

**CATCH ACCOUNTING REQUIREMENTS FOR
PACIFIC WHITING SHORESIDE PROCESSORS
PARTICIPATING IN THE SHORE-BASED FISHERY**

THE PACIFIC COAST GROUND FISH FISHERY MANAGEMENT PLAN

DRAFT ENVIRONMENTAL ASSESSMENT

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Abstract: This Environmental Assessment (EA) analyzes the effects of establishing recordkeeping, reporting, catch sorting, and weighing requirements for persons who receive, buy, or accept Pacific whiting from vessels participating in the primary season for the shore-based sector. The Pacific whiting shoreside fishery has been managed under Exempted Fisheries Permit (EFPs) since 1992. However, EFPs are intended to be a temporary and an exploratory response to issues that potentially could be addressed by permanent regulations. The alternative action analyzed in this EA would be the first step towards replacing the EFP with permanent regulations. Although the Pacific whiting shoreside vessels will continue to operate under EFPs in 2007, the alternative action considered in this EA would supplement EFP activities with requirements that mainly affect the processors or other first receivers of EFP catch. The requirements analyzed under the alternative action mirror or enhance existing state regulations and associated paper-based fish ticket systems or provisions associated with current EFP management. The alternative action is expected to provide more timely reporting and improved estimates of the catch of Pacific whiting, ESA listed salmon species, and overfished groundfish species.

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TABLE OF CONTENTS

1.0 PURPOSE AND NEED FOR ACTION	1
1.1 Introduction	1
1.2 Summary of Proposed Action	2
1.3 Purpose and Need for the Proposed Action	2
1.4 Management of the Pacific whiting shoreside fishery	3
1.4.1 ESA Opinions and Thresholds for the Pacific Whiting Fishery	4
1.4.2 Amendment 10 and Subsequent FMP Developments	5
1.5 Environmental Review Process and Public Scoping	6
1.6 Decision to be Made	7
1.7 Applicable Federal Permits, Licences, or Authorizations Needed in Conjunction with Implementing the Proposal	7
2.0 ALTERNATIVES	8
2.1 Introduction	8
2.2 Action Alternatives	9
2.2.1 Alternative 1 (Status Quo)	9
2.2.2 Alternative 2 (NMFS preferred)	10
2.3 Alternatives Eliminated from Detailed Study	11
3.0 AFFECTED ENVIRONMENT	11
3.1 Physical Characteristics of the Affected Environment	11
3.1.1 Essential Fish Habitat	12
3.2 Biological Characteristics of the Affected Environment	13
3.2.1 Overfished Groundfish Species Other than Widow Rockfish	19
3.2.2 Non-Groundfish Resources	22
3.2.3 Prohibited Species	25
3.2.4 Endangered and Protected Species	26
3.3 Socioeconomic Characteristics of the Affected Environment	30
3.3.1 The Pacific Whiting Shoreside Fishery	30
3.3.2 Counties Affected by the Pacific Whiting Shoreside Industry	39
3.3.3 Catch Accounting	39
4.0 IMPACTS ON THE AFFECTED ENVIRONMENT	42
4.1 Effects on the Physical Environment	42
4.2 Effects on the Biological Environment	42
4.2.1 Indirect Biological Effects	42
4.2.2 Non-groundfish Species, Prohibited Species, and Protected Species	44
4.3 Effects on the Socio-economic Environment	44
4.3.1 Changes in the Cost of Participation	45
4.3.2 Changes in Revenue	50
4.3.3 Changes in Management of the Fishery	50
4.3.4 Pacific Whiting Communities	51
4.4 Cumulative Effects	51
5.0 CONSISTENCY WITH THE FMP AND OTHER APPLICABLE LAWS	53
5.1 Consistency with the FMP	52
5.2 Magnuson-Stevens Conservation and Management Act	53
5.3 Endangered Species Act	54
5.4 Marine Mammal Protection Act	55
5.5 Coastal Zone Management Act	55

5.6 Paperwork Reduction Act	56
5.7 Executive Order 12866	56
5.8 Executive Order 13175	56
5.9 Migratory Bird Treaty Act and Executive Order 13186	57
5.10 Executive Order 12898 (Environmental Justice) and 13132 (Federalism)	57
6.0 REGULATORY IMPACT REVIEW AND REGULATORY FLEXIBILITY ANALYSIS	57
6.1 Regulatory Impact Review	58
6.1.1 RIR Summary	58
6.1.2 Conservation and Management Benefits	59
6.1.3 Industry Benefits	60
6.1.4 Industry Costs	61
6.1.5 Management Costs (State and Federal)	61
6.2 Initial Regulatory Flexibility Analysis	62
7.0 LIST OF PREPARERS	65
8.0 REFERENCES	65

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), while the nearshore areas are managed by the states and tribes. 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.
- Chapter Three contains a description of the socioeconomic, biological, and physical characteristics of the affected environment.
- Chapter Four examines changes in the socioeconomic, biological, and physical environments resulting from the alternative management actions.
- Chapter Five addresses consistency with the FMP and other applicable laws.
- Chapter Six is the regulatory impact review and regulatory flexibility analysis.
- Chapter Seven is a list of individuals who help prepare this document.
- Chapter Eight provides a list of references for this document.

1.2 Summary of the Proposed Action

The proposed action is to create Federal regulations that provide for catch accounting in the Pacific whiting shoreside fishery such that the fishery resource management objectives defined by NMFS and the Council can be achieved. The proposed action defines requirements for recordkeeping, reporting, catch sorting, and weighting that apply to persons who receive, buy, or accept Pacific whiting from vessels using midwater trawl gear during the primary season for the shore-based sector (hereafter these individuals are referred to as Pacific whiting first receivers).

At its April 2007 meeting, the Council will consider a related EA titled “A Maximized Retention and Monitoring Program for the Pacific Whiting Shoreside Fishery.” This related action will consider adopting, into permanent Federal regulations, a management structure for the Pacific whiting shoreside fishery that is similar to that being used to manage the fishery under Exempted Fishing Permits (EFPs). If approved, the related action could be implemented by the start of the 2008 season. The related action is to consider implementation of permanent regulations for a long-term program that would replace EFPs, this action addresses the immediate management needs that are not addressed by the EFPs. If federal regulations to replace EFPs are not recommended by the Council, long-term management of the Pacific whiting fishery may need further Council and NMFS consideration.

1.3 Purpose and Need for the Proposed Action

The Pacific whiting shoreside fishery needs to have an improved catch reporting system in place to: more adequately 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; and to track the catch of target and overfished groundfish species such that the fishing industry is not unnecessarily constrained and that the sector allocation and bycatch limits are not exceeded. This Federal action is intended to address difficulties that occurred during the 2006 season that affected the ability to account for the catch of target, incidental and prohibited species. Catch accounting difficulties encountered in the 2006 fishery included:

delayed reporting, substantial revisions in bycatch data, catch not sorted to species defined in federal regulation, and the transporting of partially sorted catch. Without federal regulations, NMFS does not have authority to require first receivers to submit records that are consistent with Federal fishery management needs.

The purpose of the proposed action is to:

- Establish Federal catch accounting requirements for real time reporting of catch data necessary for tracking the Pacific whiting allocation, overfished species bycatch limits, and Chinook salmon take in the Pacific whiting shoreside fishery.
- Establish Federal catch sorting and weighing requirements necessary to maintain the integrity of catch weights used to monitor attainment of allocations and bycatch limits.

1.4 Management of the Pacific Whiting Shoreside Fishery

The Pacific whiting fishery is managed under a "primary" season structure where, after the season start date, vessels harvest Pacific 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 other groundfish species in the Pacific whiting fishery, however, is managed under the trip limits structure.

To allow the Pacific whiting industry to have the opportunity to harvest the full Pacific whiting OY, the non-tribal commercial fishery is managed with bycatch limits for certain overfished species. To date, bycatch limits have been established for darkblotched, canary and widow rockfish. With bycatch limits, the industry has the opportunity to harvest a larger amount of Pacific whiting, if they can do so while keeping the total catch of specific overfished species within adopted bycatch limits. Regulations provide for the automatic closure of the commercial (non-tribal) portion of the Pacific whiting fishery upon attainment of a bycatch limit. This is different from the bottom trawl fishery where harvest availability of target species is often constrained by the projected catch of overfished species.

In 1992, when significant landings were expected to be harvested by the Pacific whiting shoreside fishery, 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 address specific environmental concerns (50 CFR 600.10 and 600.745.) Each year since 1992, EFPs have been issued to vessels in the Pacific whiting shoreside fishery to allow unsorted catch to be landed. Without an EFP, groundfish regulations at 50 CFR 660.306 (a)(2) and (a)(6) require vessels to sort their catch at sea. Sorting would cause a loss of product quality and increase vessel operating costs. The vessels fishing under the EFPs are required to deliver catch to designated processors. Each designated processor has a written agreement with the state where they are located that specifies the term of participation. The designated processor agreements require processors to follow more rigorous catch accounting and reporting requirements than those required by existing state law.

Because vessels fishing under the Pacific whiting EFPs are allowed to land unsorted catch, the landings included species in excess of the trip limits, non-groundfish species, protected species, and prohibited species such as salmon that would otherwise be illegal to have on board the vessel. Vessels fishing for Pacific 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.

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

(e) *Prohibited species.* Groundfish species or species groups under the PCG FMP 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 (catcher/processor and mothership sectors-see section 3.3.1) 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 Pacific whiting on the vessel for several hours or days until it can be offloaded at a shoreside processor. Pacific whiting deteriorates rapidly, so it must be handled quickly and immediately chilled to maintain product quality. This is particularly true if the Pacific 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 Pacific whiting, which demands careful handling and immediate cooling or processing for the fishery to be economically feasible. Because rapid cooling can retard flesh deterioration, most 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.

The Shoreside Whiting Observation Program (SHOP), is a coordinated monitoring effort by the States of Oregon, Washington, and California. The SHOP was initially established in 1992 to provide oversight to the EFP activities including: coordination of observer sampling, the collection other necessary catch data, and the transmission of summarized catch data to NMFS. Although the program's structure and priorities have changed over the years and observers are no longer used, the SHOP has maintained the primary responsibility of monitoring EFP activities and for providing catch data collected at the processing facilities to NMFS for management of the fishery.

Management of the salmon and groundfish fisheries has also changed substantially since the early 1990's. Since 1992, new salmon evolutionarily significant units (ESUs) have been listed under the ESA, and several groundfish species that are incidentally taken in the Pacific whiting fishery have been declared overfished. These changes have affected management of the Pacific whiting fishery and summarized below.

1.4.1 Salmon 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, while other salmon species are rarely encountered in the Pacific whiting and other groundfish fisheries. The analysis determined that there was a spatial/temporal overlap between the Pacific 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 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, more than 11,000 Chinook were taken, 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 Pacific whiting fishery were consistent with expectations considered during prior consultations. Chinook bycatch has averaged about 7,300 fish 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 fish. The Chinook ESUs most likely affected by the Pacific whiting fishery have 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 Overfished Groundfish Species, Amendment 10 and Subsequent FMP Developments

In 1996, to address the treatment and disposition of salmon in the shore-based sector of the Pacific 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 Pacific whiting shoreside 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 (renamed 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 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, approved December 2006, revised 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 Pacific whiting shoreside 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](#).

A related action titled "A Maximized Retention and Monitoring Program for the Pacific Whiting Shoreside Fishery," will be considered by the Council at its March 2007 meeting and is intended to transition the Pacific whiting shoreside fishery from annual EFPs to management via long-term Federal regulations beginning in 2008. During the public review and scoping for the development the related action, difficulties that could affect the ability to account for the catch of target, incidental and prohibited species while managing the fishery under EFPs were identified.

In July 2006, NMFS Northwest Region staff meet with 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 state; 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 Pacific whiting shoreside fishery. At this same meeting, NMFS informed the Council of the intent to take action in 2007 to address data accounting concerns in the Pacific whiting fishery and until the maximized retention and monitoring program was in effect. At the Council's November 2006 meeting, NMFS reaffirmed the need for rulemaking to address data accounting concerns at the shoreside processing facilities.

1.6 Decision to be Made

From the information in this EA, NMFS must decide whether or not to establish catch accounting requirements pertaining to recordkeeping, reporting, catch sorting, and weighting for individuals who receive, buy, or accept Pacific whiting from a vessel using midwater trawl gear during the primary season for the shore-based sector (Pacific whiting shoreside first receivers).

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 the catch accounting requirements implemented. 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

The Magnuson-Stevens Act provisions at 50 CFR 600.745 allow the issuance of EFPs to authorize fishing activities that would otherwise be prohibited. NMFS received an application requesting renewal of the Pacific Whiting Shoreside Fishery EFP from the States of Washington, Oregon, and California at the November 2006 Council meeting in Del Mar, CA. The Council recommended that NMFS issue the EFPs, as requested by the States. A Federal Register notice will be published to announce the receipt of the EFP application and the intent to issue the EFPs.

Issuance of EFPs to Pacific whiting vessels will continue the ongoing monitoring program through 2007. The EFPs allow vessels to delay the sorting of groundfish catch until offloading and allow the vessels to retain catch in excess of cumulative trip limits and prohibited species. **Each EFP contains the terms and condition that the participating vessels are required to follow.** The alternative being considered does not change the EFPs for vessels, but rather applies to the first receivers.

2.0 ALTERNATIVES

2.1 Introduction

This chapter describes the alternative management actions that could be taken to establish catch accounting requirements for Pacific whiting shoreside first receivers. The alternatives described in this section address the following areas related to the monitoring of Pacific whiting EFP catch:

- Timely reporting of groundfish and prohibited species catch
- Adequate sorting of catch prior to weighing
- Accuracy of reported catch weights

The following alternatives which are further defined below and analyzed in this EA include:

- Alternative 1: (Status Quo)-Federal reporting requirements not specified. Catch sorting requirements and prohibited actions currently specified for limited entry trawl at 660.370(h)(6) and 660.306(a)(7). Each state specifies requirements for landing reports. States have varying requirements for scale performance and testing for seafood processors establish by their agencies for weights and measures.
- Alternative 2: Define real time Federal reporting requirements for Pacific whiting shoreside processors based on the use of electronic fish tickets. Revise reporting requirements to apply to all individuals who receive, buy, or accept Pacific whiting from a vessel using midwater trawl gear during the primary season for the shore-based sector (Pacific whiting shoreside processors). Establish federal requirements for sorting Pacific whiting deliveries. Specify that the weight for species or species groups reported on electronic fish tickets must be derived from a scale appropriate to the amount being weighed and must be accurate.

2.2 Alternatives

Table 2.2.1. Comparison of the Alternative Management Actions

Issues	Alternative 1 (Status Quo)	Alternative 2 (NMFS preferred)
Timely reporting of catch	<ul style="list-style-type: none"> • Federal reporting requirements not specified. • Paper reports required by state of landing. 	<ul style="list-style-type: none"> • Electronic fish tickets required • Submission of electronic fish tickets within 24 hours of the date of landing. • Paper reports required by state of landing.
Adequate sorting of catch	<ul style="list-style-type: none"> • 660.306(a)(7) it is unlawful for any person to fail to sort catch, prior to the first weighing after offloading. • 660.370(h)(6) requires groundfish catch to be sorted to species or species groups with trip limit, size limit, quota, harvest guideline, or OY. 	<p>In addition to requirements under status quo:</p> <ul style="list-style-type: none"> • Prohibit processors from receiving unsorted Pacific whiting primary catch from EFP vessels without EMS, unless the vessel has a waiver. • Revise sorting requirements at 660.370(h)(6) to address unsorted Pacific whiting landings. • Revise sorting requirements to include requirement to sort catch at offload and prior to transporting catch from the port of first landing.
Accurate catch weights	<ul style="list-style-type: none"> • There are no Federal requirements. • Oregon requires weights to be from certified scales. All processors have one or more scales licenced by the state. Scales must be tested and meet specific standards. • Washington does not require weights to be from scales. All processors have scales that meet state standards. The current practice is to actually weigh catch. • California requires accurate weights, but does not specify that weights be from scales. 	<ul style="list-style-type: none"> • Require weights on electronic fish tickets to be from scales that are in compliance with state standards. • Require the use of scales with appropriate accuracy range for the amount being weighed. • Require accurate weights. • Prohibit catch from being processed, sold or discarded before being weighed on a scale.

2.2 Alternatives

2.2.1 Alternative 1 (Status Quo)

Timely reporting of catch: Under this 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.

Accurate sorting of catch: There are no Federal regulations or EFP provisions that specifying how unsorted deliveries, which may include prohibited species, protected species, groundfish in excess of trip limits, or other non-groundfish species, must be sorted. The current groundfish regulations are based on the assumption that most catch is sorted prior to landing. For limited entry vessels with trawl endorsements, Federal regulations at 660.306 (a)(7) and 660.370 (a)(6)(i) specify the groundfish species groups that catch must be sorted to prior to first weighing. In general, the

catch must be sorted to any groundfish species or species group for which there is a trip limit, size limit, quota, harvest guideline, or OY. Sorting requirements do not speak to the sorting of non-ground species.

Under the existing Federal groundfish regulations, individuals who receive unsorted catch on land and transport that catch to another location, sometimes out of state, are not required to sort the catch or weigh it prior to transport. Federal law requires fish that are transported between states to be marked with an accurate packing list, bill of lading, or other similar document that lists species and number by species or other appropriate measure of the quantity such as weight (50 CFR Subpart K, 300.160-161).

Accurate catch weights: Each state has different requirements regarding the weights on landing reports and the performance or testing requirements for scales used to weigh groundfish catch. Performance and testing requirements for commercial scales have been established by the each state's weights and measures agency.

Processors in the State of Oregon are currently required to report actual scale weights on fish receiving tickets and all weights are required to be derived from certified scales. The State of Washington does not require marine fish receiving ticket weights to be actual scale weights. However, requirements for commercial scales are specified in state regulation and scales are generally used by the Pacific whiting processors to derive fish ticket weights (Pers. Comm. Mike Cenci, WDFW). In the State of California accurate weights are required on landing receipts, but they are not required to be actual scale weights.

Actual Weights

Actual weights are those derived from a suitable scale that meets state standards for type, testing, and accuracy.

Common methods used to estimate the weight of fish (**not** an actual weight) include:

- Volumetric estimation = volume taken up by the catch * an estimated density value
- Average weight estimation = number of fish times an average weight
- Conversions to weights using a conversion factor

2.2.2 Alternative 2 (NMFS preferred)

Timely reporting of catch: Under this alternative, Federal regulations would require Pacific whiting shoreside first receivers to have and use a NMFS approved electronic fish ticket program to send timely catch reports. Electronic fish tickets would need to be submitted within 24 hours from the date the catch was landed. The electronic fish tickets are based on information currently required in state fish receiving tickets or landing receipts (hereafter referred to as state fish tickets). The reports would be used to track catch allocations, bycatch limits and prohibited species catch. First receivers would provide the computer hardware and software (Access 2003 or later) necessary to support the electronic fish ticket program. This alternative would recognize that 2007 is the initial year in which an electronic fish ticket program will be used and therefore includes provisions to accommodate the daily reporting needs of the fishery, should there be performance issues with software or other system failures beyond the processor's control. Federal regulations would not replace any state requirements. 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.

At this time, only the State of Oregon allows printed and signed copies of the electronic fish tickets for submission as the official state record. The states of Washington and California would continue to require the submission of paper forms as issued by the state. Under this alternative, first receivers in the states of Washington and California would need to complete and submit paper fish ticket forms as provided by the states in addition to Federal reporting requirements.

Accurate sorting of catch: If sorting and weighing requirements specified in Federal regulation are more specific than state fish tickets requirements, the processor would be required to meet the **Federal sorting and weighing requirements for all electronic fish ticket submissions.**

In addition to the sorting requirements specified for limited entry vessels with trawl endorsements at 660.306(a)(7) and 660.370(h)(6) (i), sorting requirements would be specified for unsorted Pacific whiting catch received by first receivers since these deliveries may contain groundfish in excess of trip limits, unmarketable groundfish, prohibited species, and protected species that are not addressed by current groundfish regulations. In addition, Federal groundfish regulations would be revised to specify that unsorted deliveries from vessels participating in the Pacific whiting shoreside fishery must be adequately sorted and the catch weighed following offloading from the vessel and prior to transporting the catch.

