.4
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	0.0
Other Southern Slope Rockfish	-	-	-	61.9%	29.8%	-	7.3%	1.0%	-	21.8
California scorpionfish	-	-	-	-	0.0%	-	10.7%	5.6%	83.6%	107.0
Cabezon (off CA only)	-	-	-	-	1.7%	0.3%	69.2%	2.7%	26.1%	157.7
Dover Sole	0.0%	0.0%	0.1%	99.2%	0.0%	0.0%	0.0%	0.7%	-	8,738.4
English Sole	0.0%	0.0%	0.2%	96.3%	0.0%	-	0.0%	3.4%	-	764.2
Petrale Sole (coastwide)	-	-	0.1%	97.2%	0.0%	-	0.0%	2.7%	0.0%	1,873.7
N of 40°10'	-	-	0.1%	96.9%	0.0%	-	-	2.9%	0.0%	1,603.7
S of 40°10'	-	-	-	98.6%	0.0%	-	0.0%	1.2%	0.1%	270.0
Arrowtooth Flounder	0.1%	0.1%	0.1%	99.0%	0.0%	0.0%	0.0%	0.6%	-	3,283.0
Starry Flounder	-	-	0.0%	64.8%	0.0%	-	0.5%	23.1%	11.7%	52.8
Other Flatfish	0.3%	0.1%	0.1%	92.3%	0.0%	-	0.5%	2.8%	4.0%	1,632.0
Kelp Greenling	-	-	-	-	5.5%	0.2%	48.7%	0.4%	45.2%	78.1
Spiny Dogfish	3.6%	7.5%	4.9%	37.6%	44.1%	-	0.7%	0.3%	1.4%	712.4
Other Fish	0.2%	0.0%	0.1%	50.0%	7.5%	0.0%	25.7%	4.6%	11.9%	464.1

Table 2a. Share (%) of Non-Treaty Landings
or Deliveries of PFMC-managed Groundfish
by West Coast Fishery Sectors: 1995 to 2004

2001										
Stock or Complex	Non-Treaty Sectors									
	Trawl Sectors					Non-Trawl Sectors				
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-Treaty Total (mt)
Lingcod - coastwide	-	-	0.2%	13.9%	4.0%	0.3%	14.2%	4.2%	63.3%	408.5
N. of 42° (OR & WA)	-	-	0.4%	16.5%	6.8%	0.7%	15.4%	7.9%	52.4%	183.7
S. of 42° (CA)	-	-	-	11.8%	1.6%	0.0%	13.2%	1.1%	72.2%	224.8
Pacific Cod	0.0%	-	0.0%	99.0%	0.4%	-	0.1%	0.5%	0.0%	320.2
Pacific Whiting (Coastwide)	35.0%	21.2%	43.7%	0.0%	0.0%	-	-	0.0%	0.0%	167,662.1
Sablefish (Coastwide)	0.4%	0.0%	1.1%	50.1%	27.0%	11.1%	9.4%	0.9%	0.1%	4,980.0
N. of 36° (Monterey north)	0.4%	0.0%	1.1%	51.0%	25.7%	11.4%	9.4%	0.9%	0.1%	4,838.3
S. of 36° (Conception area)	-	-	-	20.0%	69.7%	-	9.3%	0.9%	0.1%	141.7
PACIFIC OCEAN PERCH	9.5%	0.0%	0.0%	90.4%	0.0%	0.0%	0.0%	0.0%	-	207.3
Shortbelly Rockfish	0.1%	83.6%	1.9%	13.5%	-	-	0.9%	-	0.1%	32.5
WIDOW ROCKFISH	7.1%	1.4%	2.2%	87.8%	0.1%	0.0%	0.7%	0.1%	0.7%	1,970.5
CANARY ROCKFISH	0.7%	1.3%	1.6%	26.2%	7.9%	0.0%	5.6%	4.2%	52.5%	88.0
Chilipepper Rockfish	-	-	-	78.3%	0.8%	-	7.1%	0.2%	13.7%	379.9
BOCACCIO	-	-	-	10.2%	1.8%	-	4.6%	0.4%	83.0%	131.3
Splitnose Rockfish	-	-	0.0%	97.7%	1.0%	-	1.2%	0.2%	-	92.5
Yellowtail Rockfish	1.9%	5.0%	5.7%	82.3%	0.2%	-	0.1%	3.8%	1.1%	1,790.5
Shortspine Thornyhead - coastwide	2.8%	0.0%	0.1%	87.2%	9.4%	0.0%	0.3%	0.1%	-	538.4
N. of 34°27'	4.1%	0.0%	0.2%	93.3%	2.3%	0.1%	0.0%	0.1%	-	372.6
S. of 34°27'	-	-	0.0%	73.4%	25.5%	-	0.9%	0.2%	-	165.8
Longspine Thornyhead - coastwide	-	-	0.2%	96.0%	3.1%	0.0%	0.6%	0.1%	-	1,172.0
N. of 34°27'	-	-	0.2%	98.6%	1.1%	0.0%	0.0%	0.1%	-	1,141.3
S. of 34°27'	-	-	-	-	79.0%	-	20.8%	0.3%	-	30.7
Other thornyheads	-	-	-	44.9%	47.5%	-	7.1%	0.5%	-	48.0
COWCOD	-	-	-	-	-	-	-	-	-	0.0
DARKBLOTCHED	6.7%	0.3%	2.9%	88.4%	1.3%	0.0%	0.2%	0.2%	-	172.7
YELLOWEYE	-	-	-	5.5%	18.3%	-	8.2%	0.0%	67.9%	35.5
Black Rockfish - coastwide	-	0.0%	-	0.1%	4.6%	0.0%	20.0%	0.3%	75.0%	988.8
Black Rockfish (WA)	-	-	-	-	-	-	-	-	100.0%	175.7
Black Rockfish (OR-CA)	-	0.0%	-	0.1%	5.6%	0.0%	24.3%	0.3%	69.6%	813.1
Minor Rockfish North	-	-	-	0.5%	17.7%	0.1%	33.9%	0.4%	47.6%	110.3
Nearshore Species	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-
BOCACCIO: N. of Monterey	1.4%	0.6%	4.7%	82.3%	-	-	0.0%	0.0%	10.9%	14.7
Chilipepper Rockfish: Eureka	0.2%	2.4%	0.6%	96.7%	0.1%	-	-	0.1%	0.0%	141.1
Redstripe Rockfish	0.4%	64.0%	-	34.8%	-	-	-	-	0.8%	17.6
Silvergrey Rockfish	2.2%	0.4%	-	94.3%	2.0%	-	0.1%	-	1.1%	4.6
Other Northern Shelf Rockfish	0.3%	0.0%	1.5%	46.6%	32.2%	0.0%	7.8%	5.0%	6.6%	62.1
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	36.7%	0.7%	-	62.6%	-	-	-	-	-	0.7
Sharpchin Rockfish, north	26.2%	0.1%	0.0%	73.7%	-	-	-	0.0%	-	6.4
Splitnose Rockfish: N. of Monterey	56.3%	3.7%	4.6%	35.0%	-	-	-	0.4%	-	42.3
Yellowmouth Rockfish	-	-	-	100.0%	-	-	-	0.0%	-	4.5
Other Northern Slope Rockfish	12.2%	0.3%	0.4%	68.7%	13.3%	1.6%	2.3%	1.3%	0.0%	164.4
Minor Rockfish South	-	-	-	0.0%	2.6%	-	20.7%	0.4%	76.3%	634.9
Nearshore Species	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	-	33.3%	-	66.7%	-	-	0.0
Yellowtail Rockfish	-	-	-	2.2%	1.8%	-	2.0%	0.3%	93.7%	59.8
Other Southern Shelf Rockfish	-	-	-	8.3%	3.1%	-	5.9%	1.8%	80.9%	260.7
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	83.9%	4.7%	-	10.6%	0.3%	0.4%	97.6
Blackgill Rockfish	-	-	0.0%	69.5%	20.9%	-	9.3%	0.3%	-	129.4
Sharpchin Rockfish	-	-	-	100.0%	-	-	-	-	-	0.0
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	0.0
Other Southern Slope Rockfish	-	-	0.0%	63.8%	27.6%	-	5.7%	2.4%	0.5%	31.1
California scorpionfish	-	-	-	0.0%	0.0%	-	10.8%	3.7%	85.4%	132.8
Cabezon (off CA only)	-	-	-	-	0.9%	-	51.0%	4.2%	44.0%	129.7
Dover Sole	0.0%	0.0%	0.1%	99.4%	0.0%	0.0%	0.0%	0.5%	-	6,861.4
English Sole	0.0%	0.0%	0.1%	97.4%	0.0%	-	0.0%	2.4%	-	985.1
Petrale Sole (coastwide)	-	-	0.1%	97.8%	0.0%	0.0%	0.1%	2.0%	0.0%	1,815.1
N of 40°10'	-	-	0.1%	97.7%	0.0%	0.0%	0.0%	2.1%	0.0%	1,530.6
S of 40°10'	-	-	-	98.4%	-	-	0.4%	1.2%	0.0%	284.5
Arrowtooth Flounder	0.1%	0.0%	0.1%	99.7%	0.0%	0.0%	0.0%	0.1%	0.0%	2,459.6
Starry Flounder	-	-	-	7.6%	0.0%	-	0.0%	3.6%	88.7%	429.8
Other Flatfish	1.0%	0.0%	0.1%	91.1%	0.0%	-	0.5%	4.4%	2.8%	1,723.5
Kelp Greenling	-	-	-	0.0%	4.6%	0.1%	30.5%	0.3%	64.6%	111.8
Spiny Dogfish	10.4%	1.5%	1.9%	51.0%	33.1%	-	0.1%	0.6%	1.4%	653.4
Other Fish	0.1%	0.0%	0.5%	48.7%	13.3%	1.5%	18.2%	4.3%	13.4%	475.9

Table 2a. Share (%) of Non-Treaty Landings
or Deliveries of PFMC-managed Groundfish
by West Coast Fishery Sectors: 1995 to 2004

2002										
Non-Treaty Sectors										
Stock or Complex	Trawl Sectors				Non-Trawl Sectors					Non-Treaty Total (mt)
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	
Lingcod - coastwide	-	-	0.0%	12.4%	1.3%	0.2%	8.6%	1.7%	75.7%	799.2
N. of 42° (OR & WA)	-	-	0.1%	22.1%	2.2%	0.5%	10.6%	3.9%	60.6%	285.3
S. of 42° (CA)	-	-	0.0%	7.1%	0.9%	0.0%	7.4%	0.5%	84.1%	513.9
Pacific Cod	-	-	0.1%	98.8%	0.1%	-	0.0%	0.3%	0.7%	698.4
Pacific Whiting (Coastwide)	33.5%	24.5%	41.9%	0.0%	0.0%	-	-	0.2%	0.0%	108,643.3
Sablefish (Coastwide)	0.6%	0.0%	3.9%	41.8%	30.7%	10.6%	11.3%	0.9%	0.2%	3,384.0
N. of 36° (Monterey north)	0.6%	0.0%	4.1%	42.7%	29.1%	11.3%	11.2%	0.7%	0.2%	3,194.3
S. of 36° (Conception area)	-	-	-	25.9%	58.2%	-	12.9%	3.1%	-	189.7
PACIFIC OCEAN PERCH	1.0%	1.4%	0.1%	97.2%	0.1%	0.1%	0.0%	0.0%	0.0%	150.9
Shortbelly Rockfish	68.2%	14.3%	7.3%	10.2%	-	-	-	-	-	0.7
WIDOW ROCKFISH	28.8%	5.1%	1.3%	63.9%	0.0%	0.0%	0.1%	0.1%	0.7%	398.9
CANARY ROCKFISH	2.2%	1.1%	0.7%	58.0%	2.3%	-	0.3%	1.9%	33.4%	71.6
Chilipepper Rockfish	-	-	-	62.2%	0.2%	-	1.3%	0.1%	36.2%	247.2
BOCACCIO	-	-	-	57.9%	1.8%	-	8.8%	1.2%	30.4%	30.6
Splitnose Rockfish	-	-	-	95.5%	2.2%	-	2.2%	0.2%	-	58.3
Yellowtail Rockfish	1.6%	0.2%	5.3%	86.4%	0.1%	0.0%	0.3%	3.6%	2.6%	800.5
Shortspine Thornyhead - coastwide	1.5%	0.0%	0.0%	84.5%	13.3%	0.0%	0.3%	0.2%	0.1%	772.9
N. of 34°27'	2.7%	0.0%	0.1%	95.1%	1.8%	0.0%	0.0%	0.0%	0.2%	435.6
S. of 34°27'	-	-	-	70.7%	28.2%	-	0.7%	0.4%	-	337.3
Longspine Thornyhead - coastwide	-	-	-	99.2%	0.6%	0.0%	0.1%	0.0%	-	1,891.2
N. of 34°27'	-	-	-	99.9%	0.1%	0.0%	0.0%	0.0%	-	1,878.5
S. of 34°27'	-	-	-	3.6%	79.2%	-	16.3%	0.9%	-	12.7
Other thornyheads	-	-	-	89.5%	9.1%	-	1.3%	0.1%	-	58.2
COWCOD	-	-	-	3.3%	6.9%	-	-	-	89.8%	0.3
DARKBLOTCHED	2.0%	0.8%	0.0%	96.0%	0.2%	0.1%	0.4%	0.5%	0.0%	110.9
YELLOWEYE	0.2%	-	0.0%	11.5%	0.3%	0.0%	0.6%	3.4%	84.0%	8.8
Black Rockfish - coastwide	-	-	-	0.4%	2.6%	0.0%	23.1%	0.2%	73.7%	842.1
Black Rockfish (WA)	-	-	-	0.2%	-	-	-	-	99.8%	176.5
Black Rockfish (OR-CA)	-	-	-	0.4%	3.3%	0.1%	29.2%	0.3%	66.8%	665.6
Minor Rockfish North	-	-	-	-	-	-	-	-	-	-
Nearshore Species	-	-	0.0%	0.8%	13.3%	0.1%	43.9%	0.1%	41.9%	86.1
Shelf Species	-	-	-	-	-	-	-	-	-	-
BOCACCIO: N. of Monterey	0.5%	1.9%	0.9%	72.2%	-	-	-	0.1%	24.4%	7.9
Chilipepper Rockfish: Eureka	21.3%	13.8%	3.8%	60.9%	-	-	-	-	0.0%	13.9
Redstripe Rockfish	54.3%	0.1%	0.0%	45.1%	-	-	-	0.0%	0.5%	6.1
Silvergrey Rockfish	1.5%	-	2.0%	80.3%	2.9%	-	-	10.1%	3.2%	2.8
Other Northern Shelf Rockfish	9.3%	0.4%	0.3%	59.6%	8.1%	0.4%	9.6%	1.3%	10.9%	41.7
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	92.4%	-	7.6%	-	-	-	-	-	0.1
Sharpchin Rockfish, north	2.3%	0.3%	0.1%	97.3%	-	-	-	0.0%	-	5.5
Splitnose Rockfish: N. of Monterey	59.7%	1.9%	0.0%	38.4%	0.0%	-	-	0.0%	-	18.5
Yellowmouth Rockfish	21.5%	-	-	75.0%	-	-	-	-	3.6%	2.8
Other Northern Slope Rockfish	0.3%	0.4%	0.1%	57.0%	38.3%	1.7%	1.5%	0.6%	0.0%	112.2
Minor Rockfish South	-	-	-	-	-	-	-	-	-	-
Nearshore Species	-	-	-	0.1%	1.2%	-	15.8%	0.3%	82.6%	644.6
Shelf Species	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	-	-	-	-	-	-	0.0
Yellowtail Rockfish	-	-	-	6.9%	0.2%	-	1.6%	0.4%	90.9%	27.1
Other Southern Shelf Rockfish	-	-	-	3.8%	1.3%	-	3.5%	0.5%	90.9%	338.2
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	92.9%	0.7%	-	6.4%	0.0%	0.0%	296.8
Blackgill Rockfish	-	-	-	43.9%	27.0%	-	26.7%	0.3%	2.1%	144.0
Sharpchin Rockfish	-	-	-	100.0%	-	-	-	-	-	0.3
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	0.0
Other Southern Slope Rockfish	-	-	-	86.0%	9.0%	-	3.2%	0.4%	1.4%	43.3
California scorpionfish	-	-	-	0.1%	0.8%	-	13.6%	4.7%	80.8%	69.8
Cabezon (off CA only)	-	-	-	-	2.1%	-	57.4%	3.1%	37.4%	80.5
Dover Sole	0.0%	0.0%	0.0%	99.7%	0.0%	0.0%	0.0%	0.3%	-	6,284.2
English Sole	0.0%	0.0%	0.2%	99.0%	-	-	0.0%	0.8%	0.0%	1,135.5
Petrale Sole (coastwide)	-	-	0.0%	98.9%	0.0%	0.0%	0.0%	0.8%	0.2%	1,778.9
N of 40°10'	-	-	0.0%	99.1%	0.0%	0.0%	-	0.8%	0.0%	1,549.2
S of 40°10'	-	-	-	97.7%	-	-	0.1%	0.5%	1.7%	229.7
Arrowtooth Flounder	0.1%	0.0%	0.0%	99.5%	0.2%	0.0%	0.0%	0.1%	0.0%	2,083.6
Starry Flounder	-	-	0.0%	58.0%	0.3%	-	0.2%	17.8%	23.6%	62.6
Other Flatfish	0.7%	0.0%	0.0%	94.2%	0.0%	-	0.4%	2.4%	2.3%	1,703.0
Kelp Greenling	-	-	-	0.0%	2.9%	0.1%	25.9%	0.1%	70.9%	212.0
Spiny Dogfish	3.9%	0.1%	1.2%	47.2%	43.6%	0.0%	0.5%	2.0%	1.5%	925.6
Other Fish	-	-	-	36.7%	12.1%	1.4%	20.2%	3.6%	26.0%	498.7

Table 2a. Share (%) of Non-Treaty Landings
or Deliveries of PFMC-managed Groundfish
by West Coast Fishery Sectors: 1995 to 2004

2003										
Stock or Complex	Non-Treaty Sectors									
	Trawl Sectors				Non-Trawl Sectors					
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-Treaty Total (mt)
Lingcod - coastwide	-	-	0.0%	4.3%	0.5%	0.1%	4.8%	0.8%	89.4%	1,349.7
N. of 42° (OR & WA)	-	-	0.1%	15.6%	1.7%	0.3%	10.4%	2.2%	69.6%	298.0
S. of 42° (CA)	-	-	0.0%	1.1%	0.2%	0.0%	3.2%	0.4%	95.0%	1,051.7
Pacific Cod	0.0%	-	0.0%	97.9%	0.2%	0.0%	0.0%	0.7%	1.1%	1,045.6
Pacific Whiting (Coastwide)	34.8%	22.0%	43.2%	0.0%	0.0%	-	-	0.0%	0.0%	118,492.7
Sablefish (Coastwide)	0.3%	0.0%	0.9%	46.3%	27.0%	12.5%	12.1%	0.7%	0.2%	4,828.1
N. of 36° (Monterey north)	0.4%	0.0%	0.9%	46.8%	26.0%	13.1%	12.1%	0.6%	0.2%	4,609.0
S. of 36° (Conception area)	-	-	-	35.5%	48.7%	-	12.6%	3.2%	-	219.0
PACIFIC OCEAN PERCH	3.8%	0.1%	0.2%	95.6%	0.3%	0.0%	0.0%	0.0%	-	132.4
Shortbelly Rockfish	45.3%	2.2%	3.9%	22.2%	-	-	26.5%	-	-	1.1
WIDOW ROCKFISH	36.8%	2.2%	40.0%	12.7%	0.0%	-	3.6%	0.6%	4.1%	31.4
CANARY ROCKFISH	0.5%	0.2%	0.3%	20.0%	0.2%	0.0%	-	0.6%	78.2%	37.9
Chilipepper Rockfish	-	-	-	96.0%	1.1%	-	1.8%	1.0%	0.1%	7.6
BOCACCIO	-	-	-	1.0%	1.9%	-	1.9%	0.2%	95.1%	11.3
Splitnose Rockfish	-	-	-	99.5%	0.3%	-	0.1%	0.0%	0.1%	151.1
Yellowtail Rockfish	1.0%	0.3%	26.4%	54.5%	0.3%	0.0%	0.8%	2.8%	13.8%	166.5
Shortspine Thornyhead - coastwide	1.9%	0.0%	0.1%	78.5%	19.1%	0.0%	0.3%	0.1%	0.0%	811.5
N. of 34°27'	3.4%	0.0%	0.1%	94.9%	1.5%	0.1%	0.0%	0.0%	0.0%	457.5
S. of 34°27'	-	-	-	57.3%	42.0%	-	0.6%	0.1%	-	354.0
Longspine Thornyhead - coastwide	-	-	0.0%	98.7%	1.3%	0.0%	0.0%	0.0%	-	1,546.0
N. of 34°27'	-	-	0.0%	99.4%	0.6%	0.0%	0.0%	0.0%	-	1,535.4
S. of 34°27'	-	-	-	-	98.5%	-	1.5%	0.1%	-	10.7
Other thornyheads	-	-	-	91.7%	7.3%	-	0.6%	0.4%	-	46.9
COWCOD	-	-	-	-	-	-	-	-	-	0.0
DARKBLOTCHED	5.0%	0.1%	0.3%	93.9%	0.2%	0.0%	0.3%	0.0%	-	84.0
YELLOWEYE	0.0%	-	-	8.9%	0.5%	0.1%	0.1%	1.4%	89.0%	11.5
Black Rockfish - coastwide	-	-	-	0.1%	1.2%	0.0%	11.6%	0.1%	87.1%	1,351.6
Black Rockfish (WA)	-	-	-	-	-	-	-	-	100.0%	175.9
Black Rockfish (OR-CA)	-	-	-	0.1%	1.4%	0.0%	13.3%	0.1%	85.1%	1,175.8
Minor Rockfish North										
Nearshore Species	-	-	-	0.3%	4.0%	0.0%	34.3%	0.3%	61.0%	68.4
Shelf Species										
BOCACCIO: N. of Monterey	0.6%	-	-	84.5%	-	-	0.2%	0.1%	14.5%	8.9
Chilipepper Rockfish: Eureka	1.0%	9.4%	84.4%	5.1%	-	-	-	-	0.1%	11.3
Redstripe Rockfish	86.6%	0.0%	-	11.3%	-	-	-	0.9%	1.2%	5.8
Silvergrey Rockfish	0.3%	0.8%	-	94.7%	-	-	-	-	4.3%	1.9
Other Northern Shelf Rockfish	11.8%	0.0%	1.4%	32.5%	18.0%	0.1%	13.7%	1.5%	20.9%	25.3
Slope Species										
Bank Rockfish	-	-	-	100.0%	-	-	-	-	-	0.0
Sharpchin Rockfish, north	40.4%	2.0%	-	57.5%	-	-	-	-	-	5.9
Splitnose Rockfish: N. of Monterey	67.7%	1.7%	0.0%	30.4%	0.2%	-	0.0%	-	-	17.1
Yellowmouth Rockfish	0.0%	0.1%	-	99.9%	-	-	-	-	-	2.9
Other Northern Slope Rockfish	1.5%	0.1%	0.4%	76.7%	16.8%	2.7%	1.7%	0.2%	0.0%	141.4
Minor Rockfish South										
Nearshore Species	-	-	-	0.1%	0.2%	-	9.1%	0.2%	90.4%	706.7
Shelf Species										
Redstripe Rockfish	-	-	-	-	-	-	-	-	-	0.0
Yellowtail Rockfish	-	-	-	1.8%	-	-	1.9%	3.2%	93.1%	20.3
Other Southern Shelf Rockfish	-	-	-	0.7%	0.5%	-	1.8%	0.5%	96.4%	359.1
Slope Species										
Bank Rockfish	-	-	-	83.7%	0.1%	-	15.2%	0.0%	1.0%	103.8
Blackgill Rockfish	-	-	-	28.8%	37.8%	-	33.0%	0.4%	-	189.4
Sharpchin Rockfish	-	-	-	-	-	-	-	-	-	0.0
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	0.0
Other Southern Slope Rockfish	-	-	-	78.7%	11.1%	-	7.7%	0.6%	1.9%	57.9
California scorpionfish	-	-	-	-	-	-	2.3%	2.3%	95.4%	93.8
Cabezon (off CA only)	-	-	-	-	0.1%	-	27.8%	1.4%	70.7%	135.9
Dover Sole	0.0%	0.0%	0.1%	99.7%	0.0%	0.0%	0.0%	0.2%	0.0%	7,319.3
English Sole	0.0%	0.0%	0.1%	97.6%	-	-	0.0%	2.3%	0.0%	809.0
Petrale Sole (coastwide)	-	-	0.1%	97.2%	0.0%	-	0.0%	2.7%	0.0%	1,956.2
N of 40°10'	-	-	0.1%	96.9%	0.0%	-	0.0%	3.0%	0.0%	1,728.2
S of 40°10'	-	-	-	99.4%	-	-	-	0.5%	0.0%	228.1
Arrowtooth Flounder	0.1%	0.0%	0.1%	99.0%	0.2%	0.0%	0.0%	0.6%	0.0%	2,307.2
Starry Flounder	-	-	0.0%	52.0%	0.0%	-	0.1%	22.4%	25.5%	62.6
Other Flatfish	0.4%	0.0%	0.0%	93.7%	0.0%	0.0%	0.1%	2.4%	3.3%	1,620.2
Kelp Greenling	-	-	-	0.0%	2.8%	0.0%	19.2%	0.1%	77.9%	114.0
Spiny Dogfish	2.1%	0.2%	0.9%	41.4%	40.5%	-	11.1%	0.0%	3.8%	476.2
Other Fish	0.0%	0.0%	-	47.7%	10.2%	0.2%	22.4%	3.2%	16.2%	466.6

Table 2a. Share (%) of Non-Treaty Landings
or Deliveries of PFMC-managed Groundfish
by West Coast Fishery Sectors: 1995 to 2004

