

**ISSUANCE OF AN EXEMPTED FISHING PERMIT  
FOR A MAXIMIZED RETENTION AND MONITORING PROGRAM  
FOR THE PACIFIC WHITING SHORESIDE FISHERY  
TO THE PACIFIC COAST GROUND FISH FISHERY MANAGEMENT PLAN**

**ENVIRONMENTAL ASSESSMENT**

<b>Lead Agency</b>	National Oceanic and Atmospheric Administration National Marine Fisheries Service Northwest Regional Office Seattle, Washington
<b>Responsible Official</b>	Barry A. Thom Acting Regional Administrator Northwest Regional Office
<b>For Further Information Contact</b>	Becky Renko National Marine Fisheries Service 7600 Sand Point Way, NE Seattle, WA 98115 (206) 526-6144

**Abstract:** This Environmental Assessment analyzes the effects of establishing a provisional maximized retention and monitoring program in the Pacific whiting shoreside fishery off the coast of Washington, Oregon, and California under an exempted fishing permit. NMFS intends to establish a Federal regulatory program to: account for Chinook salmon catch as specified in the Endangered Species Act section 7 Biological Opinion for Chinook salmon catch in the Pacific groundfish fishery; meet standardized bycatch reporting requirements specified by the Magnuson-Stevens Fishery Conservation and Management Act; collect biological data on catch that would otherwise not be available; and create the regulatory structure necessary to efficiently manage the Pacific whiting fishery without exempted fishing permits. The exempted fishing permits would provide the needed information to establish the regulatory program. This environmental assessment analyzes the effects of issuing exempted fishing permits for a provisional maximized retention and monitoring program for gathering information needed for the development of a Federal regulatory program and the effects it has on the socioeconomic, biological, and physical environments.

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## **1.0 PURPOSE OF AND NEED FOR ACTION**

### **1.1 Introduction**

The groundfish fishery in the Exclusive Economic Zone (EEZ), offshore waters between 3 and 200 nautical miles (nm), off the coasts of Washington, Oregon, and California (WOC) is managed under the Pacific Coast Groundfish Fishery Management Plan (FMP), 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.

### **1.2 Summary of the Proposed Action**

The proposed action is to issue exempted fishing permit (EFPs) to create a provisional maximized retention and monitoring program for the Pacific whiting shoreside fishery so information needed to create an effective federal regulatory program can be collected. Maximized retention encourages retention of all catch but does allow some minor discarding events to occur. The proposed EFP would include a monitoring mechanism for catch accounting that efficiently maintain the integrity of the monitoring program and ensure that resource management objectives are being met.

In 1996, the Council adopted a combined amendment to the groundfish and salmon FMPs: Amendment 10 to the groundfish FMP and Amendment 12 to the salmon FMP. Under the combined amendment, the FMPs allowed for salmonids to be retained in the Pacific whiting trawl fishery (otherwise prohibited for all net gear) when the fishery was managed with a Council-approved monitoring program.

In April 2007, a related action was considered under an EA titled “Catch Accounting Requirements for Pacific Whiting Shoreside Processors/First Receivers Participating in the Shore-Based Fishery” (NMFS 2007.) This related action required submission of electronic fish tickets within 24 hours of landing, the sorting of catch at the time of offload prior to transporting catch from the port of landing, and the use of scales with appropriate accuracy ranges for the amount of fish being weighed. The April 2007 action, which was implemented in October 2007, is expected to provide more timely reporting and improved estimates of the catch of Pacific whiting.

This EA addresses issuance of an EFP with components of a monitoring program for the whole (at-sea and onshore) Pacific whiting shoreside fishery while the April 2007 EA considered only the portion of a monitoring program that occurs at the processing facilities. The alternatives considered in the April 2007 EA are not repeated in this EA. However, additional catch accounting requirements for processors/first receivers that were not analyzed under the April 2007 EA, are considered within this document.

### **1.3 Purpose and Need for the Proposed Action**

The proposed action is to collect information needed to develop a regulatory program that will allow the Pacific whiting shoreside fishery to be efficiently prosecuted and effectively managed without EFPs. Accurate catch data is needed to ensure that the ESA and Magnuson-Stevens Act requirements are adequately met. Before a regulatory program is implemented, the Pacific whiting shoreside fishery needs to have a catch monitoring 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 species and overfished groundfish species such that the fishing industry is not unnecessarily constrained and that optimum yields (OYs), harvest guidelines, sector allocations, and bycatch limits are not exceeded.