Accurate catch weights: Under this alternative, first receivers would be required to report on electronic fish tickets, actual weights derived from scales. The federal regulations would be in accordance with existing state requirements for scales. Though there are considerable differences in the requirements between states, each state has requirements for scale performance and testing established by their agencies for weights and measures. How these requirements apply to seafood processors varies between states.

2.3 Alternatives Considered but Eliminated from the Detailed Analysis

There were no approaches that were considered but not analyzed in this document.

3.0 AFFECTED ENVIRONMENT

This chapter describes the Pacific Coast groundfish fishery and the resources that would be affected by the alternative action. Physical resources are discussed in Chapter 3.1, biological resources are described in Chapter 3.2, and socio-economic resources are described in Chapter 3.3.

3.1 Physical Characteristics of the Affected Environment

The coastal ocean off Washington, Oregon, and California is a biogeographic region that is collectively termed the Coastal Upwelling Domain (Ware and McFarlane 1989). The dominant fish species within this domain include northern anchovy, Pacific sardine, Pacific whiting (also called Pacific hake), Pacific mackerel, jack mackerel, Pacific herring, sablefish, and coho and Chinook salmon. Within this domain, are several smaller physical zones, including: a nearshore zone; a zone that includes the upper 10-20 m (5-11 fm) of the water column across the continental shelf and slope; and, a benthic zone with demersal habitats on the continental shelf, at the shelf break, and beyond the shelf break to depths of 1,500 m (820 fm). Each of these physical zones

has unique circulation patterns that affect spawning and larval transport, and each is subject to different physical forces that leads to species-specific variations in growth, survival, and recruitment.

The Coastal Upwelling Domain is part of the California Current system. The California Current is a broad, slow, meandering current that moves toward the equator. The California current occurs from the shore to several hundred miles from land, and extends from the northern tip of Vancouver Island (50 north latitude) to the southern tip of Baja California (25 north latitude). In deep waters offshore of the continental shelf, the currents flow southward all year round; however, over the continental shelf, southward flows occur only in spring, summer, and fall. During winter months, the flow over the shelf reverses, and the water moves northward as the Davidson Current. The transitions between northward and southward flows on the shelf occur seasonally, in March/April and October/November thus are termed the "spring transition and fall transition." Another important feature of circulation within the Coastal Upwelling Domain is the deep, year-round, poleward-flowing undercurrent found at depths of 100 to 300 m (55 to 164 fm) over the outer shelf. This current seems to be continuous at least from Southern California (33° north latitude) to the British Columbia coast (50° north latitude).

Coastal upwelling is the dominant physical force affecting production in the Coastal Upwelling Domain. Upwelling off Washington and Oregon occurs primarily in continental shelf waters during the months of April to September, whereas upwelling can occur year-round off northern and central California. Upwelling also occurs in offshore waters through the action of Ekman pumping and through surface divergence in the centers of cyclonic eddies. The result of upwelling is high production of phytoplankton from April through September fueled by the nearly continuous supply of nutrients, and a high biomass of copepods, euphausiids and other zooplankton during summer.

Pacific whiting undertake an extended spawning migration during which the adults swim south to spawn in the southern California Bight in autumn and winter. Pacific whiting migrate from as far north as Vancouver Island to southern California, a distance of several thousand kilometers. The Pacific whiting fishery has historically occurred during the northern migration of adults. The northern migrating adults and the northward drift of larvae and juveniles takes place at depths where fish take advantage of the poleward undercurrent.

3.1.1 Essential Fish Habitat

The MSA, as amended by the 1996 SFA, requires NMFS and the Council to describe Essential Fish Habitat (EFH) and enumerate potential threats to EFH from both fishing and nonfishing activities for the managed species. EFH for Pacific Coast groundfish is defined as the aquatic habitat necessary to allow groundfish production to support long-term sustainable fisheries for groundfish and for groundfish contributions to a healthy ecosystem. In December 2005, NMFS completed a final EIS on EFH. This final EIS supports action taken under Amendment 19 titled: The Pacific Coast Groundfish Fishery Management Plan, EFH Designation and Minimization of Adverse Impacts, contains detailed further information on the physical environment. Readers who are interested in detailed information on the West Coast marine habitat and physical oceanography are referred to Section 3.2 of the final EFH EIS. A copy of the EFH EIS can be obtained by contacting the Sustainable Fisheries Division, Northwest Region, NMFS, 7600 Sand Point Way, NE, Seattle, WA 98115-0070; or viewing the internet posting at www.nwr.noaa.gov/Groundfish-Halibut/Groundfish-Fishery-Management/NEPA-Documents/index.cfm.

3.2 Biological Characteristics of the Affected Environment

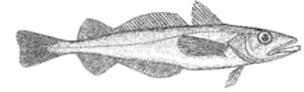
There are over 90 species of groundfish managed under the groundfish FMP. These species include over 60 species of rockfish in the family Scorpaenidae, 7 roundfish species, 12 flatfish species, assorted sharks, skates, and a few miscellaneous bottom-dwelling marine fish species. The groundfish species occur throughout the EEZ and occupy diverse habitats at all stages in their life history. Information on the interactions between the various groundfish species and between groundfish and non-groundfish species varies in completeness. While a few species have been intensely studied, there is relatively little information on most.

The Allowable Biological Catch (ABC) is an estimate of the amount of stock that may be harvested each year without jeopardizing the continual sustainability of the resource. The Council and NMFS use the results of quantitative stock assessment to develop annual ABCs for major groundfish stocks. For groundfish species where there is little or no detailed biological data available to develop ABCs, rudimentary stock assessments are prepared, or the ABC levels are based on historical landings. Species and species groups with ABCs in 2006 included: lingcod, Pacific cod, Pacific whiting, sablefish, cabezon, POP, shortbelly rockfish, widow rockfish, canary rockfish, chilipepper rockfish, bocaccio, splitnose rockfish, yellowtail rockfish, shortspine thornyhead, longspine thornyhead, cowcod, darkblotched rockfish, yelloweye rockfish, Black rockfish, Dover sole, English sole, petrale sole, Arrowtooth flounder, other flatfish, and the minor rockfish complexes.

The Magnuson-Stevens Act requires an FMP to prevent overfishing. Overfishing is defined in the National Standards Guidelines (63 FR 24212, May 1, 1998) as exceeding the fishing mortality rate needed to produce maximum sustainable yield. The term "overfished" describes a stock whose abundance is below its overfished/rebuilding threshold. Overfished/rebuilding thresholds are generally linked to the same productivity assumptions that determine the ABC levels. The default value of this threshold for the groundfish FMP is 25 percent of the estimated unfished biomass level. In 2007, seven groundfish species continue to be designated as overfished: bocaccio (south of Monterey), canary rockfish, cowcod (south of Point Conception), darkblotched rockfish, Pacific ocean perch, widow rockfish, and yelloweye rockfish.

The following section presents a brief summary of the biological characteristics of Pacific whiting, the most common species encountered in the Pacific whiting fishery, and overfished groundfish species encountered in the fishery. Readers who are interested in further biological information including information on the status of the groundfish resources, are referred to Section 4.0 of the EIS, prepared for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2007-2008 Pacific Coast Groundfish Fishery. Copies of the EIS can be obtained from the Pacific Fishery Management Council, by writing to 7700 NE Ambassador Place, Suite 200, Portland, OR 97220-1384; or calling 503-820-2280; or viewing the internet posting at <http://www.pcouncil.org>. Appendix B2 to the final EFH EIS titled: The Pacific Coast Groundfish Fishery Management Plan, EFH Designation and Minimization of Adverse Impacts, contains detailed information on the life histories of the groundfish species. A copy of the EFH EIS can be obtained by contacting the Sustainable Fisheries Division, Northwest Region, NMFS, 7600 Sand Point Way, NE, Seattle, WA 98115-0070; or viewing the internet posting at www.nwr.noaa.gov/Groundfish-Halibut/Groundfish-Fishery-Management/NEPA-Documents/index.cfm.

Pacific Whiting (Merluccius productus): Pacific whiting range from Sanak Island in the western Gulf of Alaska to Magdalena Bay, Baja California Sur. They are most abundant in the California Current System (Bailey 1982; Hart 1973; Love 1991; NOAA 1990). Smaller



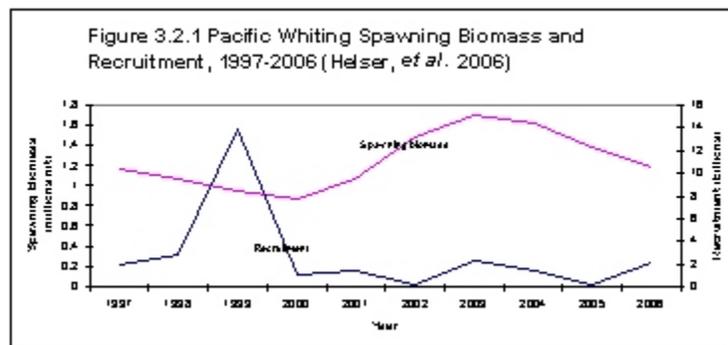
populations of Pacific whiting occur in several of the larger semi-enclosed inlets of the northeast Pacific Ocean, including the Strait of Georgia, Puget Sound, and the Gulf of California (Bailey et al.1982; Stauffer 1985). The highest densities of Pacific hake are usually found between 50 and 500 m, but adults occur as deep as 920 m (503 fm) and as far offshore as 400 km (Bailey 1982; Bailey et al.1982; Dark and Wilkins 1994; Dorn 1995; Hart 1973; NOAA 1990; Stauffer 1985). Hake school at depth during the day, then move to the surface and disband at night for feeding (McFarlane and Beamish 1986; Sumida and Moser 1984; Tanasich et al.1991).

Coastal stocks spawn off Baja California in the winter. After spawning the mature adults begin moving northward and inshore, following the food supply and Davidson currents (NOAA 1990). Hake reach as far north as southern British Columbia by fall. Older (age 5+), larger, and predominantly female Pacific whiting migrate into Canadian waters. During El Niño years, a larger proportion of the stock migrates into Canadian waters, this believed to be due to intensified northward currents during the period of inactive migration (Dorn 1995). In the fall, Pacific whiting begin the southern migration to spawning grounds and further offshore (Bailey et al.1982; Dorn 1995; Smith 1995; Stauffer 1985).

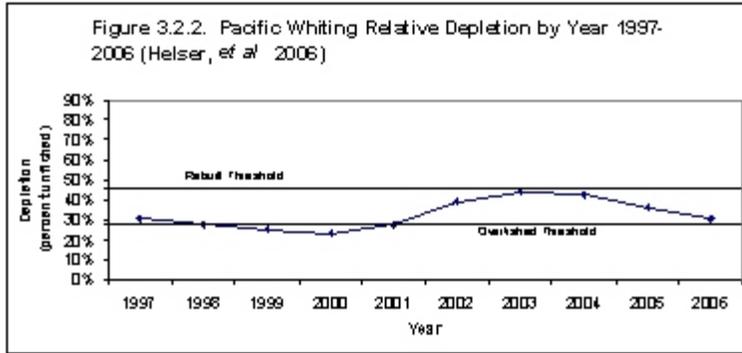
Spawning occurs from December through March, peaking in late January (Smith 1995). Pacific hake are oviparous with external fertilization. Eggs of the Pacific hake are neritic and float to neutral buoyancy (Bailey et al.1982; NOAA 1990). Hatching occurs in 5 - 6 days and within 3-4 months juveniles are typically 35 mm (Hollowed 1992). Juveniles move to deeper water as they get older (NOAA 1990). Females often mature at 3 - 4 years (34 - 40 cm,) and nearly all males are mature by 3 years (28 cm). Females grow more rapidly than males after four years; growth ceases for both sexes at 10 - 13 years (Bailey et al.1982).

Smith (1995) recognizes three habitats used by coastal Pacific whiting: a narrow 30,000 km₂ feeding habitat near the shelf break of British Columbia, Washington, Oregon and California populated 6-8 months per year; a broad 300,000 km₂ open-sea area of California and Baja California populated by spawning adults in the winter and embryos and larvae for 4-6 months; and a continental shelf area of

unknown size off California and Baja California where juveniles brood (Bailey et al.1982, NOAA 1990). Adult Pacific whiting have been found to be cannibalistic. Pacific whiting and their associated prey varies by life stage with adults primarily feeding on amphipods, clupeids, crabs, rockfish, squid; juveniles feeding on euphausiids; and, larvae feeding on copepod eggs, copepod nauplii, and copepods.



In general, Pacific whiting is a very productive species with highly variable recruitment patterns (recruitment-the biomass of fish that mature and enter the fishery each year) and a relatively short life span when compared to most other groundfish species. In 1987, the Pacific whiting biomass was at a historical high level due to an exceptionally large number of fish that spawned in 1980 and 1984 (fished spawned during a particular year are referred to as year classes). As these large year classes passed through the population and were

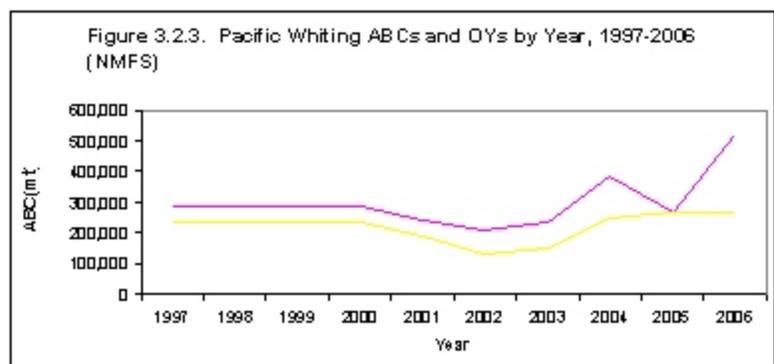


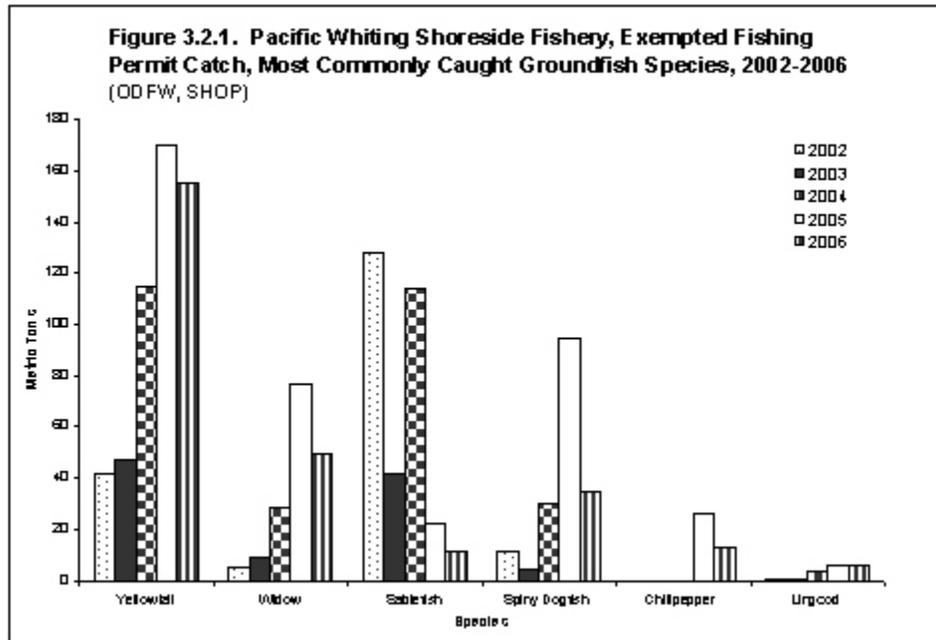
replaced by moderate sized year classes, the Pacific whiting stock declined. The Pacific whiting stock stabilized between 1995 and 1997, but then declined to its lowest level in 2001 (Figure 3.2.1.) The female spawning biomass of Pacific whiting in 2001 was estimated to be less than 20 percent of the unfished biomass. As a result, the Pacific whiting stock was believed to be below the overfished threshold ($B_{25\%}$) and was declared overfished on April 15, 2002 (67 FR 18117). Since 2001, the Pacific whiting stock has increased substantially, because a strong 1999 year class has matured and entered the spawning population. The 1999 year class has been the single most dominant cohort in the biomass since the late 1980s.

Pacific whiting stock assessment prepared in 2004 found that the abundance had increased substantially since 2000. However, the pattern of stock growth remained similar to what had been estimated in past stock assessments. The 2004 stock assessment estimated the stock to be between 47 percent (2.7 million mt of age 3+ fish) and 51 percent (4.2 million mt of age 3+ fish) of its unfished biomass in 2003. Under both scenarios, the Pacific whiting biomass in 2003 was estimated to be above the target rebuilding biomass (Figure 3.2.2.) Therefore, in 2004, NMFS announced that the Pacific whiting stock was estimated to above the target rebuilding biomass ($B_{40\%}$) in 2003 and was no longer considered to be an overfished stock.

The most recent Pacific whiting stock assessment was prepared in early 2006, and the Pacific whiting biomass was estimated to be between 31 percent and 38 percent of its unfished biomass. In 2006, the U.S. ABC (73.88 percent of the U.S.-Canada coastwide ABC) was 518,294 mt and the U.S. total catch OY with a 40-10 precautionary adjustment was 269,069 mt. Figure 3.2.3 shows the annual Pacific whiting ABCs and OYs for the years between 1997 and 2006.

Pacific whiting undertake a diurnal vertical migration and tend to form extensive midwater aggregations during the day, these dense schools occur between the depths of 100 and 250 meters (Stauffer 1985). Because Pacific whiting disperse throughout the water column at dusk and remain near the surface at night, fishing has traditionally occurred during the daylight hours. The results of fishing on concentrated





midwater schools results in almost pure catches of Pacific whiting, with incidental catch typically amounting to less than three percent of the total catch by weight.

Species that are incidentally taken in the Pacific whiting fishery may be commingled with Pacific whiting or merely in the vicinity of Pacific whiting schools, depending on the relationships between the various species. Major factors affecting bycatch are: area, depth, season, time of day, and environmental conditions. Overall abundance of a particular species is also relevant. Figure 3.2.1 is a summary of EFP catch of the most common groundfish species taken in the Pacific whiting shoreside fishery between 2002 and 2006. The most common groundfish species taken in EFP catches between 2002 and 2006 include: yellowtail rockfish, widow rockfish, sablefish, spiny dogfish (*Squalus acanthias*), chilipepper rockfish and lingcod.

Yellowtail Rockfish (Sebastes flavidus): Yellowtail rockfish range from San Diego, California, to Kodiak Island, Alaska (Fraidenburg 1980; Gotshall 1981; Lorz, *et al.* 1983; Love 1991; Miller and Lea 1972; Norton and MacFarlane 1995). The center of yellowtail rockfish abundance is from Oregon to British Columbia (Fraidenburg 1980). Yellowtail rockfish are a common, demersal species abundant over the middle shelf (Carlson and Haight 1972; Fraidenburg 1980; Tagart 1991; Weinberg 1994). Yellowtail rockfish are most common near the bottom, but not on the bottom (Love 1991; Stanley, *et al.* 1994). Yellowtail rockfish adults are considered semi-pelagic (Stanley, *et al.* 1994; Stein, *et al.* 1992) or pelagic, which allows them to range over wider areas than benthic rockfish (Percy 1992). Adult yellowtail rockfish occur along steeply sloping shores or above rocky reefs (Love 1991). They can be found above mud with cobble, boulder and rock ridges, and sand habitats; they are not, however, found on mud, mud with boulder, or flat rock (Love 1991; Stein, *et al.* 1992). Yellowtail rockfish form large (sometimes greater than 1,000 fish) schools and can be found alone or in association with other rockfishes (Love 1991; Percy 1992; Rosenthal, *et al.* 1982; Stein, *et al.* 1992; Tagart 1991). These schools may persist at the same location for many years (Percy 1992).

The yelloweye rockfish stock in the West Coast fishery is managed as two stocks separated at Cape Mendocino, California. The stock assessment of yellowtail rockfish was most recently updated in 2005. Yellowtail rockfish is considered to be a healthy stock with its biomass estimated to be above 40 percent of its unfished biomass in 2005.