2004										
Stock or Complex	Non-Treaty Sectors									
	Trawl Sectors					Non-Trawl Sectors				
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non-whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational	Non-Treaty Total (mt)
Lingcod - coastwide	-	-	0.9%	12.0%	1.9%	0.6%	15.7%	1.9%	67.0%	465.1
N. of 42° (OR & WA)	-	-	1.4%	14.7%	2.3%	0.7%	12.2%	1.9%	66.7%	272.8
S. of 42° (CA)	-	-	0.0%	8.1%	1.4%	0.4%	20.8%	1.9%	67.4%	192.3
Pacific Cod	0.0%	-	0.1%	98.3%	0.4%	0.0%	0.0%	0.0%	1.1%	1,107.7
Pacific Whiting (Coastwide)	39.1%	12.9%	48.0%	0.0%	0.0%	-	-	0.0%	0.0%	186,933.8
Sablefish (Coastwide)	0.4%	0.2%	2.6%	44.2%	29.3%	12.4%	10.2%	0.7%	0.1%	5,045.8
N. of 36° (Monterey north)	0.4%	0.2%	2.7%	44.2%	28.9%	12.9%	10.1%	0.6%	0.1%	4,862.4
S. of 36° (Conception area)	-	-	-	43.7%	41.9%	-	11.8%	2.6%	0.0%	183.4
PACIFIC OCEAN PERCH	0.8%	0.1%	0.9%	98.2%	0.0%	0.0%	0.0%	-	-	114.9
Shortbelly Rockfish	3.6%	15.1%	7.2%	71.7%	-	-	2.4%	-	-	0.1
WIDOW ROCKFISH	11.4%	15.9%	39.3%	11.7%	0.1%	0.0%	0.2%	0.1%	21.3%	71.9
CANARY ROCKFISH	1.7%	14.3%	4.0%	22.5%	0.1%	-	0.1%	0.3%	57.1%	28.8
Chilipepper Rockfish	-	-	-	79.4%	4.7%	-	2.6%	1.2%	12.2%	49.1
BOCACCIO	-	-	-	8.2%	2.8%	-	5.0%	0.1%	83.8%	74.6
Splitnose Rockfish	-	-	-	99.9%	0.0%	-	0.0%	0.0%	-	163.2
Yellowtail Rockfish	2.3%	4.5%	43.8%	32.0%	0.4%	-	0.8%	3.0%	13.1%	269.1
Shortspine Thornyhead - coastwide	0.8%	0.0%	0.1%	79.3%	19.7%	0.1%	0.1%	0.0%	0.0%	677.3
N. of 34°27'	1.4%	0.0%	0.1%	96.9%	1.4%	0.1%	0.1%	0.0%	-	388.0
S. of 34°27'	-	-	-	55.6%	44.2%	-	0.1%	0.1%	0.0%	289.3
Longspine Thornyhead - coastwide	0.0%	-	0.0%	98.9%	1.1%	-	0.0%	0.0%	-	767.2
N. of 34°27'	0.0%	-	0.0%	99.8%	0.1%	-	0.0%	0.0%	-	759.5
S. of 34°27'	-	-	-	-	99.0%	-	0.6%	0.4%	-	7.6
Other thornyheads	-	-	-	3.1%	93.3%	-	3.4%	0.2%	-	25.9
COWCOD	-	-	-	-	-	-	-	-	100.0%	0.5
DARKBLOTCHED	2.2%	1.5%	1.0%	94.9%	0.1%	0.0%	0.3%	0.0%	-	197.8
YELLOWEYE	-	0.1%	0.0%	4.2%	0.5%	0.1%	-	6.6%	88.6%	7.9
Black Rockfish - coastwide	-	-	-	0.3%	1.4%	0.0%	19.1%	0.2%	79.0%	866.8
Black Rockfish (WA)	-	-	-	-	-	-	-	-	100.0%	214.8
Black Rockfish (OR-CA)	-	-	-	0.4%	1.9%	0.0%	25.4%	0.2%	72.1%	652.0
Minor Rockfish North	-	-	-	2.0%	2.6%	-	34.9%	0.2%	60.3%	62.6
Nearshore Species	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-
BOCACCIO: N. of Monterey	1.6%	2.0%	0.1%	88.1%	-	-	-	-	8.2%	4.5
Chilipepper Rockfish: Eureka	4.5%	3.6%	84.7%	7.2%	-	-	-	0.0%	0.0%	24.2
Redstripe Rockfish	78.2%	13.9%	-	7.2%	-	-	-	0.0%	0.7%	2.5
Silvergrey Rockfish	0.6%	13.6%	-	69.0%	9.5%	-	5.9%	-	1.4%	0.8
Other Northern Shelf Rockfish	0.2%	0.0%	8.8%	29.8%	19.5%	1.1%	14.3%	2.9%	23.4%	17.1
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	2.8%	-	1.1%	96.1%	-	-	-	-	-	3.1
Sharpchin Rockfish, north	1.8%	-	-	98.2%	-	-	-	-	-	19.0
Splitnose Rockfish: N. of Monterey	29.1%	0.7%	2.0%	68.1%	-	-	0.0%	0.1%	-	28.8
Yellowmouth Rockfish	0.1%	-	-	99.8%	-	0.2%	-	-	-	9.7
Other Northern Slope Rockfish	8.6%	0.0%	2.0%	65.5%	19.7%	2.0%	2.0%	0.1%	0.0%	165.6
Minor Rockfish South	-	-	-	0.0%	0.4%	-	18.8%	0.2%	80.5%	437.7
Nearshore Species	-	-	-	-	-	-	-	-	-	-
Shelf Species	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	-	-	-	-	-	-	0.0
Yellowtail Rockfish	-	-	-	1.6%	0.2%	-	7.6%	1.6%	89.0%	14.1
Other Southern Shelf Rockfish	-	-	-	0.6%	2.1%	-	6.5%	0.4%	90.4%	305.6
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	84.1%	0.0%	-	15.5%	-	0.3%	130.6
Blackgill Rockfish	-	-	-	58.8%	25.0%	-	16.0%	0.2%	0.0%	170.8
Sharpchin Rockfish	-	-	-	-	-	-	-	-	-	0.0
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	0.0
Other Southern Slope Rockfish	-	-	-	65.4%	19.0%	3.3%	11.6%	0.8%	-	29.7
California scorpionfish	-	-	-	-	0.0%	-	3.5%	3.9%	92.6%	47.4
Cabezon (off CA only)	-	-	-	-	0.4%	-	53.0%	2.0%	44.6%	89.2
Dover Sole	0.0%	0.0%	0.0%	99.9%	0.0%	0.0%	0.0%	0.1%	0.0%	6,635.4
English Sole	0.0%	0.0%	0.1%	99.2%	-	-	0.0%	0.7%	-	872.7
Petrale Sole (coastwide)	-	-	0.0%	99.6%	0.1%	0.0%	0.0%	0.3%	0.0%	1,867.4
N of 40°10'	-	-	0.0%	99.7%	0.1%	0.0%	0.0%	0.2%	0.0%	1,601.5
S of 40°10'	-	-	-	99.4%	-	-	-	0.5%	0.1%	265.9
Arrowtooth Flounder	0.0%	0.0%	0.0%	99.8%	0.0%	0.0%	0.0%	0.0%	0.0%	2,240.8
Starry Flounder	-	-	0.0%	74.7%	-	-	0.1%	20.1%	5.1%	106.4
Other Flatfish	0.1%	0.0%	0.0%	92.7%	0.0%	-	0.3%	3.2%	3.6%	1,285.6
Kelp Greenling	-	-	-	-	2.4%	-	21.5%	0.0%	76.0%	105.7
Spiny Dogfish	45.9%	1.4%	4.2%	17.3%	18.2%	-	12.7%	0.0%	0.3%	722.2
Other Fish	0.2%	0.1%	0.0%	33.3%	7.3%	-	30.9%	3.4%	24.7%	327.7

Table 2b. Limited Entry Trawl Sector* Share (%) of Non-Treaty Landings or Deliveries of PFMC-managed Groundfish: 1995 to 2004

Stock or Complex											Average**
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Share
Lingcod - coastwide	57.3%	57.9%	58.2%	30.3%	24.8%	14.5%	14.1%	12.5%	4.4%	12.8%	28.7%
N. of 42° (OR & WA)	73.0%	74.1%	69.5%	46.3%	36.5%	19.6%	16.9%	22.2%	15.7%	16.1%	39.0%
S. of 42° (CA)	36.6%	34.5%	40.3%	18.4%	16.8%	10.9%	11.8%	7.1%	1.1%	8.2%	18.6%
Pacific Cod	97.8%	97.5%	99.0%	98.7%	98.7%	98.9%	99.0%	98.9%	97.9%	98.4%	98.5%
Pacific Whiting (Coastwide)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.8%	100.0%	100.0%	100.0%
Sablefish (Coastwide)	53.0%	55.4%	52.2%	54.7%	52.5%	47.8%	51.6%	46.3%	47.5%	47.4%	50.8%
N. of 36° (Monterey north)	52.5%	55.1%	52.0%	54.8%	52.7%	48.2%	52.5%	47.5%	48.0%	47.5%	51.1%
S. of 36° (Conception area)	63.8%	62.6%	58.6%	52.9%	45.7%	29.7%	20.0%	25.9%	35.5%	43.7%	43.8%
PACIFIC OCEAN PERCH	98.8%	98.1%	98.9%	99.8%	98.1%	99.5%	100.0%	99.7%	99.7%	100.0%	99.3%
Shortbelly Rockfish	99.4%	98.7%	99.9%	98.6%	95.2%	100.0%	99.1%	100.0%	73.5%	97.6%	96.2%
WIDOW ROCKFISH	98.3%	98.5%	98.2%	94.6%	97.6%	99.0%	98.5%	99.1%	91.7%	78.3%	95.4%
CANARY ROCKFISH	69.3%	74.1%	63.3%	70.6%	64.8%	22.1%	29.8%	62.1%	21.0%	42.5%	51.9%
Chilipepper Rockfish	77.9%	80.7%	76.0%	77.5%	84.6%	78.5%	78.3%	62.2%	96.0%	79.4%	79.1%
BOCACCIO	45.8%	52.4%	48.0%	29.8%	17.0%	12.5%	10.2%	57.9%	1.0%	8.2%	28.3%
Splitnose Rockfish	92.0%	98.6%	98.2%	96.0%	99.5%	93.8%	97.7%	95.5%	99.5%	99.9%	97.1%
Yellowtail Rockfish	94.0%	92.2%	84.5%	86.7%	94.3%	96.2%	94.9%	93.5%	82.3%	82.6%	90.1%
Shortspine Thornyhead - coastwide	97.3%	94.1%	96.0%	95.1%	86.7%	92.8%	90.1%	86.0%	80.5%	80.1%	89.9%
N. of 34°27'	97.8%	97.9%	97.5%	97.8%	96.7%	97.5%	97.6%	97.9%	98.4%	97.8%	97.8%
S. of 34°27'	96.4%	85.7%	92.4%	88.7%	67.2%	85.6%	73.4%	70.7%	57.3%	55.6%	77.3%
Longspine Thornyhead - coastwide	99.0%	97.8%	97.8%	99.2%	98.3%	95.9%	96.2%	99.2%	98.7%	98.9%	98.1%
N. of 34°27'	99.0%	98.1%	98.2%	99.7%	99.1%	97.7%	98.8%	99.9%	99.4%	99.8%	99.0%
S. of 34°27'		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	0.0%	0.4%
Other thornyheads	4.6%	39.8%	31.9%	34.2%	87.2%	79.9%	44.9%	89.5%	91.7%	3.1%	50.7%
COWCOD	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%		3.3%		0.0%	0.3%
DARKBLOTCHED	99.1%	99.4%	99.2%	97.1%	97.6%	95.5%	98.3%	98.9%	99.4%	99.6%	98.4%
YELLOWWEYE	57.5%	49.6%	38.0%	27.6%	18.9%	13.4%	5.5%	11.7%	8.9%	4.3%	23.5%
Black Rockfish - coastwide	0.9%	1.7%	2.6%	8.3%	0.6%	0.4%	0.1%	0.4%	0.1%	0.3%	1.5%
Black Rockfish (WA)	1.5%	0.0%	0.5%	7.5%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	1.0%
Black Rockfish (OR-CA)	0.8%	2.2%	3.0%	8.6%	0.7%	0.5%	0.1%	0.4%	0.1%	0.4%	1.7%
Minor Rockfish North	64.8%	65.6%	71.2%	70.1%	60.7%	70.2%	69.3%	50.3%	60.7%	66.9%	65.0%
Nearshore Species	1.0%	0.0%	0.2%	2.8%	0.1%	0.3%	0.5%	0.8%	0.3%	2.0%	0.8%
Shelf Species											
BOCACCIO: N. of Monterey	87.7%	80.9%	94.2%	90.5%	81.8%	86.1%	89.0%	75.4%	85.2%	91.8%	86.3%
Chilipepper Rockfish: Eureka	89.6%	87.6%	75.5%	96.4%	92.7%	98.6%	99.8%	100.0%	99.9%	100.0%	94.0%
Redstripe Rockfish	99.8%	99.6%	99.4%	99.6%	99.2%	99.5%	99.2%	99.5%	97.9%	99.3%	99.3%
Silvergrey Rockfish	97.6%	99.0%	95.3%	99.4%	98.9%	93.9%	96.9%	83.7%	95.7%	83.2%	94.4%
Other Northern Shelf Rockfish	33.1%	35.8%	50.1%	58.8%	39.3%	41.7%	48.3%	69.6%	45.7%	38.8%	46.1%
Slope Species											
Bank Rockfish	95.8%	96.9%	97.8%	75.7%	98.9%	94.4%	100.0%	100.0%	100.0%	100.0%	95.9%
Sharpchin Rockfish, north	99.3%	99.8%	99.8%	99.3%	99.2%	98.6%	100.0%	100.0%	100.0%	100.0%	99.6%
Splitnose Rockfish: N. of Monterey	98.9%	99.9%	99.4%	98.2%	98.3%	97.5%	99.6%	99.9%	99.8%	99.9%	99.1%
Yellowmouth Rockfish	95.9%	99.1%	99.4%	99.9%	100.0%	100.0%	100.0%	96.4%	100.0%	99.8%	99.1%
Other Northern Slope Rockfish	63.7%	71.2%	91.2%	69.0%	92.3%	83.3%	81.6%	57.9%	78.7%	76.2%	76.5%
Minor Rockfish South	26.3%	30.8%	29.6%	30.8%	7.4%	13.4%	17.7%	26.2%	13.2%	21.3%	21.7%
Nearshore Species	1.4%	2.2%	1.5%	0.1%	1.8%	0.1%	0.0%	0.1%	0.1%	0.0%	0.7%
Shelf Species											
Redstripe Rockfish	100.0%	0.0%	90.8%	87.9%	60.0%	0.0%	0.0%				33.9%
Yellowtail Rockfish	19.3%	33.3%	24.0%	28.8%	5.7%	13.3%	2.2%	6.9%	1.8%	1.6%	13.7%
Other Southern Shelf Rockfish	14.4%	13.2%	12.4%	19.4%	3.7%	2.2%	8.3%	3.8%	0.7%	0.6%	7.9%
Slope Species											
Bank Rockfish	80.8%	89.8%	89.6%	73.6%	59.5%	87.0%	83.9%	92.9%	83.7%	84.1%	82.5%
Blackgill Rockfish	38.3%	41.7%	48.2%	50.2%	52.6%	61.3%	69.5%	43.9%	28.8%	58.8%	49.3%
Sharpchin Rockfish	87.4%	99.3%	99.9%	99.0%	100.0%	92.7%	100.0%	100.0%			77.8%
Yellowmouth Rockfish		81.3%	100.0%								18.1%
Other Southern Slope Rockfish	79.4%	77.0%	82.4%	73.0%	88.3%	61.9%	63.8%	86.0%	78.7%	65.4%	75.6%
California scorpionfish	0.0%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.4%
Cabezon (off CA only)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dover Sole	99.1%	99.1%	99.3%	99.3%	98.7%	99.2%	99.5%	99.7%	99.8%	99.9%	99.4%
English Sole	98.7%	97.2%	95.6%	97.7%	96.3%	96.6%	97.5%	99.2%	97.7%	99.3%	97.6%
Petrale Sole (coastwide)	98.6%	98.5%	96.7%	98.2%	97.5%	97.3%	97.9%	98.9%	97.3%	99.6%	98.0%
N of 40°10'	99.3%	98.5%	96.1%	98.5%	97.3%	97.0%	97.9%	99.1%	97.0%	99.7%	98.0%
S of 40°10'	95.7%	98.3%	98.3%	96.9%	98.6%	98.6%	98.4%	97.7%	99.4%	99.4%	98.1%
Arrowtooth Flounder	99.0%	99.7%	99.8%	99.8%	99.7%	99.4%	99.9%	99.7%	99.2%	99.9%	99.6%
Starry Flounder	80.9%	67.4%	69.6%	68.0%	49.3%	64.8%	7.6%	58.0%	52.0%	74.7%	59.2%
Other Flatfish	97.0%	92.7%	91.0%	94.7%	95.1%	92.8%	92.3%	94.9%	94.2%	92.9%	93.8%
Kelp Greenling	3.6%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%
Spiny Dogfish	95.1%	79.4%	85.8%	99.2%	92.6%	53.6%	64.8%	52.4%	44.6%	68.8%	73.6%
Other Fish	69.3%	43.2%	55.2%	65.7%	50.2%	50.3%	49.4%	36.7%	47.7%	33.7%	49.8%

* "LE Trawl Sector" includes At Sea Catcher Processors, At Sea Motherships, Shoreside Whiting, and Shoreside Non-whiting Trawl sectors.

** Arithmetic average of cells in each row. Empty cell is assumed = 0%.

Table 2c. Limited Entry Fixed Gear Sector* Share (%) of Non-Treaty Landings or Deliveries of PFMC-managed Groundfish: 1995 to 2004

Stock or Complex											Average**
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Share
Lingcod - coastwide	2.3%	2.6%	3.3%	3.6%	4.0%	3.8%	4.3%	1.5%	0.6%	2.5%	2.8%
N. of 42° (OR & WA)	0.9%	0.8%	2.3%	4.7%	6.7%	6.3%	7.5%	2.7%	2.0%	3.0%	3.7%
S. of 42° (CA)	4.1%	5.2%	4.8%	2.8%	2.1%	2.0%	1.6%	0.9%	0.2%	1.8%	2.6%
Pacific Cod	0.2%	0.3%	0.1%	0.2%	0.4%	0.4%	0.4%	0.1%	0.2%	0.4%	0.3%
Pacific Whiting (Coastwide)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sablefish (Coastwide)	37.8%	34.9%	40.0%	39.9%	41.2%	43.0%	38.1%	41.4%	39.5%	41.7%	39.7%
N. of 36° (Monterey north)	39.0%	35.4%	40.0%	39.6%	41.0%	42.7%	37.1%	40.4%	39.1%	41.7%	39.6%
S. of 36° (Conception area)	13.3%	25.1%	39.3%	45.3%	47.5%	56.8%	69.7%	58.2%	48.7%	41.9%	44.6%
PACIFIC OCEAN PERCH	0.4%	1.1%	0.3%	0.0%	0.2%	0.2%	0.0%	0.2%	0.3%	0.0%	0.3%
Shortbelly Rockfish	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WIDOW ROCKFISH	0.1%	0.1%	0.1%	0.3%	0.4%	0.1%	0.1%	0.0%	0.0%	0.2%	0.1%
CANARY ROCKFISH	6.0%	5.2%	6.3%	8.3%	8.2%	4.9%	7.9%	2.3%	0.2%	0.1%	4.9%
Chilipepper Rockfish	0.8%	0.7%	0.7%	1.2%	1.4%	1.9%	0.8%	0.2%	1.1%	4.7%	1.3%
BOCACCIO	0.6%	1.3%	2.6%	4.0%	2.4%	1.7%	1.8%	1.8%	1.9%	2.8%	2.1%
Splitnose Rockfish	0.5%	0.2%	0.2%	0.0%	0.3%	5.9%	1.0%	2.2%	0.3%	0.0%	1.1%
Yellowtail Rockfish	0.3%	0.6%	1.7%	1.5%	1.2%	0.1%	0.2%	0.1%	0.3%	0.4%	0.6%
Shortspine Thornyhead - coastwide	1.7%	4.9%	3.6%	4.7%	12.2%	6.2%	9.5%	13.3%	19.2%	19.7%	9.5%
N. of 34°27'	1.5%	1.7%	2.1%	2.0%	3.0%	2.4%	2.3%	1.8%	1.5%	1.5%	2.0%
S. of 34°27'	2.0%	11.9%	7.2%	11.1%	29.9%	12.1%	25.5%	28.2%	42.0%	44.2%	21.4%
Longspine Thornyhead - coastwide	0.5%	2.0%	1.8%	0.7%	1.5%	3.5%	3.1%	0.6%	1.3%	1.1%	1.6%
N. of 34°27'	0.5%	1.7%	1.4%	0.2%	0.7%	2.2%	1.1%	0.1%	0.6%	0.1%	0.9%
S. of 34°27'		98.2%	100.0%	99.1%	95.0%	74.6%	79.0%	79.2%	98.5%	99.0%	82.2%
Other thornyheads	19.8%	44.8%	63.9%	61.1%	10.0%	14.5%	47.5%	9.1%	7.3%	93.3%	37.1%
COWCOD	16.6%	8.6%	16.9%	13.6%	4.0%	0.6%		6.9%		0.0%	6.7%
DARKBLOTCHED	0.3%	0.2%	0.1%	0.6%	0.2%	3.7%	1.3%	0.2%	0.3%	0.1%	0.7%
YELLOWWEYE	11.2%	17.6%	21.6%	14.8%	35.4%	10.8%	18.3%	0.3%	0.6%	0.6%	13.1%
Black Rockfish - coastwide	3.4%	2.2%	4.6%	3.4%	2.3%	2.7%	4.6%	2.6%	1.2%	1.4%	2.8%
Black Rockfish (WA)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Black Rockfish (OR-CA)	4.3%	2.8%	5.6%	4.5%	2.8%	3.3%	5.6%	3.3%	1.4%	1.9%	3.6%
Minor Rockfish North	20.2%	16.3%	13.0%	16.0%	22.1%	12.7%	11.3%	20.2%	12.1%	12.2%	15.6%
Nearshore Species	13.9%	12.3%	7.8%	12.1%	12.4%	17.7%	17.7%	13.4%	12.4%	2.6%	10.9%
Shelf Species											
BOCACCIO: N. of Monterey	2.1%	4.7%	1.6%	0.8%	5.4%	0.2%	0.0%	0.0%	0.0%	0.0%	1.5%
Chilipepper Rockfish: Eureka	7.6%	3.6%	3.8%	0.2%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	1.6%
Redstripe Rockfish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Silvergrey Rockfish	0.0%	0.1%	1.5%	0.0%	0.7%	0.0%	2.0%	2.9%	0.0%	9.5%	1.7%
Other Northern Shelf Rockfish	38.1%	32.1%	30.0%	25.9%	45.8%	34.5%	32.3%	8.5%	18.1%	20.6%	28.6%
Slope Species											
Bank Rockfish	0.0%	0.9%	0.0%	13.4%	0.0%	3.2%	0.0%	0.0%	0.0%	0.0%	1.8%
Sharpchin Rockfish, north	0.4%	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.2%
Splitnose Rockfish: N. of Monterey	0.6%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	0.2%	0.0%	0.2%
Yellowmouth Rockfish	1.6%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.3%
Other Northern Slope Rockfish	34.0%	22.9%	6.2%	28.9%	3.5%	13.6%	14.9%	40.0%	19.5%	21.7%	20.5%
Minor Rockfish South	6.1%	7.7%	8.1%	8.6%	4.1%	5.7%	5.4%	3.8%	5.7%	5.3%	6.1%
Nearshore Species	2.8%	4.3%	6.2%	4.9%	2.7%	3.4%	2.6%	1.2%	0.2%	0.4%	2.9%
Shelf Species											
Redstripe Rockfish	0.0%	0.0%	0.0%	0.5%	0.0%	11.1%	33.3%				4.5%
Yellowtail Rockfish	16.4%	3.9%	5.4%	5.8%	2.5%	1.1%	1.8%	0.2%	0.0%	0.2%	3.7%
Other Southern Shelf Rockfish	4.7%	7.6%	12.9%	10.2%	4.5%	2.8%	3.1%	1.3%	0.5%	2.1%	5.0%
Slope Species											
Bank Rockfish	1.0%	0.2%	0.1%	1.6%	0.0%	7.1%	4.7%	0.7%	0.1%	0.0%	1.6%
Blackgill Rockfish	16.3%	31.1%	26.3%	39.8%	30.7%	34.1%	20.9%	27.0%	37.8%	25.0%	28.9%
Sharpchin Rockfish	2.1%	0.1%	0.0%	0.2%	0.0%	7.3%	0.0%	0.0%			1.0%
Yellowmouth Rockfish		0.0%	0.0%								0.0%
Other Southern Slope Rockfish	5.4%	2.9%	1.0%	6.0%	1.6%	29.8%	27.6%	9.0%	11.1%	22.2%	11.7%
California scorpionfish	2.4%	1.9%	0.5%	0.7%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.6%
Cabezon (off CA only)	1.0%	0.3%	4.8%	2.1%	2.2%	2.0%	0.9%	2.1%	0.1%	0.4%	1.6%
Dover Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
English Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Petrale Sole (coastwide)	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
N of 40°10'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
S of 40°10'	0.3%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Arrowtooth Flounder	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.3%	0.2%	0.1%	0.1%
Starry Flounder	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%
Other Flatfish	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Kelp Greenling	1.4%	0.7%	4.1%	4.6%	7.1%	5.7%	4.7%	3.0%	2.8%	2.4%	3.7%
Spiny Dogfish	1.3%	6.2%	0.4%	0.1%	4.9%	44.1%	33.1%	43.6%	40.5%	18.2%	19.2%
Other Fish	5.1%	33.5%	26.9%	16.8%	16.0%	7.5%	14.8%	13.5%	10.4%	7.3%	15.2%

* "LE Fixed Gear Sector" includes LE line gear and LE pot gear sectors.