### **1.4 Management of the Pacific Whiting Shoreside Fishery**

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 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 1991, the first year that the Pacific whiting fishery was fully a domestic fishery (i.e., all available harvest was fully utilized by domestic fishing entities) vessels in the at-sea processing sector began to voluntarily carry observers to provide much needed catch data. In 1992, when significant landings were expected to be harvested by the Pacific whiting shoreside fishery, an observer program was established for the shore-based sector 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 and to provide for monitoring of the unsorted deliveries. Without an EFP, groundfish regulations at 50 CFR 660.306 (a)(2) and (a)(6) require vessels to sort their catch at sea. 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 terms and conditions 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, landings tend to include 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.

Unlike the at-sea sectors (catcher/processor and mothership sectors) of the Pacific whiting fishery, where catch is sorted and processed shortly after it has been taken, vessels fishing under EFPs in the shoreside fishery hold primary season Pacific whiting on the vessel for several hours or days until it can be offloaded at a first receiver. 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. Pacific whiting fishers working under EFPs prefer to quickly and efficiently handle the catch so they can return to port for offloading.

The Shoreside Whiting Observation Program (SHOP) was 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, collection of other necessary catch data, and 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 deliveries and providing catch data collected at the processing facilities to NMFS for management of the fishery.

From 2004 to 2006, NMFS conducted a pilot study in which a video-based electronic monitoring system (EMS) was used as a tool to verify retention of catch at sea. EMS systems consist of two or more closed circuit television cameras, global positioning systems (GPS), hydraulic and winch sensors, and on-board data storage. Because catch accounting occurs on shore, it is important to monitor catch retention at sea. From the EMS pilot study, it was determined that EMS was an effective tool that could be used to accurately monitor catch retention and identify the time and location of discard events. Beginning in 2007, vessels fishing under the EFPs were required to pay directly for EMS services. Tools for monitoring Pacific whiting landings on shore for fish ticket verification have been less developed than those used for at sea monitoring and have been funded by the states.

Management of the salmon and groundfish fisheries has changed substantially since the early 1990s. 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 are summarized below.

Due to increasing costs and workload associated with monitoring EFPs, the states requested that the fishery be managed under a maximized retention program that is defined in Federal regulation. Because provisions of the salmon FMP only allow the retention of salmonids in the Pacific whiting trawl fishery when there is an approved monitoring program (one that is sufficient to define the Chinook bycatch rate, detect and changing patterns in bycatch, assure compliance with specified management limitations, and provide for the collection of coded wire tags) development of a permanent monitoring program is being considered at this time.

In 2008, NMFS transitioned the Pacific whiting shoreside fishery from a maximized retention and monitoring program conducted under a state-run EFP to a program conducted under a NMFS-run EFP. In doing this, NMFS chose to manage the 2008 whiting fishery maximized retention and monitoring program under EFPs issued to vessels, and for the first time, EFPs were issued to first receivers. The EFPs incorporated provisions that NMFS expects to be necessary in a federal maximized retention and monitoring program. For Pacific whiting shoreside vessels, the EFPs specified requirements for catch retention requirements, abandonment of prohibited species and overage catch, and EMS monitoring. For the Pacific whiting shoreside first receivers, the EFPs specify requirements for catch monitor coverage, catch monitoring plans, the acceptance of unsorted catch, the abandonment of prohibited species, payment for overage catch; and sorting, weighing, and recordkeeping. The issuance of EFPs to vessels and first receivers in 2008 allowed elements of a program to be tested before regulatory implementation and provided much needed information on effective implementation of a catch monitoring and verification program.

### **1.5 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 Chinook 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. Bycatch has averaged about 7,300 fish over the last 15 years and has only occasionally exceeded the reinitiation trigger of 11,000 Chinook. Since 1999, annual bycatch has averaged about 8,450 Chinook. 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 did 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 was 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 Chinook 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.