Yellowtail rockfish is the most common groundfish species caught with Pacific whiting. In the past five years, the yellowtail rockfish catch in the Pacific whiting shoreside fishery has ranged from a low of 41 mt in 2002 with a catch rate of 0.0009 mt of yellowtail rockfish per mt of Pacific whiting to a high of 170 mt in 2005 with a catch rate of 0.0017 mt of yellowtail rockfish per mt of Pacific whiting. Yellowtail rockfish catch rates tend to be highest in ports in the north (Wesport, Illwaco, and Astoria) than in the south. Catch rates for individual trips between 1999 and 2003 show that the highest interception occurs around Astoria Canyon and south of Cape Flattery (Weidoff and Parker 2004).

Widow Rockfish (Sebastes entomelas): Widow rockfish range from Albatross Bank off Kodiak Island to Todos Santos Bay, Baja California, Mexico (Eschmeyer, et al. 1983; Miller and Lea 1972; NOAA 1990). They occur over hard bottoms along the continental shelf (NOAA 1990) and prefer rocky banks, seamounts, ridges near canyons, headlands, and muddy bottoms near rocks. Large widow rockfish concentrations occur off headlands such as Cape Blanco, Cape Mendocino, Point Reyes, and Point Sur. Adults form dense, irregular, midwater and semi-demersal schools deeper than 100 m (55 fm) at night and disperse during the day (Eschmeyer, et al. 1983; NOAA 1990; Wilkins 1986). All life stages are pelagic, but older juveniles and adults are often associated with the bottom (NOAA 1990). Pelagic larvae and juveniles co-occur with yellowtail rockfish, chilipepper, shortbelly rockfish, and bocaccio larvae and juveniles off Central California (Reilly, et al. 1992).

Similar to other rockfish species, the biomass of widow rockfish has decreased steadily since the early 1980s, and recruitment during early 1990s is estimated to have been considerably smaller than before the mid 1970s. The reason for the lower recruitment during the period could be due to lower spawning stock biomass, but it could also be due to environmental conditions. Widow rockfish was declared overfished on January 11, 2001, because the stock was assessed and believed to be below 25 percent of its unfished biomass. A 2005 coastwide stock assessment and rebuilding analysis were completed for widow rockfish. The 2005 stock assessment estimated that the widow rockfish stock was at 31.1 percent of its unfished biomass in 2004. In retrospect, the 2005 stock assessment shows that the widow rockfish biomass may not have declined below the overfished species threshold of 25 percent of its unfished biomass as has been estimated in previous stock assessments.

Widow rockfish is one of the most common groundfish species caught with Pacific whiting. However, because of its overfished status, widow rockfish bycatch limits have been used to constrain the incidental catch. If a bycatch limit is reached, all commercial Pacific whiting fisheries are closed for the remainder of the year regardless of whether or not the Pacific whiting allocations have been reached. In 2006, the widow rockfish bycatch limit was 200 mt at the start of the season but was later revised to 220 mt. In the past five years, the widow rockfish catch in the Pacific whiting shoreside fishery has ranged from a low of 5 mt in 2002 with a catch rate of 0.0001 mt of widow rockfish per mt of Pacific whiting to a high of 76 mt in 2005 with a catch rate of 0.0008 mt of widow rockfish per mt of Pacific whiting (Jesse and Saelens 2007)

Sablefish (*Anoplopoma fimbria*): Sablefish, or black cod, are distributed in the northeastern Pacific ocean from the southern tip of Baja California, northward to the north-central Bering Sea and in the Northwestern Pacific ocean from Kamchatka, southward to the northeastern coast of Japan. Adults are found as deep as 1,900 m (1,039 fm), but are most abundant between 200 m (109 fm) and 1,000 m (547 fm) (Beamish and McFarlane 1988; Kendall, Jr. and Matarese 1987; Mason, et al. 1983). Adults and large juveniles commonly occur over sand and mud (McFarlane and Beamish 1983b; NOAA 1990) in deep marine waters. They were also reported on hard-packed mud and clay bottoms in the vicinity of submarine canyons (MBC 1987).

Sablefish is a precautionary zone species because the current biomass is below 40 percent but above 25 percent its unfished biomass. A coastwide sablefish stock assessment was prepared in 2005. The coastwide sablefish biomass was estimated to be at 35.2 percent of its unfished biomass in 2005. Projections indicate that the biomass is increasing and will be near 42 percent by 2008.

In the past five years, the sablefish catch in the Pacific whiting shoreside fishery has ranged from a high of 128 mt in 2002 with a catch rate of 0.0028 mt of sablefish per mt of Pacific whiting to a low of 11 mt in 2006 with a catch rate of 0.0001 mt of sablefish per mt of Pacific whiting. The 2000 sablefish stock assessment predicted a strong year class would be entering the fishery in 2001. An analysis of the 2001-2002 sablefish caught in the Pacific whiting shoreside fishery, revealed a large occurrence of 1-2 year olds. In 2003, a moderate catch of 3 year old sablefish were seen (Weidoff et al. 2003). As the sablefish age and move to deeper water, they are less available to the mid-water trawl gear used to catch Pacific whiting.

Spiny dogfish (*Squalus acanthias*): Spiny dogfish occur in temperate and subarctic latitudes in both the northern and southern hemispheres, ranging from the Bering Sea to Baja California (Allen and Smith 1988, Castro 1983, Eschmeyer et al. 1983). Dogfish tend to migrate in large schools, and can travel long distances, feeding avidly on their journeys (Bannister 1989). The schools, numbering in the hundreds, exhibit north-south coastal movements and onshore-offshore movements (Castro 1983, Ferguson and Cailliet 1990, Lineaweaver and Backus 1984). They also make diel migrations from near bottom during the day to near surface at night (NOAA 1990). Survey data indicate that most dogfish inhabit waters up to 350 m (191 fm).

Spiny dogfish has not been quantitatively assessed. In the past five years, the spiny dogfish catch in the Pacific whiting shoreside fishery has ranged from a low of 4 mt in 2003 with a catch rate of 0.0001 mt of spiny dogfish per mt of Pacific whiting to a high of 95 mt in 2005 with a catch rate of 0.0010 mt of spiny dogfish per mt of Pacific whiting.

Chilipepper Rockfish (*Sebastes goodei*): Chilipepper rockfish are found from Magdalena Bay, Baja California, Mexico, to as far north as the northwest coast of Vancouver Island, British Columbia (Allen 1982; Hart 1988; Miller and Lea 1972). Chilipepper have been taken as deep as 425 m (232 fm), but nearly all in survey catches were taken between 50 m (27 fm) and 350 m (191 fm) (Allen and Smith 1988). Adults and older juveniles usually occur over the shelf and slope; larvae and small juveniles are generally found near the surface. In California, chilipepper are most commonly found associated with deep, high relief rocky areas and along cliff dropoffs (Love, et al. 1990), as well as on sand and mud bottoms (MBC 1987). They are occasionally found over flat, hard substrates (Love, et al. 1990). Chilipepper may travel as far as 45 m (25 fm) off the bottom during the day to feed (Love 1991).

Chilipepper rockfish were last assessed in 1998 (Ralston, et al. 1998), at which time the stock was estimated to be at 46 to 61 percent of unfished biomass. Because the biomass is estimated to be above 40 percent of the unfished biomass, chilipepper rockfish is considered to be a healthy stock. Chilipepper rockfish catch is greatest in the California ports. In 2005, a high of 26 mt of chilipepper rockfish was taken with a catch rate of 0.0003 mt of chilipepper rockfish per mt of Pacific whiting, and a low of 13 mt in 2006 with a catch rate of 0.0001 mt of chilipepper dogfish per mt of Pacific whiting.

Lingcod (Ophiodon elongatus): Lingcod, a top order predator of the family Hexagrammidae, ranges from Baja California, Mexico, to Kodiak Island in the Gulf of Alaska. Lingcod are demersal at all life stages (Allen and Smith 1988; NOAA 1990; Shaw and Hassler 1989). Adult lingcod prefer two main habitat types: slopes of submerged banks 10 m to 70 m (5 to 38 fm) below the surface with seaweed, kelp, and eelgrass beds and channels with swift currents that flow around rocky reefs (Emmett, et al. 1991; Giorgi and Congleton 1984; NOAA 1990; Shaw and Hassler 1989). Juveniles prefer sandy substrates in estuaries and shallow subtidal zones (Emmett, et al. 1991; Forrester and Thomson 1969; Hart 1988; NOAA 1990). As the juveniles grow they move to deeper waters. Adult lingcod are considered a relatively sedentary species, but there are reports of migrations of greater than 100 km by sexually immature fish (Jagiello 1990; Mathews and LaRiviere 1987; Matthews 1992; Smith, et al. 1990). Mature females live in deeper water than males and move from deep water to shallow water in the winter to spawn (Forrester 1969; Hart 1988; Jagiello 1990; LaRiviere, et al. 1980; Mathews and LaRiviere 1987; Matthews 1992; Smith, et al. 1990). Mature males may live their whole lives associated with a single rock reef, possibly out of fidelity to a prime spawning or feeding area (Allen and Smith 1988; Shaw and Hassler 1989).

A new stock assessment was prepared for lingcod in 2005 and lingcod was determined to be a healthy stock coastwide. However, the stock assessment estimates that the coastwide lingcod stock in 2005 is at 64 percent of its unfished biomass level, with the northern component of the stock (north of Cape Mendocino, CA) at 87 percent of its unfished biomass level and the southern component of the stock at 27 percent of its unfished biomass level. In the past five years, the lingcod catch in the Pacific whiting shoreside fishery has ranged from a low of 0.22 mt in 2002 with a catch rate of 0.000005 mt of lingcod per mt of Pacific whiting to a high of 6 mt in 2005 and 2006 with catch rates of 0.000060 of lingcod per mt of Pacific whiting. The change in incidental catch rates is consistent with the lingcod biomass increase since 2002.

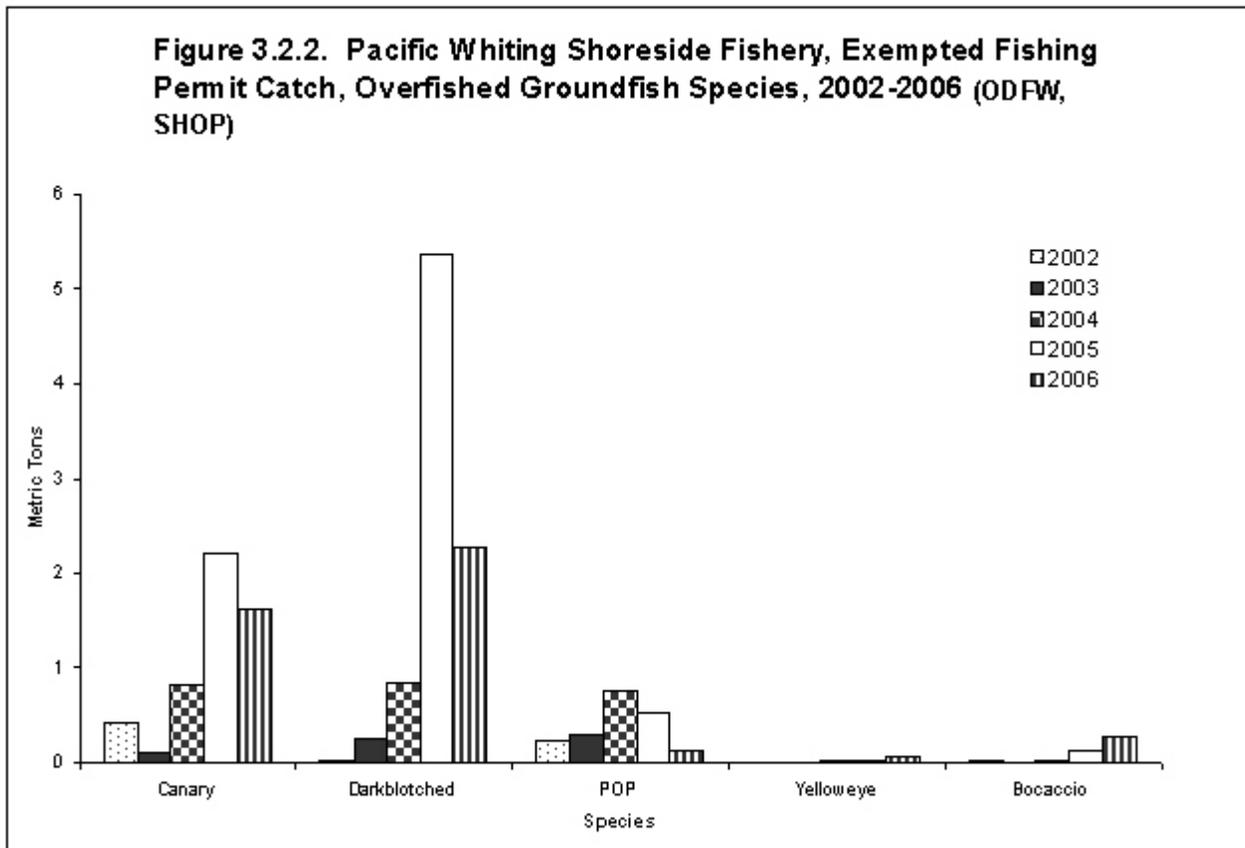
3.2.1 Overfished Groundfish Species Other than Widow Rockfish

Canary rockfish (Sebastes pinniger): Canary rockfish range from northern Baja California, Mexico, to southeastern Alaska (Boehlert and Kappenman 1980; Hart 1988; Love 1991; Miller and Geibel 1973; Richardson and Laroche 1979). There is a major population concentration of canary rockfish off Oregon (Richardson and Laroche 1979). Canary rockfish primarily inhabit waters that are 91 m (50 fm) to 183 m (100 fm) deep (Boehlert and Kappenman 1980). In general, they inhabit shallow water when they are young, and deep water as adults (Mason 1995). Adult canary rockfish are associated with pinnacles and sharp drop-offs (Love, et al. 1991) and are most abundant above hard bottoms (Boehlert and Kappenman 1980).

Canary rockfish recruitment has shown a steady decline over the last 50 years. Recent recruitments have generally been low, with 1998 producing the largest estimated year-class of recruitment in the last decade. Canary rockfish was declared overfished on January 4, 2000 (65 FR 221). A canary rockfish stock assessment and rebuilding analysis was prepared in 2005. The

results of the stock assessment estimated that the canary rockfish stock was at 9.4 percent of its unfished biomass coastwide in 2005. The 2005 stock assessment estimated that the canary rockfish spawning stock biomass was at its lowest level in 2000, but has been increasing since that time and is projected to continue increasing. Because of its overfished status, canary rockfish bycatch limits have been used to constrain the incidental catch of canary rockfish in the Pacific whiting fishery. As noted with widow rockfish, if a bycatch limit is reached, all commercial Pacific whiting fisheries are closed for the remainder of the year, regardless of whether or not the Pacific whiting allocations have been reached. In 2006, the canary rockfish bycatch limit was initially set at 4.7 mt, but was revised downward to 4.0 mt during the season due to higher than expected canary rockfish research catch. In the past five years, the canary rockfish catch in the Pacific whiting shoreside fishery has ranged from a low of 0.11 mt in 2003 with a catch rate of 0.000002 mt of canary rockfish per mt of Pacific whiting to a high of 2.21 mt in 2005 with a catch rate of 0.000023 mt of canary rockfish per mt of Pacific whiting. Historically, the majority of tows with high canary rockfish catch rates were between Newport and Charleston (Wiedoff and Parker 2004).

Darkblotched Rockfish (Sebastes crameri): Darkblotched rockfish are found from Santa Catalina Island off Southern California to the Bering Sea (Miller and Lea 1972; Richardson and Laroche 1979). They are most abundant from Oregon to British Columbia. Off Oregon, Washington, and British Columbia, darkblotched rockfish occur primarily on the outer shelf and upper slope (Richardson and Laroche 1979). Distinct population groups have been found off the Oregon coast between 44°30' north latitude and 45°20' north latitude (Richardson and Laroche 1979).



Darkblotched rockfish was declared overfished on January 11, 2001 (66 FR 2338). The coastwide darkblotched rockfish stock was assessed in 2005. The previous stock assessment was conducted in 2000 and estimated the stock to be at 22 percent of its unfished biomass in 2000. The result of the 2005 stock assessment estimated that darkblotched rockfish was at 16 percent of its unfished biomass in 2005, and was notably lower in 2000 (8 percent) than had been estimated in the previous stock assessment. However, the stock assessment indicates that the spawning output has more than doubled since 1999. This growth is resulting in rapid rebuilding of the stock due to the strong numbers of fish spawned in 1999 and 2000 that are maturing and entering the fishery. This strong recruitment combined with low exploitation rates in recent years has resulted in more rapid rebuilding than was projected following the 2000 stock assessment.

Because of its overfished status, darkblotched rockfish bycatch limits have been used to constrain the incidental catch of darkblotched rockfish in Pacific whiting fishery. In 2006, the darkblotched rockfish bycatch limit was 25 mt. In the past five years, the darkblotched rockfish catch in the Pacific whiting shoreside fishery has ranged from a low of 0.01 mt in 2003 to a high of 5.35 mt in 2005 with a catch rate of 0.000055 mt of darkblotched rockfish per mt of Pacific whiting. The change in incidental catch rates coincides with the darkblotched rockfish biomass increase since 2002. The at-sea processing sectors tend to fish in deeper waters where darkblotched rockfish are encountered. The increased catch rates in the 2005 Pacific whiting shoreside fishery may have also resulted from increased fishing effort in deeper water to avoid Chinook salmon catch.

Pacific Ocean Perch (*Sebastes alutus*): POP are found from La Jolla, California to the western boundary of the Aleutian Archipelago (Eschmeyer, et al. 1983; Gunderson 1971; Ito, et al. 1986; Miller and Lea 1972), but are common from Oregon northward (Eschmeyer, et al. 1983). They primarily inhabit waters of the upper continental slope (Dark and Wilkins 1994) and are found along the edge of the continental shelf (Archibald, et al. 1983). POP are found in waters as deep as 825 m, but are usually found in depths of 100 m to 450 m (55 to 246 fm) and along submarine canyons and depressions (NOAA 1990). Throughout their range, POP are generally associated with gravel, rocky, or boulder type substrate (Ito 1986). Larvae and juveniles are pelagic; subadults and adults are benthopelagic (living and feeding on the bottom and in the water column). Adults form large schools 30 m wide, to 80 m deep, and as much as 1,300 m long (NOAA 1990). They also form spawning schools (Gunderson 1971). Juvenile POP form ball-shaped schools near the surface or hide in rocks (NOAA 1990).

POP was formally declared overfished in March 3, 1999, but had been managed as a depleted stock prior to being declared overfished. From 1965 to 1998, POP recruitment was relatively stable and showed recruits per spawning output as an increasing trend over time. However, when compared with the 1950s and 1960s, POP recruitment has been rather poor in recent years, although the 1999 and 2000 year classes (2002 and 2003 recruitment years) appear to be the largest since the early 1970s. A new stock assessment was prepared for POP in 2005 that updates the stock assessment from 2003 for the U.S. waters north of 43° north latitude. Like the 2003 stock assessment, the 2005 stock assessment did not show an obvious increasing trend in recruits per spawning output, nor are the recruitments completely stable. The updated stock assessment estimated the stock to be at 23.4 percent of its unfished biomass in 2005. Despite this, the low exploitation rate (1 percent) since 2000, has allowed the stock to rebuild slowly. Since that time, the POP stock has increased from 20.9 percent of the unfished biomass to 23.4 percent.

In the past five years, the POP catch in the Pacific whiting shoreside fishery has ranged from a low of 0.14 mt in 2006 to a high of 0.76 mt in 2004. Like darkblotched rockfish, POP is a shelf

species that is found in deeper waters and is more commonly seen as incidental catch in the at-sea sectors of the Pacific whiting fishery.