** Arithmetic average of cells in each row. Empty cell is assumed = 0%.

Table 2d. Open Access Sector* Share (%) of Non-Treaty Landings or Deliveries of PFMC-managed Groundfish: 1995 to 2004

Stock or Complex											Average**
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Share
Lingcod - coastwide	18.6%	14.7%	17.0%	15.6%	14.6%	15.5%	18.3%	10.2%	5.6%	17.7%	14.8%
N. of 42° (OR & WA)	13.0%	13.0%	14.7%	15.2%	20.9%	24.9%	23.3%	14.5%	12.6%	14.2%	16.6%
S. of 42° (CA)	25.9%	17.1%	20.6%	15.9%	10.3%	8.9%	14.3%	7.9%	3.6%	22.6%	14.7%
Pacific Cod	1.9%	2.0%	0.8%	0.7%	0.7%	0.7%	0.6%	0.3%	0.7%	0.1%	0.9%
Pacific Whiting (Coastwide)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%
Sablefish (Coastwide)	9.1%	9.7%	7.7%	5.3%	6.2%	9.2%	10.3%	12.1%	12.9%	10.9%	9.3%
N. of 36° (Monterey north)	8.4%	9.5%	7.9%	5.5%	6.2%	9.1%	10.3%	11.9%	12.7%	10.7%	9.2%
S. of 36° (Conception area)	22.8%	12.3%	2.2%	1.9%	6.7%	13.6%	10.2%	15.9%	15.8%	14.4%	11.6%
PACIFIC OCEAN PERCH	0.7%	0.8%	0.8%	0.2%	1.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.5%
Shortbelly Rockfish	0.5%	1.1%	0.1%	1.3%	4.8%	0.0%	0.9%	0.0%	26.5%	2.4%	3.8%
WIDOW ROCKFISH	1.5%	1.0%	1.1%	3.9%	1.3%	0.4%	0.7%	0.2%	4.2%	0.3%	1.5%
CANARY ROCKFISH	13.8%	14.0%	18.8%	14.6%	14.2%	12.4%	9.8%	2.2%	0.6%	0.4%	10.1%
Chilipepper Rockfish	20.7%	16.7%	19.7%	20.8%	11.3%	11.0%	7.3%	1.4%	2.8%	3.8%	11.6%
BOCACCIO	48.9%	28.7%	15.3%	38.6%	12.9%	4.2%	5.0%	10.0%	2.0%	5.2%	17.1%
Splitnose Rockfish	7.5%	1.1%	1.6%	4.0%	0.2%	0.4%	1.3%	2.3%	0.1%	0.0%	1.9%
Yellowtail Rockfish	5.2%	6.7%	11.9%	9.6%	3.7%	3.0%	3.9%	3.8%	3.6%	3.8%	5.5%
Shortspine Thornyhead - coastwide	1.0%	1.0%	0.4%	0.2%	1.1%	1.0%	0.4%	0.5%	0.3%	0.1%	0.6%
N. of 34°27'	0.6%	0.3%	0.4%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%	0.1%	0.2%
S. of 34°27'	1.6%	2.4%	0.4%	0.2%	2.8%	2.3%	1.1%	1.1%	0.7%	0.2%	1.3%
Longspine Thornyhead - coastwide	0.5%	0.2%	0.4%	0.1%	0.2%	0.6%	0.6%	0.1%	0.0%	0.0%	0.3%
N. of 34°27'	0.5%	0.2%	0.4%	0.1%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.2%
S. of 34°27'		1.8%	0.0%	0.9%	5.0%	25.4%	21.0%	17.2%	1.5%	1.0%	7.4%
Other thornyheads	75.6%	15.4%	4.2%	4.7%	2.9%	5.6%	7.6%	1.5%	1.0%	3.6%	12.2%
COWCOD	73.9%	65.0%	51.8%	27.2%	23.6%	4.8%		0.0%		0.0%	24.6%
DARKBLOTCHED	0.6%	0.4%	0.7%	2.3%	2.2%	0.8%	0.4%	0.9%	0.4%	0.3%	0.9%
YELLOWWEYE	17.4%	17.9%	24.1%	21.1%	11.9%	5.9%	8.2%	4.0%	1.5%	6.6%	11.9%
Black Rockfish - coastwide	22.6%	21.2%	25.9%	17.9%	19.8%	17.5%	20.3%	23.3%	11.6%	19.3%	19.9%
Black Rockfish (WA)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Black Rockfish (OR-CA)	28.8%	27.4%	32.1%	23.8%	24.7%	21.7%	24.7%	29.4%	13.4%	25.7%	25.2%
Minor Rockfish North	13.6%	16.1%	11.7%	9.7%	11.0%	7.7%	9.1%	15.1%	10.5%	8.4%	11.3%
Nearshore Species	47.1%	41.3%	38.5%	32.3%	35.8%	28.9%	34.2%	43.9%	34.6%	35.1%	37.2%
Shelf Species											
BOCACCIO: N. of Monterey	9.4%	14.1%	3.9%	8.3%	11.2%	0.7%	0.1%	0.1%	0.3%	0.0%	4.8%
Chilipepper Rockfish: Eureka	2.8%	8.9%	20.6%	3.4%	7.2%	1.1%	0.1%	0.0%	0.0%	0.0%	4.4%
Redstripe Rockfish	0.0%	0.3%	0.3%	0.2%	0.6%	0.0%	0.0%	0.0%	0.9%	0.0%	0.2%
Silvergrey Rockfish	2.3%	1.0%	3.1%	0.5%	0.2%	0.1%	0.1%	10.1%	0.0%	5.9%	2.3%
Other Northern Shelf Rockfish	28.4%	31.6%	19.2%	14.4%	13.2%	16.5%	12.8%	11.0%	15.2%	17.2%	17.9%
Slope Species											
Bank Rockfish	4.2%	2.3%	2.2%	10.9%	1.1%	2.3%	0.0%	0.0%	0.0%	0.0%	2.3%
Sharpchin Rockfish, north	0.3%	0.2%	0.2%	0.7%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%
Splitnose Rockfish: N. of Monterey	0.6%	0.1%	0.5%	1.8%	1.6%	1.0%	0.4%	0.0%	0.0%	0.1%	0.6%
Yellowmouth Rockfish	2.5%	0.2%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
Other Northern Slope Rockfish	2.3%	5.8%	2.7%	2.0%	4.1%	3.1%	3.6%	2.1%	1.8%	2.1%	3.0%
Minor Rockfish South	40.4%	28.1%	23.8%	30.2%	17.7%	13.6%	14.9%	11.8%	11.1%	14.5%	20.6%
Nearshore Species	44.2%	34.8%	30.0%	30.6%	26.0%	23.5%	21.0%	16.0%	9.3%	19.1%	25.4%
Shelf Species											
Redstripe Rockfish	0.0%	0.0%	0.0%	4.5%	0.0%	45.1%	66.7%				11.6%
Yellowtail Rockfish	49.4%	17.9%	15.3%	39.4%	9.6%	3.3%	2.3%	2.1%	5.1%	9.3%	15.4%
Other Southern Shelf Rockfish	45.2%	38.2%	38.8%	37.4%	11.1%	7.5%	7.7%	4.0%	2.4%	6.9%	19.9%
Slope Species											
Bank Rockfish	18.2%	6.0%	7.5%	24.3%	24.9%	2.9%	10.9%	6.4%	15.2%	15.5%	13.2%
Blackgill Rockfish	44.6%	27.2%	25.5%	10.0%	16.1%	4.6%	9.5%	27.0%	33.4%	16.2%	21.4%
Sharpchin Rockfish	10.5%	0.6%	0.1%	0.9%	0.0%	0.0%	0.0%	0.0%			1.2%
Yellowmouth Rockfish		18.8%	0.0%								1.9%
Other Southern Slope Rockfish	15.1%	19.7%	15.6%	19.5%	8.9%	8.3%	8.1%	3.6%	8.3%	12.4%	12.0%
California scorpionfish	21.4%	11.2%	19.4%	32.2%	21.4%	16.3%	14.5%	18.3%	4.6%	7.4%	16.7%
Cabezon (off CA only)	55.8%	56.9%	64.0%	68.6%	72.0%	71.9%	55.2%	60.5%	29.2%	55.0%	58.9%
Dover Sole	0.8%	0.8%	0.7%	0.7%	1.3%	0.7%	0.5%	0.3%	0.2%	0.1%	0.6%
English Sole	1.3%	2.8%	4.4%	2.3%	3.7%	3.4%	2.5%	0.8%	2.3%	0.7%	2.4%
Petrale Sole (coastwide)	1.3%	1.5%	3.2%	1.8%	2.4%	2.7%	2.0%	0.8%	2.7%	0.3%	1.9%
N of 40°10'	0.6%	1.5%	3.9%	1.5%	2.7%	2.9%	2.1%	0.8%	3.0%	0.2%	1.9%
S of 40°10'	3.9%	1.5%	1.4%	2.9%	1.4%	1.3%	1.5%	0.6%	0.5%	0.5%	1.5%
Arrowtooth Flounder	0.9%	0.3%	0.2%	0.2%	0.3%	0.6%	0.1%	0.1%	0.6%	0.0%	0.3%
Starry Flounder	13.2%	26.9%	27.3%	24.4%	42.4%	23.6%	3.6%	18.1%	22.5%	20.1%	22.2%
Other Flatfish	2.3%	4.6%	7.2%	4.3%	3.7%	3.2%	4.9%	2.8%	2.5%	3.5%	3.9%
Kelp Greenling	7.9%	6.8%	33.3%	43.7%	55.5%	49.1%	30.7%	26.0%	19.3%	21.5%	29.4%
Spiny Dogfish	0.2%	8.3%	13.0%	0.3%	1.1%	0.9%	0.7%	2.5%	11.1%	12.7%	5.1%
Other Fish	7.5%	18.6%	15.0%	10.5%	21.6%	30.3%	22.5%	23.8%	25.6%	34.3%	21.0%

* "Open Access Sector" includes Directed OA and Incidental OA sectors.

** Arithmetic average of cells in each row. Empty cell is assumed = 0%.

Table 2e. Recreational Sector* Share (%) of Non-Treaty Landings or Deliveries of PFMC-managed Groundfish: 1995 to 2004

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Average** Share
Lingcod - coastwide	21.9%	24.7%	21.6%	50.5%	56.6%	66.3%	63.3%	75.7%	89.4%	67.0%	53.7%
N. of 42° (OR & WA)	13.2%	12.0%	13.5%	33.8%	35.9%	49.2%	52.4%	60.6%	69.6%	66.7%	40.7%
S. of 42° (CA)	33.4%	43.2%	34.3%	62.9%	70.7%	78.1%	72.2%	84.1%	95.0%	67.4%	64.1%
Pacific Cod	0.1%	0.1%	0.1%	0.4%	0.1%	0.0%	0.0%	0.7%	1.1%	1.1%	0.4%
Pacific Whiting (Coastwide)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sablefish (Coastwide)	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%	0.2%	0.1%	0.1%
N. of 36° (Monterey north)	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.2%	0.2%	0.1%	0.1%
S. of 36° (Conception area)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
PACIFIC OCEAN PERCH	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Shortbelly Rockfish	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
WIDOW ROCKFISH	0.1%	0.4%	0.6%	1.2%	0.8%	0.4%	0.7%	0.7%	4.1%	21.3%	3.0%
CANARY ROCKFISH	11.0%	6.7%	11.6%	6.4%	12.9%	60.6%	52.5%	33.4%	78.2%	57.1%	33.0%
Chilipepper Rockfish	0.6%	1.9%	3.6%	0.5%	2.7%	8.6%	13.7%	36.2%	0.1%	12.2%	8.0%
BOCACCIO	4.7%	17.7%	34.1%	27.6%	67.7%	81.6%	83.0%	30.4%	95.1%	83.8%	52.6%
Splitnose Rockfish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Yellowtail Rockfish	0.5%	0.6%	1.9%	2.2%	0.9%	0.7%	1.1%	2.6%	13.8%	13.1%	3.7%
Shortspine Thornyhead - coastwide	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
N. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%
S. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Longspine Thornyhead - coastwide	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
N. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other thornyheads	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
COWCOD	9.4%	26.3%	31.3%	59.2%	72.5%	94.6%		89.8%		100.0%	48.3%
DARKBLOTCHED	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
YELLOWWEYE	13.9%	14.9%	16.3%	36.5%	33.7%	70.0%	67.0%	84.0%	89.0%	88.6%	51.5%
Black Rockfish - coastwide	73.1%	74.9%	67.0%	70.4%	77.3%	79.4%	75.0%	73.7%	87.1%	79.0%	75.7%
Black Rockfish (WA)	98.5%	100.0%	99.5%	92.5%	100.0%	100.0%	100.0%	99.8%	100.0%	100.0%	99.0%
Black Rockfish (OR-CA)	66.1%	67.6%	59.2%	63.1%	71.7%	74.5%	69.6%	66.8%	85.1%	72.1%	69.6%
Minor Rockfish North	1.5%	2.0%	4.1%	4.2%	6.2%	9.4%	10.3%	14.4%	16.8%	12.5%	8.1%
Nearshore Species	38.0%	46.3%	53.5%	52.8%	51.7%	58.3%	47.6%	41.9%	61.0%	60.3%	51.1%
Shelf Species											
BOCACCIO: N. of Monterrey	0.8%	0.2%	0.3%	0.4%	1.6%	13.0%	10.9%	24.4%	14.5%	8.2%	7.4%
Chilipepper Rockfish: Eureka	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Redstripe Rockfish	0.2%	0.1%	0.2%	0.2%	0.2%	0.5%	0.8%	0.5%	1.2%	0.7%	0.5%
Silvergrey Rockfish	0.1%	0.0%	0.1%	0.1%	0.2%	5.8%	1.1%	3.2%	4.3%	1.4%	1.6%
Other Northern Shelf Rockfish	0.4%	0.4%	0.7%	0.8%	1.8%	7.3%	6.6%	10.9%	20.9%	23.4%	7.3%
Slope Species											
Bank Rockfish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sharpchin Rockfish, north	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Splitnose Rockfish: N. of Monterrey	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellowmouth Rockfish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	0.0%	0.4%
Other Northern Slope Rockfish	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Minor Rockfish South	27.2%	33.4%	38.5%	30.4%	70.8%	67.3%	62.0%	58.1%	70.0%	58.9%	51.7%
Nearshore Species	51.7%	58.7%	62.3%	64.4%	69.6%	73.0%	76.3%	82.6%	90.4%	80.5%	71.0%
Shelf Species											
Redstripe Rockfish	0.0%	100.0%	9.2%	7.1%	40.0%	43.8%	0.0%				20.0%
Yellowtail Rockfish	15.0%	44.8%	55.2%	26.1%	82.2%	82.4%	93.7%	90.9%	93.1%	89.0%	67.2%
Other Southern Shelf Rockfish	35.6%	41.0%	35.9%	33.0%	80.7%	87.5%	80.9%	90.9%	96.4%	90.4%	67.2%
Slope Species											
Bank Rockfish	0.0%	4.0%	2.8%	0.4%	15.6%	3.0%	0.4%	0.0%	1.0%	0.3%	2.8%
Blackgill Rockfish	0.8%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	2.1%	0.0%	0.0%	0.4%
Sharpchin Rockfish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%
Yellowmouth Rockfish		0.0%	0.0%								0.0%
Other Southern Slope Rockfish	0.1%	0.3%	1.0%	1.5%	1.2%	0.0%	0.5%	1.4%	1.9%	0.0%	0.8%
California scorpionfish	76.2%	86.8%	75.8%	67.1%	78.6%	83.6%	85.4%	80.8%	95.4%	92.6%	82.2%
Cabezon (off CA only)	43.2%	42.8%	31.2%	29.3%	25.8%	26.1%	44.0%	37.4%	70.7%	44.6%	39.5%
Dover Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
English Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Petrale Sole (coastwide)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%
N of 40°10'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S of 40°10'	0.2%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	1.7%	0.0%	0.1%	0.2%
Arrowtooth Flounder	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Starry Flounder	5.9%	5.6%	3.1%	7.6%	8.3%	11.7%	88.7%	23.6%	25.5%	5.1%	18.5%
Other Flatfish	0.7%	2.7%	1.7%	0.9%	1.1%	4.0%	2.8%	2.3%	3.3%	3.6%	2.3%
Kelp Greenling	87.1%	92.5%	62.6%	51.5%	37.5%	45.2%	64.6%	70.9%	77.9%	76.0%	66.6%
Spiny Dogfish	3.5%	6.1%	0.8%	0.4%	1.4%	1.4%	1.4%	1.5%	3.8%	0.3%	2.1%
Other Fish	18.1%	4.8%	5.9%	7.0%	12.1%	11.9%	13.4%	26.0%	16.2%	24.7%	14.0%

* "Recreational Sector" includes Washington, Oregon and California sport fisheries for Council-managed groundfish.

** Arithmetic average of cells in each row. Empty cell is assumed = 0%.

Table 2f. Treaty Sector* Landings or Deliveries as a Share (%) of Associated OYs: 1995 to 2004

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Average**
											Share
Lingcod - coastwide		0.05%	0.03%	0.28%	0.44%	0.82%	0.70%	1.95%	3.43%	3.24%	1.2%
N. of 42° (OR & WA)											
S. of 42° (CA)											
Pacific Cod								1.82%	6.70%	9.62%	6.0%
Pacific Whiting (Coastwide)		7.08%	10.70%	10.56%	11.14%	2.69%	3.19%	16.83%	15.83%	12.12%	10.0%
Sablefish (Coastwide)											9.2%
N. of 36° (Monterey north)	9.86%	10.94%	10.33%	8.55%	8.97%	8.91%	9.55%	10.01%	9.27%	9.49%	9.6%
S. of 36° (Conception area)											
PACIFIC OCEAN PERCH		0.00%	0.87%	0.06%	0.20%	0.02%	0.24%	0.13%	0.31%	0.88%	0.3%
Shortbelly Rockfish					0.00%						0.0%
WIDOW ROCKFISH		0.18%	0.15%	0.30%	0.73%	0.24%	0.46%	3.76%	1.38%	8.08%	1.7%
CANARY ROCKFISH	0.00%	0.01%	0.17%	0.30%	0.57%	0.66%	5.28%	6.52%	4.86%	7.85%	2.6%
Chilipepper Rockfish											
BOCACCIO											
Splitnose Rockfish											
Yellowtail Rockfish	0.00%	1.51%	4.43%	5.30%	14.14%	3.80%	5.90%	13.96%	9.76%	8.82%	6.8%
Shortspine Thornyhead - coastwide	0.47%	0.48%	0.56%	0.28%	0.46%	0.36%	0.66%	0.50%	0.60%	0.66%	0.5%
N. of 34°27'											
S. of 34°27'											
Longspine Thornyhead - coastwide											
N. of 34°27'	0.01%	0.00%	0.00%	0.00%					0.01%	0.00%	0.0%
S. of 34°27'											
Other thornyheads											
COWCOD											
DARKBLOTCHED							0.08%	0.93%	0.02%	0.06%	0.3%
YELLOWWEYE								16.57%	1.22%	3.59%	7.1%
Black Rockfish - coastwide											
Black Rockfish (WA)											
Black Rockfish (OR-CA)											
Minor Rockfish North	1.13%	0.87%	1.04%	1.10%	1.43%	0.84%	1.21%	0.89%	1.00%	1.22%	1.1%
Nearshore Species											
Shelf Species											
BOCACCIO: N. of Monterrey											
Chilipepper Rockfish: Eureka											
Redstripe Rockfish											
Silvergrey Rockfish											
Other Northern Shelf Rockfish											
Slope Species											
Bank Rockfish											
Sharpchin Rockfish, north											
Splitnose Rockfish: N. of Monterrey											
Yellowmouth Rockfish											
Other Northern Slope Rockfish											
Minor Rockfish South											
Nearshore Species											
Shelf Species											
Redstripe Rockfish											
Yellowtail Rockfish											
Other Southern Shelf Rockfish											
Slope Species											
Bank Rockfish											
Blackgill Rockfish											
Sharpchin Rockfish											
Yellowmouth Rockfish											
Other Southern Slope Rockfish											
California scorpionfish											
Cabezon (off CA only)											
Dover Sole	0.01%	0.01%	0.01%	0.02%	0.06%	0.01%	0.03%	0.22%	0.44%	1.12%	0.2%
English Sole									2.18%	2.61%	2.4%
Petrale Sole (coastwide)									3.05%	3.05%	3.0%
N of 40°10'											
S of 40°10'											
Arrowtooth Flounder									0.41%	1.45%	0.9%
Starry Flounder											
Other Flatfish									0.14%	0.23%	0.2%
Kelp Greenling											
Spiny Dogfish											
Other Fish									0.00%	0.00%	0.0%

* "Treaty Sector" includes shoreside landings and at-sea deliveries of Council-managed groundfish species.

** Arithmetic average of non-empty cells in each row.

Table 3. Maximum, Minimum and Average
Shares (%) of Non-Treaty Landings or
Deliveries of PFMC-managed Groundfish by
West Coast Fishery Sectors: 1995 to 2004

Stock or Complex	MAXIMUM shares (%)								
	At-Sea Catcher-	At Sea	Shoreside	Shoreside Non-	Shoreside LE	Shoreside LE Pot	Shoreside	Shoreside	
	Processors	Motherships	Whiting LE Trawl	whiting LE Trawl	Line Gear	Gear	Directed OA	Incidental OA	Recreational
Lingcod - coastwide	-	-	0.85%	58.15%	3.96%	0.60%	15.75%	6.58%	89.41%
N. of 42° (OR & WA)	-	-	1.42%	74.01%	6.80%	0.75%	15.38%	14.91%	69.64%
S. of 42° (CA)	-	-	0.15%	40.28%	5.21%	0.38%	24.67%	1.92%	95.01%
Pacific Cod	0.07%	0.01%	0.61%	99.00%	0.45%	0.01%	0.21%	1.93%	1.14%
Pacific Whiting (Coastwide)	39.14%	24.48%	47.95%	0.04%	0.00%	0.00%	0.02%	0.17%	0.00%
Sablefish (Coastwide)	0.82%	0.19%	3.90%	54.78%	33.94%	12.49%	12.13%	1.26%	0.20%
N. of 36° (Monterey north)	0.83%	0.19%	4.13%	54.40%	33.74%	13.08%	12.10%	1.28%	0.21%
S. of 36° (Conception area)	-	-	-	63.81%	69.68%	0.09%	22.64%	3.22%	0.10%
PACIFIC OCEAN PERCH	9.50%	3.74%	4.00%	98.18%	1.09%	0.11%	0.24%	1.66%	0.00%
Shortbelly Rockfish	68.19%	83.57%	67.94%	98.85%	0.08%	-	26.45%	4.79%	0.19%
WIDOW ROCKFISH	36.83%	15.88%	39.97%	92.76%	0.38%	0.02%	3.67%	0.61%	21.26%
CANARY ROCKFISH	2.22%	14.27%	4.05%	73.69%	8.35%	0.02%	17.03%	8.89%	78.21%
Chilipepper Rockfish	-	-	-	95.98%	4.66%	-	20.19%	1.19%	36.23%
BOCACCIO	-	-	-	57.86%	4.02%	-	48.46%	1.18%	95.06%
Splitnose Rockfish	-	-	0.01%	99.93%	5.86%	-	7.41%	0.66%	0.09%
Yellowtail Rockfish	14.54%	12.84%	43.79%	86.38%	1.68%	0.00%	4.61%	7.28%	13.81%
Shortspine Thornyhead - coastwide	2.82%	0.02%	0.23%	97.02%	19.68%	0.06%	0.91%	0.19%	0.14%
N. of 34°27'	4.08%	0.04%	0.37%	97.66%	3.03%	0.10%	0.42%	0.26%	0.25%
S. of 34°27'	-	-	0.00%	96.44%	44.22%	0.00%	2.66%	0.36%	0.02%
Longspine Thornyhead - coastwide	0.00%	0.00%	0.19%	99.24%	3.50%	0.00%	0.56%	0.15%	-
N. of 34°27'	0.00%	0.00%	0.20%	99.88%	2.18%	0.00%	0.50%	0.15%	-
S. of 34°27'	-	-	3.58%	99.96%	-	-	25.43%	0.89%	-
Other thornyheads	-	-	-	91.66%	93.35%	0.01%	75.41%	1.22%	-
COWCOD	-	-	3.27%	16.93%	-	-	71.16%	4.41%	100.00%
DARKBLOTCHED	6.66%	1.84%	2.94%	98.54%	3.67%	0.05%	1.15%	2.16%	0.00%
YELLOWEYE	10.30%	0.05%	0.28%	57.44%	35.42%	0.13%	23.83%	6.58%	88.99%
Black Rockfish - coastwide	0.16%	0.00%	0.07%	8.23%	4.58%	0.05%	25.22%	0.70%	87.08%
Black Rockfish (WA)	-	-	0.29%	7.25%	-	-	-	-	100.00%
Black Rockfish (OR-CA)	0.20%	0.00%	0.01%	8.55%	5.65%	0.06%	31.26%	0.87%	85.14%
Minor Rockfish North									
Nearshore Species	-	0.09%	0.00%	2.82%	17.68%	0.68%	46.94%	0.77%	61.01%
Shelf Species									
BOCACCIO: N. of Monterrey	5.67%	22.38%	6.96%	93.79%	5.38%	-	12.52%	2.25%	24.42%
Chilipepper Rockfish: Eureka	21.35%	17.11%	84.68%	96.65%	7.59%	-	19.68%	7.19%	0.10%
Redstripe Rockfish	86.59%	64.03%	7.19%	99.05%	0.02%	-	0.29%	0.86%	1.20%
Silvergrey Rockfish	2.24%	13.62%	2.41%	98.34%	9.47%	-	5.88%	10.13%	5.82%
Other Northern Shelf Rockfish	11.80%	0.42%	8.78%	59.59%	45.23%	1.06%	15.90%	20.08%	23.40%
Slope Species									
Bank Rockfish	36.68%	92.44%	2.81%	100.00%	13.40%	-	9.70%	2.10%	-
Sharpchin Rockfish, north	40.44%	2.02%	0.98%	99.78%	1.17%	-	0.29%	0.75%	-
Splitnose Rockfish: N. of Monterrey	67.67%	16.16%	16.44%	87.97%	1.48%	-	0.44%	1.66%	-
Yellowmouth Rockfish	21.47%	6.81%	0.51%	99.98%	1.61%	0.19%	2.45%	0.58%	3.57%
Other Northern Slope Rockfish	18.40%	3.93%	1.98%	85.29%	38.26%	2.69%	2.95%	3.34%	0.19%
Minor Rockfish South									
Nearshore Species	-	-	-	2.23%	6.18%	0.58%	43.56%	0.62%	90.44%
Shelf Species									
Redstripe Rockfish	-	-	-	100.00%	33.33%	-	66.67%	-	100.00%
Yellowtail Rockfish	-	-	-	33.33%	16.37%	0.00%	48.93%	3.16%	93.70%
Other Southern Shelf Rockfish	-	-	-	19.40%	12.88%	0.03%	43.17%	3.57%	96.44%
Slope Species									
Bank Rockfish	-	-	-	92.86%	7.07%	-	24.27%	1.25%	15.59%
Blackgill Rockfish	-	-	0.03%	69.50%	39.76%	0.70%	44.42%	0.37%	2.08%
Sharpchin Rockfish	-	-	-	100.00%	7.26%	-	10.52%	0.02%	-
Yellowmouth Rockfish	-	-	-	100.00%	-	-	18.75%	-	-
Other Southern Slope Rockfish	-	-	0.00%	88.32%	29.82%	3.27%	18.21%	3.06%	1.87%
California scorpionfish	-	-	-	4.23%	2.43%	0.00%	26.09%	11.12%	95.38%
Cabezon (off CA only)	-	-	-	-	4.79%	1.72%	70.85%	4.16%	70.71%
Dover Sole	0.02%	0.00%	0.11%	99.90%	0.03%	0.02%	0.03%	1.30%	0.00%
English Sole	0.01%	0.02%	0.28%	99.22%	0.00%	-	0.16%	4.37%	0.00%
Petrale Sole (coastwide)	0.00%	0.00%	0.24%	99.62%	0.08%	0.00%	0.42%	3.20%	0.23%
N of 40°10'	0.00%	0.00%	0.30%	99.67%	0.07%	0.00%	0.01%	3.85%	0.01%
S of 40°10'	-	-	-	99.45%	0.29%	-	1.93%	2.75%	1.74%
Arrowtooth Flounder	0.12%	0.13%	0.25%	99.82%	0.24%	0.03%	0.03%	0.86%	0.01%
Starry Flounder	-	-	0.43%	80.95%	0.30%	-	0.48%	41.98%	88.74%
Other Flatfish	1.04%	0.10%	0.58%	97.00%	0.07%	0.00%	0.48%	6.91%	3.96%
Kelp Greenling	-	-	-	3.58%	6.13%	1.07%	55.40%	0.41%	92.48%
Spiny Dogfish	45.92%	23.73%	8.43%	62.57%	44.07%	0.02%	12.93%	1.98%	6.07%
Other Fish	0.23%	0.09%	0.50%	69.31%	33.45%	1.48%	30.93%	5.42%	26.04%

Table 3. Maximum, Minimum and Average
Shares (%) of Non-Treaty Landings or
Deliveries of PFMC-managed Groundfish by
West Coast Fishery Sectors: 1995 to 2004