## **1.6 Decision to be Made**

NMFS must decide whether or not to establish a provisional maximized retention and monitoring program under EFPs for the Pacific whiting shoreside fishery. It must also be determined if the proposed action and/or preferred alternative under consideration 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 before the decision is made. If NMFS determines that the action would significantly affect the Pacific Coast groundfish fishery, then preparation of an Environmental Impact Statement will be required prior to making the decision on whether and how to establish the program.

## **2.0 ALTERNATIVES**

### **2.1 Introduction**

This section describes the alternative management actions that could be taken in the short-term to collect information needed to develop a long-term regulatory program for management and monitoring the Pacific whiting shoreside fishery. Three different approaches are defined and analyzed in this EA. The following alternatives, which are fully explained later in this section, include:

- Alternative 1: (No Action) - Require all vessels participating in the Pacific whiting shoreside fishery to sort their catch at sea, as is currently required by regulation. Vessels would continue to be included in the pool of vessels that are sampled by the existing WCGOP.
- Alternative 2: NMFS would issue EFPs and manage the fishery as a maximized retention fishery. Vessels would pay for EMS coverage, first receivers would pay for one catch monitor, and NMFS would pay for or conduct EMS monitoring and data review. NMFS would manage the Pacific whiting shoreside vessels under EFPs.
- Alternative 3: (Preferred Alternative) - NMFS would issue EFPs and manage the fishery as a maximized retention fishery. Vessels would pay for EMS coverage, first receivers

would pay for full catch monitor coverage, and NMFS would pay for or conduct EMS monitoring and data review. NMFS would manage the Pacific whiting shoreside vessels under EFPs.

## **2.2 Alternatives**

### *2.2.1 Alternative 1 (No Action): Trip Limit Regime*

Management Structure: Under this alternative no EFPs would be issued and the management of the Pacific whiting shorebased fishery would revert to a trip limit regime for non-whiting groundfish species. All catch would be required to be sorted at sea, as is currently required by regulation. Vessels using midwater trawl gear in the Pacific whiting shoreside fishery would be subject to prohibitions specified at 50 CFR 660.306 (a)(2) and (6), and 50 CFR 660.405 (a)(1), which prohibit the retention of prohibited species as defined at §§ 660.302 and 660.370 (e), and prohibit the retention of groundfish in excess of cumulative trip limits.

Federal Permits, Endorsements, and Certifications: A Pacific Coast groundfish limited entry permit with a trawl endorsement would be required to participate in the fishery. When Amendment 15 is implemented, a Pacific whiting vessel license would also be needed.

Recordkeeping and Reporting: Federal regulations at 50 CFR 660.303 would continue to require vessels to make and/or file, retain, or make available any and all reports (i.e., logbooks, fish tickets, etc.) of groundfish harvests and landings as required by the applicable state law.

Monitoring Shore-based Catcher Vessels At Sea: The WCGOP would be responsible for providing at-sea observer coverage for Pacific whiting shoreside vessels as specified at 50 CFR 660.314 (c)(2). When notified by NMFS of any requirement to carry an observer, the regulations at 50 CFR 660.303 (i)(5) prohibit a vessel from taking and retaining, possessing, or landing any groundfish without a WCGOP observer.

The sampling priorities for WCGOP observers deployed to trawl vessels are to collect data that are used for total catch estimates of each groundfish species or species group over the entire fishing year, and to collect fishery dependent biological data that are otherwise not available on shore. The WCGOP sets coverage priorities for different fisheries and fleets that comprise the groundfish fishery. Observers are deployed on vessels in the active sampling unit or pool of vessels selected for coverage. Vessels in the pool are generally selected at random. The proportion of a particular fishery or fleet that receives observer coverage is based on the WCGOP coverage plan. Although the WCGOP strives for a 20 percent coverage level of vessels in the bottom trawl fisheries, it is likely the Pacific whiting shoreside fishery would be given a lower coverage priority when considering: 1) the data needs of the Pacific whiting fishery relative to the total catch data needs for the entire groundfish fishery, 2) the limited number of observers available to be deployed, 3) current data available from other sectors of the Pacific whiting fishery, and 4) the availability of historical data that can be factored in to catch estimates.

Monitoring First Receivers: Each state would continue to hire, train, and pay for port biologists to: collect fish ticket data; complete landing summaries; and, to collect biological data.

Disposition of Overage Fish: Under this alternative there are no allowances for landing legal overages in excess of the trip limits. Therefore, all overage fish would need to be discarded at sea.