Yelloweye Rockfish (Sebastes ruberrimus): Yelloweye rockfish range from the Aleutian Islands, Alaska, to northern Baja California, Mexico, and are common from Central California northward to the Gulf of Alaska (Eschmeyer, et al. 1983; Hart 1988; Love 1991; Miller and Lea 1972; O'Connell and Funk 1986). Yelloweye rockfish occur in water from 25 m (14 fm) to 550 m (301 fm) deep with 95 percent of survey catches occurring in waters between 50 m (27 fm) and 400 m (219 fm) (Allen and Smith 1988). Yelloweye rockfish are bottom dwelling, generally solitary, rocky reef fish, found either on or just over reefs (Eschmeyer, et al. 1983; Love 1991; Miller and Lea 1972; O'Connell and Funk 1986). Boulder areas in waters deeper than 180 m (98 fm), are the most densely populated habitat type for adult yelloweye rockfish. Juveniles prefer shallow-zone broken-rock habitat (O'Connell and Carlile 1993). Yelloweye rockfish also occur around steep cliffs and offshore pinnacles (Rosenthal, et al. 1982).

Yelloweye rockfish was declared overfished on January 11, 2002. In March 2006, a new stock assessment was prepared for yelloweye rockfish. The results of the coastwide stock assessment estimated that yelloweye rockfish is at 17.7 percent of its unfished biomass coastwide in 2006 and projected that the stock is lagging behind the original rebuilding schedule.

In the past five years, the Yelloweye rockfish catch in the Pacific whiting shoreside fishery has ranged from a low of 0 mt in 2002 and 2003 to a high of 0.06 mt in 2006. Because yelloweye rockfish is less vulnerable to trawl gear than the fixed gears, it is not commonly seen as incidental catch.

Bocaccio (Sebastes paucispinis): Bocaccio is a common rockfish occurring in coastal waters of the northeastern Pacific from Kruzof and Kodiak Islands in the Gulf of Alaska to central Baja California, Mexico (Hart 1988; Miller and Lea 1972). Historically, bocaccio are most abundant in waters off central and southern California. The population is considered to be two stocks, northern and southern, which are separated by an area of scarcity off northern California and southern Oregon (Macall and He 2002). The northern stock of bocaccio, which is taken in the Pacific whiting fishery, has not been assessed nor has the northern stock been declared overfished like the southern stock. In the past five years, the bocaccio catch in the Pacific whiting shoreside fishery has ranged from a low of 0 mt in 2003 to a high of 0.26 mt in 2006.

The EIS prepared for the 2007-2008 specifications and management measures contains additional information for readers who are interested in further information on the biological characteristics or stock status of groundfish species that are incidentally taken in the Pacific whiting shoreside fishery. A copy of the EIS can be obtained from the Pacific Fishery Management Council, by writing to 7700 NE Ambassador Place, Suite 200, Portland, OR 97220-1384; or calling 503-820-2280; or viewing the internet posting at <http://www.pcouncil.org>.

3.2.2 Non-Groundfish Resources

Species managed under the Coastal Pelagic Species Fishery Management Plan were incidentally taken in the Pacific whiting shoreside fishery between 2000 and 2006, including jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), and squid. Like Pacific whiting, these are schooling fish that are not associated with the ocean bottom, and that migrate in coastal waters. In addition, Walleye pollock (*Theragra chalcogramma*) and American shad

(*Alosa sapidissima*) were observed in the 2001 to 2006 fishery. Table 3.2.2.1 shows the catch of the most common non-groundfish species taken in EFP catches between 2001 to 2006.

Table 3.2.2.1. Pacific Whiting Shoreside Fishery EFP Catch of Non-groundfish Species taken incidentally, 2001-2006. (Jesse and Saelens 2007)

	2001	2002	2003	2004	2005	2006
Pacific Whiting	73,326	45,276	51,061	89,251	97,379	97,296
NON-GROUNDFISH						
Coastal Pelagic Species						
Pacific mackerel	403.37	0.11	4.42	0.67	1.23	0.16
Jack mackerel	211.21	7.26	67.92	107.16	78.49	6.18
Pacific herring	a/	0.01	1.11	62.07	7.31	15.09
American shad	a/	4.35	8.48	46.55	148.69	37.51
Walleye pollock	a/	145.88	1.12	7.39	187.91	0.00
Miscellaneous	439.27a/	2.35	1.62	4.47 b/	38.44 b/	8.73

a/ Observer data indicated that approximately 80 percent was jack mackerel.

b/ Other includes squid, sardine, shark, Pacific cod, flatfish other than halibut, skates, octopus, sunfish and jelly fish

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

Stock assessments for Pacific sardine and Pacific mackerel from December 1999 and July 1999, respectively, indicate increasing relative abundance for both species. Pacific sardine biomass in U.S. waters was estimated to be 1,581,346 mt in 1999; Pacific mackerel biomass (in U.S. waters) was estimated to be 239,286 mt. During 1999, Pacific sardine landings for the directed fisheries off California and Baja California, Mexico, reached the highest level in recent history, with a combined total landings of 115,051 mt. In 1998, near-record landings of 70,799 mt of Pacific mackerel occurred for the combined directed fisheries off California and Baja California.

Population dynamics for market squid are poorly understood, and annual commercial catch varies from less than 10,000 mt to 90,000 mt. They are thought to have an annual mortality rate

approaching 100 percent, which means the adult population is almost entirely new recruits. Successful spawning is crucial to future years' abundance.

Pacific Herring (Clupea pallasii): The overall distribution of the Pacific herring is from northern Baja California to Toyama Bay, Japan, and westward on the shores of Korea and the Yellow Sea (Svetovidov 1952). Along the North American continent, Pacific herring have been recorded from northern Baja California to Port Clarence, Alaska (Alderdice and Velsen 1971; Hart 1973; Miller and Lea 1972). Pacific herring prefer spawning locations in sheltered bays and estuaries. Along the West Coast, principal spawning areas include: San Francisco Bay, Richardson Bay, Tomales Bay and Humboldt Bay. Pacific herring spawn in variable seasons, but often in the early part of the year on eelgrass or other submerged vegetation in intertidal and sub-tidal environments. The California Department of Fish and Game (CDFG) has traditionally used spawning and hydroacoustic surveys to assess the stock size of Pacific herring in San Francisco Bay. These surveys have demonstrated a steady downward trend in the stock size over the past 25 years. In 2003, CDFG use statistical modeling techniques to further assess the status of the population. The indication was that the San Francisco Bay herring population has been reduced to a level of roughly 20 percent of the unfished biomass level and is presently at or near the lowest abundance observed since the early 1970s (CDFG 2003). While spawning populations of herring are known to occur in the Washington coastal region, only occasional stock assessment are conducted (wdfw.wa.gov/fish/forage/herring.htm).

American Shad (Alosa sapidissima): American shad is compressed silvery fish with a row of dark spots (3-23) along its side. It can be easily distinguished by its sharp saw-like scales or "scutes" along its belly. Average sized shad are 12-25 inches in length and 2.5 to 5 pounds (lbs). The American shad is a highly migratory anadromous species that returns to its freshwater natal (birth) areas to spawn. Shad spawn in estuaries, streams, and rivers in the spring and early summer months. American shad was introduced in the Pacific Northwest in the late 1800's. In 1990, the population of shad entering the Columbia River was over 4 million fish.

Walleye Pollock (Theragra chalogramma): Pollock are found in the waters of the Northeastern Pacific Ocean from the Sea of Japan, north to the Sea of Okhotsk, east in the Bering Sea and Gulf of Alaska, and south along the Canadian and U.S. West Coast to Carmel, California. Adult walleye pollock are generally semi-demersal species on continental shelf and slope. A variety of environmental factors, including hydrographic fronts, temperature, light intensity, prey availability, and depth determine the distribution of juveniles and adults. They are not common off the West Coast, but occasionally sufficiently large enough numbers move south from Canadian waters to be targeted by West Coast commercial fishers. Adults most commonly occur between 100 and 300m.

3.2.3 Prohibited Species

Table 3.2.3.1. Pacific Whiting Shoreside Fishery EFP Catch of Prohibited Species taken incidentally, 2001-2006. (Jesse and Saelens 2007)

	2001	2002	2003	2004	2005	2006
Pacific Whiting	73,326	45,276	51,061	89,251	97,379	97,296
PROHIBITED SPECIES (number of animals)						
Salmon						
Chinook	2,627	1,062	425	4,206	4,018	839
Coho	35	14	0	8	37	18
Chum	32	72	0	43	6	3
Sockeye	0	0	0	0	0	0
Pink	304	0	0	0	37	0
Steelhead	0	0	0	0	0	0
Pacific halibut	23	9	16	52	46	73
Dungeness Crab	43	65	0	2	207	89

Pacific Salmon: Sockeye (*Onchorincus nerka*), chum (*Onchorincus keta*), and pink (*Onchorincus gorbuscha*) salmon are rarely encountered in the Pacific whiting shoreside fishery. Coho salmon (*Onchorincus kisutch*) is caught in relatively low numbers and Chinook salmon (*Onchorincus tshawytscha*) is the most common salmon encountered in the Pacific whiting shoreside fishery. Table 3.2.3.1. shows the incidental catch of salmon by species in the Pacific whiting shoreside EFP fishery from 2001 to 2006.

Chinook salmon is the largest of the Pacific salmon. Chinook salmon are found from the Ventura River in California to Point Hope, Alaska in North America, and in northeastern Asia from Hokkaido, Japan to the Anadyr River in Russia (Healey 1991). Additionally, Chinook salmon have been reported in the Mackenzie River area of northern Canada (McPhail and Lindsey 1970).

The generalized life history of Pacific salmon involves incubation, hatching, and emergence in freshwater, migration to the ocean, and subsequent initiation of maturation and return to freshwater for completion of maturation and spawning. Of the Pacific salmon, Chinook salmon exhibit the most diverse and complex life history strategies. Healey (1986) described sixteen age categories for Chinook salmon, seven total ages with three possible freshwater ages. Two generalized freshwater life-history types were initially described by Gilbert (1912): "stream-type" Chinook salmon reside in freshwater for a year or more following emergence, whereas "ocean-type" Chinook salmon migrate to the ocean within their first year. Healey (1983; 1991) has promoted the use of broader definitions for "ocean-type" and "stream-type" to describe two distinct races of Chinook salmon. This racial approach incorporates life history traits, geographic distribution, and genetic differentiation and provides a valuable frame of reference for comparisons of Chinook salmon populations. Additionally, some male Chinook salmon mature in freshwater, thereby foregoing emigration to the ocean. Chinook salmon exhibit a high degree of variability in life-history traits; however, there is considerable debate as to what degree this variability is the result of local adaptation or the general plasticity of the salmonid genome (Ricker 1972; Healey 1991; Taylor 1991).

In 2000, the incidental take of Chinook exceeded 11,000 fish for the entire Pacific whiting fishery and led to a re-evaluation of the biological opinion that sets the allowable Chinook salmon threshold. Discussions with fishers did not reveal any change in fishing behavior that would have accounted for the increased Chinook catch. One possible explanation for the increased catch was that there were simply more Chinook available to the Pacific whiting fishery than in past years (Hutton and Parker 2000).

Readers who are interested in further information on salmon bycatch as it applies to the entire Pacific whiting fishery, are referred to Section 5.1.1 of the EIS, prepared by the Pacific Fishery Management Council staff, for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2007-2008 Pacific Coast Groundfish Fishery. Copies of the EIS can be obtained from the Pacific Fishery Management Council, by writing to 7700 NE Ambassador Place, Suite 200, Portland, OR 97220-1384; or calling 503 820-2280; or viewing the internet posting at <http://www.pcouncil.org>.

Pacific Halibut (Hippoglossus stenolepis): Pacific halibut is a flatfish from the family Pleuronectidae. Pacific halibut ranges from California to the Bering sea and are considered to be one population. They are demersal and inhabit sand and gravel bottoms, especially banks along the continental shelf. Halibut spawn during the winter in deeper offshore waters, 300 m (163 fm). Eggs and larvae drift great distances with the ocean currents before settling to the bottom in shallow feeding areas. After one or two years the juvenile Pacific halibut tend to migrate to more southern and easterly areas until they reach maturity. Adult Pacific halibut migrate from shallow summer feeding grounds to deeper winter spawning grounds. Most adult fish return to the same feeding grounds each summer.

Dungeness Crab (Cancer magister): Dungeness crab are distributed from the Aleutian Islands, Alaska, to Monterey Bay, California. They live in bays, inlets, around estuaries, and on the continental shelf. Dungeness crab are found to a depth of about 180 m (98 fm). Although Dungeness crab are found on mud and gravel, it is most abundant on sandy bottoms and in eelgrass.

3.2.4 *Endangered and Protected Species*

Marine species listed as endangered or threatened under the ESA include marine mammals, seabirds, sea turtles, and salmon. Under the ESA, a species is listed as "endangered" if it is in danger of extinction throughout a significant portion of its range and "threatened" if it is likely to become an endangered species within the foreseeable future throughout all, or a significant portion, of its range.

Pacific Salmon: Several species of salmon found along the Pacific Coast have been listed under the ESA. Data indicate that some of these species are incidentally taken in the Pacific whiting fishery. (Table 3.2.3.1.) Because several Chinook salmon runs are listed under the ESA, the incidental catch of Chinook salmon in Pacific whiting fishery is a concern. 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 Pacific whiting and other groundfish fisheries. The analysis determined that there was a

spatial/temporal overlap between the Pacific 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 Pacific whiting fishery to evaluate impacts on salmon, and specifically emphasized the need to monitor the Pacific whiting 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 level for the Pacific whiting fishery. During the 2005 Pacific whiting season, more than 11,000 fish Chinook were taken, 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 Pacific 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 Pacific 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.

<u>ESA Listed Salmonids</u>
Endangered
Chinook salmon (<i>Oncorhynchus tshawytscha</i>) Sacramento River Winter; Upper Columbia Spring
Sockeye salmon (<i>Oncorhynchus nerka</i>) Snake River
Steelhead trout (<i>Oncorhynchus mykiss</i>) Southern California; Upper Columbia River
Threatened
Coho salmon (<i>Oncorhynchus kisutch</i>) Central California; Lower Columbia River, Southern Oregon, and Northern California Coasts
Chinook salmon (<i>Oncorhynchus tshawytscha</i>) Snake River Fall, Spring, and Summer; Puget Sound; Lower Columbia; Upper Willamette; Central Valley Spring; California Coastal
Chum salmon (<i>Oncorhynchus keta</i>) Hood Canal Summer; Columbia River
Sockeye salmon (<i>Oncorhynchus nerka</i>) Ozette Lake
Steelhead trout (<i>Oncorhynchus mykiss</i>) South-Central California; Central California Coast; Snake River Basin; Lower Columbia; California Central Valley; Upper Willamette; Middle Columbia River; Northern California

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

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

Species Listed as Endangered Under the ESA
 Sperm whale (*Physeter macrocephalus*)
 Humpback whale (*Megaptera novaeangliae*)
 Blue whale (*Balaenoptera musculus*)
 Fin whale (*Balaenoptera physalus*)

Species Listed as Threatened Under the ESA
 Steller sea lion (*Eumetopias jubatus*) Eastern Stock,
 Guadalupe fur seal (*Arctocephalus townsendi*)
 Southern sea otter (*Enhydra lutris*) California Stock

Species Listed as Depleted under the MMPA
 Northern fur seal (*Callorhinus ursinus*) Eastern Pacific Stock
 Killer whale (*Orcinus orca*) Eastern North Pacific, Southern Resident Stock.

Species Listed as Endangered Under the ESA
 Short-tail albatross (*Phoebastria albatrus*)
 California brown pelican (*Pelecanus occidentalis*)
 California least tern (*Sterna antillarum browni*)

Species Listed as Threatened Under the ESA
 Marbled murrelet (*Brachyramphus marmoratus*).

Fisheries that interact with species listed as depleted, threatened, or endangered may be subject to management restrictions under the MMPA and ESA. NMFS publishes an annual list of fisheries in the Federal Register separating commercial fisheries into one of three categories, based on the level of serious injury and mortality of marine mammals occurring incidentally in that fishery. The

categorization of a fishery in the list of fisheries determines whether participants in that fishery are subject to certain provisions of the MMPA, such as registration, observer coverage, and take reduction plan requirements. The Pacific Coast groundfish fisheries are in Category III, indicating a remote likelihood of, or no known serious injuries or mortalities, to marine mammals.

Seabirds: The California Current System supports more than two million breeding seabirds and at least twice that number of migrant visitors. Tyler et al. (1993) reviewed seabird distribution and abundance in relation to oceanographic

Seabirds Listed by the USFWS as Birds of Conservation Concern

Black-footed albatross (*Phoebastria nigripes*)
 Ashy storm-petrel (*Oceanodroma homochroa*)
 Gull-billed tern (*Sterna nilotica*)
 Elegant tern (*Sterna elegans*)
 Arctic Tern (*Sterna paradisaea*)
 Black skimmer (*Rynchops niger*)
 Xantus’s murrelet (*Synthliboramphus hypoleucus*)

processes in the California Current System and found that over 100 species have been recorded within the EEZ including: albatross, shearwaters, petrels, storm-petrels, cormorants, pelicans, gulls, terns and alcids (murrelets, murrelets, guillemots, auklets and puffins). In addition to these "classic" seabird, millions of other birds are seasonally abundant in this oceanic habitat including: waterfowl, waterbirds (loons and grebes), and shorebirds (phalaropes). There is considerable overlap of fishing areas and areas of high bird density in this highly productive upwelling system. The species composition and abundance of birds varies spatially and temporally. The highest seabird biomass is found over the continental shelf and bird density is highest during the spring and fall when local breeding species and migrants predominate.

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

Species Listed as Endangered Under the ESA

Green turtle (*Chelonia mydas*)
Leatherback turtle (*Dermochelys coriacea*)
Olive ridely turtle (*Lepidochelys olivacea*).

Species Listed as Threatened Under the ESA

Loggerhead turtle (*Caretta caretta*)

Sea Turtles: Sea turtles are highly migratory and four of the six species found in U.S. waters have been sighted off the Pacific Coast. Little is known about the interactions between sea turtles and West Coast commercial fisheries. The directed fishing for sea turtles in WOC groundfish fisheries is prohibited, because of their ESA listings. The management and conservation of sea turtles is shared between NMFS and USFWS. Sea turtles catch has not been documented in the Pacific whiting shoreside fishery.

Green Sturgeon (*Acipenser medirostris*): The Southern Distinct Population Segment (DPS) of green sturgeon (71 FR 17757, April 7, 2006) were recently listed as threatened under the ESA. Green sturgeon are found from Ensenada, Mexico, to Southeast Alaska. Green sturgeon are not abundant in any estuaries along the Pacific coast, although they are caught incidentally in the estuaries by the white sturgeon fishery.

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

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

3.3 Socio-Economic Characteristics of the Affected Environment

3.3.1 The Pacific Whiting Shoreside Fishery

Section 1.4 of this document describes the management structure of the Pacific Whiting Shoreside Fishery, including the use of EFPs. The purpose of this section is to describe the processing portion of the Pacific whiting shoreside fishery including: allocations, recent harvests, and fishing communities where Pacific whiting are landed and processed.

Pacific Whiting Harvest Levels and Allocations: Harvest levels or OYs are established for each of the species or species groups that the Council proposes to manage. In November 2003, the U.S. and Canada signed an agreement regarding the conservation, research, and catch sharing of Pacific whiting. The Pacific whiting catch sharing arrangement that was agreed upon provides 73.88 percent of the coastwide total catch OY to the U.S. fisheries and 26.12 percent to the Canadian fisheries. The Pacific Whiting Act of 2006, enacted January 12, 2007 (Pub. Law 109-479) provides authority to implement the agreement. Given the small amount of Pacific whiting that is typically landed prior to the start of the primary season on April 1, final adoption of an ABC and OY are delayed until the Council's March meeting each year. This is followed by the publication of a final rule to implement the harvest specifications and management measures for the Pacific whiting fishery. Sector allocations are specified in the Pacific whiting final rule.

In 1994, the United States formally recognized that the four Washington coastal treaty Indian tribes (Makah, Quileute, Hoh, and Quinault) have treaty rights to fish for groundfish in the Pacific Ocean. In general terms, the quantification of those rights is 50 percent of the harvestable surplus of groundfish that pass through the tribes' usual and accustomed ocean fishing areas (described at 50 CFR 660.324). The Pacific Coast Indian treaty fishing rights, described at 50 CFR 660.385, allow for the allocation of fish to the tribes through the specification and management measures process. A tribal allocation is subtracted from the species OY before the commercial allocation is derived.