Stock or Complex	MINIMUM shares (%)								
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non- whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational
Lingcod - coastwide	-	-	0.01%	4.33%	0.53%	0.01%	4.81%	0.80%	21.58%
N. of 42° (OR & WA)	-	-	0.02%	14.66%	0.83%	0.01%	7.46%	1.94%	12.05%
S. of 42° (CA)	-	-	0.00%	1.15%	0.19%	0.00%	3.21%	0.41%	33.40%
Pacific Cod	0.00%	0.00%	0.00%	97.40%	0.07%	0.00%	0.01%	0.02%	0.01%
Pacific Whiting (Coastwide)	33.45%	12.89%	41.89%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%
Sablefish (Coastwide)	0.01%	0.00%	0.05%	41.79%	26.89%	6.07%	4.54%	0.65%	0.00%
N. of 36° (Monterey north)	0.01%	0.00%	0.05%	42.74%	25.71%	6.30%	4.71%	0.58%	0.00%
S. of 36° (Conception area)	-	-	-	20.02%	13.34%	0.09%	1.58%	0.07%	0.00%
PACIFIC OCEAN PERCH	0.28%	0.03%	0.02%	90.42%	0.00%	0.00%	0.00%	0.02%	0.00%
Shortbelly Rockfish	0.09%	0.00%	0.00%	10.18%	0.00%	-	0.05%	0.09%	0.05%
WIDOW ROCKFISH	1.08%	1.39%	1.28%	11.72%	0.00%	0.00%	0.11%	0.07%	0.09%
CANARY ROCKFISH	0.01%	0.02%	0.08%	19.97%	0.05%	0.00%	0.13%	0.27%	6.43%
Chilipepper Rockfish	-	-	-	62.20%	0.19%	-	1.31%	0.08%	0.09%
BOCACIO	-	-	-	0.99%	0.60%	-	1.86%	0.13%	4.65%
Splitnose Rockfish	-	-	0.01%	91.98%	0.00%	-	0.04%	0.00%	0.01%
Yellowtail Rockfish	1.05%	0.18%	5.31%	32.01%	0.07%	0.00%	0.07%	2.33%	0.55%
Shortspine Thornyhead - coastwide	0.00%	0.00%	0.01%	78.48%	1.68%	0.00%	0.07%	0.05%	0.00%
N. of 34°27'	0.00%	0.00%	0.02%	93.26%	1.39%	0.01%	0.00%	0.01%	0.00%
S. of 34°27'	-	-	0.00%	55.62%	1.98%	0.00%	0.06%	0.02%	0.00%
Longspine Thornyhead - coastwide	0.00%	0.00%	0.00%	95.91%	0.48%	0.00%	0.00%	0.00%	-
N. of 34°27'	0.00%	0.00%	0.00%	97.69%	0.10%	0.00%	0.00%	0.00%	-
S. of 34°27'	-	-	-	3.58%	74.57%	-	0.46%	0.00%	-
Other thornyheads	-	-	-	3.06%	7.35%	0.01%	0.64%	0.05%	-
COWCOD	-	-	-	0.03%	0.55%	-	3.82%	0.17%	9.35%
DARKBLOTCHED	0.22%	0.12%	0.01%	88.37%	0.06%	0.00%	0.02%	0.00%	0.00%
YELLOWEYE	0.01%	0.02%	0.01%	3.02%	0.27%	0.03%	0.13%	0.03%	13.89%
Black Rockfish - coastwide	0.00%	0.00%	0.00%	0.06%	1.24%	0.00%	11.56%	0.06%	66.97%
Black Rockfish (WA)	-	-	0.04%	0.16%	-	-	-	-	92.46%
Black Rockfish (OR-CA)	0.00%	0.00%	0.00%	0.07%	1.42%	0.00%	13.29%	0.07%	59.19%
Minor Rockfish North									
Nearshore Species	-	0.09%	0.00%	0.02%	2.65%	0.03%	28.16%	0.00%	38.02%
Shelf Species									
BOCACIO: N. of Monterey	0.03%	0.07%	0.00%	51.10%	0.25%	-	0.03%	0.03%	0.23%
Chilipepper Rockfish: Eureka	0.01%	0.03%	0.03%	5.10%	0.11%	-	0.02%	0.00%	0.00%
Redstripe Rockfish	0.02%	0.02%	0.01%	7.22%	0.01%	-	0.01%	0.00%	0.06%
Silvergrey Rockfish	0.01%	0.00%	0.02%	68.95%	0.01%	-	0.07%	0.00%	0.01%
Other Northern Shelf Rockfish	0.00%	0.00%	0.27%	29.76%	8.10%	0.00%	5.61%	1.34%	0.37%
Slope Species									
Bank Rockfish	0.43%	0.74%	0.00%	7.56%	0.87%	-	0.22%	0.06%	-
Sharpchin Rockfish, north	0.00%	0.00%	0.01%	57.54%	0.00%	-	0.00%	0.00%	-
Splitnose Rockfish: N. of Monterey	2.64%	0.11%	0.00%	30.42%	0.02%	-	0.00%	0.01%	-
Yellowmouth Rockfish	0.02%	0.00%	0.03%	74.96%	0.73%	0.00%	0.00%	0.00%	3.57%
Other Northern Slope Rockfish	0.31%	0.01%	0.02%	57.01%	3.54%	0.01%	0.28%	0.07%	0.00%
Minor Rockfish South									
Nearshore Species	-	-	-	0.03%	0.22%	0.00%	9.05%	0.23%	51.69%
Shelf Species									
Redstripe Rockfish	-	-	-	60.01%	0.52%	-	4.47%	-	7.09%
Yellowtail Rockfish	-	-	-	1.57%	0.16%	0.00%	1.61%	0.08%	14.98%
Other Southern Shelf Rockfish	-	-	-	0.63%	0.51%	0.00%	1.84%	0.39%	33.05%
Slope Species									
Bank Rockfish	-	-	-	59.54%	0.01%	-	2.89%	0.00%	0.03%
Blackgill Rockfish	-	-	0.03%	28.77%	16.24%	0.03%	4.22%	0.04%	0.00%
Sharpchin Rockfish	-	-	-	87.38%	0.14%	-	0.07%	0.01%	-
Yellowmouth Rockfish	-	-	-	81.25%	-	-	18.75%	-	-
Other Southern Slope Rockfish	-	-	0.00%	61.87%	1.00%	0.01%	3.16%	0.32%	0.07%
California scorpionfish	-	-	-	0.00%	0.00%	0.00%	2.30%	2.33%	67.07%
Cabezon (off CA only)	-	-	-	-	0.10%	0.30%	27.78%	1.03%	25.76%
Dover Sole	0.00%	0.00%	0.00%	98.66%	0.01%	0.00%	0.00%	0.06%	0.00%
English Sole	0.00%	0.00%	0.00%	95.38%	0.00%	-	0.00%	0.68%	0.00%
Petrale Sole (coastwide)	0.00%	0.00%	0.00%	96.53%	0.02%	0.00%	0.00%	0.28%	0.00%
N of 40°10'	0.00%	0.00%	0.00%	95.95%	0.00%	0.00%	0.00%	0.24%	0.00%
S of 40°10'	-	-	-	95.70%	0.04%	-	0.04%	0.48%	0.02%
Arrowtooth Flounder	0.00%	0.00%	0.01%	98.96%	0.01%	0.00%	0.00%	0.04%	0.00%
Starry Flounder	-	-	0.00%	7.64%	0.00%	-	0.02%	3.60%	3.09%
Other Flatfish	0.00%	0.00%	0.00%	90.40%	0.01%	0.00%	0.13%	2.03%	0.68%
Kelp Greenling	-	-	-	0.00%	0.67%	0.02%	6.54%	0.02%	37.46%
Spiny Dogfish	2.12%	0.13%	0.02%	17.33%	0.10%	0.00%	0.11%	0.00%	0.34%
Other Fish	0.00%	0.00%	0.01%	33.32%	5.11%	0.00%	6.21%	1.30%	4.80%

Table 3. Maximum, Minimum and Average
Shares (%) of Non-Treaty Landings or
Deliveries of PFMC-managed Groundfish by
West Coast Fishery Sectors: 1995 to 2004

Stock or Complex	AVERAGE shares (%) (average of annual percentages)								
	At-Sea Catcher- Processors	At Sea Motherships	Shoreside Whiting LE Trawl	Shoreside Non- whiting LE Trawl	Shoreside LE Line Gear	Shoreside LE Pot Gear	Shoreside Directed OA	Shoreside Incidental OA	Recreational
Lingcod - coastwide	-	-	0.16%	28.51%	2.71%	0.14%	11.43%	3.35%	53.70%
N. of 42° (OR & WA)	-	-	0.30%	38.69%	3.44%	0.25%	10.65%	5.97%	40.70%
S. of 42° (CA)	-	-	0.02%	18.55%	2.51%	0.06%	13.42%	1.31%	64.14%
Pacific Cod	0.01%	0.00%	0.10%	98.38%	0.28%	0.00%	0.10%	0.76%	0.38%
Pacific Whiting (Coastwide)	34.68%	22.04%	43.23%	0.02%	0.00%	0.00%	0.00%	0.03%	0.00%
Sablefish (Coastwide)	0.34%	0.04%	1.10%	49.37%	29.26%	10.49%	8.46%	0.88%	0.07%
N. of 36° (Monterey north)	0.36%	0.04%	1.15%	49.54%	28.68%	10.92%	8.37%	0.87%	0.07%
S. of 36° (Conception area)	-	-	-	43.84%	44.56%	0.01%	10.47%	1.10%	0.01%
PACIFIC OCEAN PERCH	2.56%	0.98%	1.72%	93.99%	0.26%	0.02%	0.07%	0.39%	0.00%
Shortbelly Rockfish	14.87%	12.59%	10.66%	58.08%	0.01%	-	3.04%	0.71%	0.04%
WIDOW ROCKFISH	9.55%	3.98%	11.38%	70.46%	0.14%	0.00%	1.24%	0.22%	3.03%
CANARY ROCKFISH	0.59%	1.77%	0.82%	48.76%	4.93%	0.00%	7.33%	2.75%	33.05%
Chilipepper Rockfish	-	-	-	79.10%	1.34%	-	10.96%	0.59%	8.01%
BOCACCIO	-	-	-	28.27%	2.08%	-	16.55%	0.53%	52.56%
Spltnose Rockfish	-	-	0.00%	97.06%	1.06%	-	1.73%	0.14%	0.01%
Yellowtail Rockfish	4.27%	6.62%	14.55%	64.69%	0.63%	0.00%	1.45%	4.06%	3.74%
Shortspine Thornyhead - coastwide	1.00%	0.01%	0.08%	88.80%	9.47%	0.02%	0.48%	0.12%	0.02%
N. of 34°27'	1.63%	0.01%	0.13%	95.99%	1.95%	0.04%	0.10%	0.11%	0.04%
S. of 34°27'	-	-	0.00%	77.30%	21.42%	0.00%	1.16%	0.11%	0.00%
Longspine Thornyhead - coastwide	0.00%	0.00%	0.04%	98.07%	1.60%	0.00%	0.23%	0.06%	-
N. of 34°27'	0.00%	0.00%	0.04%	98.94%	0.85%	0.00%	0.11%	0.06%	-
S. of 34°27'	-	-	-	0.36%	82.24%	-	7.19%	0.21%	-
Other thornyheads	-	-	-	50.66%	37.14%	0.00%	11.79%	0.41%	-
COWCOD	-	-	-	0.35%	6.72%	-	23.54%	1.09%	48.30%
DARKBLOTCHED	2.73%	0.80%	0.79%	94.09%	0.69%	0.01%	0.29%	0.61%	0.00%
YELLOWEYE	1.08%	0.01%	0.06%	22.38%	13.10%	0.02%	10.52%	1.34%	51.48%
Black Rockfish - coastwide	0.02%	0.00%	0.01%	1.50%	2.83%	0.01%	19.69%	0.26%	75.68%
Black Rockfish (WA)	-	-	0.03%	0.94%	-	-	-	-	99.02%
Black Rockfish (OR-CA)	0.02%	0.00%	0.00%	1.65%	3.56%	0.01%	24.84%	0.32%	69.59%
Minor Rockfish North									
Nearshore Species	-	0.01%	0.00%	0.79%	10.79%	0.08%	36.98%	0.21%	51.14%
Shelf Species									
BOCACCIO: N. of Monterrey	1.05%	2.84%	1.43%	80.97%	1.49%	-	4.14%	0.66%	7.43%
Chilipepper Rockfish: Eureka	4.68%	4.88%	22.88%	61.57%	1.55%	-	3.15%	1.26%	0.03%
Redstripe Rockfish	23.07%	10.48%	0.83%	64.92%	0.00%	-	0.04%	0.20%	0.46%
Silvergrey Rockfish	0.62%	2.18%	0.66%	90.91%	1.66%	-	1.22%	1.13%	1.62%
Other Northern Shelf Rockfish	2.18%	0.07%	1.95%	41.94%	28.24%	0.35%	11.25%	6.70%	7.32%
Slope Species									
Bank Rockfish	3.99%	9.32%	0.56%	82.08%	1.75%	-	1.77%	0.53%	-
Sharpchin Rockfish, north	7.11%	0.25%	0.23%	92.01%	0.16%	-	0.04%	0.20%	-
Spltnose Rockfish: N. of Monterrey	28.04%	3.00%	3.78%	64.32%	0.24%	-	0.08%	0.54%	-
Yellowmouth Rockfish	2.34%	0.71%	0.07%	95.94%	0.23%	0.02%	0.26%	0.08%	0.36%
Other Northern Slope Rockfish	5.75%	1.13%	0.61%	69.01%	19.54%	0.98%	1.35%	1.60%	0.03%
Minor Rockfish South									
Nearshore Species	-	-	-	0.74%	2.76%	0.10%	25.04%	0.40%	70.96%
Shelf Species									
Redstripe Rockfish	-	-	-	33.88%	4.49%	-	11.62%	-	20.00%
Yellowtail Rockfish	-	-	-	13.68%	3.73%	0.00%	14.56%	0.79%	67.24%
Other Southern Shelf Rockfish	-	-	-	7.86%	4.98%	0.01%	18.20%	1.72%	67.23%
Slope Species									
Bank Rockfish	-	-	-	82.49%	1.56%	-	12.99%	0.20%	2.76%
Blackgill Rockfish	-	-	0.00%	49.33%	28.77%	0.14%	21.19%	0.22%	0.36%
Sharpchin Rockfish	-	-	-	77.83%	0.97%	-	1.20%	0.00%	-
Yellowmouth Rockfish	-	-	-	18.13%	-	-	1.88%	-	-
Other Southern Slope Rockfish	-	-	0.00%	75.58%	11.33%	0.36%	10.81%	1.14%	0.78%
California scorpionfish	-	-	-	0.43%	0.65%	0.00%	11.21%	5.48%	82.23%
Cabezon (off CA only)	-	-	-	-	1.26%	0.33%	56.94%	1.96%	39.50%
Dover Sole	0.01%	0.00%	0.04%	99.31%	0.02%	0.01%	0.01%	0.60%	0.00%
English Sole	0.00%	0.00%	0.14%	97.42%	0.00%	-	0.04%	2.40%	0.00%
Petrale Sole (coastwide)	0.00%	0.00%	0.08%	97.96%	0.04%	0.00%	0.07%	1.81%	0.04%
N of 40°10'	0.00%	0.00%	0.10%	97.94%	0.03%	0.00%	0.00%	1.92%	0.00%
S of 40°10'	-	-	-	98.14%	0.08%	-	0.32%	1.22%	0.24%
Arrowtooth Flounder	0.06%	0.03%	0.07%	99.45%	0.06%	0.01%	0.01%	0.31%	0.00%
Starry Flounder	-	-	0.05%	59.19%	0.04%	-	0.23%	21.98%	18.50%
Other Flatfish	0.26%	0.02%	0.18%	93.29%	0.03%	0.00%	0.31%	3.60%	2.31%
Kelp Greenling	-	-	-	0.38%	3.42%	0.24%	29.24%	0.15%	66.57%
Spiny Dogfish	14.99%	8.26%	2.91%	47.47%	19.23%	0.00%	4.76%	0.31%	2.05%
Other Fish	0.07%	0.02%	0.08%	49.67%	14.85%	0.32%	17.81%	3.17%	14.01%

Table 4. Total Mortality (Ocean and Estuary) of PFMC-managed Groundfish by Recreational Sector by Subregion (mt): 1995 to 2004

Stock/Category	1995					1996					1997					1998				
	S CA	N CA	OR	WA	TOTAL	S CA	N CA	OR	WA	TOTAL	S CA	N CA	OR	WA	TOTAL	S CA	N CA	OR	WA	TOTAL
Lingcod - coastwide	19.1	249.9	78.8	61.4	409.2	26.7	336.2	93.5	53.8	510.2	15.5	249.9	117.1	48.4	430.8	17.1	236.4	73.6	27.1	354.2
N. of 42° (OR & WA)	-	-	78.8	61.4	140.2	-	-	93.5	53.8	147.3	-	-	117.1	48.4	165.4	-	-	73.6	27.1	100.7
S. of 42° (CA)	19.1	249.9	-	-	269.0	26.7	336.2	-	-	362.9	15.5	249.9	-	-	265.4	17.1	236.4	-	-	253.5
Pacific Cod	-	-	-	0.3	0.3	-	-	-	0.6	0.6	-	-	-	0.3	0.3	-	-	-	1.5	1.5
Pacific Whiting (Coastwide)	0.3	-	0.0	-	0.4	1.1	0.2	-	-	1.3	-	0.7	-	-	0.7	-	-	0.1	-	0.1
Sablefish (Coastwide)	-	-	2.8	-	2.8	-	0.3	2.6	-	2.8	-	-	3.5	-	3.5	-	-	2.9	-	2.9
N. of 36° (Monterey north)	-	-	2.8	-	2.8	-	0.3	2.6	-	2.8	-	-	3.5	-	3.5	-	-	2.9	-	2.9
S. of 36° (Conception area)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC OCEAN PERCH	-	-	0.0	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shortbelly Rockfish	-	-	-	-	-	-	0.1	-	-	0.1	0.0	0.0	-	-	0.0	0.0	-	-	-	0.0
WIDOW ROCKFISH	0.1	4.1	1.8	-	6.1	0.7	21.6	2.2	-	24.6	0.2	38.7	4.1	-	42.9	0.3	36.0	16.1	-	52.4
CANARY ROCKFISH	2.3	67.3	35.8	3.9	109.3	2.3	60.8	18.7	5.1	86.8	1.4	101.2	39.4	3.9	145.9	1.5	25.1	43.6	11.1	81.3
Chilipepper Rockfish	9.0	1.8	-	-	10.9	12.2	20.6	-	-	32.8	1.0	72.7	-	-	73.6	6.2	1.0	-	-	7.3
BOCACIO	30.5	2.7	-	-	33.2	67.1	25.9	-	-	93.0	49.2	107.4	-	-	156.6	28.5	22.9	-	-	51.4
Splitnose Rockfish	-	-	-	-	-	0.1	0.0	-	-	0.1	-	-	-	-	-	-	0.3	-	-	0.3
Yellowtail Rockfish	-	-	25.2	4.6	29.8	-	-	19.7	12.0	31.7	-	-	29.9	11.2	41.1	-	-	34.7	29.3	64.0
Shortspine Thornyhead - coastwide	-	-	-	-	-	-	0.0	-	-	0.0	-	-	-	-	-	-	-	-	-	-
N. of 34°27'	-	-	-	-	-	-	0.0	-	-	0.0	-	-	-	-	-	-	-	-	-	-
S. of 34°27'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Longspine Thornyhead - coastwide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N. of 34°27'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. of 34°27'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other thornyheads	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COWCOD	1.7	-	-	-	1.7	5.4	0.3	-	-	5.6	1.8	0.6	-	-	2.5	2.8	-	-	-	2.8
DARKBLOTCHED	-	-	-	-	-	0.0	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-
YELLOWWEYE	0.0	12.5	16.8	3.4	32.8	-	12.5	8.2	9.5	30.2	0.5	14.6	15.4	5.3	35.8	-	5.8	18.8	14.4	39.0
Black Rockfish - coastwide	-	157.9	359.0	212.9	729.8	-	153.8	389.0	234.9	777.7	-	90.7	358.0	180.4	629.1	-	116.7	352.0	224.4	693.0
Black Rockfish (WA)	-	-	-	212.9	212.9	-	-	-	234.9	234.9	-	-	-	180.4	180.4	-	-	-	224.4	224.4
Black Rockfish (OR-CA)	-	157.9	359.0	-	516.9	-	153.8	389.0	-	542.8	-	90.7	358.0	-	448.7	-	116.7	352.0	-	468.7
Minor Rockfish North	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nearshore Species	-	-	32.3	2.2	34.5	-	-	43.4	4.2	47.6	-	-	80.4	4.0	84.5	-	-	78.3	5.1	83.4
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BOCACIO: N. of Monterey	-	-	1.5	0.2	1.7	-	-	0.3	0.1	0.4	-	-	0.4	-	0.4	-	-	0.3	0.2	0.5
Chilipepper Rockfish: Eureka	-	-	0.1	-	0.1	-	-	-	-	-	-	-	0.1	-	0.1	-	-	-	-	-
Redstripe Rockfish	-	-	0.6	-	0.6	-	-	0.1	-	0.1	-	-	0.4	-	0.4	-	-	0.2	-	0.2
Silvergrey Rockfish	-	-	0.1	-	0.1	-	-	0.0	-	0.0	-	-	0.0	-	0.0	-	-	0.2	-	0.2
Other Northern Shelf Rockfish	-	-	3.5	0.2	3.7	-	-	3.6	0.3	3.9	-	-	5.3	0.4	5.7	-	-	7.8	0.4	8.2
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sharpchin Rockfish, north	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Splitnose Rockfish: N. of Monterey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Northern Slope Rockfish	-	-	0.0	-	0.0	-	-	-	0.6	0.6	-	-	0.0	-	0.0	-	-	0.1	-	0.1
Minor Rockfish South	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nearshore Species	66.3	273.0	-	-	339.4	153.0	336.8	-	-	489.9	32.8	511.4	-	-	544.2	66.5	419.8	-	-	486.3
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	-	-	-	0.1	-	-	0.1	-	0.3	-	-	0.3	-	0.0	-	-	0.0
Yellowtail Rockfish	-	33.3	-	-	33.3	0.8	95.3	-	-	96.1	1.0	400.8	-	-	401.8	2.0	109.5	-	-	111.6
Other Southern Shelf Rockfish	288.8	64.8	-	-	353.6	325.3	90.5	-	-	415.8	70.3	167.4	-	-	237.7	127.0	76.2	-	-	203.2
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	0.2	-	-	-	0.2	21.7	0.1	-	-	21.8	11.7	-	-	-	11.7	2.4	-	-	-	2.4
Blackgill Rockfish	2.8	-	-	-	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sharpchin Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Southern Slope Rockfish	-	0.1	-	-	0.1	-	0.2	-	-	0.2	0.5	-	-	-	0.5	-	0.6	-	-	0.6
California scorpionfish	101.8	-	-	-	101.8	166.6	-	-	-	166.6	103.9	-	-	-	103.9	82.9	-	-	-	82.9
Cabezon (off CA only)	4.7	64.2	-	-	68.8	13.2	71.7	-	-	84.9	4.5	55.4	-	-	60.0	9.4	63.8	-	-	73.3
Dover Sole	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
English Sole	-	-	-	-	-	-	-	0.0	-	0.0	-	-	-	-	-	-	-	-	-	-
Petrale Sole (coastwide)	-	0.7	0.1	-	0.7	0.3	0.3	0.0	-	0.6	0.1	0.1	0.1	-	0.3	-	-	0.0	-	0.0
N of 40°10'	-	-	0.1	-	0.1	-	-	0.0	-	0.0	-	-	0.1	-	0.1	-	-	0.0	-	0.0
S of 40°10'	-	0.7	-	-	0.7	0.3	0.3	-	-	0.6	0.1	0.1	-	-	0.2	-	-	-	-	-
Arrowtooth Flounder	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Starry Flounder	-	3.8	0.0	-	3.8	0.8	2.0	0.2	-	3.1	-	3.0	0.3	-	3.3	-	6.1	1.8	-	8.0
Other Flatfish	6.3	10.2	0.4	-	16.8	41.0	12.4	0.3	-	53.7	8.9	27.2	2.4	-	38.6	7.0	6.7	0.6	-	14.3
Kelp Greenling	-	23.8	12.7	0.5	37.0	-	34.9	17.2	2.0	54.1	-	14.9	20.2	1.2	36.2	-	9.6	8.5	0.5	18.6
Spiny Dogfish	14.4	4.9	0.4	-	19.8	16.7	3.3	0.0	1.7	21.7	1.3	3.8	0.0	-	5.1	-	2.5	0.0	-	2.5
Other Fish	6.9	199.4	15.4	1.2	222.9	8.2	55.6	16.1	3.0	82.9	0.8	40.3	22.2	1.9	65.2	3.3	40.4	17.9	4.2	65.9
Subregion TOTALS	555.3	1,174.4	587.3	290.9	2,607.9	863.2	1,335.6	615.2	327.7	3,141.6	305.5	1,901.1	699.2	257.0	3,162.8	357.1	1,179.5	657.5	318.3	2,512.4

Note: Recreational entries include estimated weight of retained plus observed discarded dead (A+B1). Recreational data is divided into four regions: WA, OR, Northern CA (34° 27' N. latitude and north to OR border), and Southern CA (34° 27' and south to Mexico border). Note that this division is different than the 40°10' N. latitude line used for managing commercial catch of rockfish species. However since groundfish recreational angler effort and catch in CA is concentrated south of 40°10' N. latitude, in these tables all catch of "minor rockfish" species in both the Northern CA and Southern CA regions is included as "minor rockfish- south".

Note: Recreational entries include estimated weight of retained plus OR border), and Southern CA (34° 27' and south to Mexico border). since groundfish recreational angler effort and catch in CA is concer is included as "minor rockfish- south".

Table 4. Total Mortality (Ocean and Estuary) of PFMC-managed Groundfish by Recreational Sector by Subregion (mt): 1995 to 2004