*2.2.2. Alternative 2: Maximized Retention under Issuance of Annual Exempted Fishing Permits, partial verification*

Management Structure: NMFS will issue EFPs and manage the fishery as a maximized retention fishery. Each year NMFS would announce the intent to issue EFPs and coordinate all the EFP activities. A maximized retention program would be defined within the terms and conditions of the EFPs. Vessels targeting Pacific whiting with midwater trawl gear during the primary season for the shore-based sector would be allowed to land unsorted catch that may include species that are prohibited by regulations at 50 CFR 660.306 (a)(2) and (6), and 50 CFR 660.405 (a)(1).

Federal Permits, Endorsements, and Certifications: A Pacific Coast groundfish limited entry permit with a trawl endorsement would be required to participate in the fishery. When Amendment 15 is implemented, a Pacific whiting vessel license would also be needed. Each vessel would need to apply for and be issued an annual EFP.

Recordkeeping and Reporting: Federal regulations at 50 CFR 660.303 would continue to require vessels to make and/or file, retain, or make available any and all reports (i.e., logbooks, fish tickets, etc.) of groundfish harvests and landings as required by the applicable state law. Recordkeeping and reporting requirements needed to support the maximized retention program would be specified within the terms and conditions of the EFP.

Under the terms and conditions of the EFP, vessels may only land catch at Pacific whiting first receivers that hold EFPs. Specific requirements for how deliveries must be monitored, sorted and reported, and how overage fish and prohibited species are to be handled would be specified in the first receiver EFP. Electronic fish tickets would be required for all Pacific whiting deliveries.

Monitoring Shore-based Catcher Vessels At Sea: The terms and conditions of the EFPs would specify requirements for vessels to have EMS. NMFS would maintain a service contract with a qualified EMS provider. Vessel responsibilities specified in the EFP would include: requirements to procure EMS coverage to conduct EFP fishing; requirements for EMS installations; prohibition from intentionally damaging EMS equipment; requirements for scheduling EMS equipment maintenance and data retrieval; need to conduct regular system checks; and, requirements for scheduling EMS removal. Violations of the terms and conditions of an EFP would be a violation of a Federal regulation specified at 50 CFR 660.306 (a) (4).

Monitoring First Receivers: Under this alternative, the EFPs would require first receivers to procure third-party catch monitors for fish ticket verification. Catch monitors would attempt to monitor all hauls unless there were too many deliveries or deliveries were offloaded and sorted for more than 12 hours each day. If a catch monitor was unable to monitor all hauls, verification would be based on a random selection of all hauls. These individuals would be trained by NMFS or to NMFS specifications. The State would continue to hire, train, and pay for port biologists to collect fish ticket data; complete landing summaries, collect biological data; and verify salmon counts.

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

*2.2.3. Alternative 3 (preferred alternative): Maximized Retention under Issuance of Annual Exempted Fishing Permits, full fish ticket verification*

With the exception of the monitoring of first receivers provisions, all other provisions of Alternative 3 are the same as Alternative 2 and are not repeated here.

Monitoring First Receivers: Under Alternative 3, the EFP would require first receivers to procure third-party catch monitors for fish ticket verification. Full coverage of all deliveries would be required. This means that a catch monitor must be present throughout the offloading, sorting, and weighing of each Pacific whiting delivery. Catch monitors would be trained to NMFS specifications. The State would hire, train, and pay for port biologists to collect fish ticket data; complete landing summaries, collect biological data; and verify salmon counts.

### **2.3 Alternatives Considered but Eliminated from the Detailed Analysis**

Using existing Federally funded WCGOP observers for fish ticket verification. The WCGOP sets coverage priorities for different fisheries and fleets that comprise the groundfish fishery. Observers are deployed on vessels in the active sampling unit, and vessels are selected at random for coverage. The target coverage level for a particular fishery or fleet is based on the WCGOP coverage plan, which is driven by total catch and bycatch data needs. To use observers for fish ticket verification would have a substantial direct effect on the ability of the WCGOP to monitor other fisheries and to meet the Magnuson-Stevens Act mandates when considering: 1) the data needs of the Pacific whiting fishery relative to needs for the entire groundfish fishery, 2) the limited number of observers, 3) data availability from other sectors of the Pacific whiting fishery, and 4) the availability of historical data.