Since 1999, the tribal allocation of Pacific Whiting has been set according to an abundance-based sliding scale method, proposed by the Makah Tribe in 1998 see 64 FR 27928, 27929 (May 29, 1999); 65 FR 221, 247 (January 4, 2000); 66 FR 2338, 2370 (January 11, 2001). Details on the abundance-based sliding scale allocation method and related litigation are fully discussed in the preamble to the proposed rule (69 FR 56570; September 21, 2004). On December 28, 2004, the Ninth Circuit Court of Appeals upheld the sliding scale approach in *Midwater Trawler Cooperative v. Daley*, 393 F. 3d 994 (9th Cir. 2004). Under the sliding scale allocation method, the tribal allocation varies with U.S. Pacific whiting OY, ranging from a low of 14 percent (or less) of the U.S. OY when OY levels are above 250,000 mt, to a high of 17.5 percent of the U.S. OY when the OY level is at or below 145,000 mt.

The commercial OY (non-tribal) for Pacific whiting is calculated by deducting the tribal allocation and estimated amounts for research and non-groundfish fishery catch. Regulations at 50 CFR 660.323(a)(4) divide the commercial OY into separate allocations for the non-tribal catcher/processor, mothership, and shore-based sectors of the Pacific whiting fishery. The catcher/processor sector is comprised of vessels that harvest and process Pacific whiting. The mothership sector is comprised of catcher vessels that harvest Pacific whiting for delivery to mothership processors. Motherships are vessels that process, but do not harvest Pacific whiting. The shoreside sector is comprised of vessels that harvest Pacific whiting for delivery to shoreside processors. Each sector receives a portion of the commercial OY, with the catcher/processors

getting 34 percent, motherships getting 24 percent, and the shore-based sector getting 42 percent. This EA concerns the shore-based sector. Table 3.3.1.1. shows the Pacific whiting harvest levels and allocations from 2000-2006.

Table 3.3.1.1. Pacific Whiting Optimum Yield (OY), Tribal, and Sector Allocations, 2000-2006

Year	U.S. OY (mt)	Shore-based		Catcher processor Allocation (mt)	Mothership Allocation (mt)	Tribal Allocation (mt)
		Allocation (mt)	Catch (mt)			
2000	232,000	83,790	85,663	67,830	47,880	32,500
2001	190,400	68,418	73,326	58,786	41,496	17,500
2002	129,600	44,906	45,276	36,353	25,661	22,680
2003	148,200	50,904	51,061	41,288	29,088	25,000
2004	250,000	90,510	89,251	73,270	51,720	32,500
2005	269,069	97,469	97,378	78,903	55,696	35,000
2006	269,069	97,469	97,296	78,903	55,696	35,000

Specified Start Dates for Pacific Whiting Fishing Seasons: The Pacific whiting fishery is managed under a "primary" season structure where vessels harvest Pacific whiting until the sector allocation is reached and the fishery is closed. This is different from most Pacific 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 limit structure.

The Pacific whiting primary season start dates for each of the three commercial sectors have remained the same since 1997. The primary seasons for the non-tribal mothership and catcher-processor sectors begins May 15. The Pacific whiting shoreside primary season in most of the Eureka area (between 42°- 40°30' north latitude) begins on April 1, and the fishery south of 40° 30' north latitude begins April 15. The Pacific whiting shoreside fishery north of 42° north latitude begins on June 15.

No more than five percent of the shore-based sector allocation may be taken in the early season fishery off California before the primary season north of 42° north latitude opens on June 15th. Pacific whiting primary season catch cannot be taken and retained, possessed or landed in closed areas. In recent years, Pacific whiting catch landed in California ports has been loaded on trucks and transported to facilities north of 42° north latitude in the State of Washington for processing.

Each sector of the Pacific whiting fishery remains open for fishing until its sector allocation is reached. However, the entire non-tribal commercial fishery could be closed before the sector allocations are attained if one of the overfished species bycatch limits were reached. Table 3.3.1.2. shows the annual shore-based allocation and season dates from 2000 to 2006. During this period the duration of the season has varied from 93 days in 2000 with a moderately high allocation to 30 day in 2003 when the allocation was at one of its lowest points.

Table 3.3.1.2. Pacific Whiting Shoreside Fishery Allocations and Season Dates, 2000-2006

Year	Coastwide Allocation (mt)	Length of Coastwide Season	Early Season Allocation (mt)	Allocation Reached Before 6/15	Reapportionment (mt)
2000	83,790	93 days (6/15-9/15)	4,190	Yes (6/8)	No
2001	68,418	68 days (6/15-8/21)	3,421	No	4,200
2002	44,906	33 days (6/15-7/17)	2,245	No	No
2003	50,904	30 days (6/15-7/14)	2,545	No	No
2004	90,510	61 days (6/15-8/14)	4,526	Yes (5/22)	No
2005	79,469	65 days (6/15-8/18)	4,873	No	No
2006	97,469	49 days (6/15-8/2)	4,873	Yes (5/25)	No

Exempted Fishing Permits: Each year since 1992, 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 EFPs have routinely required vessels to deliver EFP catch to state designated processors. Designated processors are identified by each of the states, and are processors that have signed written agreements that specify the standards and procedures they agree to follow when accepting unsorted EFP catch.

Vessels fishing in the shoreside Pacific whiting fishery 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. Without an EFP, groundfish regulations at 50 CFR 660.306(b) require vessels to sort their catch at sea. Vessels fishing for Pacific 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.

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 hold primary season Pacific whiting on the vessel for several hours or days until it can be offloaded at a shoreside processor. Pacific whiting deteriorates rapidly, so it must be handled quickly and immediately chilled to maintain product quality. This is particularly true if the Pacific 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 Pacific whiting, which demands careful handling and immediate cooling or processing for the fishery to be economically feasible. Because rapid cooling can retard Pacific whiting flesh deterioration, most primary season 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.

Table 3.3.1.3. Pacific Whiting Shoreside Fishery EFP participants, 2000-2005.

Year	Coastwide Allocation (mt)	Number of EFP vessels that fished
2000	83,790	35
2001	68,418	29
2002	44,906	29
2003	50,904	35
2004	90,510	26
2005	79,469	28

Pacific Whiting Shoreside Processors and Communities: This section presents information on processors, communities, and states where Pacific whiting is landed. Table 3.3.1.5. show that the highest percentage of Pacific whiting landings occur in Oregon. This is followed by Washington, and then California. Since 2004, the proportion of overall Pacific whiting landings has decrease in Oregon. However, communities receiving landings of Pacific whiting have historically included Westport and Ilwaco, Washington; Astoria, Newport, and Charleston, Oregon; and Eureka, and Crescent City, California.

Table 3.3.1.6. shows the number of Pacific whiting shoreside processors by state and year, and identifies the processing communities based on EFP data. While Table 3.3.1.7 shows the number of processors based on PacFIN data which includes tribal landings with a view of showing the entry and exit of new firms. In 2006, there were 23 processors that purchased Pacific whiting from fishermen with 10 of these processors purchasing from 4 lbs to 8,000 lbs (3.6 mt) of Pacific whiting. The other 13 processors all processed at least 1 million lbs of Pacific whiting each. During 2006 these 13 processors purchased 280 million lbs (127,000 mt) of hake worth \$17.4 million ex-vessel, and 110 million lbs (49,896 mt) of other fish and shellfish worth \$78.5 million.

Table 3.3.1.5. Pacific Whiting Shoreside Landings by State, 2001-2005

State	Year	Number of Landings	Pacific whiting catch (mt)	Percent of Pacific whiting by weight
Oregon	2000	838	68,701	80%
	2001	773	53,422	73%
	2002	454	32,168	71%
	2003	514	36,594	71%
	2004	815	59,006	66%
	2005	826	61,460	63%
California & Washington	2000	266	16,952	20%
	2001	257	19,904	27%
	2002	176	13,147	29%
	2003	186	14,602	29%
	2004	319	30,245	34%
	2005	356	35,918	37%

Table 3.3.1.6. Pacific Whiting Shoreside Processors and Processing Communities, 2000-2005

Year	Processing communities	Number of designated EFP processors
2000-all Washington Oregon California	Westport WA, Ilwaco WA, Astoria OR, Newport OR, Charleston OR, Crescent City CA, Eureka CA	12
		2
		7
		3
2001-all Washington Oregon California	Westport WA, Ilwaco WA, Astoria OR, Newport OR, Charleston OR, Crescent City CA, Eureka CA	12
		2
		7
		3
2002-all Washington Oregon California	Westport WA, Astoria OR, Newport OR, Charleston OR, Eureka CA	8
		1
		6
		1
2003-all Washington Oregon California	Westport WA, Ilwaco WA, Astoria OR, Newport OR, Charleston OR, Eureka CA	9
		2
		6
		1
2004-all Washington Oregon California	Westport WA, Ilwaco WA, Astoria OR, Newport OR, Charleston OR, Crescent City CA, Eureka CA	9
		2
		5
		2
2005-all Washington Oregon California	Westport WA, Ilwaco WA, Warrenton OR, Newport OR, Charleston OR, Crescent City CA, Eureka CA, Moss Landing CA	10
		2
		5
		3

Table 3.3.1.7. Shoreside Trawl Landings of Groundfish and Exvessel Revenue, by State and Year, 2000-2005. (Pacfin, May 2006)

State		2000	2001	2002	2003	2004	2005
California	<u>Non-whiting</u>						
	Landed Weight (mt)	9,764	7,929	8,026	7,330	6,101	5,760
	Exvessel Revenue (1000's \$)	11,859	9,546	10,068	8,618	7,090	7,021
	<u>Pacific whiting</u>						
Oregon	Landed Weight (mt)	4,986	2,306	2,773	1,695	4,742	3,062
	Exvessel Revenue (1000's \$)	765	171	274	166	641	338
	<u>Non-whiting</u>						
	Landed Weight (mt)	15,952	12,152	8,410	10,499	10,245	10,786
Washington	Exvessel Revenue (1000's \$)	17,974	14,687	10,150	12,897	11,833	12,441
	<u>Pacific whiting</u>						
	Landed Weight (mt)	68,702	53,376	32,305	36,581	59,075	61,463
	Exvessel Revenue (1000's \$)	6,081	4,132	3,219	3,642	4,641	7,107
Washington	<u>Non-whiting</u>						
	Landed Weight (mt)	5,593	4,896	8,370	4,258	3,481	3,315
	Exvessel Revenue (1000's \$)	4,601	4,319	4,189	3,598	3,148	3,191
	<u>Pacific whiting</u>						
Washington	Landed Weight (mt)	12,156	17,730	10,630	12,934	25,838	32,291
	Exvessel Revenue (1000's \$)	1,122	1,439	1,061	1,283	1,993	3,848

Based on the Small Business Administration (SBA) criteria and a review of Pacific whiting shoreside processing company websites, state employment websites, newspaper articles, personal communications, and “The Research Group” (2006), it appears that the thirteen major Pacific whiting processors can be grouped into nine SBA businesses based on analysis of affiliates. Within these nine SBA businesses, there are three businesses that each generated at least \$500 million in sales in 2003 (Seafood Business, May 2004, “Big Brands Head List of Top Suppliers”). One of these three companies reported employing 4,000 people. It is presumed that the other two companies have employment levels much higher than 500 employees. Four of the nine SBA businesses have employment level estimates that range from 100-250 employees, while the remaining two appear to be in the 50-100 range (due missing data, one of these relatively small businesses may have less than 50 employees). In terms of the SBA size standard of 500 or fewer employees for small businesses, there are six “small” businesses that participated in the shorebased Pacific whiting processing sector in 2006.

Annual sales information for these “small” businesses is unavailable, but total ex-vessel revenues-the values of the fish purchased from fisherman- are available. In 2006, these six businesses purchased approximately \$40 million in hake and other fish and shellfish from west coast fishermen. This compares to the \$60 million in hake and other fish and shellfish purchased by the three large businesses.

Based on the concept that a primary processor of Pacific whiting typically processes one million lbs. (454 mt) or more, Table 3.3.1.7 shows the entry and exit trends in the Pacific whiting shorebased processing sector on a processor basis. Over the 2000-2006 period there were 17 different processing processors that processed at least one million lbs. (454 mt) in any one year. However there were eight “dominant” processors who processed one million lbs (454 mt) in at least seven of the eight years during this period. Because of entry and exit of processors, the composition of the “other” processor group changes significantly in most years. In 2005, there

were no “other” processors while in 2006, 5 new processors entered the fishery, only one of which had operated before. (Its first year was 2004). The “dominant” processors typically harvest 90 to 100 percent of the Pacific whiting.

The entry and exit of processors can be associated with market trends and the size of the Pacific whiting quotas. Processor consolidation appears to have occurred during the 2002-2004 period. Declines in the Pacific whiting OY in 2002 and 2003 may have caused processors to close their operations, or to consolidate with other operations. However, the increases in OY since 2004 combined with greater market demand, appears to have increased processor interest. During the 2000-2006 period, there has also been a shift in the major products being produced. When looking at estimates of wholesale production by major product form (surimi, fillets, and headed and gutted), U.S. export statistics show an upward trend in the prices and production of headed and gutted (H&G) Pacific whiting and downward trend in the production of Pacific whiting surimi. (Export statistics do not isolate Pacific whiting fillets from other species fillets, so exports of Pacific whiting fillets are unknown). In the early 2000s, the amount of Pacific whiting being processed into surimi for export was far greater than that of H&G products. Simultaneous with the decline in the Pacific whiting OY, one of the three major surimi processors stopped production in 2003 and has yet to return to production. Meanwhile as described below, a new foreign market has spurred the production of H&G products to the extent that in 2006, H&G exports now greatly exceed surimi exports.

The Seafood Trend Newsletter (June 26, 2006) reported the following market trends:

Is it time to wave the yellowflag in the red-hot Pacific whiting market? While demand remains strong, wholesale prices may be getting out of hand for price-conscious buyers. The West Coast fishery is going gangbusters. Last year, 571.1 million lbs of Pacific whiting was landed, the highest since 1966. Even as landings set a record, value and prices also grew.

And this year looks to continue the upward trend. The OY is the same as last year, the resource remains strong, and landings are good. As of June 19, the catch for the non-tribal fishery was at 185.7 million lbs out of a commercial allocation of 511.7 million lbs. This allocation is divided among three sectors of the fishery: 214.9 million lbs to shorebased, 122.8 million lbs to motherships, and 174.0 million lbs to catcher/processors. In addition 77.2 million lbs go to the tribal fishery.

Pacific whiting (*Merluccius productus*) stocks remain healthy even as the big 1999 year-class dies off. The 2002 and 2004 year classes may keep the fishery going at its current pace. The main constraint on the fishery is the bycatch of several rockfish species, especially POP, canary rockfish, darkblotched rockfish, and widow rockfish.

Demand for Pacific whiting has blossomed over the last couple of years, especially in the export market. Such countries as Russia and Ukraine have taken to H&G Pacific whiting. Last year exports of Pacific whiting increased a 9 percent in volume, to 95.7 million lbs, but 27 percent in value, to \$59.3 million, and gained 17 percent on a per lb basis to \$0.62/lb. compared to 2004. So far this year, the overall trend has, if anything, accelerated, with export volume and value growing. Through April, 11.4 million lbs of Pacific whiting were exported through West Coast ports, a 73 percent gain over 2005. Value jumped 119 percent to \$7 million.

But the seeds of potential problems may be visible in the comparatively slower growth in per-pound value, which gained only 27 percent going from \$.48 a year ago to \$.61/lb though April. Giving pause is word that inventory is beginning to pile up in some European markets. Marketers there are advising their American suppliers to sit on their inventory for the time being.

H&G is the place to be, but newer players could be behind the curve. Pushing too much product too quickly could come back to haunt the fishery this fall. If inventory piles up, prices may have to drop to move it, which could have repercussions throughout the Pacific whiting industry.

That's not to say that this will happen because demand is strong, especially in Russia and the Ukraine. Consumers there are moving up from lower-priced fish such as herring to higher quality and higher-priced fish such as Pacific whiting. And with the rapidly developing processing industry demanding more frozen fish, the U.S. is in a good position to satisfy demand.

Another factor in the success of the U.S. in entering export markets for Pacific whiting has been the relative absence of H&G Pacific whiting from Argentina and Peru over the last year or so. The U.S. has taken advantage of the situation and gained a solid foothold in the market.

The strength of the export market has had an impact on the domestic market for Pacific whiting. While the export market is garnering most of the attention and available product, the U.S. market is scrambling for Pacific whiting. This has resulted in higher prices in the U.S. as well as the drying up any spot market. Retailers are purchasing on contract to ensure their supply. Today, West Coast H&G whiting is wholesaling for \$.57-\$.59/lb., up from a more typical \$.45-\$.48 lb. West Coast fillets are wholesaling for as much as \$.96/lb., up from \$.72/lb. (Seafood Trend Newsletter, June 26, 2006)

Tables 3.3.1.8 -3.3.1.11 show that the Seafood Trend forecast of slower growth did not come to fruition in 2006. Not only did the annual growth rate in exports from West Coast ports (Seattle, Portland, San Francisco, and Los Angeles) in tonnage increase but so did the per-pound value. Through December 2006, 123 million lbs (55,792 mt) and \$88 million worth of H&G products was exported through West Coast ports, an increase almost 30 percent in tonnage and 50 percent in value. The export price increased 16 percent to \$.73 per pound compared to the average export price for 2005. These export growth rates appear to have affected ex-vessel prices as well. Exvessel prices increased by 44 percent in 2005 and 19 percent in 2006.

Table 3.3.1.8 Trends in Number of Processing Plants Consistently Processing Over One Million lbs of Hake Per Year

Year	Number of Processors					Percent of total lbs processed by major processors
	Total	Major Processors	Others	Exit	Enter	
2000	12	8	4			75%
2001	10	8	2	2	0	91%
2002	9	8	1	1	0	90%
2003	9	8	1	0	0	90%
2004	9	8	1	1	1	97%
2005	8	8	0	1	1	100%
2006	13	8	5	0	5	92%

Table 3.3.1.9. Key Pacific Whiting Market Indicators , Landings, Ex-vessels Revenues, and Ex-vessel processed

Year	Ex-vessel Revenue (millions \$)	Percent Change	Landings mt	Landings millions of lbs	Percent Change	Ex-vessel price (\$)	Ex-vessel price percent change
2001	5.7	-28%	73,411	161.84	-17%	0.035	-13%
2002	4.6	-21%	45,707	100.77	-38%	0.045	27%
2003	5.5	21%	55,333	121.99	-21%	0.045	0%
2004	7.7	40%	96,364	212.44	74%	0.036	-2-%
2005	12.6	64%	109,395	241.17	14%	0.052	44%
2006	17.4	38%	127,167	280.35	16%	0.062	19%

Table 3.3.1.10. West Coast Exports of Headed and Guttled Pacific Whiting

Year	Export Revenue (millions \$)	Percent Change Export Revenue	Landings millions of kg	Landings millions of lbs	Percent Change Landings Weight	Export price (\$/lb)	Export price percent change
2001	14.4	289%	12.9	28.38	207%	0.507	27%
2002	7.5	-48%	6.6	14.52	-49%	0.517	2%
2003	14.9	99%	12.5	27.50	89%	0.542	5%
2004	44.7	200%	38.0	83.60	204%	0.535	-1%
2005	59.2	32%	43.4	95.48	14%	0.620	16%
2006	88.2	49%	55.9	122.98	29%	0.717	16%

Table 3.3.1.11. West Coast Exports of Pacific Whiting Surimi

Year	Export Revenue (millions \$)	Percent Change Export Revenue	Landings millions of kg	Landings millions of lbs	Percent Change Landings Weight	Export price (\$/lb)	Export price percent change
2000	18.2		11.4	25.08		0.726	
2001	28.0	54%	17.4	38.28	53%	0.731	1%
2002	16.8	-40%	9.3	20.46	-47%	0.821	12%
2003	10.6	-37%	5.9	12.98	-37%	0.817	-1%
2004	25.6	142%	16.3	35.86	176%	0.714	-13%
2005	28.5	11%	14.5	31.90	-11%	0.893	25%
2006	6.3	78%	3.2	7.04	-78%	0.895	0%

3.3.2. Counties Affected by the Pacific Whiting Shoreside Industry

Counties that are actively involved in the Pacific whiting shoreside industry include Pacific County, Washington; Grays Harbor County, Washington; Clatsop County, Oregon; Lincoln County, Oregon; Coos County, Oregon; Del Norte County, California; and Humboldt County, California. These counties tend to have economies that are based on tourism, natural resources, and government. The largest industries reported by the Bureau of Economic Analysis in counties associated with the Pacific whiting shoreside industry are generally forestry, fishing, and other, manufacturing, government and government enterprise, health care and social assistance, accommodation and food services, and retail trade. Industries falling within the forestry, fishing, and other, and manufacturing sectors are largely made up of timber and fishing industry related business, and timber and seafood processing. Food Services, accommodation, and retail trade are largely made up of businesses reliant on the tourism sector.