Stock/Category	1999					2000					2001					2002				
	S CA	N CA	OR	WA	TOTAL	S CA	N CA	OR	WA	TOTAL	S CA	N CA	OR	WA	TOTAL	S CA	N CA	OR	WA	TOTAL
Lingcod - coastwide	30.2	312.8	83.1	35.9	462.0	5.1	188.9	56.3	28.2	278.5	22.8	139.6	63.9	32.2	258.5	0.2	432.1	91.6	81.4	605.3
N. of 42° (OR & WA)	-	-	83.1	35.9	119.0	-	-	56.3	28.2	84.5	-	-	63.9	32.2	96.2	-	-	91.6	81.4	173.0
S. of 42° (CA)	30.2	312.8	-	-	343.0	5.1	188.9	-	-	194.0	22.8	139.6	-	-	162.4	0.2	432.1	-	-	432.3
Pacific Cod	-	-	-	0.4	0.4	-	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	5.0	5.0
Pacific Whiting (Coastwide)	0.1	2.2	-	-	2.3	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.3	0.0	-	0.3
Sablefish (Coastwide)	-	0.0	0.3	-	0.3	-	0.2	-	-	0.2	0.1	-	2.8	-	2.9	-	1.2	5.4	-	6.6
N. of 36° (Monterey north)	-	0.0	0.3	-	0.3	-	0.2	-	-	0.2	-	-	2.8	-	2.8	-	1.2	5.4	-	6.6
S. of 36° (Conception area)	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	0.1	-	-	-	-	-
PACIFIC OCEAN PERCH	-	-	-	-	-	-	-	0.0	-	0.0	-	-	-	-	-	-	-	0.0	-	0.0
Shortbelly Rockfish	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	0.0	-	-	-	-	-
WIDOW ROCKFISH	0.1	30.3	2.3	-	32.7	0.1	12.1	3.2	-	15.4	0.3	9.2	4.3	-	13.8	0.7	0.9	1.3	-	2.9
CANARY ROCKFISH	1.8	63.1	28.7	4.9	98.5	0.4	76.7	14.5	2.8	94.3	-	33.4	10.4	2.4	46.2	7.0	6.0	9.1	1.8	23.9
Chilipepper Rockfish	6.1	18.4	-	-	24.5	7.8	31.4	-	-	39.2	1.3	50.5	-	-	51.9	83.9	5.6	-	-	89.6
BOCACIO	71.1	53.0	-	-	124.1	51.6	60.3	-	-	111.9	60.2	48.8	-	-	109.0	1.1	8.2	-	-	9.3
Splitnose Rockfish	-	0.0	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellowtail Rockfish	-	-	19.4	6.5	25.8	-	-	15.1	8.8	23.9	-	-	15.9	3.4	19.2	-	-	18.9	2.1	21.0
Shortspine Thornyhead - coastwide	0.1	0.5	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	1.1
N. of 34°27'	-	0.5	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	1.1
S. of 34°27'	0.1	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Longspine Thornyhead - coastwide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N. of 34°27'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. of 34°27'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other thornyheads	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COWCOD	3.8	1.8	-	-	5.6	4.5	1.7	-	-	6.2	-	-	-	-	-	0.1	0.1	-	-	0.2
DARKBLOTCHED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	0.0
YELLOWWEYE	1.6	11.0	17.3	18.5	48.3	-	7.5	9.5	10.7	27.8	-	4.6	4.8	14.7	24.1	0.6	1.5	3.1	2.2	7.4
Black Rockfish - coastwide	0.2	161.9	290.0	154.2	606.4	-	129.4	323.0	143.3	595.8	0.1	248.2	318.0	175.7	742.0	-	146.5	298.0	176.2	620.7
Black Rockfish (WA)	-	-	-	154.2	154.2	-	-	-	143.3	143.3	-	-	-	-	175.7	-	-	-	176.2	176.2
Black Rockfish (OR-CA)	0.2	161.9	290.0	-	452.1	-	129.4	323.0	-	452.4	0.1	248.2	318.0	-	566.3	-	146.5	298.0	-	444.5
Minor Rockfish North	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nearshore Species	-	-	59.9	5.0	64.9	-	-	51.4	5.6	57.0	-	-	49.1	3.4	52.5	-	-	31.6	4.4	36.0
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BOCACIO: N. of Monterey	-	-	0.4	0.4	0.8	-	-	0.7	0.3	1.0	-	-	0.7	0.9	1.6	-	-	0.7	1.2	1.9
Chilipepper Rockfish: Eureka	-	-	0.0	-	0.0	-	-	0.0	-	0.0	-	-	0.0	-	0.0	-	-	0.0	-	0.0
Redstripe Rockfish	-	-	0.1	-	0.1	-	-	0.0	-	0.0	-	-	0.1	-	0.1	-	-	0.0	-	0.0
Silvergrey Rockfish	-	-	0.1	-	0.1	-	-	0.1	-	0.1	-	-	0.0	-	0.0	-	-	0.1	-	0.1
Other Northern Shelf Rockfish	-	-	8.8	0.6	9.4	-	-	4.8	0.4	5.2	-	-	3.9	0.2	4.1	-	-	4.2	0.3	4.5
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sharpchin Rockfish, north	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Splitnose Rockfish: N. of Monterey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	0.1
Other Northern Slope Rockfish	-	-	0.0	-	0.0	-	-	0.1	-	0.1	-	-	0.0	-	0.0	-	-	0.0	-	0.0
Minor Rockfish South	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nearshore Species	106.1	392.5	-	-	498.6	44.9	378.7	-	-	423.6	61.3	423.4	-	-	484.8	69.5	463.3	-	-	532.8
Shelf Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	0.1	-	-	0.1	-	0.2	-	-	0.2	-	-	-	-	-	-	-	-	-	-
Yellowtail Rockfish	9.5	195.9	-	-	205.5	0.0	134.0	-	-	134.0	0.3	55.7	-	-	56.0	0.1	24.5	-	-	24.6
Other Southern Shelf Rockfish	315.3	146.5	-	-	461.9	171.4	146.5	-	-	317.9	98.2	112.6	-	-	210.9	221.0	86.4	-	-	307.4
Slope Species	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	4.8	0.1	-	-	4.9	2.5	0.2	-	-	2.7	0.4	-	-	-	0.4	0.1	-	-	-	0.1
Blackgill Rockfish	-	0.3	-	-	0.3	-	-	-	-	-	-	-	-	-	-	3.0	-	-	-	3.0
Sharpchin Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Southern Slope Rockfish	-	0.4	-	-	0.4	-	-	-	-	-	-	0.1	-	-	0.1	0.1	0.5	-	-	0.6
California scorpionfish	139.6	0.0	-	-	139.6	89.5	-	-	-	89.5	113.5	-	-	-	113.5	56.4	-	-	-	56.4
Cabezon (off CA only)	14.7	28.7	-	-	43.4	6.5	34.7	-	-	41.2	6.9	50.1	-	-	57.0	0.0	30.1	-	-	30.1
Dover Sole	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
English Sole	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	0.0
Petrale Sole (coastwide)	0.0	0.0	0.0	-	0.1	0.1	-	0.0	-	0.2	-	0.1	0.0	-	0.1	4.0	0.0	0.0	-	4.0
N. of 40°10'	-	-	0.0	-	0.0	-	-	0.0	-	0.0	-	-	0.0	-	0.0	-	-	0.0	-	0.0
S. of 40°10'	0.0	0.0	-	-	0.1	0.1	-	-	-	0.1	-	0.1	-	-	0.1	4.0	0.0	-	-	4.0
Arrowtooth Flounder	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	0.2	-	-	0.1	-	0.1
Starry Flounder	-	3.9	0.5	0.5	4.9	1.4	4.4	0.4	-	6.2	-	378.8	2.6	-	381.4	-	5.3	9.5	-	14.8
Other Flatfish	13.5	8.7	0.3	-	22.5	56.8	7.5	0.3	-	64.7	33.2	14.8	0.3	-	48.2	12.6	26.5	0.2	-	39.3
Kelp Greenling	0.3	6.7	13.6	2.9	23.4	0.2	11.4	22.4	1.2	35.3	12.5	30.2	28.1	1.3	72.2	73.9	31.1	43.3	2.2	150.4
Spiny Dogfish	8.2	2.8	0.0	-	11.0	9.9	-	0.0	-	10.0	8.2	1.1	0.1	-	9.4	11.6	2.3	0.0	-	13.9
Other Fish	9.8	41.5	19.0	6.5	76.8	10.7	24.5	17.5	2.8	55.5	12.5	30.2	18.7	2.1	63.6	75.1	31.1	18.0	5.7	129.8
Subregion TOTALS	736.9	1,483.2	543.9	236.3	3,000.3	463.6	1,250.3	519.3	204.3	2,437.6	431.8	1,631.6	524.2	236.4	2,824.0	621.0	1,304.5	535.3	282.5	2,743.4

observed discarded dead (A+B1). Recreational data is divided into four regions: WA, OR, Northern CA (34° 27' N. latitude and north to OR border), and Southern CA (34° 27' and south to Mexico border). Note that this division is different than the 40°10' N. latitude line used for managing commercial catch of rockfish species. However since groundfish recreational angler effort and catch in CA is concentrated south of 40°10' N. latitude, in these tables all catch of "minor rockfish" species in both the Northern CA and Southern CA regions is included as "minor rockfish- south".

Note: Recreational entries include estimated weight of retained plus observed discarded dead (A+B1). Recreational data is divided into four regions: WA, OR, Northern CA (34° 27' N. latitude and north to OR border), and Southern CA (34° 27' and south to Mexico border). Note that this division is different than the 40°10' N. latitude line used for managing commercial catch of rockfish species. However since groundfish recreational angler effort and catch in CA is concentrated south of 40°10' N. latitude, in these tables all catch of "minor rockfish" species in both the Northern CA and Southern CA regions is included as "minor rockfish- south".

Table 4. Total Mortality (Ocean and Estuary) of PFMC-managed Groundfish by Recreational Sector by Subregion (mt): 1995 to 2004

Stock/Category	2003					2004				
	S CA	N CA	OR	WA	TOTAL	S CA	N CA	OR	WA	TOTAL
Lingcod - coastwide	101.4	897.8	124.6	82.9	1,206.7	22.5	107.1	118.7	63.3	311.6
N. of 42° (OR & WA)	-	-	124.6	82.9	207.5	-	-	118.7	63.3	182.0
S. of 42° (CA)	101.4	897.8	-	-	999.2	22.5	107.1	-	-	129.7
Pacific Cod	-	-	0.1	11.7	11.8	-	-	0.0	12.6	12.6
Pacific Whiting (Coastwide)	-	-	0.1	-	0.1	0.0	0.3	0.6	-	1.0
Sablefish (Coastwide)	-	0.2	7.8	-	8.0	0.0	-	2.8	-	2.8
N. of 36° (Monterey north)	-	0.2	7.8	-	8.0	-	-	2.8	-	2.8
S. of 36° (Conception area)	-	-	-	-	-	0.0	-	-	-	0.0
PACIFIC OCEAN PERCH	-	-	-	-	-	-	-	-	-	-
Shortbelly Rockfish	-	-	-	-	-	-	-	-	-	-
WIDOW ROCKFISH	0.0	0.1	1.2	-	1.3	8.9	5.7	0.7	-	15.3
CANARY ROCKFISH	0.2	17.9	9.3	2.3	29.7	0.2	10.4	4.2	1.7	16.4
Chilipepper Rockfish	-	0.0	-	-	0.0	6.0	-	-	-	6.0
BOCACCIO	10.8	0.0	-	-	10.8	60.3	2.2	-	-	62.5
Splitnose Rockfish	-	0.1	-	-	0.1	-	-	-	-	-
Yellowtail Rockfish	-	-	15.1	7.9	23.0	-	-	11.4	23.9	35.3
Shortspine Thornyhead - coastwide	-	0.1	-	-	0.1	0.0	-	-	-	0.0
N. of 34°27'	-	0.1	-	-	0.1	-	-	-	-	-
S. of 34°27'	-	-	-	-	-	0.0	-	-	-	0.0
Longspine Thornyhead - coastwide	-	-	-	-	-	-	-	-	-	-
N. of 34°27'	-	-	-	-	-	-	-	-	-	-
S. of 34°27'	-	-	-	-	-	-	-	-	-	-
Other thornyheads	-	-	-	-	-	-	-	-	-	-
COWCOD	-	-	-	-	-	0.5	-	-	-	0.5
DARKBLOTCHED	-	-	-	-	-	-	-	-	-	-
YELLOWEYE	-	3.7	3.0	3.5	10.2	0.0	0.7	2.7	3.5	7.0
Black Rockfish - coastwide	-	654.8	346.2	175.9	1,176.9	0.0	109.4	360.5	214.8	684.7
Black Rockfish (WA)	-	-	-	175.9	175.9	-	-	-	214.8	214.8
Black Rockfish (OR-CA)	-	654.8	346.2	-	1,001.1	0.0	109.4	360.5	-	469.9
Minor Rockfish North	-	-	-	-	-	-	-	-	-	-
Nearshore Species	-	-	37.5	4.2	41.7	-	-	31.4	6.3	37.7
Shelf Species	-	-	-	-	-	-	-	-	-	-
BOCACCIO: N. of Monterey	-	-	0.7	0.6	1.3	-	-	0.2	0.2	0.4
Chilipepper Rockfish: Eureka	-	-	0.0	-	0.0	-	-	0.0	-	0.0
Redstripe Rockfish	-	-	0.1	-	0.1	-	-	0.0	-	0.0
Silvergrey Rockfish	-	-	0.1	-	0.1	-	-	0.0	-	0.0
Other Northern Shelf Rockfish	-	-	5.0	0.3	5.3	-	-	3.7	0.3	4.0
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	-	-	-	-	-	-	-	-	-	-
Sharpchin Rockfish, north	-	-	-	-	-	-	-	-	-	-
Splitnose Rockfish: N. of Monterey	-	-	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-
Other Northern Slope Rockfish	-	-	0.0	-	0.0	-	-	0.0	-	0.0
Minor Rockfish South	-	-	-	-	-	-	-	-	-	-
Nearshore Species	70.2	569.0	-	-	639.2	58.1	294.2	-	-	352.3
Shelf Species	-	-	-	-	-	-	-	-	-	-
Redstripe Rockfish	-	-	-	-	-	-	-	-	-	-
Yellowtail Rockfish	0.1	18.9	-	-	18.9	0.5	12.0	-	-	12.6
Other Southern Shelf Rockfish	137.9	208.4	-	-	346.4	190.0	86.3	-	-	276.3
Slope Species	-	-	-	-	-	-	-	-	-	-
Bank Rockfish	1.0	-	-	-	1.0	0.5	-	-	-	0.5
Blackgill Rockfish	-	-	-	-	-	0.0	-	-	-	0.0
Sharpchin Rockfish	-	-	-	-	-	-	-	-	-	-
Yellowmouth Rockfish	-	-	-	-	-	-	-	-	-	-
Other Southern Slope Rockfish	-	1.1	-	-	1.1	-	-	-	-	-
California scorpionfish	89.4	-	-	-	89.4	43.9	0.0	-	-	43.9
Cabezon (off CA only)	10.5	85.6	-	-	96.1	7.9	31.9	-	-	39.8
Dover Sole	-	-	0.0	-	0.0	-	-	0.0	-	0.0
English Sole	-	-	0.0	-	0.0	-	-	-	-	-
Petrale Sole (coastwide)	-	0.1	0.1	-	0.2	0.2	0.1	0.1	-	0.5
N of 40°10'	-	-	0.1	-	0.1	-	-	0.1	-	0.1
S of 40°10'	-	0.1	-	-	0.1	0.2	0.1	-	-	0.3
Arrowtooth Flounder	-	-	0.1	-	0.1	-	-	0.0	-	0.0
Starry Flounder	0.7	6.5	8.8	-	16.0	-	2.3	3.2	-	5.5
Other Flatfish	29.5	23.3	0.5	-	53.3	20.3	25.2	0.2	-	45.7
Kelp Greenling	11.0	40.0	36.3	1.6	88.8	11.4	43.7	23.0	2.3	80.3
Spiny Dogfish	14.1	3.9	0.0	-	18.0	1.6	0.8	0.1	-	2.4
Other Fish	12.8	40.0	18.4	4.6	75.7	11.5	43.7	20.0	5.7	80.8
Subregion TOTALS	489.5	2,571.5	614.9	295.5	3,971.4	444.3	776.2	583.5	334.5	2,138.5

our regions: WA, OR, Northern CA (34° 27' N. latitude and north to d for managing commercial catch of rockfish species. However rockfish" species in both the Northern CA and Southern CA regions

Notes:

- 1 - Sources: PacFIN, RecFIN and NorPac downloads. PacFIN source files are <ext_trips_pfmc_mg.dat.XX> where "XX" is the two-digit year 1995-2004. These files have a unique record for each vessel-day-SPID delivery to a given buyer code. Species codes (SPIDs) have been adjusted by PacFIN using estimated species composition distributions for certain market categories. PacFIN records include roundweight of landings. RecFIN records include estimated weight of retained plus observed discarded dead (A+B1). NorPac records include observed total catch (retained plus discards) for the at-sea fleets (catcher processor, mothership, and treaty).
- 2 - Recreational entries include estimated weight of retained plus observed discarded dead (A+B1). Recreational data is divided into four regions: WA, OR, Northern CA (34° 27' N. latitude and north to OR border), and Southern CA (34° 27' and south to Mexico border). Note that this division is different than the 40°10' N. latitude line used for managing commercial catch of rockfish species. However since groundfish recreational angler effort and catch in CA is concentrated south of 40°10' N. latitude, in these tables all catch of "minor rockfish" species in both the Northern CA and Southern CA regions is included as "minor rockfish- south".
- 3 - Recreational totals were provided by the states and include RecFIN ocean, shore and estuary (including SF Bay but excluding Puget Sound) catch of Council-managed species. Oregon shore and estuary boat survey, which was conducted from July 2003 – June 2005, is not currently in the RecFIN database. In order to estimate this mortality, the average mortality of the shore and estuary catch from 1998-2002 was calculated and prorated.
- 4 - "Shoreside Directed OA" is defined as commercial landings where gear used was not endorsed by an LE permit, where at least 50% of the total round weight was groundfish and less than 100 lb: was pink shrimp, and one or more of the following gear types were used: hook and line gear (longlines, vertical hook and line, setline, pole, jig, and bottom troll gear), fish pots, dive gear, or set net gear.
- 5 - "Shoreside Incidental OA" is defined as commercial landings containing groundfish where other types of gear such as shrimp trawl, seine, drift net, salmon troll, crab pot, or exempt trawl gear were used. This category includes all groundfish landings by vessels targeting Pink Shrimp, whether or not they held an LE trawl permit, and excludes landings records where groundfish outweighed California halibut.
- 6 - Numerous occurrences of large PacFIN landings by non-LE endorsed vessels were investigated. These landings were concentrated from 1995 to 1999. While investigation showed some of these to actually be LE landings, the vast majority were by Canadian vessels delivering to WA ports. These records were recoded in PacFIN and excluded from this analysis.
- 7 - Species and species groups listed in the tables are adapted from the ABC/OY tables in the 2007-2008 Groundfish Specifications EIS.
- 8 - "Other Flatfish" includes all the unassessed flatfish species in the Groundfish FMP. These include butter sole (*Isopsetta isolepis*), curfin sole (*Pleuronichthys decurrens*), flathead sole (*Hippoglossoides elassodon*), Pacific sanddab (*Citharichthys sordidus*), rex sole (*Glyptocephalus zachirus*), rock sole (*Lepidopsetta bilineata*), and sand sole (*Psettichthys melanostictus*).
- 9 - "Other Fish" contains all the unassessed Groundfish FMP species that are neither rockfish (family Scorpaenidae) nor flatfish. These species include big skate (*Raja binoculata*), California skate (*Raja inornata*), leopard shark (*Triakis semifasciata*), longnose skate (*Raja rhina*), soupfin shark (*Galeorhinus zyopterus*), finescale codling (*Antimora microlepis*), Pacific rattail (*Coryphaenoides acrolepis*), ratfish (*Hydrolagus collieri*), and cabezon (*Scorpaenichthys marmoratus*) north of the California-Oregon border at 42° N latitude. "Other Fish" does not include spiny dogfish, kelp greenling or cabezon in California. These species are listed separately in the tables.
- 10 - The Minor Nearshore Rockfish complex north of 40°10' N latitude includes the following species: black and yellow rockfish (*S. chrysomelas*); blue rockfish (*S. mystinus*); brown rockfish (*S. auriculatus*); calico rockfish (*S. dalli*); 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*); and treefish (*S. serriceps*).
- 11 - The Minor Shelf Rockfish complex north of 40°10' N latitude includes the following species: bronzespotted rockfish (*S. gilli*); bocaccio (*Sebastes paucispinis*); chameleon rockfish (*S. phillipsi*); chilipepper rockfish (*S. goodei*); cowcod (*S. levis*); dusky rockfish (*S. ciliatus*); dwarf-red rockfish (*S. rufianus*); flag rockfish (*S. rubrivinctus*); freckled rockfish (*S. lentiginosus*); greenblotched rockfish (*S. rosenblatti*); greenspotted rockfish (*S. chlorostictus*); greenstriped rockfish (*S. elongatus*); halfbanded rockfish (*S. semicinctus*); harlequin rockfish (*S. variegatus*); honeycomb rockfish (*S. umbrosus*); Mexican rockfish (*S. macdonaldi*); pink rockfish (*S. eos*); pinkrose rockfish (*S. simulator*); pygmy rockfish (*S. wilsoni*); redstripe rockfish (*S. proriger*); rosethorn rockfish (*S. helvomaculatus*); rosy rockfish (*S. rosaceus*); silvergray rockfish (*S. brevispinis*); speckled rockfish (*S. ovalis*); squarespot rockfish (*S. hopkinsi*); starry rockfish (*S. constellatus*); stripetail rockfish (*S. saxicola*); swordspine rockfish (*S. ensifer*); tiger rockfish (*S. nigrocinctus*); and vermilion rockfish (*S. miniatus*).
- 12 - The Minor Slope Rockfish complex north of 40°10' N latitude includes the following species: aurora rockfish (*S. aurora*); bank rockfish (*S. rufus*); blackgill rockfish (*S. melanostomus*); redbanded rockfish (*S. babcocki*); rougheye rockfish (*S. aleutianus*); sharpchin rockfish (*S. zacentrus*); shortraker rockfish (*S. borealis*); splitnose rockfish (*S. diploproa*); and yellowmouth rockfish (*S. reedi*).
- 13 - The Minor Nearshore Rockfish complex south of 40°10' N latitude, is further subdivided into the following management categories: 1) shallow nearshore rockfish [black and yellow rockfish (*S. chrysomelas*); China rockfish (*S. nebulosus*); gopher rockfish (*S. carnatus*); grass rockfish (*S. rastrelliger*), and kelp rockfish (*S. atrovirens*)); and 2) deeper nearshore rockfish: [blue rockfish (*S. mystinus*); brown rockfish (*S. auriculatus*); calico rockfish (*S. dalli*); copper rockfish (*S. caurinus*); olive rockfish (*S. serranoides*); quillback rockfish (*S. maliger*); and treefish (*S. serriceps*)].
- 14 - The Minor Shelf Rockfish complex south of 40°10' N latitude includes the following species: bronzespotted rockfish (*S. gilli*); chameleon rockfish (*S. phillipsi*); dusky rockfish (*S. ciliatus*); dwarf-red rockfish (*S. rufianus*); flag rockfish (*S. rubrivinctus*); freckled rockfish (*S. lentiginosus*); greenblotched rockfish (*S. rosenblatti*); greenspotted rockfish (*S. chlorostictus*); greenstriped rockfish (*S. elongatus*); halfbanded rockfish (*S. semicinctus*); harlequin rockfish (*S. variegatus*); honeycomb rockfish (*S. umbrosus*); Mexican rockfish (*S. macdonaldi*); pink rockfish (*S. eos*); pinkrose rockfish (*S. simulator*); pygmy rockfish (*S. wilsoni*); redstripe rockfish (*S. proriger*); rosethorn rockfish (*S. helvomaculatus*); rosy rockfish (*S. rosaceus*); silvergray rockfish (*S. brevispinis*); speckled rockfish (*S. ovalis*); squarespot rockfish (*S. hopkinsi*); starry rockfish (*S. constellatus*); stripetail rockfish (*S. saxicola*); swordspine rockfish (*S. ensifer*); tiger rockfish (*S. nigrocinctus*); vermilion rockfish (*S. miniatus*); and yellowtail rockfish (*S. flavidus*).
- 15 - The Minor Slope Rockfish complex south of 40°10' N latitude includes the following species: aurora rockfish (*S. aurora*); bank rockfish (*S. rufus*); blackgill rockfish (*S. melanostomus*); Pacific ocean perch (*S. alutus*); redbanded rockfish (*S. babcocki*); rougheye rockfish (*S. aleutianus*); sharpchin rockfish (*S. zacentrus*); shortraker rockfish (*S. borealis*); and yellowmouth rockfish (*S. reedi*).

DRAFT SUMMARY MINUTES
Groundfish Allocation Committee

Pacific Fishery Management Council
Red Lion Hotel on the River
Jantzen Beach – Portland
Glisan Room
909 N. Hayden Island Drive
Portland, OR 97217
(503) 283-4466

October 18-19, 2006

WEDNESDAY, OCTOBER 18, 2006 – 8:30 A.M.

Members Present:

Mr. Donald Hansen, Dana Wharf Sport Fishing, Pacific Fishery Management Council Chairman
Mr. Phil Anderson, Washington Department of Fish and Wildlife
Mr. Curt Melcher, Oregon Department of Fish and Wildlife
Ms. Marija Vojkovich, California Department of Fish and Game
Mr. Frank Lockhart, National Marine Fisheries Service Northwest Regional Office

Advisors Present:

Ms. Eileen Cooney, National Oceanic and Atmospheric Administration General Counsel
Ms. Michele Longo-Eder, Limited Entry Fixed Gear Representative
Mr. Pete Leipzig, Limited Entry Non-Whiting Representative
Mr. Jan Jacobs, Limited Entry Whiting Trawl Representative
Mr. Tom Ghio, Open Access Representative
Ms. Heather Mann, Processor Representative
Mr. Bob Osborn, Recreational Representative

Others Present:

Mr. Mark Cedergreen, Westport Charter Association, Council member
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Mr. Dale Myer, Arctic Storm Inc., Council member
Mr. Bob Alverson, Fishing Vessel Owner's Association
Mr. Steve Bodnar, Coos Bay Trawlers Association and Bandon Submarine Cable Committee
Mr. Brad Pettinger, Oregon Trawl Commission
Mr. Kenyon Hensel, GAP member
Mr. Peter Huhtula, Pacific Marine Conservation Council
Ms. Megan Mackey, Pacific Marine Conservation Council
Mr. Bill James, California nearshore commercial fisherman
Mr. Richard Carroll, Ocean Gold Seafoods
Mr. Craig Cross, Aleutian Spray Fisheries
Mr. Robert Jones, Northwest Indian Fisheries Commission, GMT member
Dr. Patty Burke, Oregon Department of Fish and Wildlife

Ms. Michele Culver, Washington Department of Fish and Wildlife, GMT member
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member
Ms. Gway Kirchner, Oregon Department of Fish and Wildlife
Mr. Bill Herber, Oregon Department of Fish and Wildlife
Ms. Kelly Ames, Oregon Department of Fish and Wildlife, GMT member
Mr. Mark Saelens, Oregon Department of Fish and Wildlife, GMT member
Ms. Susan Ashcraft, California Department of Fish and Game, GMT member
Ms. Vicki Nomura, National Oceanic and Atmospheric Administration Office of Law Enforcement
Dr. Ed Waters, Pacific Fishery Management Council Consultant
Dr. Donald McIsaac, Executive Director Pacific Fishery Management Council
Ms. Laura Bozzi, Pacific Fishery Management Council Staff
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff

A. Call to Order

1. Roll Call, Introductions, Announcements, and Opening Remarks

Mr. Hansen called the meeting to order at 0840. A round of introductions was made. Dr. McIsaac stated some Groundfish Allocation Committee (Committee) members wanted to leave early tomorrow. Therefore, this meeting needs to proceed as expeditiously as possible. He mentioned that Dr. Hogarth and the White House are paying attention to this process and are encouraging progress without delay.

2. Goals and Objectives of this Meeting

Dr. McIsaac explained there will be an intersector allocation agenda item on the November Council meeting agenda. This process is linked to the Trawl Individual Quota (TIQ) program development initiative, but this process supports other Council activities as well. There will be two separate environmental impact statements (EISs) analyzing trawl individual quota alternatives and intersector allocation alternatives, which need to proceed in synchrony.

3. Agenda Overview

Mr. DeVore provided the agenda overview.

4. Approve Agenda

The agenda was approved without modification.

B. Review of Past Intersector Allocation Actions

Mr. DeVore provided a document entitled, "Summary Points Concerning Intersector Allocation From Past Groundfish Allocation Committee Meetings". These past meetings were convened in January, May, and November 2005. He briefly reviewed the key points from these meetings.

C. Review of Historical Catches by Fishing Sector

Dr. Waters provided summary tables of historical catches by fishing sector. Similar to tables presented at the November 2005 Committee meeting, these tables depicted 1995-2004 landings of species and complexes currently managed with optimum yields (OYs) by fishing sector (Table 1); percent of landed 1995-2004 catch by species and complex by fishing sector relative to annual total non-treaty landings (Table 2); the maximum, minimum, and average percent of annual landings in 1995-2004 by fishing sector (Table 3); 1995-2004 recreational groundfish catches by state and California regions north and south of Pt. Conception by species and complex (Table 4); and a compilation of notes of processes used and assumptions made to extract these data. He noted the data errors discovered at the November 2005 Committee meeting were corrected as follows: 1) incorrectly reported Marine Recreational Fishery Statistical Survey (MRFSS) catches for the Washington recreational fishery were updated using WDFW Ocean Sampling Program estimates (all recreational catches in these tables were reviewed and approved by the GMT), and 2) unassigned sector catches that were apparently made under historical limited entry trawl limits by vessels not associated with a limited entry trawl permit were largely assigned to appropriate sectors. On this last correction, about 25,000 mt of groundfish landings in 1995-1999 could not originally be assigned to a sector. It was discovered that about 20,000 mt of these landings were made by Canadian vessels in Canadian waters and landed in the Washington ports of Blaine and Bellingham, but misassigned in PacFIN to Washington catch areas. These records were corrected in PacFIN and were removed from the tables presented by Dr. Waters. An additional 4,000 mt were assigned to sectors based on a closer examination of the historical permits database. The remaining 4% of uncertain sector landings were not resolved and therefore not assigned to any one sector. He noted that all catches using open access gears made by vessels with a limited entry trawl permit were assigned to the limited entry trawl sector. Otherwise, these open access landings were assigned to either the directed or incidental open access sectors depending whether the majority of fish in the landings were groundfish or non-groundfish species.

Ms. Longo-Eder asked about the confidence in species composition in these landings, particularly in the earlier years. She noted the earlier landings were not sorted to the species level but landed in broader mixed species market categories. She particularly wanted to know how one could then determine trawl-dominant species in these earlier landings. Dr. Waters replied that PacFIN uses annual port sampling data to determine the species composition in broader market category landings. These landings are reported in PacFIN as “nominal” landings by species and assumed to be correct in these tables. Otherwise, landings were reported only to the species complex level.

Mr. Saelens asked how groundfish landings in the pink shrimp fishery were assigned to a sector. Dr. Waters replied if the pink shrimp landings were made by vessels with a limited entry trawl permit, they were assigned to the limited entry trawl sector. Otherwise, these landings were assigned to the shoreside incidental open access sector. Mr. DeVore further explained this was consistent with the allocation rules specified in the FMP where catches made using open access gears by vessels with limited entry permits count against the limited entry allocations associated with that permit.