## **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 subsection 3.1, biological resources are described in subsection 3.2, and socioeconomic resources are described in subsection 3.3. Other recent NEPA documents prepared for the Pacific Coast groundfish fishery provide detailed information pertaining to the physical, biological and socio-economic environment. These NEPA documents include: the EIS for the Pacific Coast Groundfish Fishery Management Plan , EFH Designation and Minimization of Adverse Impacts (NMFS 2005); the EIS prepared for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2007-2008 Pacific Coast Groundfish Fishery (NMFS and PFMC 2006); the EA prepared for a related action titled “Catch Accounting Requirements for Pacific Whiting Shoreside Processors/First Receivers Participating in the Shore-based fishery” (NMFS 2007); the EIS prepared for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2009-2010 Pacific Coast Groundfish

Fishery (NMFS and PFMC 2009) and “ Amendment 15: Limited Entry Program for the Non-Tribal Sectors of the Pacific Whiting Fishery” . Consistent with CEQ regulations (40 CFR 1502.21) and the Data Quality Act, essential information is summarized in this document with references to other NEPA documents.

### **3.1 Physical Characteristics of the Affected Environment**

The coastal ocean off Washington, Oregon, and California is part of the California Current system. The California Current is a broad, slow, meandering current that moves toward the equator. 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 continental shelf reverses, and the water moves northward. Pacific whiting are a California current species that migration north during the spring and summer and south in the fall to spawn in the coastal waters off southern California, the channel islands, and adjacent waters of the Pacific Ocean. The Pacific whiting fishery has historically occurred during the northern migration of adults.

The affected physical environment is more fully described in an EA titled “Catch Accounting Requirements for Pacific Whiting Shoreside Processors/First Receivers Participating in the Shore-based fishery”(NMFS 2007). In addition, the Pacific Coast Groundfish Fishery Management Plan, EFH Designation and Minimization of Adverse Impacts (Subsection 3.2) contains detailed information on the physical environment (NMFS 2005) .

### **3.2 Biological Characteristics of the Affected Environment**

There are over 90 species of groundfish managed under the Pacific Coast 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. Pacific whiting is a very productive species with highly variable recruitment patterns (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. Unlike other Pacific Coast groundfish stocks, annual stock assessments are prepared for Pacific whiting. The 2008 assessment estimated the stock biomass to be at 42.6 percent of its unfished biomass level (based on the 50th percentile of estimated probability distribution for depletion level). The results of the 2008 stock assessment model indicated that the spawning stock biomass for the most recent years was generally lower than was estimated in the previous assessment, but was greater relative to the estimate of unfished biomass. The 2008 stock assessment forecasted a positive growth trajectory for Pacific whiting in the near future because fish spawned in 1999 (1999 year class) were expected to continue to be harvested in the fishery along with fish spawned in 2005, which are expected to mature and enter the harvestable portion of the stock. The results of the 2007 NMFS survey found that the 2005 year class (fished spawned in 2005) is a reasonably large year class. A more detailed description of historical changes in the Pacific whiting biomass, stock distribution, and migration and schooling patterns, are described in the EA for a related action titled “Catch Accounting Requirements for Pacific Whiting Shoreside Processors/First Receivers Participating in the Shore-based fishery”(NMFS 2007).

Under the Pacific coast groundfish FMP stocks are defined as healthy, precautionary, or overfished. Healthy stocks are those stocks with biomass levels greater than 40 percent of their unfished level; precautionary zone stocks are those with a current biomass between 25 percent and 40 percent of the unfished level, and overfished stocks are those stock whose abundance is below the overfished/rebuilding threshold of 25 percent of the stock’s unfished biomass level. To

prevent a precautionary zone stock from becoming overfished an OY adjustment is made reducing the allowable catch to a level below the ABC. The more the stock biomass is below the precautionary threshold of 40 percent of the unfished level the greater the precautionary adjustment. Table 3.2.1 shows the Pacific Coast groundfish stocks by precautionary policy group.