Readers who are interested in further information on Counties and communities, are referred to Section 7 of the EIS, prepared by the Pacific Fishery Management Council staff, for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2007-2008 Pacific Coast Groundfish Fishery. Copies of the EIS can be obtained from the Pacific Fishery Management Council, by writing to 7700 NE Ambassador Place, Suite 200, Portland, OR 97220-1384; or calling 503 820-2280; or viewing the internet posting at <http://www.pcouncil.org>.

3.3.3 Catch Accounting

As in previous years, vessels fishing under EFPs will be required to retain all catch in 2007, with a few exceptions such as very large species (>6 feet in length) and hauls where there is a concern about vessel safety. Since 2004, electronic monitoring systems have been used at sea on the catcher vessels to assure compliance with the maximized retention requirements. Unsorted Pacific whiting catch is delivered to the shoreside processing facility or in a few cases to transport trucks.

Industry and agency observers observe offloads, and collect species composition and biological data (length, weight, sex, and otoliths). These observer send weekly data to SHOP. Agency observers are also responsible for recovering all landed prohibited species from processors for

distribution to charity (including salmon, Pacific halibut, and Dungeness crab), and provide SHOP with a weekly summary of fish ticket data. SHOP provides all observers with necessary sampling instructions, forms, and equipment. SHOP provides one day of training for observers new to the shoreside hake fishery. Following training, participants are periodically evaluated to assure they are capable of performing observer duties. Additional candidates may be evaluated for observer positions if performance is low.

Under the EFP, three sources of data are used by SHOP: state fish tickets which contains landed species weights, reported by fish processors; species composition which contains landed bycatch species weights, reported by either industry or agency observers; and prohibited species data which includes Salmon, Pacific halibut, and Dungeness crab biological data and is reported by agency observers (Nottage and Parker 2006).

Federal groundfish catch sorting requirements are currently specified at 660.370(h)(6) for species or species groups with trip limits, size limits, quotas, harvest guidelines, or OYs. Under Federal regulations at 660.306(a)(7), it is unlawful for any person to fail to sort the catch prior to the first weighing after offloading. The groundfish must be sorted to the appropriate species or species groups for the fishery in which the vessel is participating. The state of landing may have additional sorting requirements, including requirements for non-groundfish species. Sorting requirements for vessels are also specified in the terms and conditions of the EFP.

Because Pacific whiting deliveries are received unsorted, the catch is sorted on shore prior to the first weighing after offloading. Under the existing Federal groundfish regulations, individuals who receive unsorted catch on land and transport that catch to another location, sometimes out of state, are not required to sort the catch or weigh it prior to transport. Federal law at 50 CFR Subpart K, 300.160-161 requires fish that are transported between states to be marked with an accurate packing list, bill of lading, or other similar document that lists species and number by species or specifies other appropriate measure of the quantity such as weight. When unsorted catch is transported to another location, where all or a portion of the sorting occurs, the availability of data on total Pacific whiting and incidental catch is delayed. One to two week delays in obtaining catch data occurred in the 2006 fishery (Brian Culver, WDFW Pers Comm.)

Federal groundfish regulations recognize that each state has recordkeeping and reporting laws or regulations that address the records that need to be kept and/or reports that need to be filed. The Federal groundfish regulations concur with state law by requiring fishery participants to report all data and in the exact manner required by applicable state law or regulation. Each state requires the submission fish tickets that include the actual weight or an estimated weight of each the species or species group of groundfish. Each state has laws and regulations that pertain to the use of scales and scale performance used by businesses for commercial purposes. Each state has an agency (county or state) that oversees weights and measures standards and conducts or oversees scale performance testing for commercial scales. Commercial scale requirements and how those requirements apply to seafood processors and catch reports differs substantially between states. In the State of Oregon, weights reported on fish tickets for the Pacific whiting fishery must have been derived from a certified scale. The states of Washington and California do not specifically require that processors record actual scale weights on fish tickets. Other data such as the date of landing, gear, vessel, dealer, etc. are also included on the fish tickets. The weights reported on fish tickets are used to determine the total catch by species or species group in the Pacific whiting shoreside fishery. Catch in excess of trip limits, unmarketable catch, and non-groundfish catch are included on the fish tickets. Unlike groundfish, prohibited species are managed by number.

In Oregon, all weighing and measuring devices being used commercially in the state must be licensed with the Department of Agriculture prior to being used. Each scale must meet state standards for design, readability, accuracy, and reliability, based on National Institute of Standards and Technology (NIST) Handbook 44. Oregon Measurement Standards approval seals are applied to only those examined devices which meet all appropriate design, installation, and accuracy requirements. However, the state recognizes that correct weighing or measuring results from knowledgeable, concerned personnel operating correct equipment. Oregon requires an approved means of sealing any mechanism used for adjusting a measurement element on a commercial weighing or measuring device. The state also recommends that all devices be placed under appropriate planned maintenance and service programs to avoid unexpected correction expense. The user of the device is responsible for the accuracy of the scale at all times.

In Washington, Pacific whiting deliveries are sorted and though not required by law, the catch is weighed on commercial scales that vary in type and performance. There is current Washington State regulatory code pertaining to the use of weighing and measuring devices installed after July 5, 1997 that are used for commercial purposes (Chapter 16-664 WAC). Like Oregon requirements, commercial scales are required to be traceable to a National Type Evaluation Program (NTEP)¹ Certificate of Conformance². In Washington, the owner or operator of weighing or measuring equipment is responsible for the maintenance and accuracy of weighing or measuring devices at all times. Washington Weights and Measures approval seals are placed on devices which meet all appropriate design, installation and accuracy requirements. The seal indicates that the device passed the inspection during the specified month and year. Weights and Measures officials perform unannounced inspections.

In the State of California, the Division of Measurement Standards is responsible for weights and measures. California requires any scale used commercially to be "type approved" for such use. Commercial use of a non type approved scale is illegal in California. Additionally, each commercial scale must have a registered service agent places it into service, or first inspected by a local weights and measures official. There are a number of requirements such as suitability, position, environmental factors, level, interface with other devices and accessories, etc., which affect proper legal use of the equipment and which require the knowledge of a service agent. County weights and measures inspectors inspect and test various types of weighing and measuring devices. The inspector certifies the devices by affixing a paper seal to them. From time-to-time inspectors conduct inspections for compliance with the requirements set by laws and regulations. At the time this document was being prepared, it was not clear how California laws for scales used for commercial purposes applies to Pacific whiting shoreside processors or what has been in practice in the Pacific whiting fishery. Though weights reported to the state on the landing and receipt of fish are required to be "accurate" there appears to be no specific requirement for the weights to have been derived from a scale.

¹ A program of cooperation between the National Conference on Weights and Measures, the National Institute of Standards and Technology, the states, and the private sector was created for just this purpose. Through twelve participating laboratories, NTEP evaluates the performance, operating characteristics, features and options of weighing and measuring devices against the applicable standards.

² An official National Type Evaluation Program Certificate of Conformance is issued by NCWM following successful completion of the evaluation and testing of a device. This Certificate indicates that the device meets applicable requirements for commercial weighing and measuring equipment in the U.S.

4.0 ANALYSIS OF THE ALTERNATIVES

The terms "effect" and "impact" are used synonymously under NEPA. Impacts includes ecological, aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Direct effects are caused by the action itself and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. Cumulative impacts are those impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Sections 4.1 through 4.3 of this document discusses the direct and indirect impacts on the physical, biological, and socio-economic environment that are likely to occur under each of the proposed alternatives, including the status quo alternative. Section 4.4 presents the reasonably foreseeable cumulative effects of the environment from the proposed alternatives.

4.1 Effects on the Physical Environment

Alternative 2 would implement in Federal regulation, catch accounting requirements for Pacific whiting shoreside processors participating in the 2007 fishery. Because the alternative action is not expected to change current fishing behavior, it is not expected to have any effects on the physical environment over Status Quo (Alternative 1.)

4.2. Effects on the Biological Environment

Effects on the biological environment resulting from fishery management actions primarily include changes in species mortality levels resulting from implementation of the alternatives. Because the alternative action is for a catch accounting system and does not change existing fishing practices, no direct biological effects are expected to result from the alternative action. Indirect impacts from fishery management actions include changes in fishing practices that affect the biological environment, but are further away in time or location than those occurring as a direct impact. Indirect biological impacts could result if catch data were inaccurate or delayed such that fishery specifications, including: bycatch limits, species allocations, OYs, and biological opinion thresholds could not be adequately monitored or the fishing actually stopped before one of the specifications were exceeded.

4.2.1 Indirect Biological Effects

Valid and timely data are needed to monitor total catch of Pacific whiting, Chinook salmon take, and incidental catch of non-whiting species, particularly the incidental catch of overfished species. It is reasonable to expect that catch accounting difficulties encountered in the 2006 fishery might also occur in the 2007 fishery under Status Quo. If catch accounting difficulties are encountered in 2007, delays in catch reporting and poor sorting may or may not have an effect on the biological condition of groundfish stocks. The severity of the impact depends on how sensitive the groundfish stock is to changes in catch levels. For precautionary zone and healthy groundfish species or species groups, the risk to the stock is lower than it is for overfished

species. If bycatch limits of the most constraining overfished species were greatly exceeded due to delayed catch reporting, the risk of exceeding rebuilding based OYs is increased. This is particularly a concern for canary rockfish, which is the most constraining species to the Pacific whiting fishery and whose rebuilding trajectory is very sensitive to changes in harvest levels. If the OY is exceeded by 3 mt it would extend the rebuilding time for canary by 11 years (PFMC and NMFS 2006) Although there are many variables that affect the time it takes a stock to rebuild, exceeding the rebuilding based OY could result in an extended rebuilding period for an overfished species. Exceeding Chinook salmon take thresholds could increase the risk to some more vulnerable ESUs.

Similarly, poor sorting of catch and inaccurate catch weights could result in underestimates of a species or species group catch. If actual catch amounts unknowingly exceed the amount that is reported, the risk of exceeding species allocations, OYs, bycatch limits and biological opinion thresholds is increased. Establishing Federal sorting requirements for unsorted Pacific whiting deliveries under Alternative 2, ensures that the reported species and species groups are consistent with the Federal management structure for the fishery. In addition to the sorting requirements specified for limited entry vessels with trawl endorsements at 660.306(a)(7) and 660.370(h)(6) (i), sorting requirements would be specified for unsorted Pacific whiting catch received by processors under Alternative 2. Because these deliveries may contain groundfish in excess of trip limits, unmarketable groundfish, prohibited species, and protected species that are not addressed by current groundfish regulations. In addition, Federal groundfish regulations would be revised to specify that unsorted deliveries from vessels participating in the Pacific whiting shoreside fishery must be adequately sorted and the catch weighed following offloading from the vessel and prior to transporting the catch. Poor data quality data associated with having catch poorly sorted when it's transported, delayed sorting when catch is transported, or catch that is incorrectly sorted or identified as the wrong species or species group increases the risk of indirect impacts on the biological resource. This was also the most frequently encountered discrepancy in analysis of 2004 fishery. Data quality must be considered relative to the management structure for the fishery and the resolution needed for effective management. Again, this is particularly a concern for the most sensitive overfished groundfish species and Chinook salmon.

The requirements for sending in paper tickets varies between states with Washington requiring the paper tickets to be received within six working days, Oregon requiring the paper tickets to be received within four working days, and California requiring the paper tickets to be received by the first and sixteenth of the month. It is a considerable time after the tickets were originally prepared that the data is entered into a state database, edited, and forwarded to the PacFIN database. To expedite access to fish ticket data, SHOP obtains preliminary copies of paper fish tickets and enters a portion of the data into an inseason database. SHOP also obtains early fish ticket information on the catch by directly contacting the processors. The requirement for daily submissions of electronic fish tickets, under Alternative 2, provides for timely and efficient reporting of catch data such that species allocations, OYs, bycatch limits and biological opinion thresholds can be effectively monitored and the fishery closed if necessary. Daily electronic reporting is expected to expedite the receipt of total catch data. Timely reporting reduces the risk of indirect impacts on the biological resource.

Establishing Federal regulatory requirements for electronic fish ticket weights to be actual scale weights under Alternative 2 reduces the indirect risk to the biological resource by insuring data quality through reduced error in weights used to manage the fishery. For high volume species such as Pacific whiting, the accuracy of weights reported on electronic fish ticket is not as critical to the management of the resources as it is for overfished species such as canary rockfish, which

is managed in smaller units and is more sensitive to changes in catch levels. Similarly, concurrence with existing state laws pertaining to the type and testing of scales used for commercial purposes under Alternative 2, is expected to aid in maintaining data quality with minimal impact on fishery participants.

4.2.2 Non-groundfish species, prohibited species, and protected species

Non-groundfish species interactions: There are no direct impacts on non-groundfish species as a result of the alternative action. The catch accounting requirements under Alternative 2 are expected to improve the quality and timeliness of data used for inseason management of the Pacific whiting fishery. For non-groundfish species other than Chinook salmon, the impacts are expected to be similar to Status Quo (Alternative 1), assuming that processors are currently in compliance with state catch reporting requirements for non-groundfish species taken incidentally and delivered to processors in unsorted Pacific whiting deliveries.

Salmonids: There are no direct impacts on salmon as a result of the alternative action. The potential indirect effects of inaccurate catch accounting on salmon were discussed above in Section 4.2. Data quality improvements proposed under Alternative 2, provide the inseason data necessary for monitoring the take of Chinook salmon.

Marine Mammals: The alternative action is not likely to affect the incidental mortality levels of marine mammals over what has been considered in previous NEPA analyses.

Seabirds: The alternative action is not likely to affect the incidental mortality levels of seabirds over what has been considered in previous NEPA analyses.

Sea Turtles: The alternative action is not likely to affect the incidental mortality levels of sea turtles over what has been considered in previous NEPA analyses.

Endangered Species: The potential effects of inaccurate catch accounting on salmon were discussed above under salmonids and in Section 4.2. The alternative action is not likely to affect the incidental mortality levels of other ESA listed species over what has been considered in previous NEPA analyses.

4.3 Effects on the Socioeconomic Environment

This section of the EA looks at impacts, positive and negative, on the socio-economic environment. Basic information regarding the people and the fisheries that are projected to be affected by the management alternatives was presented in Chapter 3. The following section differs in that it discusses what is projected to happen to the affected people and fisheries as well as what social changes are expected to occur, and, how changes are expected to affect fishing communities.

The primary socioeconomic considerations when establishing temporary requirements for catch accounting requirements for Pacific whiting shoreside processors participating in the 2007 are: changes in the cost of participation for processors, changes in revenue, changes in how the fishery is managed, the changes in cost to the Federal government, and changes in communities.

4.3.1 Changes in the Cost of Participation

Electronic Fish Tickets: Under Status Quo (Alternative 1) processors in the states of Washington and California would continue to complete and submit the required paper fish tickets on forms provided by the state. In the State of Oregon, processors could either complete paper fish ticket forms provided by the state, or computer generated tickets providing they contain data fields specified in state law. State requirements for fish ticket submissions would not be changed by Alternative 2. Under Alternative 2, processors would be required to submit electronic fish tickets on a daily basis, and to submit paper fish tickets to the state of landing as is required by state law.

To support the electronic fish tickets required under Alternative 2, processors would be required to provide a personal computer and software that was adequate to run the electronic fish ticket software developed by Pacific States Marine Fish Commission (PSMFC) and approved by NMFS. The following hardware would be required under Alternative 2: A personal computer with Intel Pentium 233-MHz or higher; RAM with sufficient megabyte (MB) space to run the operating system, plus an additional 8 MB for the software application; available hard disk space of 217 MB or greater; a CD-ROM drive ; and a VGA or higher resolution monitor (super VGA is recommended). The following operating system and software would also be required under Alternative 2: Microsoft Windows 2000 (64 MB or greater RAM required) or Windows XP (128 MB or greater RAM required) or later operating system; and Microsoft Access 2003 or newer.

It is assumed that processors already have personal computers that are adequate to support or can be upgraded to support the NMFS-approved electronic fish ticket program. The electronic fish ticket requirements under Alternative 2, would require that the processor's personal computer be properly operating at all times during the Pacific whiting season when EFP deliveries are being received. Therefore, some processors may choose to have an additional personal computer or laptop computer as a back-up. Table 4.3.1.1. presents the estimated cost to purchase a new personal computer and the software in the event that a processor did not currently have adequate system; choose to purchase a back-up system; or needed to replace an existing system. Although it is assumed that most processors already have an appropriate personal computer, if a processor did not, the cost to purchase a new computer to meet the requirements of Alternative 2 would range between \$450 and \$1,020, depending on the brand and model that was purchased. For Microsoft Office with Access 2003, the cost to upgrade an existing computer is approximately \$239 or to purchase a new software package the cost is approximately \$399. The electronic fish ticket software and updates would be provided upon request at no cost to the processor.

Because Alternative 2 would implement the first electronic fish ticket requirements in the Pacific Coast Groundfish fishery, waiver provisions would be added to reduce the potential impacts on processors should there be a system failure. A waiver would be granted by NMFS and would temporarily exempt a processor from the reporting requirements and allow reasonable time to resolve the electronic fish ticket system problem.

The electronic fish ticket requirements proposed under Alternative 2 would be the first step towards replacing the EFP with permanent regulations as it would put in place new federal catch accounting regulations for 2007. Although the EFP approach will continue in 2007, these regulations will supplement EFP activities with regulations that mainly affect the processors or other first receivers of Pacific whiting catch from trawl vessels who fish during the primary

season for the shore-based sector. If the electronic fish ticket is successful, the use of the system may be expanded to other groundfish fisheries.

Table 4.3.1.1. Estimated Cost of a Personal Computer and Software Necessary to Operate the NMFS-approved Electronic Fish Ticket Software Provided by PSMFC.

HARDWARE	
	Brand, Model & Cost a/
Personal computer with Intel Pentium, 233-MHz, processor or higher; RAM with sufficient megabyte (MB) space to run the operating system, plus an additional 8 MB for the software application; Windows 2000 or higher; available hard disk space of 217 MB or greater; a CD-ROM drive; and a VGA or higher resolution monitor (super VGA is recommended)	<u>Hewlett-Packard (HP)/ Compaq</u> HP Pavilion a1620y + 17" LCD monitor = \$450 <u>Lenovo (IBM)</u> ThinkCentre A55 + 15" CRT monitor = \$597 <u>Gateway/ eMachines</u> GT5222E + 17" LCD monitor = \$800 <u>Dell</u> Dimension E520 + 15" LCD monitor = \$821 <u>Apple</u> Mac mini + 15" LCD monitor = \$848 <u>Sony</u> VGN-FE790 Laptop = \$1020
SOFTWARE	
Microsoft Office with Access 2003 b/ (required)	<u>Standard Edition 2003</u> New user = \$399; Upgrade = \$239
Anti virus software (optional)	Varies
a/ Additional models are available from each maker. The models selected for price estimates are the low end models that meet the minimum requirements. Most new personal computers from the companies listed above exceed the minimum requirements. b/ System Requirements for MS Office 2003: Intel Pentium processor . PC Processor Speed 233MHz . PC Operating System Microsoft Windows 2000 with Service Pack 3 or later, Windows XP . PC System Memory 128MB RAM . PC Hard Drive Space 260MB . PC Video SVGA 800 x 600 resolution . PC Drive Type and Speed CD-ROM . PC Additional Requirements Internet service required to access online features. PC Optional Requirements Additional 250MB hard drive space required for optional installation files cache.	