Mr. Anderson referred to Table 2 and noted there has been a significant change in the treaty/non-treaty shares for certain species since 1995. He requested and Dr. Waters agreed to provide an analysis of the proportion of treaty/non-treaty species' shares by year since 1995. The Committee then discussed the issue of harvest set-asides for tribal fisheries. This has been an

annual decision-making process for all shared groundfish species except sablefish and Pacific whiting, where formal treaty/non-treaty allocations are in place. The Committee thought reviewing the change in treaty/non-treaty shares of species' catch over time would help inform future treaty fishery needs and what the set-aside should be.

Ms. Mann referred to Table 3 asked why widow rockfish was not characterized as a trawl-dominant species. Mr. DeVore explained the time series of widow rockfish landings failed to meet the Committee's criterion of at least 90% of non-treaty landings in the limited entry trawl sector every year in the time series to be considered a trawl-dominant species.

Ms. Vojkovich referred to Table 4 and asked if California recreational catches of bocaccio can be stratified north and south of 40°10' N latitude given that the stock is only considered overfished south of 40°10' N latitude. Dr. Waters said that post-stratifying California recreational catches north and south of 40°10' N latitude is problematic given that RecFIN only reports catches north and south of 34°27' N latitude. Mr. DeVore explained it was safe to assume all California recreational catches of bocaccio occurred south of 40°10' N latitude. Survey and catch data indicate there is a non-continuous distribution of bocaccio coastwide with concentrations south of 40°10' N latitude and in waters off northern Washington. Given that, the Committee requested future landings data be labeled north and south of 40°10' N latitude to avoid confusion.

Mr. Hensel suggested the uncertainty of California recreational MRFSS estimates in 2003, especially for black rockfish, should compel the Committee to avoid using 2003 data in the analysis.

Ms. Longo-Eder requested the inclusion of recent discard mortality estimates in the analysis. She further requested these data be updated with 2005 total catch estimates. Mr. DeVore explained the 2005 discard mortality estimates were not yet available, but anticipated they would be available in time for the analysis.

D. Develop Intersector Allocation Alternatives for Analysis

Mr. DeVore recommended that intersector allocation alternatives should be structured such that there is appropriate contrast in the analysis. At this stage, Committee members should not necessarily reject alternatives they do not like. It is more appropriate to analyze a broad enough range of alternatives to understand why some alternatives should be rejected after the analysis is done. He also provided a draft scoping document for this process that gives background information on existing allocations and other elements that should be considered when developing alternatives. Council staff intends to release the scoping document after the November Council meeting to better solicit focused public comment on intersector allocation alternatives and analysis. The scoping document will contain the preliminary intersector allocation alternatives for analysis decided at the November Council meeting as well as the relevant catch histories and other data tables provided at this stage in the process (i.e., Tables 1-4 presented at this meeting).

1. Key Questions for Framing Alternatives

Mr. DeVore explained the following key questions were posed to better enable the Committee and ultimately the Council to develop intersector allocation alternatives for analysis. The answers to these questions could potentially limit the range of species recommended for formal allocations in this process and better direct the analytical and decision-making process.

- a. Should Sablefish Allocations Be Revisited?
- b. Should Pacific Whiting Allocations Be Revisited?
- c. Should Nearshore Species' Allocation Decisions Be Deferred to the States?
- d. Should Flatfish Species, Other Than Pacific Sanddabs and Starry Flounder, Be Allocated Primarily to the Trawl Sector?
- e. Should There Be Set-Asides Allocated to Buffer Against Sector Catch Overages?
- f. Should the Intersector Allocation Process Be A Multi-Stage One Starting With a Trawl/Non-Trawl Allocation Decision?

2. Consider Trawl/Non-Trawl Allocations
3. Consider Set-Asides for Tribal, Research, and Incidental Non-Groundfish Fisheries
4. Consider Commercial Non-Trawl/Recreational Allocations

The Committee first considered the question regarding sablefish allocations. Ms. Longo-Eder expressed the belief that FMP Amendment 18 goals (to minimize bycatch) almost mandate revisiting sablefish allocations. She said it was important to look at the bycatch implications to develop a non-status quo alternative for sablefish allocation. Ms. Vojkovich said her first thought was not to revisit sablefish allocation if it is already done. She thought it might be more efficient to explore the gear switching issue in the TIQ process. Mr. Melcher agreed and said revisiting sablefish allocation would not let the intersector allocation process proceed as expeditiously as we want. Mr. Anderson also did not support revisiting sablefish or Pacific whiting allocations and agreed with Ms. Vojkovich that sablefish bycatch dynamics should be explored in the TIQ process. Ms. Mann agreed with Mr. Anderson and Mr. Melcher and stated she did not want to see this process delayed since that would lead to a delay in other processes as well, such as TIQ program development. Mr. Jacobs agreed with Mr. Anderson's comment recommending against revisiting whiting allocation. He hasn't heard from any trawl sector asking to revisit whiting allocations. There is an existing rollover mechanism in place that addresses inseason re-allocation of quota if one sector doesn't reach its whiting allocation. Mr. Lockhart agreed with Committee members' comments regarding sablefish and whiting allocation. He could not think of a reason or an alternative that would require revisiting either of these allocations. Mr. Leipzig stated the TIQ program will better address the sablefish bycatch issue. Mr. Ghio, speaking on behalf of the open access sector, argued for revisiting sablefish allocations. Ms. Longo-Eder agreed and believed there was a possibility the TIQ program may not be implemented and therefore, another alternative should be considered. She did not believe current sablefish management was meeting the national standard for bycatch reduction. The Council should not avoid this allocation issue simply because it was a difficult topic. Mr. Alverson put the current sablefish allocation in a historical context. Originally, the Council had decided a limited entry trawl:limited entry fixed gear allocation of 52:48. However, due to the important Dover sole/thornyheads/sablefish fishery and the co-occurrence rates of Dover sole and sablefish, the Council ultimately decided a 58:42 allocation. Currently, bycatch rates by gear type in the West Coast Groundfish Observer Program do not support this allocation. Mr. Pettinger countered the higher sablefish allocation to limited entry trawl may be even more important in the upcoming 2007-2008 management period with the higher Dover sole OY.

Finally, returning to the whiting allocation issue, Mr. Myer said revisiting that allocation would destabilize the whiting fishery. **The Committee decided not to revisit either sablefish or Pacific whiting allocations in the intersector allocation process.**

The committee then discussed whether to consider allocations of nearshore groundfish species. Mr. DeVore explained the current management process has the Council deciding federal OYs for nearshore species and complexes. However, after catch sharing of black rockfish between California and Oregon is decided in the Council process, California and Oregon nearshore FMPs and management processes allocate commercial and recreational opportunities. Furthermore, nearshore commercial fisheries in California and Oregon are essentially limited entry in that opportunities are controlled through state permits. Washington policy is not to allow nearshore commercial fisheries in state waters; therefore, nearshore allocation issues are moot in Washington. Ms. Vojkovich said that the California nearshore FMP calls for the state to seek delegation of management authority for nearshore species in the Council process. However, the state is no longer pursuing this initiative so strongly due to a lack of resources. Nevertheless, CDFG still wants to use the California Fish and Game Commission process to allocate nearshore species between recreational and commercial sectors and therefore supports continuance of status management of nearshore species. Mr. Anderson and Mr. Melcher also supported status quo nearshore species management for Washington and Oregon as well. Ms. Cooney asked how status quo management might affect development of a TIQ program and used black rockfish management as an example. Committee members said if status quo management was ultimately decided for black rockfish and other nearshore species, then the Council would still need a set-aside yield of those species to account for incidental bycatch in other sectors not directly managed under a state FMP. **The Committee decided to continue status quo management of nearshore groundfish species and not pursue a federal allocation scheme for these species in the intersector allocation process.**

The Committee then discussed the question of whether to allocate flatfish species, other than Pacific sanddabs and starry flounder, primarily to the limited entry trawl sector. Mr. DeVore reviewed recommendations and discussions from past Committee meetings where flatfish species, other than Pacific sanddabs and starry flounder, were identified as trawl-dominant species based on the criterion that $\geq 90\%$ of landings were made in that sector every year during 1995-2004. The Committee generally thought that, if these species were allocated primarily to the trawl sector, a set-aside of yield to other sectors would have to be made to accommodate incidental bycatch. Committee members also discussed recent investigations by fishermen testing pot and trap gear to target flatfish species. Advocates and advisors for the open access and limited entry fixed gear sectors wanted the Committee to consider potential new target opportunities for flatfish using fixed gears. Mr. Anderson recommended against making a quick decision on these species and advocated for a systematic examination of all managed flatfish species when deciding intersector alternatives for analysis. He also recommended starry flounder catches made in West Coast bays and estuaries be accounted for in EIS analyses, but not catches made in freshwater, the Straits of Juan de Fuca, or Puget Sound. Dr. Waters explained the catch data for starry flounder in Tables 1-4 provided at this meeting met those catch area criteria. Ms. Vojkovich and Mr. Melcher agreed with Mr. Anderson's comments and **the Committee decided to formally consider flatfish species' allocations in the intersector allocation process.**

The Committee then discussed the question of whether to consider set-asides to buffer against sector catch overages. Ms. Ashcraft shared the GMT perspective to consider set-asides to accommodate the incidental catch for overfished species only. There is a need to protect sector

overages within the trawl sectors and between trawl and non-trawl sectors to keep one sector's overage from pre-empting fishing opportunities for other sectors. Currently, there is uncertainty in sector bycatch rates for overfished species. There will continue to be uncertainty in bycatch projections for these species caught in the limited entry trawl fishery once a TIQ program is implemented because the mandate of 100% observer coverage may cause changes in fishing behavior. Therefore, for the first few years of a TIQ program, if it is implemented, there may be a need for a bycatch buffer of overfished species within the trawl sectors. Mr. Leipzig said that reasoning made sense but recommended against a fixed percentage for all the overfished species. Some thought this mechanism presumed an allocation of overfished species is made. Ms. Ashcraft stated there are a number of ways to manage overfished species. The GMT wasn't necessarily proposing an overfished species' allocation or set-aside, but that allocations or management measures could be designed to take less than the OY for overfished species. Mr. Anderson was not particularly in favor of a buffer or set-aside for overfished species, but preferred managing for the uncertainty in bycatch through precautionary management. Mr. Melcher said he was not prepared to make a decision today on this issue. Mr. Lockhart asked if the decision today was whether to determine how overfished species' management is analyzed in this EIS. He did not want to make that decision today, but wanted to see these concepts explored in the EIS. Ms. Ashcraft stated the goal with managing overfished species is to maintain management flexibility, particularly at the beginning of a newly-implemented TIQ program. Ms. Mann said the flexibility appears to be on the side of management, not with the fishermen. There are already too many buffers and precautions in the current management regime. She asked whether buffers would come off an overfished species' OY or ABC and Mr. DeVore explained the FMP and Council rebuilding plans mandate management of total mortality to the OY. Given that, Ms. Mann thought the concept of managing overfished species using buffers could lead to a race for fish. Ms. Cooney explained management under an IQ system is inherently different since species are parsed out with formal allocations. Current management is more flexible in that unused yield to accommodate incidental bycatch of overfished species can be used to cover fishery needs inseason. She recommended against implementing an IQ system with specified buffers for all species. Instead, use a buffer system for some species and some sectors if necessary. Mr. Leipzig said he thought buffers were used as a protection against one sector's catch overages from pre-empting another sector's fishing opportunities. This isn't an IQ issue. Ms. Longo-Eder suggested the intersector allocation EIS explore buffer management concepts for overfished species only. Some sectors may need such a system for managing take of overfished species and others may not. Mr. Hensel expressed his sector's (open access) concern that, under an IQ system, there is a danger of fishing right up to or over a sector cap on an overfished species, which could cause closure in a non-IQ fishery managed using a buffer. Mr. Moore recommended sector allocations not be dependent on buffers. Ms. Culver said the GMT has recommended including the use of a buffer in an alternative for analysis. Currently, answers are not available for all these questions and therefore buffer management needs to be further explored in an EIS analysis. Ms. Cooney said, in the current management regime, many healthy species are managed to their acceptable biological catch (ABC; i.e., the OY=ABC). The Committee may want to consider managing with buffers for these species as well. Mr. Myer said the North Pacific Fishery Management Council has established reserves for species managed in Alaska fisheries. In many cases, these reserves are localized and specified for a certain time period. They are released back to the fishery at a specified time period if they are not used. Mr. Pettinger argued that under an IQ system, personal accountability of bycatch and the market will result in responsible bycatch management. Mr. Lockhart said we want to design a management system that avoids one sector's overage affecting another sector's fishing opportunity. A buffer could be a tool to protect against this. He thought the tool should be applied to managing overfished species only. Dr. McIsaac summarized the discussion by stating

there should be a mechanism explored in the EIS analysis for creating a buffer on a species by species basis, if necessary, and that this mechanism should be limited to managing overfished species only. That is, there should be no hard allocation of a buffer made at this point. For many overfished species, there are few fish to work with and parsing out this small yield by vessel in an IQ program creates a strong possibility for overages. Mr. Anderson said intersector interactions are different under an IQ program than under the current management regime. **The Committee agreed buffer management needs to be further explored in the intersector allocation EIS analysis.**

The Committee then discussed whether the intersector allocation process should be a multi-stage one starting with a trawl/non-trawl allocation decision. The process could then continue with decision steps for allocating species within non-trawl sectors without compromising implementation of a TIQ program. The discussion was extended to the other issues on today's agenda regarding trawl/non-trawl allocations, set-asides, and non-trawl/recreational allocations.

Ms. Mann asked whether there would be different EISs for these different stages in the intersector allocation process. Mr. Leipzig asked if this would also involve separate FMP amendments. The answer was not necessarily, but depending on the timing of these decision steps, separate NEPA analyses could be tiered off the first EIS. Dr. McIsaac had a different view; his perspective being that this was a decisional separation on a shorter term. He contemplates one EIS and FMP amendment for the entire intersector allocation process. Mr. Anderson was also not confident that allocations to other sectors wouldn't come into play when deciding trawl allocations. Ms. Longo-Eder remarked that open access and tribal allocations have come off the top of the OY for some species before deciding limited entry allocations. Mr. Leipzig suggested aggregating sector allocations to four non-treaty sectors: limited entry trawl, limited entry fixed gear, open access, and recreational. At a minimum, this process needs to identify those species that should be considered in a within-trawl allocation analysis contemplated in the TIQ EIS. Ms. Longo-Eder agreed with Mr. Leipzig's comments. Mr. Anderson suggested the intersector allocation alternatives could be structured such that data and analyses are aggregated to the four sectors Mr. Leipzig recommended, with one alternative breaking down the allocation analysis into the sector components. Within these alternatives, analyze the maximum, minimum, and average shares of trawl landings in the 1995-2004 period. He is also interested in analysis of an alternative that does not allocate overfished species. Mr. Leipzig said the Council already removed the TIQ option that did not allocate overfished species within the trawl sector. (However, the Council did decide if an overfished species allocation is made to the trawl sector and a TIQ program is implemented, then TIQ shares will be decided for that species.) Ms. Cooney reminded the Committee of its past decision to consider a sliding scale allocation framework for overfished species. Mr. Anderson asked, given the idea to review allocations every five years, do we really need a more complicated sliding scale allocation framework. Dr. McIsaac requested a clarification on the maximum, minimum, and average trawl sharing alternatives and whether there was an implicit assumption that the other sectors' percentages would be proportionally modified according to how trawl shares are structured. The Committee said yes. Mr. Ghio said the alternatives need to consider a finer regional stratification than currently exists. Ms. Longo-Eder said she didn't support any alternative starting with any sector's maximum percentage. There was some general thought to structure alternatives such that a range of species options that are allocated in this process be ranged as follows: species of trawl importance, all species, all but overfished species, and just overfished species. Mr. Anderson suggested using 2004 catch data to build a base relationship in the analysis and then build a broader range from there. Using data as old as 1995 in the analysis may not make sense since the 1995 fishery does not address current management challenges.

Ms. Ashcraft noted the GMT has used annual catch averages weighting recent years more heavily than older years in some analyses. In 2004, management actions were affected by sector catches. Mr. Anderson said the analysis should use the most recent year available in the data (2004) and try to understand whether using sector catch shares from that year is appropriate or not; and if not, explain in the analysis why not. Ms. Ashcraft also stated the currently available data in Tables 1-4 presents a mix of landed catch and total catch by sector. That is, with full retention requirements in the whiting fishery, it is total catch, while the other commercial sector catches are all landed catch without a discard mortality estimate provided. The recreational catch data available in these tables are also total catch. She recommended using 2003-2005 data in the analysis where discard estimates are available for all sectors. Mr. Anderson agreed with that recommendation. Mr. DeVore recommended Committee members review the draft scoping document tonight and consider the other elements/issues in that document before revisiting how to structure alternatives for analysis tomorrow. With that, Mr. Hansen adjourned the meeting for the day.

THURSDAY, OCTOBER 19, 2006

Members Present:

Mr. Donald Hansen, Dana Wharf Sport Fishing, Pacific Fishery Management Council Chairman
Mr. Phil Anderson, Washington Department of Fish and Wildlife
Mr. Curt Melcher, Oregon Department of Fish and Wildlife
Ms. Marija Vojkovich, California Department of Fish and Game
Mr. Frank Lockhart, National Marine Fisheries Service Northwest Regional Office

Advisors Present:

Ms. Eileen Cooney, National Oceanic and Atmospheric Administration General Counsel
Ms. Michele Longo-Eder, Limited Entry Fixed Gear Representative
Mr. Pete Leipzig, Limited Entry Non-Whiting Representative
Mr. Jan Jacobs, Limited Entry Whiting Trawl Representative
Mr. Tom Ghio, Open Access Representative
Ms. Heather Mann, Processor Representative
Mr. Bob Osborn, Recreational Representative

Others Present:

Mr. Mark Cedergreen, Westport Charter Association, Council member
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Mr. Dale Myer, Arctic Storm Inc., Council member
Mr. Kent Craford, West Coast Seafood Processors Association
Mr. Bob Alverson, Fishing Vessel Owner's Association
Mr. Steve Bodnar, Coos Bay Trawlers Association and Bandon Submarine Cable Committee
Mr. Brad Pettinger, Oregon Trawl Commission
Mr. Kenyon Hensel, GAP member
Mr. Peter Huhtula, Pacific Marine Conservation Council
Mr. Bill James, California nearshore commercial fisherman
Mr. Richard Carroll, Ocean Gold Seafoods
Mr. Robert Jones, Northwest Indian Fisheries Commission, GMT member
Dr. Patty Burke, Oregon Department of Fish and Wildlife
Ms. Michele Culver, Washington Department of Fish and Wildlife, GMT member
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member

Ms. Gway Kirchner, Oregon Department of Fish and Wildlife
Ms. Kelly Ames, Oregon Department of Fish and Wildlife, GMT member
Mr. Mark Saelens, Oregon Department of Fish and Wildlife, GMT member
Ms. Susan Ashcraft, California Department of Fish and Game, GMT member
Ms. Vicki Nomura, National Oceanic and Atmospheric Administration Office of Law
Enforcement
Dr. Ed Waters, Pacific Fishery Management Council Consultant
Dr. Donald McIsaac, Executive Director Pacific Fishery Management Council
Ms. Laura Bozzi, Pacific Fishery Management Council Staff
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff

Mr. Hansen called the meeting to order at 0845.

D. Develop Intersector Allocation Alternatives for Analysis (continued)

5. Consider Structure of Intersector Allocation Alternatives
6. Other Recommendations for the Council in November
7. Decide the Workload Priority for the Intersector Allocation Process

The Committee continued their discussion on how to structure intersector allocation alternatives for analysis. Ms. Vojkovich asked about research set-asides. Noting that set-asides for research take are not a straight percentage of the OY for each species, is this really an allocation issue. Mr. DeVore said it is not an allocation issue largely because the Council does not have authority and control over research activities. However, in the analysis, we need the best estimate/projection of research take to set aside to better understand what amount of yield remains to consider for allocation. Ms. Vojkovich asked how this process would consider tribal take and set-asides. Ms. Cooney explained tribal allocations are separately negotiated in a government to government, often court-mediated process. Only some species currently have formal tribal allocations (i.e., sablefish and Pacific whiting), but more formal allocations for other species may be needed in the future. Finally, the discussion ensued on how to treat incidental groundfish bycatch in non-groundfish fisheries in this EIS analysis. Much like research and tribal fishery set-asides, we need to use the best projection of groundfish take in non-groundfish fisheries, take that catch off the top, and analyze allocations of the remaining yield.

Mr. Osborn brought up the previously addressed problem of the mix of landed and total catch estimates in Tables 1-3. Mr. DeVore explained the 2003-04 discard mortality estimates for the other sectors can be provided to produce a table of total catch estimates for all sectors for those years. Ms. Longo-Eder remarked she liked the new table produced this morning which shows the entire time series of landings for the limited entry trawl sector on one page. She requested similar tables for the other sectors as well.

The Committee began to develop intersector allocation alternatives by discussing and deciding the features that would define an alternative. Committee members were asked to decide alternatives for: 1) species to be allocated in this process, 2) the number of fishing sectors and how they are aggregated, and 3) the variation in allocation percentages or the basis for determining allocation percentages (i.e., what base years or other criteria should be used for structuring alternatives). The table appended at the end of these minutes entitled, "List of Potential Intersector Allocation Alternative Features" depicts the product of these discussions, which are captured in the following text. Those features highlighted in that table are recommended features for constructing intersector allocation alternatives, while those features that are crossed out are not recommended by the Committee. Committee members also suggested the set-asides be explicit in the list of features. Mr. Ghio requested an option that had a finer geographic stratification than is currently used in management.

Species with Allocations

The first "species assemblage" considered for an alternative was species important to the TIQ program. This would be a mix of trawl-dominant species and the primary target species for the limited entry trawl program. There was discussion on how to treat any species not allocated to

the limited entry trawl sector. Would they be treated like a prohibited species and, if so, what would happen if they are caught? There was collective agreement that allocating quota share under a TIQ program for such species that are rarely caught did not make sense. Ms. Vojkovich suggested using the list of trawl-dominant species, but Mr. Leipzig said there are other species that may be important to a TIQ program that are not trawl-dominant. Mr. Seger said the GMT has discussed how to treat such species in a TIQ program.

Mr. Anderson proposed three alternatives for analysis: 1) status quo, 2) status quo plus all other species (i.e., all FMP species other than sablefish, whiting, and nearshore species), and 3) status quo plus all but the overfished species. He remarked it was too difficult to determine which species are trawl-dominant and what species are important to the trawl fishery. Ms. Cooney asked about the alternative of status quo plus all species important to both commercial and recreational sectors. Mr. DeVore said the range between status quo and alternative 2 (status quo plus all other species) covers this. Ms. Vojkovich asked how allocation effects would be analyzed for species that comprise a complex. Mr. DeVore said the analysis will investigate impacts at the species level, but allocations would be made at the complex level.

Mr. Anderson noted that research set-asides would be taken off the top in the analysis and in any eventual allocation scheme. However, other than the formal tribal allocations for sablefish and whiting, there would be unspecific tribal set-asides for the other species. He wants to make all the status quo set-asides explicit in the list of features and in the analysis. Ms. Cooney asked if incidental open access impacts are considered a set-aside and Mr. DeVore said yes, the best projections of species impacts would be taken off the top before allocation alternatives are analyzed. Ms. Culver said the list of features and analyses should note whether EFPs are part of research or explicit allocations to any one sector.

Further discussions affirmed that selecting these species groups doesn't assume what kind of allocation scheme will be attached to the species and whether these could be different for different species. At this point, the Committee is only choosing the range of species to which some sort of allocation may be applied. The Committee opted for Mr. Anderson's proposal to **analyze: 1) status quo, 2) status quo plus all other species, and 3) status quo plus all but the overfished species.**

Sectors

The two options for sector assemblages were considered by the Committee: 1) the ten sector option (LE trawl non-whiting, LE trawl motherships, LE trawl catcher-processors, LE trawl shoreside, LEFG- line gears, LEFG- pots/traps, directed OA, incidental OA, recreational, tribal); and 2) the five sector option (LE trawl, LEFG, OA, recreational, tribal). For both options, it was noted that tribal allocations, if considered, would be considered using a separate process. Therefore, it would be more accurate to characterize these options as the "nine sector" and "four sector" options, both of which exclude the tribal sector in analyses (except potential set-asides for tribal fisheries would be taken off the top).

Ms. Mann proposed **analyzing only the "four sector" option and the rest of the Committee agreed.**

Variation in Allocation Percentages

There were six options (plus status quo) presented to the Committee for their consideration: 1) 2004 sector catch percentages, 2) 2003-04 sector catch percentages, 3) 1995-2004 sector catch percentages, 4) 2007-08 allocations, 5) trawl best case percentages (using the 1995-2004 catch time series), and 6) non-trawl best case percentages (using the 1995-2004 catch time series). It was noted that options 1, 2, and 4 used total catch estimates, while options 3, 5, and 6 used (mostly) landed catch estimates.

Mr. Leipzig suggested deleting option 1 (2004 sector percentages) since it was not much different than option 2 (2003-04 sector percentages). He also recommended deleting options 5 and 6 (trawl and non-trawl best case percentages) since they are too extreme. He asked if option 4 (2007-08 allocations) meant the annual specifications shares in the EIS and therefore would be a mix of formal allocations (i.e., for sablefish and whiting) and projected impacts and Mr. DeVore confirmed that. Ms. Vojkovich proposed deleting option 4 and remarked she always had a problem with using the bycatch scorecard for allocation purposes. Ms. Mann expressed concern that option 2 (2003-04 sector percentages) did not capture the significant shifts in sector percentages that have occurred. Mr. Anderson proposed retaining option 4 (2007-08 allocations) because it reflects the most recent Council decisions and the current status of the resource. Mr. Melcher agreed and remarked the Council went through months of discussions to determine 2007-08 management measures, which can also be considered de facto “allocation” decisions. Mr. Jacobs supported analyzing options 2, 3, and 4. Mr. Leipzig cautioned the Committee about using option 4 since the “allocations” are estimated results of impact projection models. Ms. Longo-Eder was opposed to analyzing options that only use historical landings as a basis for allocation. If the TIQ program is not implemented with a gear-switching strategy in place, then she is concerned that discard issues will not be adequately considered. She proposed an option that relates bycatch by gear type. In that option, allocation to gear types that are more selective (i.e., less bycatch) would be favored. Mr. DeVore stated that bycatch rates over time are also a product of the regulations (i.e., there would be less discard with higher trip limits). Mr. Lockhart said he understood the concept, but was not sure how to structure alternatives to analyze this. He thought, as long as the analysis explored discard/bycatch effects by gear type, then a particular “bycatch reduction” alternative does not need to be decided right now. Mr. Anderson noted the Groundfish Strategic Plan has an objective to reward sectors/fisheries that are more selective. He proposed analyzing one option using a total catch time series and another option using a landed catch time series to investigate discard effects. Ms. Longo-Eder agreed. Ms. Vojkovich asked how one would develop an allocation scheme that provides an incentive to switch to more selective gears. Mr. Lockhart recommended adding language to the effect that the “Council intends to fully consider the role of bycatch in making its decisions”. Mr. Bodnar suggested the concept of revisiting the allocation decision after a TIQ program is implemented in order to give the trawl sector time to reduce discards through a market-based TIQ system. Mr. Anderson questioned the utility of analyzing option 3 (1995-2004 sector percentages). Sector shares in the earlier years of that time series are not meaningful now since that was an entirely different management regime. Mr. Lockhart remarked there are some constituents that believe the older management regime was better. Keeping these earlier years in the analysis allows for discussions about this. Mr. Anderson proposed analyzing option 4 (2007-08 allocations) for overfished species only. He was also supportive of an alternative that rewards bycatch reduction. Ms. Vojkovich and Mr. Melcher were in agreement with Mr. Lockhart on the recommendation to analyze an alternative with the longer catch history time series (i.e., option 3). Mr. Melcher said he was supportive of a bycatch reduction alternative, but was uncertain how to craft such an alternative. There was discussion of modifying option 3 (1995-2004 sector

percentages) to only display a time series of landed catches for all sectors. Ms. Longo-Eder proposed adding 2005 catch data to options 2 and 3. Mr. DeVore said that discard mortality estimates for 2005 fisheries are not yet available, but are anticipated in time for the analysis. The Committee agreed to add 2005 catch data to those two options. Ms. Mann was opposed to using the bycatch scorecard for allocations since it punishes sectors that have worked hard to reduce bycatch.