**Table 3.2.1. Pacific Coast Groundfish Stocks by Precautionary Policy Groups**

Healthy	Precautionary	Overfished	Unknown/Unassessed
Lingcod Dover sole English sole Arrowtooth flounder Starry Flounder Chilipepper rockfish Yellowtail rockfish Shortspine thornyhead Longspine thornyhead California Scorpionfish Black rockfish Blackgill rockfish Longnose skate Pacific Whiting Shortbelly rockfish Splitnose	Sablefish Cabezon Petrale sole Blue Rockfish	Canary rockfish Darkblotched rockfish POP Bocaccio Cowcod Widow rockfish Yelloweye rockfish	Pacific Cod Spinydogfish

The Magnuson-Stevens Act requires an FMP to rebuild overfished stocks. Rebuilding plans that define the management measures for rebuilding overfished stocks have been established for each of the overfished species. The most common overfished groundfish species taken in Pacific whiting shoreside fishery between 2002 and 2006 were widow rockfish, canary rockfish, POP, and darkblotched rockfish. The remaining two overfished stocks, cowcod and bocaccio, are not impacted by the Pacific whiting fishery because these stocks are found farther south than where the Pacific whiting fishery has historically occurred. Table 3.2.2 list the annual catch of overfished species in the shore-based fishery from 2003 to 2007.

**Table 3.3.2 Catch of Overfished Species (in mt) in the Shore-based Sector, 2003-2007**

SPECIES	YEAR				
	2003	2004	2005	2006	2007
Canary rockfish	0.11	1.16	2.24	1.64	2.01
Darkblotched rockfish	0.26	0.84	5.51	2.27	0.95
Pacific Ocean perch	0.29	0.40	0.15	0.03	23.14
Yelloweye rockfish	0.00	0.00	0.01	0.06	0.04
Widow rockfish	12.54	28.26	77.24	49.51	88.97

*Prohibited species:* The principal non-target prohibited species taken in the Pacific whiting fishery is Chinook salmon, the bycatch of which is managed and has been evaluated under the ESA. Prohibited species, including salmon (primarily Chinook salmon), Dungeness crab, and Pacific halibut are also encountered in the fishery. Chinook is the salmon species most likely to be affected by the groundfish fishery because of the spatial/temporal overlap between the Pacific whiting fishery and the distribution of Chinook salmon such that it could result in incidental take

of listed salmon. Table 3.2.3. shows the catch of the most common salmonids taken in EFP catches between 2002 to 2007.

**Table 3.2.3. Pacific Whiting Shoreside Fishery EFP Catch of Prohibited Species taken incidentally, 2002-2007.** (Jesse and Saelens 2007, and NMFS 2008)

	2002	2003	2004	2005	2006	2007
<b>Pacific Whiting</b>	45,276	51,061	89,251	97,379	97,296	87,398
<b>PROHIBITED SPECIES (number of animals)</b>						
<b>Salmon</b>						
<b>Chinook</b>	1,062	425	4,206	4,018	839	2,462
<b>Coho</b>	14	0	8	37	18	141
<b>Chum</b>	72	0	43	6	3	113
<b>Sockeye</b>	0	0	0	0	0	0
<b>Pink</b>	0	0	0	37	0	0
<b>Steelhead</b>	0	0	0	0	0	47
<b>Pacific halibut</b>	9	16	52	46	7	44
<b>Dungeness Crab</b>	65	0	2	207	8	289

*Non-groundfish species* are also encountered in the Pacific whiting shoreside fishery. 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. Further information on the catch of these species can be found in the EA titled “Catch Accounting Requirements for Pacific Whiting Shore-based Processors/First Receivers Participating in the Shore-based fishery” (NMFS 2007).

*Protected species:* Marine species listed as endangered or threatened under the ESA include salmonids, marine mammals, seabirds, and green sturgeon. Marine mammal and seabird interactions have been low or do not occur on an annual basis and are expected to either remain unchanged because this action would not affect the geographic extent of the fishery. Sea turtle interactions with this fishery have not occurred because the geographic extent of the fishery does not overlap with marine turtle habitat; this action would not affect the geographic extent of the fishery. Catch of ESA listed species are described in more detail in the following related EA titled “Catch Accounting Requirements for Pacific Whiting Shore-based Processors/First Receivers Participating in the Shore-based fishery” (NMFS 2007).