Under Alternative 2, internet access is required to transmit the electronic fish ticket to the PacFIN database. It is assumed that most processors who already have personal computers already have internet access sufficient to transmit daily electronic fish ticket files. Therefore, the cost to most processors for internet access would be the same under either alternative. However, for any processor who currently does not have adequate internet access the cost to obtain access, adequate to email electronic fish tickets ranges from \$5 to \$22 dollars per month with a one time hook-up fee ranging from \$8 to \$25. Table 4.3.1.2. shows the different internet costs in the traditional Pacific whiting ports.

Table 4.3.1.2. The Cost of Internet Access in Traditional Shoreside Pacific Whiting Ports

State	Port	Cost of internet access by service provider
Washington	Westport	\$10/month unlimited dial up ^{a/}
	Ilwaco	\$5-\$22/month unlimited dial up ^{b/}
Oregon	Warrenton	\$20/month unlimited dial up ^{c/}
	Newport	\$15/month unlimited dial up ^{d/}
	Charlston	\$12/month unlimited dial up ^{e/}
California	Crescent City	\$9-\$20/month unlimited dial up ^{f/}
	Eureka	\$9-\$22/month unlimited dial up ^{g/}

a/ Verizon is the only internet service provider (ISP) listed for Grays Harbor county

b/ Various ISPs serve Long Beach, WA

c/ Qwest service for Astoria, OR

d/ Quest service for Newport, OR

e/ Verizon service for Coos Bay, OR

f/ Verizon service for Crescent City, CA

g/ PacWest service for Eureka, CA

Note: Some ISPs require a one-time setup fee of between \$8 and \$25.

Time to complete data entry: Under Status Quo, state law requires the submission of various landing reports. In the States of California and Washington, standard paper forms provided by the states must be used. In Oregon, specified information may be submitted either on a paper fish ticket provided by the state or on a computer generated ticket provided specified data fields are included. Because the information is already being gathered by the processors under the Status Quo Alternative, Alternative 2 does not require that additional data be gathered. Alternative 2 would require additional time from processors in the states of Washington and California, because the data would need to be recorded on both the paper forms provided by the state and entered into the electronic fish ticket forms. Entering the fish ticket information is expected to take eight minutes per ticket, including the time necessary to check to transcription errors. For processors in all three states, two minutes per response would be required to access the internet and send the data files.

There are approximately 1,200 Pacific whiting primary season deliveries each year, with approximately 400 of the deliveries occurring in Washington and California and the remaining 800 occurring in Oregon. The burden on processors in Washington and California to submit electronic fish tickets under Alternative 2 is estimated to be 67 hours annually over Status Quo. For processors in the State of Oregon, the additional burden is only the time it takes to send the electronic fish ticket, since the state laws already requires that the information be gathered and allows the submission of a printed and signed electronic formats. For processors in the State of Oregon, it is expected to take a total of 27 hours annually to submit electronic fish tickets. In total for all three states, 93 hours annually are estimated for preparing and submitting electronic fish tickets.

Table 4.3.1.3. Total Annual Burden Hours for the Submission of Electronic Fish Tickets

Electronic Fish Tickets	No. of Respondents	Frequency of Responses	Total Annual Responses	Ave. Time per Response	Total Time (Hrs)
Transcribe information to electronic fish ticket	4	Variable	400	8 minutes	53
Send via email	12	Variable	1200	2 minutes	40
Total Electronic fish tickets	12	--	1200	--	93

Sorting requirements: Under status Quo, existing Federal groundfish regulations do not require individuals who receive unsorted catch on land and transport that catch to another location, sometimes out of state, to sort the catch or weigh it prior to transport. Federal law at 50 CFR Subpart K, 300.160-161 requires fish that are transported between states to be marked with an accurate packing list, bill of lading, or other similar document that lists species and number by species or specifies other appropriate measure of the quantity such as weight. When unsorted catch is transported to another location, where all or a portion of the sorting occurs, the availability of data on total Pacific whiting and incidental catch is delayed. Monitoring catch in the time necessary to monitor total catch and incidental catch, and to determine when action is needed to close the fishery because catch allocation or bycatch limits are projected to be reached, is impaired by the delay in obtaining catch data under Status Quo.

The sorting requirements proposed under Alternative 2 would have the greatest negative impact on shoreside processing facilities that are transporting catch that is either unsorted or partially sorted. In 2006, there were two processing facilities that engaged in the transportation of Pacific whiting catch, both transported catch within the state of landing. Under Alternative 2, additional time would be required to sort the catch at the time the catch is offloaded from the vessel. Adequate sorting could take hours depending on the amount and type of incidental catch in an individual delivery. The delay in handling may affect the quality of the final product. However, the need to obtain near real time bycatch data to monitor overfished species bycatch limits and the catch of Chinook salmon is critical to the maintaining the integrity of the bycatch limit management structure used in the Pacific whiting fishery.

Weighing requirements: Accuracy of fish ticket weights is an important component of the Pacific whiting shoreside monitoring program. Because all EFP catch is delivered in unsorted deliveries, fish ticket weights are used to determine the total catch amounts of each species or species group. This is in contrast to the mothership and catcher processor sectors of the Pacific whiting fishery, where catch is sub-sampled and sample weights are extrapolated to the individual haul and summed to derive total catch estimates. Using fish ticket weights for total catch is considered to be a census because all catch is weighed. In general, a census is considered to be most accurate because the understanding of total catch is not dependent of how well the samples represent what was actually caught. However, data quality is paramount to the accuracy of any census. We assume that the weights reported on fish tickets in the Pacific whiting fishery are relatively accurate, however accuracy of total catch derived from a census could be significantly affected by inaccurate scale readings or other methods (volumetrics) used to derive weights.

The level of accuracy in fish ticket weights needed to manage OYs, allocations, harvest guidelines, and bycatch limits in the Pacific whiting shoreside fishery varies by species. In general, large volume species such as Pacific whiting that are managed to the nearest metric ton have much more tolerance for error in weight estimates than species such as canary rockfish, which is managed to the nearest 10th of a metric ton. On the other hand prohibited species, such as salmon, crab and Pacific halibut are reported and managed by number rather than weight. Therefore the need for accurate scale readings for these species is not as important in the Pacific whiting fishery.

Methods used to derive fish tickets values can vary in accuracy. For most shoreside facilities, Pacific whiting deliveries are sorted and the catch is weighed on commercial scales that vary in type and performance. As described in Section 3.3.3, each state has laws and regulations that pertain to the use of scales and scale performance used by businesses for commercial purposes. Each state has an agency (county or state) that oversees weights and measures standards and conducts or oversees scale performance testing for commercial scales. Commercial scale requirements and how those requirements apply to seafood processors and fish tickets differs substantially between states.

Under Alternative 1, Status Quo, each processor is required to meet the existing state requirements as described in Section 3.3.3 of this EA and as they apply to seafood processors. Currently, only the State of Oregon specifies in regulation the methods that can be used to derive fish ticket weights for each species received (only sablefish is specified for all three states). In Oregon, fish ticket weights may be determined using actual round weights based on certified scale measurements; actual round weights measured using a hopper scale; or weights converted to round weight by multiplying the appropriate conversion weight. The State of Washington requires all commercial scales to: be tested and have a NTEP certificate of compliance if installed after 1997, be installed according to manufactures requirements, have security seals, be registered with the Washington State Department of Licensing, be maintained, and be suitable for intended use. However, Washington State code does not specifically require that fish tickets be completed with weights derived from scale that is in compliance with weights and measures regulations. The State of California has very broad-reaching and detailed requirements scales used for commercial purposes. However, at the time this document was prepared it was unclear if California code excludes seafood processors from the requirements. Fish ticket weights submitted to the State of California must use accurate weights, for groundfish species the weights **are not required to be derived from scales.**

In addition to having accurately working scales, data quality is maintained when a scale of the appropriate size range is used. For example: Fish totes are often weighed on large scales that may be tested and approved to weigh accurately in a range from 1,000 -7,500 lbs. Placing weights less than 1000 lbs on a scale that reads accurately between 1,000 and 7,500 lbs may misrepresent the amount being weighted. Alternative 2 would require that appropriate sized scales be used to maintain the accuracy of the data. The availability of scales at individual processing facilities is unknown at this time.

Alternative 2 would require that actual weights derived from scales be used on fish tickets; and

that the weights used on fish tickets be accurate, and derived from scales appropriate to the amount being weighed. Having Federal scale performance and testing requirements concur with state requirements may improve the degree to which state requirements are followed by processors.

4.3.2 Changes in Revenue

There is no direct change in revenue over Status Quo as a result of Alternative 2. Indirect impacts could occur if catch accounting needed improvement and resulted in a change from using a bycatch limit management approach when allocating Pacific whiting to the shore-based sector. In March 2007 the PFMFC will recommend harvest specifications for the Pacific whiting fishery that NMFS will adopt into regulation. If it's determined that the bycatch catch limit management approach is difficult to manage because catch accounting improvement are needed, it may be necessary to take a more conservative approach when establishing the 2007 shore-based allocation. A more conservative approach would be to restrict harvest based on projected bycatch of overfished species, as is done in the bottom trawl fishery. In 2006, had the Council recommended that the whiting allocation be restricted by overfished species bycatch like the bottom trawl fishery, the OY would have been constrained by a projected catch of 4.7 mt of canary rockfish. This would have resulted in a U.S. Pacific whiting OY of 232,330 mt as compared to the OY of 267,662 mt that was adopted. This would have resulted in a shore-based allocation of 83,929 mt rather than a shore-based allocation of 97,718 mt, 13,789 mt less than what was available to the fishery under the bycatch limit management approach.

4.3.3 Changes in Management of the Fishery

The ability to manage overfished species bycatch limits in the Pacific whiting fishery is impaired when the catch is sorted at sea prior to being delivered to the shoreside processor. When the catch is sorted at sea, the overfished species in excess of the trip limits are discarded. Therefore, the catch of species being managed with bycatch limits are not be captured on the fish tickets. Alternative 2, contains a provision that would define 4,000 lb as the amount per trip that defines a Pacific whiting delivery to increase the likelihood that incidental catch in the Pacific whiting shoreside fishery is captured on the fish tickets, particularly overfished species and Chinook salmon. In recent years, 10,000 lb of Pacific whiting per trip has been use in the EFPs for defining targeted Pacific whiting trips and deliveries. Table 4.3.3.1. shows the number of EFP designated processors by year, the number of all processors that would be affected if the criteria for defining a Pacific whiting delivery by 10,000 lb and 4,000 lb per delivery.

Using 4,000 lb as compared to 10,000 lb to define a Pacific whiting delivery is projected to have a minimal impact on current Pacific whiting shoreside processors. In 2006, 2005, and 2003 one additional processor per year would have met the criteria for having received a Pacific whiting delivery if a threshold of 4,000 lb had been used. Because each of the processors received only one delivery in excess of 10,000 lb, using 4,000 lb to define a Pacific whiting delivery would have a minimal impact on the processing sector with improved opportunity for catch accounting of incidental catch. In 2004, the same group of processors would have been included with either a 4,000 lb or 10,000 lb threshold.

Table 4.3.3.1. Comparison of Designated EFP Processors and All Processors if the Criteria for Defining a Pacific Whiting Delivery Where Set at 10,000 lb and 4,000 lb per delivery, 2000-2005 (Pacfin, October 2006)

Year	Designated EFP processors	Processors Receiving one or more deliveries >10,000 lb (no of processors with only one delivery >10k)	Receiving no deliveries >10,000 lb	Receiving one or more deliveries >4,000 lb (no of processors with only one delivery between 10K & 4K)	Receiving no deliveries >4,000 lb	All
2000	12	13 (1)	15	14 (1)	14	28
2001	12	14 (2)	12	14	12	27
2002	8	11(3)	11	13 (2)	9	22
2003	9	14 (4)	9	15 (1)	8	23
2004	10	11 (1)	14	11	14	25
2005	10	10 (2)	5	11 (1)	4	15
2006	13	13	10	14 (1)	9	23

4.3.4 Pacific Whiting Communities

Changes occurring under Alternative 2 are not likely to have an effect on Pacific whiting fishing communities over Status Quo, given the minimal goods and service needed to support this alternative. It is assumed that most processors have already purchased the necessary goods and services needed to support Alternative 2. Under the status quo alternative, there is a potential for a more conservative management approach to be used if data are not adequate to support a bycatch limit approach. If this were to occur, fewer Pacific whiting would be available to the processors than would be available under Alternative 2. If this were to occur less goods and services would be needed under Status Quo.

4.4 Cumulative Effects

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

Table 4.4.1. Expected Effects of Alternative 2, When Accumulated over Time.

Issue/Alternative	Expected effects
<p>Alternative 2 (NMFS Preferred Alternative)</p> <p>Define real time Federal reporting requirements for Pacific whiting shoreside processors based on the use of electronic fish tickets. Revise sorting requirements. Require actual and accurate weights on fish tickets.</p>	<p>1) The 2007-2008 groundfish specification and management measures established OYs, harvest guidelines, allocations, and bycatch limits for the Pacific Coast groundfish fishery. The catch accounting requirements under Alternative 2 are expected to aid in managing the fishery to stay within the specified total catch levels.</p> <p>2) The provisions of Amendment 16-4, which revised rebuilding plans for overfished species, would be supported by the catch accounting requirements on Alternative 2.</p> <p>3) Amendment 10 implementing regulations are proposed to be implemented in 2008. This is a related action. Processor requirements proposed under Alternative 2 are expected to be a subset of the requirements that are likely to be in place in 2008 and beyond.</p> <p>4) Amendment 20, Individual Quotas, will require improved monitoring for the Pacific whiting shoreside fishery. The actions proposed under Alternative 2 are consistent with future requirements for such a program.</p>

5.0 CONSISTENCY WITH THE FMP AND OTHER APPLICABLE LAWS

5.1 Consistency with the FMP

The socio-economic framework in the Pacific Coast Groundfish FMP requires that proposed management measures and viable alternatives be reviewed and consideration given to the following criteria: a) how the action is expected to promote achievement of the goals and objectives of the FMP; b) likely impacts on other management measures; c) biological impacts; d) and economic impacts, particularly the cost to the fishing industry; and e) accomplishment of one of a list of criteria defined in Section 6.2.3 of the FMP.

Alternative 2 is likely to accomplish Objective 2 , of section 6.2.3 of the FMP by providing information to avoid exceeding a quota, harvest guideline or allocation. Alternative 2 is consistent with the following Goals and Objectives of the FMP:

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

Goal 3- Utilization: Objective 10-strive to reduce the economic incentives and regulatory measures that lead to wastage of fish. Also, develop management measures that minimize bycatch to the extent practicable and, to the extent that bycatch cannot be avoided,

minimize the mortality of such bycatch. In addition, promote and support monitoring programs to improve estimates of total fishing-related mortality and bycatch, as well as those to improve information necessary to determine the extent to which it is practicable to reduce bycatch and bycatch mortality.

5.2 Magnuson-Stevens Conservation and Management Act

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

National Standard 1 requires that conservation and management measures shall prevent overfishing while achieving on a continuing basis, the optimum yield from each fishery for the United States fishing industry. The alternative action is for a catch accounting program. Information provided under Alternative 2 reduces the risk of overfishing because it would provide information that could be used to reduce the likelihood of overfishing while allowing for the harvests of healthy stocks.

National Standard 2 requires the use of the best available scientific information. Alternative 2 improves the speed of catch data delivery and accuracy of the data in the Pacific whiting shoreside fishery, which supports the national standard.

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

National Standard 4 requires that conservation and management measures not discriminate between residents of different States. The alternative action would not discriminate between residents of different States.

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

National Standard 6 requires that conservation and management measures take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches. The alternative action meets this standard.

National Standard 7 requires that conservation and management measures minimize costs and avoid unnecessary duplication. Measures were taken to minimize the costs of the catch accounting requirements by providing fish ticket software at no cost, by providing a software that can be used to print a paper copy for submission to the state when state law allows, and by keeping scale testing requirements consistent with existing state standards.

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

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

National Standard 10 Conservation and Management measures shall, to the extent practicable, promote the safety of human life at sea. The alternative action is consistent with this standard. Allowing vessels to retain unsorted catch is likely to reduce injuries that occur when the crew is sorting catch on deck.

Essential Fish Habitat This action is for a catch accounting system at the Pacific whiting shoreside processing facilities and will not affect fishing in EFH designated areas. Therefore, the potential effects of the alternative actions are not expected to have a "no adverse effect" on EFH, to have a positive effect resulting from reduced fishing effort in critical areas, or to have a positive effect if used to support regulations to restrict fishing in areas to protect habitat. No EFH consultation is warranted for this action.

5.3 Endangered Species Act

NMFS issued Biological Opinions under the ESA on August 10, 1990, November 26, 1991, August 28, 1992, September 27, 1993, May 14, 1996, and December 15, 1999 pertaining to the effects of the Pacific Coast groundfish FMP fisheries on Chinook salmon (Puget Sound, Snake River spring/summer, Snake River fall, upper Columbia River spring, lower Columbia River, upper Willamette River, Sacramento River winter, Central Valley spring, California coastal), coho salmon (Central California coastal, southern Oregon/northern California coastal), chum salmon (Hood Canal summer, Columbia River), sockeye salmon (Snake River, Ozette Lake), and steelhead (upper, middle and lower Columbia River, Snake River Basin, upper Willamette River, central California coast, California Central Valley, south-central California, northern California, southern California). These biological opinions have concluded that implementation of the FMP for the Pacific Coast groundfish fishery was not expected to jeopardize the continued existence of any endangered or threatened species under the jurisdiction of NMFS, or result in the destruction or adverse modification of critical habitat.

A formal Section 7 consultation under the ESA has been reinitiated for the bottom and mid-water trawl sectors of the Pacific Coast groundfish fishery. The December 19, 1999 Biological Opinion

defined an 11,000 Chinook bycatch threshold for the Pacific whiting fishery. During the 2005 Pacific whiting season, the 11,000 fish Chinook bycatch threshold was exceeded, triggering reinitiation. In addition, a new analysis of salmon bycatch in the bottom trawl fisheries based on groundfish observer data has been prepared and will be used to update the December 19, 1999 Biological Opinion. The revised Biological Opinion is projected to be completed by February 2006. During the reinitiation, the bottom and mid-water trawl fisheries fishery are within the scope of the December 15, 1999 Biological Opinion.

Lower Columbia River coho (70 FR 37160, June 28, 2005) and the Southern Distinct Population Segment (DPS) of green sturgeon (71 FR 17757, April 7, 2006) were recently listed as threatened under the ESA. As a consequence, NMFS has reinitiated its Section 7 consultation on the Council's Groundfish FMP. After reviewing the available information, NMFS concluded that, in keeping with Section 7(a)(2) of the ESA, allowing the fishery to continue under this action FMP would not result in any irreversible or irretrievable commitment of resources that would have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures.

The proposed alternative does not constitute an action that may affect endangered/threatened species listed under the ESA or their habitat within the meaning of the regulations implementing Section 7 of the ESA.

5.4 Marine Mammal Protection Act

Under the MMPA, marine mammals whose abundance falls below the optimum sustainable population level (usually regarded as 60 percent of carrying capacity or maximum population size) can be listed as "depleted". Populations listed as threatened or endangered under the ESA are automatically depleted under the terms of the MMPA. Currently, the Stellar sea lion population off the West Coast is listed as threatened under the ESA and the fur seal population is listed as depleted under the MMPA. Incidental takes of these species in the Pacific Coast fisheries are well under their annual PBRs. The alternative action is likely to affect the incidental mortality levels of species protected under the MMPA. The West Coast groundfish fisheries are considered Category III fisheries, where the annual mortality and serious injury of a stock by the fishery is less than or equal to one percent of the PBR level.

5.5 Coastal Zone Management Act

Section 307(c)(1) of the Federal Coastal Zone Management Act (CZMA) of 1972 requires all Federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable.

The proposed action is consistent to the maximum extent practicable with applicable State coastal zone management programs. This determination has been submitted to the responsible state agencies for review under Section 307(c)(1) of the CZMA by forwarding a copy of this EA to each of the relevant state agencies.