There was some discussion on whether to analyze catch time series and allocation alternatives using weighted averages of annual catch tonnages or weighted averages of annual sector share percentages. It was generally agreed to normalize the time series of annual sector share percentages to avoid the effect of an aberrant year when one sector took a significantly high amount of any one species.

Returning to how to structure a “bycatch reduction” alternative, Mr. DeVore recommended modifying alternative 2 (2003-05 sector percentages) by analyzing sector shares using a total catch time series (option 2A) and also analyzing sector shares using a landed catch time series (option 2B). Comparing and contrasting the two results should expose the effect of differential bycatch/discard rates by sector. Mr. Jacobs noted that different sectors are observed at-sea at different rates resulting in less certainty in the discard estimate for some sectors. He assumed that would be part of the analysis and Mr. DeVore confirmed that it would be.

Mr. Ghio agreed to set aside his recommendation to structure an alternative with a finer geographic stratification than used currently.

The Committee agreed to analyze the following options: 1) option 2A (2003-05 total catch sector percentages), 2) option 2B (2003-05 landed catch sector percentages), option 3 (1995-2005 sector percentages), and option 4 (2007-08 allocations).

Hypothetical Alternatives

Mr. Lockhart said it may be possible to select among the permutations of all the option features so that there are less than eight alternatives (status quo would make nine). However, that could be decided at the November Council meeting. Mr. DeVore proposed Council staff could propose a range of strawman alternatives (**note: the alternatives appended at the end of this document represent the full range of nine alternatives, including status quo, that could be developed using all the recommended feature options**). Dr. McIsaac said all the material presented at this meeting will be available in the November briefing book. Ms. Cooney said it needs to be pointed out that **there can be a different basis for allocating overfished and non-overfished species**. Mr. Anderson asked when selective flatfish trawls were first mandated in the north; this dramatically changed canary rockfish sector shares. Mr. DeVore said selective flatfish trawl were first implemented in 2005. Mr. Anderson also did not want to lose the concept of trawl-dominant species and the possibility of using that species grouping as a basis for allocation. Ms. Vojkovich expressed concern about how to analyze annual sector shares when some sectors exceeded their allocation or an OY in some years. Mr. DeVore said normalizing the annual sector shares over time would reduce the weight given in the analysis of an aberrantly large catch in any one sector. However, he agreed this should be considered in any allocation decision based on the use of historical catch data. Mr. Melcher pointed out that using 2007-08 allocations (option 4) is an alternative based on what the Council intended to happen versus what actually happened.

Briefing Book Requests

The Committee requested tables similar to Table 2B for the briefing book where each of the four sectors catch histories (1995-2004) are shown on one page. They also wanted a column added to these tables showing the ten-year average catch for that sector. They also requested a table showing the 1995-2004 catch history of tribal catches as a percentage of the OY for each species. When asked if the draft scoping document should be included in the briefing book, the Committee said no and that these minutes would suffice to convey the current direction and recommendations of the Committee.

Note: all of these requested tables and materials were provided in the briefing book for the November 2006 Council meeting.

E. Next Meeting

The next Committee meeting is scheduled for December 12-14 to discuss TIQ alternatives and issues. A meeting venue has not been finally decided except that it is likely to occur in Seattle due to NMFS travel restrictions.

F. Other Issues?

There were no other issues identified for discussion.

ADJOURN

PFMC

10/25/06

Summary Points Concerning Intersector Allocation From Past Groundfish Allocation Committee Meetings

January 2005 Meeting

Consideration of Intersector Allocations

- An intersector allocation process should proceed regardless of the progress in developing a TIQ program.
- Initial analyses of intersector allocations should be done using the following sectors: limited entry trawl, limited entry fixed gear, open access, recreational, and tribal.
- The groundfish FMP species noted in Table 1 should be the focus of intersector allocations. Some yield should be set aside to accommodate incidental bycatch in sectors not noted in Table 1.
- Landings by sector in the years 1988, 1994, 1998, and 2004 should be reviewed to analyze intersector allocations needed to support a TIQ program.
- TIQ advisors to the Allocation Committee should solicit feedback from their constituents on relevant intersector allocation and TIQ program issues.
- The processes to decide intersector allocations and develop a TIQ program should maintain a five-year outlook when shaping the future of the groundfish fishery.

Elements of an Allocation Decision

- Allocations based on a percentage of the OY make the most sense for target species, while a sliding scale structure (the allocation percentage by sector varies with biomass) for allocating overfished species is recommended.
- Allocations of some target species, especially target species that are predominant in a single sector, should be of longer duration than allocations of more constraining species, such as the overfished species.
- Allocation decisions should be reviewed at least every five years.

Interactions Between Limited Entry Trawl and Open Access

- An Allocation Committee recommendation is needed by the June Council meeting.

Effects of Overages or Underages in One Sector on Other Sectors

- A matrix indicating MSA constraints on allowing overages by species should be developed for the next Allocation Committee meeting.

May 2005 Meeting

Intersector Allocation

- Committee members requested the following data runs and analyses prior to developing preliminary intersector allocation alternatives:
 - Provide annual catch data for 10 management sectors during 1995-2004.
 - Footnote key management events affecting sector catches in these data extracts.

- Stratify species/catch data by the species and complexes currently managed with OYs.
- Provide the proportion of non-tribal catches by sector by year during 1995-2004.
- Summarize maximum and minimum catch proportions for each sector during 1995-2004.
- Identify $\pm 10\%$ of the lowest trawl catch proportions during 1995-2004.
- Identify all open access/limited entry allocations in the current management regime.
- Regionally stratify catches by state or region for fisheries with regional OYs/harvest guidelines.
- Provide an MPA/MLPA timeline of events.
- Provide the specifications table from the recent FR notice of biennial regulations.
- Provide landed catch trends for key species and complexes important for intersector allocation.
- Scoping for an intersector allocation environmental impact statement should be delayed until preliminary alternatives are developed at the next Committee meeting.

November 2005 Meeting

Intersector Allocation

- Consider using catch histories from the 1995-2004 period for within-trawl (non-whiting trawl, shoreside whiting, catch-processor, and mothership sectors) allocations.
- Intersector allocation alternatives may be determined by using the maximum or minimum percent of landings relative to non-tribal landings in 1995-2004.
- Correct the erroneous Washington recreational landings data that were derived from MRFSS rather than WDFW's Ocean Sampling Program.
- Attempt to assign unspecified 1995-2004 landings to the ten sectors (e.g., resolve apparent LE trawl landings not associated with an LE permit).
- Use a minimum 90% of total non-tribal landings in the trawl sector, excluding overfished species, to define trawl-dominant species and structure as an alternative for analysis (90% allocation to trawl and 10% allocation to non-trawl plus research).
 - According to these criteria and the landings data presented, the following species would be defined as trawl-dominant: Pacific cod, Pacific whiting, shortbelly rockfish, splitnose rockfish, longspine thornyheads (N of Pt. Conception), yellowtail rockfish (Eureka and north areas) redstripe rockfish, sharpchin rockfish, yellowmouth rockfish, bank rockfish, Dover sole, English sole, petrale sole, and arrowtooth flounder.
 - Two overfished species, Pacific ocean perch and darkblotched rockfish, were also noted to be trawl-dominant.
 - May want to consider Pacific sanddabs (although this was identified as an important recreational species in CA) and Other Flatfish in the trawl-dominant category.
- Structure another alternative for analysis using average proportion of total non-tribal landings in 1995-2004 occurring in the trawl sector.
- Assume status quo management of stock complexes and also address individual species needs within the complex in the initial analysis.
- As part of analysis, focus on percent landings across years when determining incidental catch needs for non-trawl sectors (intent to set aside enough incidental catch to protect these sectors).

List of Potential Intersector Allocation Alternative Features

(NOTE: highlighted rows recommended by the Committee; crossed-out rows eliminated)

Species w/ Allocations	
SQ	Sablefish, whiting, state alloc for NS spp.
1	SQ + trawl IQ spp. (trawl-dominant spp, DTS, + other important spp)
2	SQ + all other spp.
3	SQ + just overfished spp.
4	SQ + all but overfished spp.
5	SQ + spp. important to comm sectors
6	SQ + spp. important to both comm & rec sectors
Sectors	
1	9* as in Table 1
2	4 (LE twl, LEFG, OA, Rec)*
Variation in Alloc. Percentage	
SQ	Fixed in FMP for sablefish and whiting; State-specified for NS spp.; Determined ea. cycle for all other spp.
1	2004 sector total impact percentages
2a	2003-05 avg. sector total catch impact percentages
2b	2003-05 avg. sector landed catch impact percentages
3	1995-2005 avg. sector percentages (normalize by annual %s)
4	2007-08 total impact allocations
5	Trawl best case percentages
6	Non-trawl best case percentages
7	Bycatch strategic allocation?
Geographic Stratification	
SQ	As in Table 1 (regions depicted as used in status quo management of OYs)
1	Ohio To Explain
Set-Asides	
1	*Tribal Catches, Research, EFPs, Incidental OA

Preliminary Intersector Allocation Alternatives Recommended by the Groundfish Allocation Committee in October 2006.

Feature	Status Quo	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Species with Allocations a/	Sablefish, Pacific whiting, and all nearshore species allocated by the states	Status quo plus all other species	Status quo plus all other species	Status quo plus all other species	Status quo plus all other species	Status quo plus all but overfished species	Status quo plus all but overfished species	Status quo plus all but overfished species	Status quo plus all but overfished species
Sectors with Allocations b/	Status quo described in scoping information document	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational	LE trawl, LE fixed gear, open access, recreational
61 Variation in Allocation Percentages (Analytical Basis for an Allocation Scheme)	Status quo described in scoping information document	2003-05 sector total catch percentages (option 2A)	2003-05 sector landed catch percentages (option 2B)	1995-2005 sector percentages (option 3)	2007-08 allocations (option 4)	2003-05 sector total catch percentages (option 2A)	2003-05 sector landed catch percentages (option 2B)	1995-2005 sector percentages (option 3)	2007-08 allocations (option 4)
Set-Asides	Set-asides will be determined for projected research catches, EFPs, incidental open access catches, and tribal catches.								

a/ Under any alternative, there may be different allocation schemes decided for overfished versus non-overfished groundfish species.

b/ Tribal allocations may be considered in a separate process (see October Groundfish Allocation Committee minutes for details). Projected tribal catches by species will be considered as set-asides in the analysis of intersector allocation alternatives.

GROUND FISH ADVISORY SUBPANEL REPORT
ON INTERSECTOR ALLOCATION FOR TRAWL INDIVIDUAL QUOTAS AND OTHER
MANAGEMENT NEEDS

The Groundfish Advisory Subpanel (GAP) heard a briefing from Mr. John Devore on the Intersector Allocation process and the results of the recent Groundfish Allocation Committee meeting.

A majority of the GAP (17-2) support the Allocation Committee's recommendation to not revisit the sablefish allocation. The GAP unanimously supported the committee recommendation not to revisit the whiting allocation and to continue status quo management of nearshore species.

Specific to the range of alternatives for preliminary review, the GAP recommends removal of Alternatives 4 and 8 because the scorecard is an inappropriate tool for allocation purposes.

The GAP recommends moving the amended list of alternatives forward for analysis and reminds the Council that the Intersector Allocation process must remain at the top of the Council's priority list in order to complete other important processes such as the Trawl Individual Transferable Quota program in a timely manner.

PFMC
11/14/06

GROUNDFISH MANAGEMENT TEAM REPORT ON INTERSECTOR ALLOCATION FOR TRAWL INDIVIDUAL QUOTAS AND OTHER MANAGEMENT NEEDS

The Groundfish Management Team (GMT) reviewed the preliminary intersector allocation alternatives recommended by the Groundfish Allocation Committee (GAC) presented on page 19 of Agenda Item D.7.b, Attachment 1. The GMT considers the alternatives to represent a reasonable range to support moving forward with the suite of analyses that will be contained within the Environmental Impact Statement associated with this amendment to the Groundfish Fishery Management Plan.

The initial allocation alternatives include histories that specify total catch (i.e., landed catch and discard mortality) and those that specify landed catch only. The team notes that, as catch history becomes more dated, the ability to resolve total versus landed catch mortality becomes increasingly problematic. This is especially true for catch history prior to implementation of the West Coast Groundfish Observer Program.

The GMT also notes that static allocations, regardless of the catch window upon which they are based, may not fit the requirements of future fisheries or provide sufficient management flexibility as stock abundances fluctuate. Therefore, the GMT recommends incorporating into the overall analysis an exploration of sliding scale allocations based upon stock abundance; this approach could apply to overfished species as well as target species. The GMT looks forward to assisting in this effort as well as other aspects of management associated with intersector allocation as the process continues to move forward.

GMT Recommendations:

1. Approve the preliminary range of alternatives developed by the GAC for analysis and public review; and
2. Incorporate exploration of a sliding scale approach into the analysis.

GROUNDFISH MANAGEMENT TEAM REPORT ON INTERSECTOR ALLOCATION FOR TRAWL INDIVIDUAL QUOTAS AND OTHER MANAGEMENT NEEDS

The Groundfish Management Team (GMT) developed this preliminary list (which is in priority order) of Trawl Individual Quota (TIQ) topics that relate to the draft management regime alternatives, which is a subset of a larger list of issues that the GMT has recently discussed. Over time, the GMT will develop recommendations to the Council for the broader list of items; however, in an effort to help narrow down the suite of alternatives, we recommend that initial discussions on these allocation-related issues occur with the Groundfish Allocation Committee at their December 12-14, meeting.

1. Overfished Species Management
 - Discuss potential sub-options for initial allocation of quota shares, if TIQ program includes all species
 - Discuss potential sub-options for overfished species management, if TIQ program excludes overfished species
2. Cooperative Fisheries Management
 - Discuss the pros and cons of allowing the formation of co-ops by all trawl sectors, including non-whiting (as a general Management Regime Alternative)
3. Gear Flexibility (Switching)
 - Whether to consider as an alternative under TIQ alternatives, or through a separate initiative
 - Discuss the potential pros and cons of allowing gear flexibility and identify sub-options to address, as needed
4. Time Series for Initial Allocation and Use of Total Catch Data
 - Discuss pros and cons of using different time series and total catch vs. landed catch data, and sub-options for applying sliding scale approach
5. Number of Trawl Sectors
 - Discuss whether to specify one trawl sector vs. multiple sectors and potential management implications
6. Community Stability Holdback Provision
 - Review specific draft alternative language and discuss whether to revise or add alternatives for consideration

GMT Recommendation:

Provide guidance to the GMT on the list of topics that the Council would like the GMT to comment on at the Groundfish Allocation Committee's December 2006 meeting so the GMT can prepare materials in advance, as needed.

ARGOS, INC.

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Robert L. Eder

Michele Longo Eder

November 10, 2006

Dr. Don McIsaac
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220

Dear Dr. McIsaac:

During the Council meeting, I understand that there will be a report from the Chairman and/or staff as to the recommendations of the Committee, but I would like to voice my concerns as an individual, representing limited entry fixed gear.

1. Reconsideration by the Council of Sablefish Allocation

At the GAC meeting, both myself, and Tom Ghio, representing open access on the Committee, and Bob Alverson, director of the FVOA, and a member of the public, spoke in favor of the Council revisiting the sablefish allocation. The recommendation of the Committee, to not do so, was not unanimous, as reflected in the Committee's minutes.

In short, I believe that sablefish allocation should be revisited by the Council, and that a larger share of the sablefish should be allocated to the fixed gear fleet.

If the Council will examine the observer data for both the fixed gear and trawl fleet, as it relates to discard, it is apparent that there is far less discard in the fixed gear fishery. This data, for both fleets, is readily available to the Council, at least through 2005.

I believe that the Magnuson-Stevens National Standards, and the Council's own Amendment 18 and Bycatch Work Plan mandates a reconsideration of this allocation

Other committee members suggested that the problem of trawl discards will be dealt with as part of a trawl individual quota plan. While the accuracy of that

Dr. McIsaac
November 10, 2006
Page 2

statement is subject to debate, it is unrefuted that the timetable for the actual implementation of a trawl IQ program, in the best of circumstances, is not scheduled to begin until Jan 2011, 5 years from now. This means 5 more years of continued discard mortality of sablefish that has been allocated to trawl, as opposed to an allocation of sablefish to a gear type, pot and longline, which have significantly less bycatch and discard mortality.

Further, there is also the possibility that the implementation of the TIQ plan may be delayed, or never occur. This is another reason the Council should include sablefish as one of the species to be considered for allocation amongst gear groups.

By not considering the allocation of sablefish at this time, the Council will miss the opportunity to address this issue in an orderly manner, in the same way it will deal with the allocation of other species.

2. Allocation of Other Species

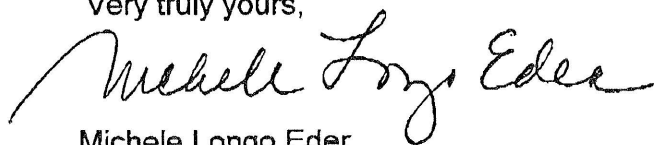
There has been discussion in the Committee to allocate to trawl gear those species in which over the past few years, trawl gear has captured 90% or more of the fish. While this may demonstrate a dependence on certain species by the trawl fleet, the question still remains as to whether the Council should allocate in favor of a gear type, without consideration as to whether other gear may catch the fish, with fewer discards and mortality.

Of particular concern to me is that these "hard allocations" would be proceeding forward, regardless of whether a trawl IQ program is implemented. It seems to me that proceeding in this manner may only institutionalize less than optimal fishing practices.

In sum, I ask that the Council decide to include sablefish as one of the species to be allocated, and that the Council seriously examine each species, not solely based on landings history, but by a gear's ability to minimize bycatch, discard mortality, and impact on habitat.

Thank you for this opportunity for public comment.

Very truly yours,



Michele Longo Eder

MLE:tm



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October 17, 2006

Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 200
Portland, Oregon 97220-1384

Re: Agenda item D.7 Intersector Allocation

Dear Chairman Hansen,

The Pacific Marine Conservation Council (PMCC) offers these comments regarding the need for area-based management in the west coast groundfish fishery. PMCC is a nonprofit, public benefit corporation, with offices in Astoria, OR; Port Townsend, WA; and Arcata, CA. Our organization has a diverse 12-member Board of Directors representing commercial and sport fishermen, marine scientists and other constituent groups, all dedicated to sustaining healthy and diverse marine ecosystems. PMCC works to link science, policy and communities to benefit the marine environment and the people and livelihoods connected to the sea.

We appreciate the chance to comment on this important matter. The intention of this letter is to provide you with socio-economic as well as biological information supporting our recommendation for the development of an area-based allocation scheme for the west coast groundfish fishery. The application of area-based management would serve to support the maintenance of fishing opportunities, protection of local community interests and processing infrastructure could be potential socio-economic reasons for allocating optimum yield (OY) on an area basis. This issue is particularly timely as the council goes through the process of intersector allocation and considers a trawl individual quota program for the groundfish fishery.

In our view, the existing coast-wide management structure for West Coast groundfish encourages local area depletion of stocks, provides disincentives for stewardship, and fails to protect the biological structure of fish populations. As a result of this coast-wide approach, overharvest in one area can shut down fishing over large areas of the coast resulting in prohibited access to historic resources by coastal fishing communities.

There clearly is spatial structure along the west coast at the species and biological community scales (Gunderson and Vetter 2006). However that structure is not fixed in time (Levin et al 2006, Jay 1996, Berkeley et al 2004). Much of it is defined by physical habitat (e.g. bottom depth and topography) and climate-ocean processes (e.g. PDO, ENSO, climate change). And those dynamic structuring processes are ever-changing. In the face of increasing uncertainty and variability in the marine environment (e.g. climate variability and change, dead zone) managing stocks on a finer scale provides flexibility in the face of uncertainty and increases the resilience of stocks and ecosystems. For example, Berkeley et al (2004) suggest that the geographic source of successful recruits to west coast groundfish populations may differ from year to year. As a result, “management should strive to preserve a minimal spawning biomass throughout the geographic range of the stock.” Spatial management thus becomes proactive in the face of uncertainty and unpredictability.

There is a growing body of clear scientific evidence for structure and variation in fish populations, ecosystems and coastal fishing communities. The inability to account for spatial structure can lead to uncertainty in the status of the stocks and localized depletions. For example, generalizations from one portion of a species range across its entire range can give misleading perceptions regarding its status of stock.

Thus, one fundamental solution to the current management dilemma is a regionally-based management structure which recognizes that fish populations and community uses are not evenly distributed along the coast.

To address this issue, in August 2006, a group of scientists, fishermen, and fisheries-policy experts were convened by PMCC to explore the issue of spatial management of west coast groundfish. PMCC proposed that a practical first step in making a management shift is to divide the west coast groundfish management into smaller units, possibly delineated by Cape Flattery, Cape Blanco, Cape Mendocino, and Point Conception. The Capes are well-known biogeographic boundaries of fish communities (Gabriel 1982, Jay 1996, Levin et al 2006). The meeting, termed “Cape to Cape”, was tasked with evaluating the PMCC proposal. We are now in the process of developing a consensus statement and the development of additional meetings to outline further an area-based management scheme for west coast groundfish.

Additional detailed information on the development and use of area-based allocation schemes as well as scientific evidence supporting the biological and socio-economic arguments for this proposal can be found in the document “On the Need for Spatial Management in West Coast Groundfish Fisheries” by Mr. James Golden, and submitted to the council in 2006 and attached to this letter. We support the following recommendations Mr. Golden’s outlines in his document:

- The Council should continue to support research into spatial sampling and modeling approaches for stock assessments. The degree of localized overfishing is unknown - fishery and survey data and habitat information should be analyzed on a finer spatial scale to develop a better understanding of fishing and fish distribution patterns.
- Recent studies of population and age structure and recruitment dynamics raise serious biological concerns with present and proposed management. Present management measures (RCAs, selective gears, etc.) and new tools (finer area allocation, MPAs, etc.) should be employed to ensure proper spatial management to safeguard against localized overfishing as a precautionary measure, and to conserve population and age structure needed to increase the likelihood of successful recruitment events.

- Area allocation of OY for West Coast groundfish should be employed as a hedge against unpredictable spawning success. Available information on species characteristics (genetic structure, age structure, reproduction, and larval dispersal) should be used as a guide to establish boundaries and OYs for sub-areas within the WOC.

For more information please contact PMCC's Senior Policy Director, Peter Huhtala or Science Director, Jennifer Bloeser.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Van Ess". The signature is fluid and cursive, with the first name "Matt" being more prominent than the last name "Van Ess".

Matt Van Ess
PMCC Executive Director

Robert Francis
PMCC Vice Chair

Pacific Marine Conservation Council

Cape-To-Cape Meeting References For Area-Based Management 10.13.06

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On the Need for Spatial Management in West Coast Groundfish Fisheries

Jim Golden

Executive Summary

The Trawl Individual Quota Committee (TIQC) is preparing alternatives for a limited entry trawl individual quota system for consideration by the Pacific Fishery Management Council (PFMC). The alternatives may include options that would restrict distribution of optimum yield (OY) and access privileges on an area basis. Time and area controls that specifying fishing rate and area fished are considered input controls (Walters and Pearse 1996), whereas allocation of catch to IQ holders by area would be considered an output control.

Under an area allocation scheme, IQ shares could be allocated for all areas, but only a portion of the total OY would be available within an area. Area allocation of OY could be based on existing International North Pacific Fisheries Commission (INPFC) boundaries or some other area distribution scheme. For example, a vessel might receive an initial allocation of 1% of the coastwide sablefish OY. This percentage would be applied to the portions of OY north and south of 36° N which are 7,486 mt and 275 mt respectively for 2005. Shareholders would have to trade shares to create or maintain fishing opportunities in areas they were accustomed to fish.

Socio-economic and biological arguments can be made for using an area allocation scheme. Maintenance of fishing opportunities, protection of local community interests and processing infrastructure could be potential socio-economic reasons for allocating OY on an area basis. Without area allocation, there is some potential for effort to be concentrated within some areas. Allocating OY by area may prevent localized depletion of stocks - to the extent that little mixing or migration of stocks within the area is occurring. During the TIQ Committee and Council review of the TIQ analytical team's work products on area effects, questions were raised about the biological need for area allocation and evidence for localized depletion. The following literature review and analysis attempts to address these questions.

In summary, evidence presented supports consideration of both initial allocation of select species to a trawl IQ program, and area allocation as a precaution against localized depletion, depending on the species.

Introduction

Fishing mortality can be expected to produce measurable changes in distribution, abundance, and age structure of marine fish populations. The degree of change fisheries managers can detect depends on the intensity of fishing effort with respect to catchability (fraction of population removed per unit of effort) and productivity of the stock as well as the degree of movement of the species being fished. Catch per unit effort may decline in heavily fished areas and the number of productive fishing locations may be reduced. With an increase in overall mortality, a reduction in age classes can be anticipated (Gulland 1977). Studies done within the last two decades have documented ecological effects associated with intense fishing pressure such as the removal of top predators, reduced biodiversity, and habitat impacts (Francis 2003). More recent work on recruitment dynamics and population structure also have implications for both temporal and spatial management of groundfish.

Localized depletion is viewed as a relative term for purposes of this paper. That is, a local area may be as large as a group of INPFC areas (typically >100 nm of coastline) for some species, or as small as a Pacific States Marine Fisheries Commission (PSMFC) area for other species (<100 nm). With a few exceptions the latter is considered to be the smallest practical management unit. Development of nearshore management plans or marine reserves by state and federal agencies may result in local management areas of even smaller size.

This paper provides some examples of localized depletion in fisheries and describes attempts by fisheries managers to spatially manage to prevent localized depletion. More importantly, biological features of groundfish are discussed which provide evidence that some species should be managed through temporal input and spatial input and output controls.

Examples of Localized Depletion

On a large spatial scale, the collapse of the Atlantic cod (*Gadus morhua*) stocks reflected some characteristics of localized depletion. Temporal and spatial changes in abundance were noted in this fishery as stocks declined to overfished levels steadily beginning in 1962 (Hutchings and Myers 1994). The cod stocks were thought to have been significantly reduced by trawling in the 1970's. Subsequently, harvest of cod offshore of Newfoundland and Labrador by gill nets began after the sharp decline in inshore gillnet landings between 1982 and 1985. Increases in gill net catches were coupled with declining catch rates. Catch rates declined both inshore and offshore, thus indicating a sequence of serial depletion. During the stock decline, technological advances permitted the fleet to continue to locate and exploit remaining stocks at ever increasing rates of fishing mortality.

On a much smaller spatial scale, Mason (1995) analyzed species trends in sport fisheries occurring within the Monterey Bay area between 1959-86. Most of the fish were taken by more mobile commercial passenger fishing vessels (CPFV) and smaller more local skiff fleet. Earlier in Monterey Bay's fishing history, abundant species closer to port were targeted by both fleets. Mason found that as effort increased, the catch of certain nearshore rockfish species (genus *Sebastes*) taken primarily by the skiff fishery declined and species composition changed to reflect declines in populations of the most abundant species. Commercial passenger fishing

vessels moved further offshore to target on more abundant deepwater species as target species. Fishing pressure and variable recruitment were cited as reasons for a decline in blue rockfish (*Sebastes mystinus*) formerly sought inshore by the skiff fleet, and in more distant (from home port) shallow reefs targeted by CPFVs. With a reduction in blue rockfish abundance, CPFVs began targeting semi-pelagic yellowtail rockfish (*Sebastes flavidus*) over deeper water reefs, then shifted to a still deeper water red complex of *Sebastes* species further offshore. Mason cited rockfish life history characteristics such as residential behavior, variable recruitment, and natural longevity as sources of vulnerability to localized overfishing for several species. Further, Mason concluded that the high site fidelity exhibited by nearshore species in particular, made them particularly vulnerable. Other studies cited by Mason in this paper indicated that many nearshore species (blue rockfish and olive rockfish (*Sebastes serranoides*) move less than a kilometer or two from reefs, while more pelagic species such as yellowtail rockfish may move more than 25 km.