### 3.3 Socioeconomic Characteristics of the Affected Environment

#### 3.3.1 The Pacific Whiting Shoreside Fishery

Subsection 1.4 of this document describes the management structure of the Pacific Whiting Shoreside Fishery, including how EFPs have been used to support a catch monitoring program. The following subsection presents socioeconomic environment related to allocations, recent harvests, harvesters, processors, buyers, and fishing communities where Pacific whiting are landed and processed. More detailed socio-economic information on the affected environment

can be found the EA titled “Catch Accounting Requirements for Pacific Whiting Shore-based Processors/First Receivers Participating in the Shore-based fishery” (NMFS 2007); and, Amendment 15: Limited Entry Program for the Non-Tribal Sectors of the Pacific Whiting Fishery” (NMFS 2008).

*Pacific Whiting Shoreside Vessels:* The number of catcher vessels participating in the Pacific whiting primary season fishery (EFP and non-EFP vessels) has varied slightly over the past several years. Total shore-based vessel participation has ranged from 39 vessels in 1999 and 2007, to 26 vessels in 2004, with subsequent years participation being within that range. Though most Pacific whiting shoreside vessels are less than 80 feet in length, the proportion of vessels less than 80 feet has decreased since 2002. In addition to the Pacific whiting primary season, vessels participating in the Pacific whiting shoreside fishery also participate in other West Coast fisheries. Most Pacific whiting shoreside vessels also participate in the bottom trawl groundfish fishery and many Pacific whiting shoreside vessels landed catch in the coastal pelagic and crab fisheries. In addition to West Coast fisheries, several whiting vessels also participate in the Alaska groundfish fisheries.

Between 1997 and 2008, average gross revenues per vessel have ranged from \$112,690 in 1998 to \$384,943 in 2005 (Table 3.3.1.1). The annual per vessel exvessel revenues in the years between 2005 and 2008 averaged more than \$300,000 per vessel, this is in contrast with the years between 1997 and 2004 when the average per vessel revenue was less than \$210,000 annually. During this same period, the exvessel price of Pacific whiting increased from approximately \$0.021 per pound in 1998 to \$0.102 per pound in 2008 as the demand for Pacific whiting has increased, particularly in the export market for headed and gutted product. Although the exvessel value per pound was highest in 2008, the total catch of whiting was lower than expected in 2008 because the fleetwide bycatch limit for canary rockfish was reached early in the season due to catch in the other sectors of the Pacific whiting fishery.

**Table 3.3.1.1 Ex-vessel Value of Pacific Whiting in the Shore-based Sector 1997-2008**

Year	Number of first receivers	Number of catcher vessels	Average annual ex-vessel price per pound <sup>1</sup> (\$)	Total catch of Pacific whiting (mt)	Ex-vessel value of Pacific whiting, all vessels (\$)	Ex-vessel value of Pacific whiting, average per catcher vessel (\$)
1997	12	41	0.042	87,499	8,101,812	197,605
1998	12	36	0.021	87,627	4,056,832	112,690
1999	14	39	0.036	83,388	6,618,139	169,696
2000	14	36	0.040	85,653	7,553,224	209,812
2001	13	29	0.036	73,326	5,819,562	200,675
2002	8	30	0.045	45,276	4,491,696	149,723
2003	9	33	0.045	51,061	5,065,609	153,503
2004	9	26	0.035	89,251	6,886,696	264,873
2005	10	29	0.052	97,378	11,163,336	384,943
2006	14	37	0.062	97,296	13,298,923	359,430
2007	14	39	0.070	87,398	13,487,434	345,832
2008	16	37	0.102	50,423	11,338,580	306,448

<sup>1</sup> PacFin ex-vessels data from the Pacific whiting shore-side sector was used as a proxy for the mothership sector.

### *3.3.2. Catch Monitoring and Catch Accounting*

In 1996, to address the treatment and disposition of salmon in the Pacific whiting shoreside fishery, an EA was prepared to analyze amendments to both the groundfish FMP (FMP Amendment 10) and salmon FMP (FMP Amendment 12) (NMFS 1996). The preferred alternative 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 is sufficient to define the Chinook bycatch rate, detect and changing patterns in bycatch, assure compliance with specified management limitations, and provide for the collection of coded wire tags) was established in the Pacific whiting shoreside fishery (PFMC 1996). At its 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.