5.6 Paperwork Reduction Act

This proposed rule contains a collection-of-information requirement subject to review and approval by OMB under the Paperwork Reduction Act. This requirement has been submitted to OMB for approval. Public reporting burden for preparing and submitting electronic fish tickets is estimated to average ten minutes per individual response for Pacific whiting shoreside processors in the states of California and Washington, and two minutes per individual response for Pacific whiting shoreside processors in the State of Oregon, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information.

Up to 12 Pacific whiting shoreside processors receive approximately 1,200 Pacific whiting primary season deliveries each year, with approximately 400 of the deliveries occurring in Washington and California and the remaining 800 occurring in Oregon. The burden on processors in Washington and California to submit electronic fish tickets under Alternative 2 is estimated to be 67 hours annually over Status Quo. For processors in the State of Oregon, the additional burden is only the time it takes to send the electronic fish ticket (2 minutes), since the state laws already requires that the information be gathered and allows the submission of a printed and signed electronic formats. For processors in the State of Oregon, it is expected to take a total of 27 hours annually to submit electronic fish tickets. For all three states, a total of 93 hours annually are estimated for preparing and submitting electronic fish tickets.

5.7 Executive Order 12866

EO 12866 Regulatory Planning and Review established guidelines for promulgating new regulations and reviewing existing regulations. The EO covers a variety of regulatory policy considerations and established procedural requirements for analysis of the benefits and costs or regulatory actions. Based on the discussion in Section 6.0, this action, is unlikely to be significant under E.O. 12866. This action will not have a cumulative effect on the economy of \$100 million or more, nor will it result in a major increase in costs to consumers, industries, government agencies, or geographical regions. No significant adverse impacts are anticipated on competition, employment, investments, productivity, innovation, or competitiveness of U.S.-based enterprises.

5.8 Executive Order 13175

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

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

The U.S. government formally recognizes that the four Washington Coastal Tribes (Makah, Quileute, Hoh, and Quinault) have treaty rights to fish for groundfish. In general terms, the quantification of those rights is 50 percent of the harvestable surplus of groundfish available in the tribes' usual and accustomed (U and A) fishing areas (described at 50 CFR 660.324). Each of the treaty tribes has the discretion to administer their fisheries and to establish their own policies to achieve program objectives. This action does not alter the treaty allocation of Pacific whiting, nor does it affect the prosecution of the tribal fishery.

5.9 Migratory Bird Treaty Act and Executive Order 13186

The Migratory Bird Treaty Act of 1918 was designed to end the commercial trade of migratory birds and their feathers that, by the early years of the 20th century, had diminished populations of many native bird species. The Act states that it is unlawful to take, kill, or possess migratory birds and their parts (including eggs, nests, and feathers) and is a shared agreement between the United States, Canada, Japan, Mexico, and Russia to protect a common migratory bird resource. The Migratory Bird Treaty Act prohibits the directed take of seabirds, but the incidental take of seabirds does occur. The alternative action is not likely to affect the incidental take of seabirds protected by the Migratory Bird Treaty Act. Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) is intended to ensure that each Federal agency taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations develops and implements a Memorandum of Understanding (MOU) with the U.S. Fish and Wildlife Service that shall promote the conservation of migratory bird populations. Currently, NMFS is developing an MOU with the U.S. Fish and Wildlife Service. The alternative action is not likely to have a measurable effect on migratory bird populations.

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

There is no specific guidance on application of E.O. 12898 to fishery management actions. The E.O. states that environmental justice should be part of an agency's mission "by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority or low-income populations." These recommendations would not have federalism implications subject to E.O. 13132.

6.0 REGULATORY IMPACT REVIEW AND REGULATORY FLEXIBILITY ANALYSIS

In order to comply with Executive Order (EO) 12866 and the Regulatory Flexibility Act (RFA), this document also serves as a Regulatory Impact Review (RIR). The RIR and Initial Regulatory Flexibility Analysis (IRFA) have many aspects in common with each other and with EAs. Much of the information required for the RIR and IRFA analyses has been provided above in the EA. The following table, Table 6.0.1., identifies where previous discussions in the EA relevant to the IRFA/RIR may be found in this document.

Table 6.0.1. Regulatory Impact Review and Regulatory Flexibility Analysis

RIR Elements of Analysis	Corresponding Sections in EA	IRFA Elements of Analysis	Corresponding Sections in EA
Description of management objectives	1.3	Description of why actions are being considered	1.3
Description of the Fishery	1.4, 3.0	Statement of the objectives of, and legal basis for actions	1.0, 1.1, 1.2, 1.3
Statement of the Problem	1.3	Description of projected reporting, recordkeeping and other compliance requirements of the proposed action	2.0
Description of each selected alternative	2.0	Identification of all relevant Federal rules	5.0, 6.0
An economic analysis of the expected effects of each selected alternative relative to status quo	4.3		

6.1 Regulatory Impact Review

EO 12866, Regulatory Planning and Review, was signed on September 30, 1993, and established guidelines for promulgating new regulations and reviewing existing regulations. The EO covers a variety of regulatory policy considerations and establishes procedural requirements for analysis of the benefits and costs of regulatory actions. The RIR provides a review of the changes in net economic benefits to society associated with proposed regulatory actions. The analysis also provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the alternative action that could be used to solve the problems.

The RIR analysis and the environmental analysis required by NEPA have many common elements, including a description of the management objectives, description of the fishery, statement of the problem, description of the alternatives and economic analysis, and have, therefore, been combined in this document. See Table 6.1. above for a reference of where to find the RIR elements in this EA. What follows is a summary of these elements by affected group:

6.1.1 RIR Summary

The shorebased Pacific whiting fishery has been managed under a Exempted Fisheries Permit since 1992. However the EFP is supposed to be a short-term temporary and exploratory response to issues that potentially should be addressed by permanent regulations. The proposed action (Alternative 2) would be the first step towards replacing the EFP with permanent regulations as it would put in place new federal 2007 season catch accounting regulations. Although the EFP approach will continue in 2007, the proposed regulations are intended to supplement EFP

activities with regulations that mainly affect the processors or other first receivers of Pacific whiting catch from trawl vessels who fish under the EFP. Among other things, the proposed regulations will require the submission of electronic fish tickets within 24 hours of landing, the sorting of catch at time of offload and prior to transporting catch from the port of fish landing, the use of state certified scales with appropriate accuracy ranges for the amount of fish being weighed, and that all weights reported on the electronic fish tickets be from such scales. These proposed federal regulations mirror or enhance existing state regulations and associated paper-based fish ticket systems or put into federal regulation provisions associated with current EFP management. This action is expected to provide more timely reporting and improved estimates of the catch of Pacific whiting, ESA listed salmon species, and overfished groundfish species. Therefore, in a sense, this rule only causes processors to report more quickly that they are already reporting to the states including more timely and more accurate estimates of sorted catch.

6.1.2 Conservation and Management Benefits

Increased consistency with NMFS and Council EFP Policies--First step towards converting an EFP to Regulation.

Improved Quota Monitoring—timeliness— Quicker reporting will aid inseason quota monitoring and minimize risk that OYs and HG's for target and overfished species are not exceeded and provides greater opportunities to determine other appropriate in-season management adjustments to slow the fishery down. The requirement for daily submissions of electronic fish tickets, under Alternative 2, provides for timely and efficient reporting of catch data such that species allocations, OYs, bycatch limits and biological opinion thresholds can be effectively monitored and the fishery closed if necessary.

Improved Quota Monitoring—Fish Ticket accuracy—Measurement and Species Identification—Better estimates of catch leads to better estimates of commercial landings and biomass reductions—leading to better stock assessments and better projections of OYs and rebuilding periods.. Similarly, poor sorting of catch and inaccurate catch weights could result in underestimates of a species or species group catch. If actual catch amounts unknowingly exceed the amount that is reported, the risk of exceeding species allocations, OYs, bycatch limits and biological opinion thresholds is increased.

Reduced Management Costs from Improved Data Quality—The software employed from this project can reduced the number of errors that need to be corrected by state employees responsible for verifying the accuracy of fish tickets. The data-entry screens will not allow processors to report data outside usual ranges and will aid in using the right coding schemes. In the case of paper-fish tickets, state employees typically key punch the fish tickets twice to assure that the paper-fish ticket has been entered into a database correctly. With an electronic back up, there will be no reduced need for states to key in the tickets twice. In addition, processors may opt to attached a printed e-fish ticket to their paper fish ticket to make it easier for state employees to understand handwritten numbers and comments.

Improved Future Management—ITQs and In-season Management –Pacific whiting is one of the species of fish that is included in the Pacific Fishery Management Council’s efforts to rationalize the groundfish trawl fleet. Most recently the Magnuson-Stevens Act was amended and the Council directed by Congress to develop an appropriate rationalization program for the Pacific trawl groundfish and Pacific whiting fisheries, including the shorebased sector. A review of ITQ systems indicates that electronic reporting of data is essential. This rule will help identify issues surrounding electronic reporting for purposes of meeting and attaining the goals of the Council’s ITQ project. In addition, should electronic reporting by Pacific whiting processors prove successful and become expandable to other fisheries, then better use of observer data may be achievable. WCGOP observer data is based on sub-sampling sectors of the fishery and needs to be expanded to reflect the fishery as a whole to derive total catch. Fish tickets aid such expansion. Electronic fish tickets may allow for inseason expansion of observer data and the ability to fine tune area, seasonal, and trip limit regulations to more effectively manage the fishery while providing increased economic opportunities.

6.1.3 Industry Benefits

Changes in Revenue: There is no direct change in revenue over Status Quo as the amounts expected to be harvested will be the same.

Pacific Whiting Shoreside Processing and Harvesting Sector--Reduced Harvest Costs and Improved Product Quality--Allows the shore based catcher vessels to continue to land unsorted catch leading to reduced costs and improved product quality.

Pacific Whiting At-sea Sectors—Reduced risk of an early shutdown caused by shoreside vessels exceeding the shoreside allocation of Pacific whiting or exceeding expected overfished species impacts. For example, the Pacific whiting shoreside sector shares a 4.7 mt canary bycatch cap with the non-tribal catcher processor and mothership sectors. A significant amount of canary can be taken in a single tow. For example, in 2004 a harvesting vessel supplying a mothership, had an estimated tow of 3.9 mt of canary.

Other Groundfish Sectors—Reduced risk of early shut down caused by shoreside vessels exceeding expected overfished species impacts. For example, excess harvest of canary by the Pacific whiting shoreside sector could affect tribal groundfish fisheries, the limited entry fixed gear fishery, and the recreational groundfish fishery.

Fishing Communities—Reduced risk of loss economic activity due to an early shut-down of a groundfish commercial or recreational fishery and reduced risk of expanded rebuilding periods for overfished species. To meet the current rebuilding periods for overfished species, current fisheries are heavily regulated through depth based and trip limit measures and target species restrictions, consequently economic activity in these communities is curtailed. As mentioned previously, if the 44 mt ton OY for canary is exceeded by three tons it would extend the rebuilding time for canary by 11 years (PFMC and NMFS 2006) Although there are many variables that affect the time it takes a stock to rebuild, exceeding the rebuilding- based OY could result in an extended rebuilding period for an overfished species.

6.1.4 Industry Costs

Pacific Whiting Shoreside Processors—Computer Equipment and Software—Some, if any, processors may have to invest in computer equipment and software if they do not already have sufficient computers (two if back-up computer is considered) that runs standard Microsoft business software including Access and is connected to the internet. Hardware and software costs were estimated to range from \$700-\$1400. Estimates of internet access range from \$60 to \$265 annually.

Pacific Whiting Shoreside Processors—Labor Costs from Electronic Reporting—It is estimated that it will require Pacific whiting processors in total about 93 hours to report 1200 electronic fish tickets. Processors are reporting data that normally would have to be reported to the states through their state fish ticket systems so this requirement, except for keying in the data and transmitting the data electronic is not expected to be a noticeable cost, especially for Oregon processors as they can print out a paper fish ticket from the software and submit it to the states. For Washington and California, these processors would still have to hand fill in the paper-fish tickets-however use of the electronic software may make this task easier.

Pacific Whiting Shoreside Processors—Sorting and Scale Costs. In general, large volume species such as Pacific whiting that are managed to the nearest metric ton have much more tolerance for error in weight estimates than species such as canary rockfish, which is managed to the nearest 10th of a metric ton. This rule would require that fish be sorted at the point of first off-load and then accurately weighed using appropriate scales. However the availability of scales at individual processing facilities is unknown at this time. As previously discussed in 2.2.1 *Alternative 1 (Status Quo)*, processors in the State of Oregon are currently required to report actual scale weights on fish receiving tickets and all weights are required to be derived from certified scales. The State of Washington does not require marine fish receiving ticket weights to be actual scale weights. However, requirements for commercial scales are specified in state regulation and scales are generally used by the Pacific whiting processors to derive fish ticket weights (Pers. Comm. Mike Cenci, WDFW). In the State of California accurate weights are required on landing receipts, but they are not required to be actual scale weights. Given the various state requirements about the use of scales—the issue not that a processor does not have appropriate scales but whether or not they use these scales in the completion of fish tickets. One of the purposes of the IRFA is to solicit public comment when key data is not available. Therefore, this discussion will be updated based on public comment).

Under Alternative 2, additional time would be required to sort the catch at the time the catch is offloaded from the vessel. In 2006, there were two processing facilities that engaged in the transportation of Pacific whiting catch, both transported catch within the state of landing.

6.1.5 Management Costs (State and Federal)

There would be minimal increased cost to the Federal government over Status Quo as a result of the preferred alternative. No additional staffing over Status Quo is needed although workload for current staff is increased. The development of the electronic fish ticket system and management

of the PacFIN database by the PSMFC will occur with or without this action as converting the state fish ticket system is a goal of the PSMFC for which it has received federal grant funds to pursue. Inseason oversight of the Pacific whiting fishery would also occur regardless of this action including those undertaken by the states. Electronic reporting in the future may cause inseason management costs to decrease through less need to collect, organize, and summarize data by hand or key into an electronic database. Additional enforcement costs may be incurred if catch accounting concerns in 2007 require Federal enforcement action.

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

Based on the economic analysis found in Section 4.3 of this EA, the alternative action is not significant according to EO 12866. This action will not have a cumulative effect on the economy of \$100 million or more, nor will it result in a major increase in costs to consumers, industries, government agencies, or geographical regions. In addition, the alternative action is not expected to: create a serious inconsistency or otherwise interfere with action taken or planned by another agency; materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or raise novel legal or policy issues arising out of legal mandates.

6.2 Initial Regulatory Flexibility Analysis

The Regulatory Flexibility Act (RFA), 5 U.S.C. 603 *et seq.*, requires government agencies to assess the effects that various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those effects. When an agency proposes regulations, the RFA requires the agency to prepare and make available for public comment an Initial Regulatory Flexibility Analysis (IRFA) that describes the impact on small businesses, non-profit enterprises, local governments, and other small entities. The IRFA is to aid the agency in considering all reasonable regulatory alternatives that would minimize the economic impact on affected small entities. To ensure a broad consideration of impacts on small entities, NMFS has prepared this IRFA without first making the threshold determination whether this proposed action could be certified as not having a significant economic impact on a substantial number of small entities. NMFS must determine such certification to be appropriate if established by information received in the public comment period.

1) A description of the reasons why the action by the agency is being considered.

The Pacific whiting shoreside fishery needs to have a catch reporting system in place to: adequately 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; and to track the catch of target and overfished groundfish species such that the fishing industry is not unnecessarily constrained and that the sector allocation and bycatch limits are not exceeded. This action is intended to address catch accounting concern that occurred during the 2006 season that compromise the ability to account for the catch of target, incidental and prohibited species.

2) A succinct statement of the objectives of, and legal basis for, the proposed rule.

The U.S. groundfish fisheries in the EEZ off the Washington, Oregon, and California coasts are managed pursuant to the Magnuson-Stevens Act and the Pacific Coast Groundfish FMP. The FMP was developed by the Council. Regulations implementing the FMP appear at 50 CFR part 660 subpart G.

This action will allow NMFS to effectively manage the Pacific whiting fishery such that harvests of Pacific whiting and incidentally caught groundfish species, including overfished species, do not result in allocations, harvest guidelines, species' OY, or bycatch limits for overfished species being exceeded. This action also provides for timely reporting of Chinook salmon catch as specified in the Endangered Species Act Section 7 Biological Opinion for Chinook salmon catch in the Pacific groundfish fishery. The proposed action is expected to aid in the sustainable management of the Pacific Coast groundfish and salmon stocks.

3) A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply;

During 2006, 23 different processors/companies paid \$17 million to fishermen who delivered a combined 280 million lbs of Pacific whiting. A major processor is one that has purchased more than 1,000,000 lbs of Pacific whiting. There were 13 major Pacific whiting processors in 2006, with the remaining 10 processors, all being minor processors, as their production levels ranged from 2 lbs to 7,000 lbs. There were no processors in the 7,000 lb to 1,000,000 lb range. None of these minor processors were associated with a trawl landing that was greater than 4,000 lbs and so it is presumed they would be unaffected by these regulations. Note that not all minor entities are "processors" in the traditional sense—some of these entities may be fishermen who directly sell their fish to a restaurant.

The SBA has established size criteria for all major industry sectors in the U.S. including fish harvesting entities, for-hire entities, fish processing businesses, and fish dealers. A business involved in fish harvesting is a small business if it is independently owned and operated and not major in the field of operation (including its affiliates) and if it has combined annual receipts not in excess of \$3.5 million for all its affiliated operations worldwide. For-hire vessels are considered small entities, if they have annual receipts not in excess of \$6 million. A seafood process is a small business if it is independently owned and operated, not major in its field of operation, and employs 500 or few persons on a full-time, part-time, temporary, or other basis, at

all its affiliated operations world wide. Finally, a wholesale business servicing the fishing industry (fish dealer) is a small business if it employs 100 or few persons on a full time, part-time, temporary, or other basis, at all its affiliated operations worldwide.

Based on the SBA criteria and a review of company websites, state employment websites, newspaper articles, personal communications, and The Research Group (2006), it appears that the 13 major Pacific whiting processors can be grouped into nine SBA businesses based on analysis of affiliates. Within these nine SBA businesses, there are three businesses, each of which generated at least \$500 million in sales in 2003 (Seafood Business, May 2004, "Big Brands Head List of Top Suppliers."). One of these companies reports employing 4,000 people so it is presumed that the other two companies have employment levels much higher than 500 employees. . Four of these businesses have employment estimates that range from 100-250 employees, while the other plants appear to be in the 50-100 range (Because of missing data, one of these relatively small businesses may have less than 50 employees). Therefore, in terms of the SBA size standard of 500 employees, there are six "small" businesses that participated in the shorebased Pacific whiting processing sector in 2006. Annual sales information for these "small" businesses is unavailable, but total ex-vessel revenues-the value of the fish purchased from fisherman is available. In 2006, these six businesses purchased approximately \$40 million in hake and other fish and shellfish from west coast fishermen. This compares to the \$60 million in hake and other fish and shellfish purchased by the three large businesses.

4) A description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record.

Under this alternative, Federal regulations would require Pacific whiting shoreside processors to have and use a NMFS approved electronic fish ticket program to send daily catch reports. The electronic fish tickets are based on information currently required in state fish receiving tickets or landing receipts (fish tickets). In the states of Washington and California, processors would continue to complete and submit the required paper fish tickets on forms provided by the state and then transfer the same information to the electronic fish ticket for submission. In the State of Oregon, processors could either complete paper fish ticket forms provided by the state, or as is allowed by state law, they could submit a printed and signed copy of the electronic fish tickets.

Public reporting burden for preparing and submitting electronic fish tickets is estimated to average ten minutes per individual response for Pacific whiting shoreside processors in the states of California and Washington, and two minutes per individual response for Pacific whiting shoreside processors in the State of Oregon, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information.

No special professional skills are necessary to complete and submit electronic fish tickets.

5) An identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule.

No duplicative Federal requirements that have been identified.

6) A summary of economic impacts.

See Section 6.1

7) A description of any alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimizes and significant economic impacts of the proposed rule on small entities.

There were no other alternatives to the proposed rule that accomplish the stated objectives.

7.0 LIST OF PREPARERS

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