Spatial Management of Groundfish Fisheries

In Gulf of Alaska and Bering Sea and Aleutian Islands, total allowable catches (TACs) are established for individual species and species complexes based on biomass distribution to prevent localized depletion (Witherell 1995). Flatfish TACs are typically set lower than ABC levels to protect the available bycatch for valuable trawl fisheries for pollock, Pacific cod, and rockfish. TACs may be set for specific smaller regulatory areas, particularly in the GOA, in proportion to biomass distribution, to distribute catch and effort. These sub-areas are comparable in size to INPFC areas used to manage the West Coast groundfish fishery.

The Canadian government uses such an area allocation scheme (DFO 2004). Quota species have a total allowable catch (TAC) set either on a coastwide basis, sub-area, or grouping of sub-areas (Figure 1 and Table 1). Major groundfish ports include Prince Rupert - northern mainland, Vancouver and Richmond - southern mainland, Ucluelet - West Vancouver Island, and Port Hardy - Northeast Vancouver Island. TAC was allocated by management area primarily for biological reasons. To the degree stock information was available, area allocation was used to prevent overfishing within these sub-areas due to possible effort concentration in the absence of an area management scheme, and to achieve yields appropriate to the productivity of these areas. In addition, area allocation was proscribed as a precautionary measure in the absence of clear-cut stock information. The concerns for overfishing stemmed from consideration of the IVQ system and its application to a mixed stock fishery. Without area allocation, shareholders could concentrate on highly valued species in areas close to home ports. Weaker stocks might also be present in the catch with target species. Concentration of shares to enable access within these areas may lead to depletion and or serial depletion of target and incidentally caught species.

Area allocation, therefore, was designed to prevent concentration of IVQ shares and fishing effort (within an area) with commensurate overfishing and possible localized and/or serial depletion of resources. The proportion of TAC assigned by area was determined from a variety of sources including stock assessments, knowledge of stock genetics, tagging studies, physiogeography, catch and effort data, and advice from fishers with detailed knowledge of fishing grounds. In some cases, former management boundaries were adjusted as a consequence of the

review and analysis process used to determine area allocations. The robust observer program Canada employs collects additional biological data on species composition, concentration, and distribution. DFO continues to review biological data and determine appropriateness of area allocations.

As described above, once Individual Vessel Quota (IVQ) shares were determined for each vessel, they were applied to management area distributions of OY. Shareholders then had the opportunity to trade species shares and acquire mixes and quantities of shares needed for desired fishing strategies and areas.

Biological Factors Indicating a Need to Spatially Manage West Coast Groundfish

Berkeley et al.(2004) reviewed stock status, population age and genetic structure, and management implications, citing examples from the West coast groundfish fishery. The authors presented evidence of stock structure on a finer scale than is typically assumed in stock assessments. Further more, they argue that truncation of age structure within rockfish populations in particular may lead to reduced larval viability and survival - older black rockfish appear to spawn earlier (Bobko and Berkeley 2004) and produce more viable larvae (Berkeley 2004). While not a West Coast groundfish, older female Atlantic cod (*Gadus morhua*) also appear to be more reproductively successful than younger females (Murawski *et al.* 2002). Berkeley et al.(2004) conclude that both spatial structure and age structure are important for long term viability of a stock, and that a network of marine reserves could be used as an alternative management measure to ensure protection of these important population components.

Most groundfish stock assessments assume that the genetic structure of the assessed species is panmictic - that is the stock is fully mixed and members from all geographic regions regularly interbreed and that populations are homogenous, or if there is evidence of separate stock structure these differences are ignored as input data are typically not fine enough to conduct stock assessments on separate sub-stock components. Larval dispersal mechanisms theorized based on ocean currents tended to support this view in that passive dispersal occurs over fairly large distances. There is however, a growing body of evidence that suggests many species of groundfish have a complex and subtle stock structure that varies by geographic region within the WOC management area. Miller and Shanks(2004) examined otolith microstructure and microchemistry of black rockfish and found evidence that larvae from different locations did not mix during ontogeny and possibly did not disperse long distances latitudinally. The authors estimated larval dispersal distances to be much shorter (<120km) than previous estimates based on models of passive dispersal. Smaller mean dispersal distances imply the need for spatial conservation of adults producing the larvae - especially if the species is overfished.

Genetic evidence also suggests finer and more complex population structure for rockfish in particular. Withler et al.(2001) through microsatellite DNA studies affirmed earlier work by Gunderson(1972) which identified two populations of Pacific ocean perch (*Sebastes alutus*) within Queen Charlotte Sound, British Columbia. Withler et al. (2001) separated Eastern and Western Queen Charlotte Island stocks and a Vancouver Island stock. An interesting feature of this finding was that the QCI stocks overlapped latitudinally - distance did not appear to be a factor in the degree of genetic isolation. The study supports other findings that many marine

populations, in spite of their potential to reach large population sizes, are fragile due a high degree of genetic variability, longevity, slow growth rates, and to episodic recruitments influenced by environmental changes (Grant and Bowen 1998) and (Fitch 1969). The authors concluded that separate management would be advisable to conserve the spatial integrity of Pacific ocean perch.

Copper rockfish (*Sebastes caurinus*), a benthic, nearshore species with a high degree of site fidelity, was found to be genetically divergent between Puget Sound and coastal stocks (Buonaccorsi *et al.* 2002). Furthermore, genetic divergence along the coastline was also significant suggesting isolation between regions even though larvae drift for up to 3 months prior to settlement. The authors suggest a pattern of recolonization since the last glacial period (14,000 years ago) and more limited realized larval dispersal due to oceanographic barriers such as recirculating oceanographic currents and mesoscale eddies along with potential unique larval behaviors that may tend to counteract passive drifting.

Genetic patchiness in marine populations may be explained to a “sweepstakes-chance” model proposed by Hedgecock (1994). Hedgecock argues that observed genetic heterogeneity on a microgeographic scale may result from temporal variation in the genetic composition of recruits. Furthermore, he argues that this variability could be due to selection on larval populations or large variations in the reproductive success of individuals whereby successful parents match reproductive activity with favorable windows of oceanographic conditions that promote fertilization, larval development and retention, and recruitment. Larson and Julian (1999) argue that fisheries management should account for spatial unpredictability in spawning success by “spatial bet-hedging”. If fish populations are composed of groups of spawners whose success in producing recruits is variable and spatially distributed, representative areas would need to be protected throughout their range to ensure some parents in any given year (the “sweepstakes winners”) would make a contribution to future recruitments. The authors suggest more information is needed to determine the spatial scale of genetic patchiness, and that this information would help design marine no-take areas to protect population structures geographically

Current Management Measures that May Influence the Spatial Distribution in the West Coast Groundfish Fishery

West Coast groundfish management uses a variety of input and output controls to regulate the fishery (PFMC 2004e). Although the areas are large, these management tools imply some measure of temporal and spatial control. Relaxation of some of these controls may be considered under a trawl IQ program.

- \$ Some allocation of OY by area.
- \$ Differential Trip Limits - Differences exist in cumulative trawl trip limits north and south of 40°10' N. Latitude. Cumulative limits reflect differences in opportunities due to distribution of OY north and south and their potential to be realized. In addition, the need to protect overfished species constrains the take of co-occurring species and these constraints vary north and south.
- \$ Current participation has been reduced due the vessel buy-back program. In

addition to fleet consolidation, processor consolidation has occurred. Thus, with fewer boats and processors, the ability catch and process fish has been concentrated among remaining fleet and ports. Under an IQ program, the potential to see further concentration is anticipated.

\$ RCAs - Tight restriction occur in large areas within bathymetric ranges established to protect overfished rockfish. These provide marine reserve like protection to the population and age structure.

\$ Selective trawl designs - Recent development of less efficient gear (with respect to bycatch of overfished rockfish) has allowed the use of this input control to take flatfish in the northern area while minimizing the take of overfished species.

Discussion

The Trawl IQ Committee does not support allocation of OY by area, unless it is necessary for biological reasons. Past and current management of West Coast groundfish on a spatial basis has only been done on a coarse scale. Alaska and British Columbia groundfish fisheries use some form of allocation by area to ensure catches are distributed in proportion to available biomass. In a few examples West Coast groundfish and fisheries elsewhere indicate evidence of localized depletion and support the need for spatial management. Current stock assessments generally assume a large degree of homogeneity in stocks of groundfish - due in part to the problem of distribution of catch and biological data and the inability to conduct stock assessments on a finer spatial scale than coastwide. Currently, there is little documented evidence of localized depletion for most species of groundfish, however, there does not appear to be sufficient analytical capacity or effort to determine if localized depletion is taking place. Some anecdotal information from fishermen who have been long time participants indicate a historically broader distribution of species such as Pacific ocean perch, canary rockfish, and black rockfish, to name a few.

There is a significant amount of evidence that population structure of many species of groundfish (rockfish in particular) is complex and genetically fragile. Furthermore, preservation of age class structure appears to be important as recent studies indicate older fish may produce more viable larvae. There is evidence in the literature and from stock assessments that the age structure of groundfish species has been truncated and that growth and maturity of some species has been affected (Francis 2003). Rebuilding plans for known overfished species have been developed to rebuild populations. Some of the measures taken should have the effect of restoring population and age structure in the short-short term.

Both population genetic structure, patterns of larval distribution, and age structure indicate a need to manage in a way that significantly reduces fishing mortality throughout the geographic range of the species. Allocation of catch by area would help protect the genetic components of rockfish - which appear to have a complex structure. A closure during spawning might ensure all potential successful parents have the opportunity to spawn during a given year. However, they would remain vulnerable during open periods, and unless areas were restricted, risk of excess fishing mortality on potentially successful parents would remain to the degree fishing effort was concentrated in a particular area. A reduction in risk might be accomplished if spawners were significantly more vulnerable during the spawning period - a closure would tend to reduce overall vulnerability if this were the case. Reduced fishing mortality overall would help protect the age class structure. Both population and age structure could be conserved through a network of marine reserves. More information is needed for various species to determine effective population size, larval contribution, and recruitment patterns in order to be able to design an effective network of marine reserves. Current RCAs provide some protection for both population and age structure. If these are removed, along with other controls that could be used to reduce the possibility of concentrating fishing effort, some groundfish stocks may continue to be at risk.

One of the benefits of the trawl IQ program may be an increase in efficiency in taking quota

shares, un-encumbered by many of the present regulations. Time and area restrictions could be used as input controls on harvest in combination with an IQ program (Walters and Pearse 1996). Temporal and spatial restrictions (input controls) alone would tend to undermine this efficiency and may continue to do so under an IQ program if shareholders are forced to compete for local concentrations of fish within restricted windows of opportunity (Walters and Pearse 1996). Reduction of uncertainty in stock assessments is key to ensuring reduced risk of assessment errors and thus long-term viability of fisheries. This might be accomplished through co-operative arrangements between industry and government to finance and better utilize and extend (spatially) fishery and research data used in stock assessments(Walters and Pearse 1996).

Recommendations

- \$ The Council should continue to support research into spatial sampling and modeling approaches for stock assessments. The degree of localized overfishing is unknown - fishery and survey data and habitat information should be analyzed on a finer spatial scale to develop a better understanding of fishing and fish distribution patterns.
- \$ Recent studies of population and age structure and recruitment dynamics raise serious biological concerns with present and proposed management. Present management measures (RCAs, selective gears, etc.) and new tools (finer area allocation, MPAs, etc.) should be employed to ensure proper spatial management to safeguard against localized overfishing as a precautionary measure, and to conserve population and age structure needed to increase the likelihood of successful recruitment events.
- \$ Area allocation of OY for West Coast groundfish should be employed as a hedge against unpredictable spawning success. Available information on species characteristics (genetic structure, age structure, reproduction, and larval dispersal) should be used as a guide to establish boundaries and OYs for sub-areas within the WOC.

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Appendix 3: Groundfish Trawl Species Management Areas

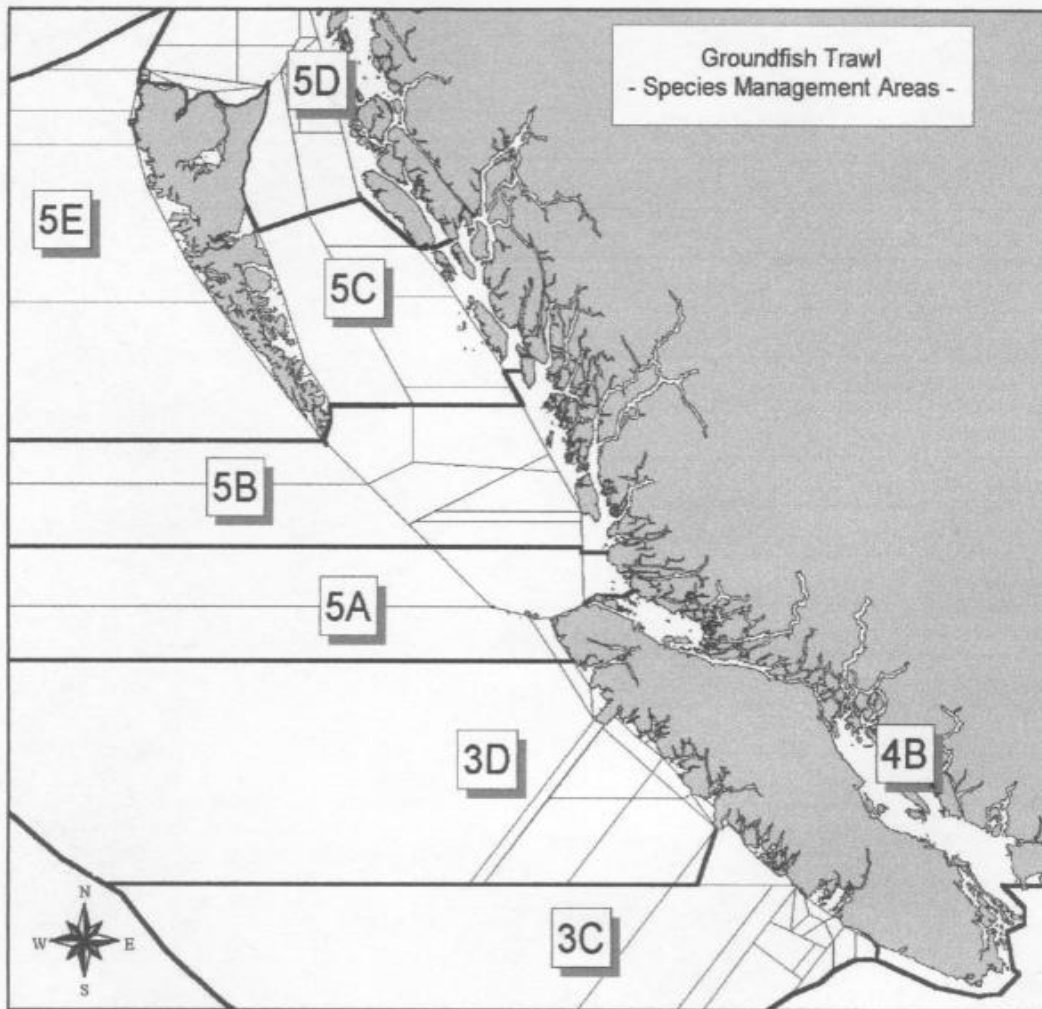


Figure 1. Groundfish management areas off the West Coast of Canada.

Table 1. Total allowable catches (TAC) of groundfish by management area of British Columbia.					
Species		Management Area		TAC (mt)	
Yellowtail Rockfish		3C		995	
		3D, 5A/5B, 5C/D/E		3,427	
Widow Rockfish		Coastwide		4,422	
Canary Rockfish		3C/D		529	
		5A/B		265	
		5C/D		101	
		5E		151	
Silvergrey Rockfish		3C/D		216	
		5A/B		421	
		5C/D		382	
		5E		248	
Pacific Ocean Perch		3C		300	
		3D		230	
		5A/B		2,070	
		5C/D		2,818	
		5E		730	
Yellowmouth Rockfish		3C		219	
		3D, 5A/5B		1,135	
		5C/D		685	
		5E		325	
Rougheye Rockfish		Coastwide		530	
Shortraker Rockfish		Coastwide		105	
Redstripe Rockfish		3C		173	
		3D,5A/B		772	
		5C/D		330	
		5E		246	
Shortspine Thornyheads		Coastwide		736	
Longspine Thornyheads		Coastwide		405	
Qullback, Copper, China, and Tiger Rockfish		Coastwide		5	
Pacific Cod		3C/D		500	
		5A/B		390	
		5C/D/E		400	
Dover Sole		3C/D		1,375	
		5C/D/E		1,100	
Rock Sole		3C/D		102	
		5A/B		875	
		5C/D		673	
Lemon Sole		3C/D		186	
		5C/D/E		544	
Petrable Sole		Coastwide		600	
Lincod		3C		800	
		3D		220	
		5A/B		862	
		5C/D/E		580	
Dogfish		4B		1,600	
		Rest of Coast		3,840	
Sablefish		Coastwide		384	
Polluck		Gulf		1,115	
		5A/B		1,790	
Hake		Gulf		10,000	
		Offshore		134,372	
Big Skate		5C/D		567	
Longnose skate		5C/D		47	

FINAL CONSIDERATION OF INSEASON ADJUSTMENTS
(IF NECESSARY)

Consideration of inseason adjustments to ongoing and upcoming groundfish fisheries may be a two-step process at this meeting. The Council will meet on Wednesday, November 15, 2006, and consider advisory body and public advice on inseason adjustments under Agenda Item D.5. If the Council elects to make final inseason adjustments under Agenda Item D.5, then this agenda item may be cancelled or the Council may wish to clarify and/or confirm these decisions. If the Council tasked advisory bodies with further analysis under Agenda Item D.5, the Council task under this agenda item is to consider advisory body advice and public comment on the status of ongoing 2006 and upcoming 2007 groundfish fisheries and recommended inseason adjustments for 2006 and/or 2007 groundfish fisheries prior to adopting final changes as necessary.

Council Action: Consider information on the status of ongoing fisheries and adopt inseason adjustments as necessary.

Reference Materials: None.

Agenda Order:

- a. Agenda Item Overview
- b. Reports and Comments of Advisory Bodies
- c. Public Comment
- d. **Council Action:** Adopt or Confirm Final Recommendations for Adjustments to 2006 and 2007 Fisheries

John DeVore

PFMC
10/23/06

GROUND FISH MANAGEMENT TEAM REPORT ON FINAL CONSIDERATION OF INSEASON ADJUSTMENTS

The Council adopted several inseason adjustments as part of Agenda Item D.5 and asked the Groundfish Management Team (GMT) and Groundfish Advisory Subpanel (GAP) to explore a mechanism for an inseason closure of the petrale sole trawl fishery, if needed to stay within the 2006 acceptable biological catch (ABC)/optimum yield (OY), and revisit the projected mortality of canary rockfish in 2007. In addition to responding to these requests, the GMT has some additional inseason issues that merit Council consideration. The GMT recommends revising the sablefish daily-trip-limits for the open access and limited entry fixed gear fisheries south of 36° N latitude. Additionally, the GMT would like to recommend a decrease in the Pacific whiting trip limit specified for 2007 prior to the start of the primary whiting season due to possible canary rockfish bycatch, and a decrease in the 2007 Period 1 and Period 6 petrale sole cumulative limits to avoid early attainment. The GMT discussed all of these issues and offers the following recommendations for consideration.

Petrale Sole for 2006

As requested by the Council, the GMT further analyzed available information for the Period 6 petrale fishery and the likelihood of exceeding the ABC/OY for this species in 2006. Based on this analysis, the GMT estimates that Period 6 petrale sole total catch may be as high as 450 mt, leaving a buffer of approximately 180 mt under the ABC/OY. The GMT believes that it is likely that catches will be less than the 450 mt amount, but the GMT discussed options available to control the catch of this species through the end of the year in the event that catch rates appear higher than a rate that will achieve 450 mt. These include: 1) an inseason trigger mechanism to close the petrale sole areas, and 2) voluntary action on the part of industry to reduce petrale sole catches. The GMT concluded that implementing a trigger mechanism is not feasible. The GMT believes that an inseason trigger mechanism may be counter-productive in this case as it may induce a race to fish before the trigger is implemented.

The GMT also discussed the concept of voluntary action on the part of industry. In the summer of 2005, NMFS asked industry to voluntarily reduce catches of petrale sole. The industry response resulted in an immediate 30% reduction of the petrale sole catch rate.

The GMT believes that the risk of exceeding the ABC/OY without a regulatory action or voluntary action is low. However, if the catch rate appears too high, voluntary action on the part of industry is expected to be sufficient to keep catches within the ABC/OY. Therefore, the GMT recommends that the Council not take regulatory action and that NMFS request industry to take voluntary action if catch rates appear too high.

Petrale Sole for 2007

If the higher than expected petrale sole catches in 2006 are repeated in 2007, then early attainment of the petrale sole OY is likely. This is especially true since the 2007 petrale sole OY is 263 mt less than the 2006 ABC/OY of 2,762 mt. The currently specified Period 1 and 6 cumulative limits for petrale sole in 2007 are 80,000 lbs per 2 months, which are higher than the 2006 limits. The GMT recommends that limits for Periods 1 and 6 be reduced to 50,000 lbs per

2 months to ensure catches stay within the OY. The GMT will re-evaluate 2007 catches in March, April and June next year to decide if further limit adjustments may be needed in 2007.

Sablefish Daily Trip Limit (DTL) Fishery South of 36° N Latitude in 2007

The GMT discussed sablefish DTL fishery limits that were changed in Wednesday's inseason action (Agenda Item D.6) south of 36° N latitude in 2007 and believes that adopted cumulative limits should be reconsidered. The GMT's original concern over sablefish in the Conception area was due to the anticipation of increased effort and the potential for effort shifts from northern areas. Those effort shifts occurred solely in the open access fishery. While there is no allocation established for limited entry and open access south of 36° N latitude, there is nothing binding the Council from establishing differential trip limits for limited entry and open access, and there are several examples from status quo management. Therefore, the GMT recommends that sablefish DTL limits in the limited entry fishery be returned to the previously scheduled limits of 350 lbs per day, or 1 landing per week of up to 1,050 lbs, while the open access sablefish DTL limits adopted earlier this week in this area remain at 300 lbs per day or one landing per week of up to 700 lbs.

Pacific Whiting Trip Limits Prior to the Start of the 2007 Primary Whiting Season

The primary season for the shorebased whiting sector, which opens on June 15 north of 42° N latitude, is the period when the large-scale target fishery is conducted with midwater trawl gear. Taking whiting with midwater trawl gear is prohibited outside the primary season. However, a per-trip limit is in effect for whiting taken with small footrope and large footrope bottom trawl gear before, during and after the primary season. The per-trip limit was intended to accommodate small bait markets and bycatch in non-whiting fisheries. A per-trip limit of 10,000 lb is in effect for whiting taken with small and large footrope bottom trawl gear, except that a 20,000 lb per-trip limit is in effect prior to the whiting season.

Changes in market demand for whiting have increased the interest in targeting whiting prior to the primary season when the limit is at 20,000 lb. Bycatch of non-whiting species, particularly overfished species and salmon, is a concern if vessels intentionally target whiting during all or part of a fishing trip outside of the primary season using bottom trawls. The GMT believes the 10,000 lb per-trip limit may not provide an incentive to target whiting, while a 20,000 lb limit may. Current GMT projections of overfished species catch as displayed in the attached scorecard do not account for increased whiting effort prior to the primary season. However, the GMT cannot quantify the magnitude of risk for early 2007 as WCGOP data will not be available until late next year (assuming vessels targeting whiting prior to the 2006 primary season were observed). The GMT's ability to accurately project impacts in this fishery is also confounded by the change in fishermen's behavior by targeting whiting outside the primary season.

The GMT did not discuss this issue until late in the week after most of the GAP members had left the meeting. Therefore, if the Council wishes to have more public input on this issue, exploring a reduction in the per-trip limit prior to the primary season could occur in March. However, the Council may want to consider the potential of increased risk of overfished species' bycatch by waiting until March given the increased market demand for whiting.

Canary Rockfish Total Catch Projections for 2007

The GMT further evaluated the canary rockfish impact projections given the proposed management measures for 2007. Following Council guidance and decisions made this week, the GMT removed the exempted fishing permit bycatch caps originally in the 2007 scorecard; maintained the 4.7 mt bycatch cap for 2007 non-treaty whiting fisheries; provided the projected recreational total catches of canary rockfish next year (5.7 mt in combined Washington and Oregon recreational fisheries and 8.3 mt in California recreational catches); and maintained the revised projections of canary rockfish in treaty whiting, salmon troll, California halibut, and research fisheries presented under Agenda Item D.5. Projected total catch of canary rockfish given these adjustments is 43.3 mt or 0.7 mt below the 2007 OY of 44 mt (see attached scorecard).

GMT RECOMMENDATIONS

1. Take no regulatory action on the 2006 petrale sole fishery and have NMFS request industry to take voluntary action to reduce petrale sole catches if catch rates appear too high in December;
2. Reduce the Period 1 and 6 petrale sole limited entry trawl cumulative limits in 2007 to 50,000 lbs per 2 months to reduce risk of early OY attainment;
3. Restore the originally scheduled 2007 Limited Entry DTL sablefish limits south of 36° N at 350 lbs per day, or 1 landing per week of up to 1,050 lbs;
4. Consider reducing the whiting per-trip limit from 20,000 lb to 10,000 lb for any whiting taken prior to the primary fishery, to reduce whiting targeting incentives outside of the primary season.

PFMC

11/17/06

2007 Projected mortality impacts (mt) under current regulations. Final update - November 2006 Council meeting. a/

11/17/2006 9 a.m.

Fishery	Bocaccio b/	Canary	Cowcod	Dkbl	POP	Widow	Yelloweye
Limited Entry Trawl- Non-whiting	48.0	7.9	2.8	233.1	101.1	0.7	0.1
Limited Entry Trawl- Whiting							
At-sea whiting motherships		4.7		25.0	1.0	200.0	0.0
At-sea whiting cat-proc					2.9		0.0
Shoreside whiting					1.8		0.0
Tribal whiting		0.7		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		1.2		1.3	0.4		2.9
Sablefish	13.4		0.0			0.0	
Non-Sablefish			0.1			0.5	
Open Access: Directed Groundfish		3.0					3.0
Sablefish DTL	0.0		0.1	0.2	0.1	0.0	
Nearshore (North of 40°10' N. lat.)	0.0			0.0	0.0	0.1	
Nearshore (South of 40°10' N. lat.)	0.0			0.0	0.0		
Other	10.6			0.0	0.0	0.0	
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		5.7					6.2
OR						1.4	
CA	98.0	8.3	0.4			8.0	1.7
Research: Includes NMFS trawl shelf-slope surveys, the IPHC halibut survey, and expected impacts from SRPs and LOAs. f/							
	2.0	7.5	0.1	3.8	3.6	0.9	2.0
TOTAL	173.3	43.3	3.5	263.5	115.2	258.1	18.6
2007 OY	218	44.0	4.0	290	150	368	23
Difference	44.7	0.7	0.5	26.6	34.8	110.0	4.4
Percent of OY	79.5%	98.4%	87.5%	90.8%	76.8%	70.1%	80.7%
Key		= either not applicable; trace amount (<0.01 mt); or not reported in available data					

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, darkblotched, and widow 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).

e/ Values in scorecard represent projected impacts. However, harvest guidelines for 2007 are as follows: canary in WA and OR combined = 8.2 mt and in CA = 9.0 mt; yelloweye in WA and OR combined = 6.8 mt and in CA = 2.1 mt.

f/ Research projections only updated for canary rockfish in November 2006. The other species' updates will be updated in March 2007.