Each year since 1992, EFPs have been issued by NMFS to vessels in the Pacific whiting shoreside fishery to allow unsorted catch to be landed at shoreside processing facilities. Each year, most if not all Pacific whiting shoreside vessels apply for and carry EFPs. EFPs specify the terms and conditions that participating vessels must follow to be included. Vessels fishing under the Pacific whiting EFPs are allowed to land unsorted catch at shoreside processing facilities, including species in excess of the trip limits and species such as salmon that would otherwise be illegal to have on board the vessel. Without an EFP, groundfish regulations at 50 CFR 660.306(a)(2) and (a)(6) require vessels to sort their catch at sea and discard as soon as practicable all prohibited species (including salmon and halibut), protected species, and to discard groundfish species in excess of cumulative limits at sea.

Between 1992 and 2007, monitoring and catch accounting of EFP landings was coordinated by the SHOP. Participants in the SHOP include: catcher vessels that have been issued EFPs, designated processing plants along the Pacific Coast, PFMC, NMFS, PSMFC, ODFW, CDFG, and WDFW. The SHOP coordinated the collection and compilation of catch data to provide information needed to monitor attainment of the Pacific whiting shore-based allocation and for evaluating incidental catch, particularly Chinook salmon and other prohibited species. In recent years, the SHOP has also coordinated the collection of inseason data needed to monitor bycatch limits that have been established for overfished groundfish species.

From 1992 to 1994, catch composition sampling was given highest priority in the management of the EFP fishery. During the 1992-1994 period, SHOP set a goal of having observers sample 30 percent of the deliveries while at sea and having observers sample 20 percent of the unobserved deliveries while at the processing facility (M. Saelens, ODFW, pers. comm. October 12, 2006). The at-sea observer's role was to confirm retention of the catch. By 1995, the SHOP sampling goal had declined to 10 percent of the landings and the sampling priority had shifted, with more emphasis being given to the collection of biological information (otoliths, lengths, weight, sex, maturity) on Pacific whiting and select bycatch species such as yellowtail rockfish, widow rockfish, darkblotched rockfish, canary rockfish, sablefish, bocaccio, Pacific chub

mackerel and jack mackerel. The sampling rate was decreased following a statistical analysis that had indicated that there was no significant difference between the fish ticket data and observer data during the early 1990s. Given the fishery management needs of the Pacific whiting fishery in 1995, it was determined that fish ticket data were an adequate representation of species composition for landed catch.

Vessels fishing under EFPs have been required to retain all catch, with a few exceptions such as very large species (greater than 6 feet in length) and hauls that resulted in a concern about vessel safety. In 2004 a pilot study was initiated and funded by the NWFSC in which a video-based electronic monitoring system (EMS) was used as a tool to verify full retention of catch by Pacific whiting EFP vessels. The 2004 study field-tested EMS on 26 fishing vessels for 100 percent data capture of on-deck fishing operations. EMS systems consist of two or more closed circuit television cameras, global positioning systems (GPS), hydraulic and winch sensors, and on-board data storage. In 2004, the EMS was in place throughout the 61 day season for the shore-based sector. During this time, the EMS captured virtually the entire fishery, with sensors recording 98 percent and the cameras recording 96 percent of the 1,762 fishing events and 1,019 fishing trips.

From the EMS pilot study, it was determined that EMS could be used to accurately identify the time and location of discard events. As a result of the study, EFP criteria were revised to define maximized retention (most catch is retained) rather than full retention (all catch is retained). The EMS technology (EMS equipment installed on the vessels and data analysis) was again used and funded by the NWFSC during the 2005 and 2006 seasons. Following the 2004 and 2005 seasons, the NWFSC participated in public meetings with the fishery participants to discuss the types of information that had been collected, EMS performance, participants behavior relative to the catch retention standards, and to seek input on mechanism for further reducing documented discard events in the fishery. EMS has moved beyond the experimental stage and has been identified as an effective tool for monitoring full and maximized retention as defined in EFPs for the Pacific whiting fishery. Since 2007, vessels fishing under the EFP have been required to pay directly to the EMS provider for services, as no Federal funding is available for EMS coverage.

In 2008, NMFS choose to manage the 2008 whiting fishery maximized retention and monitoring program under EFPs issued to vessels, and for the first time, EFPs issued to first receivers in 2008. The EFPs incorporated provisions that NMFS expects to be necessary eventually in regulations implementing a maximized retention and monitoring program. For Pacific whiting shoreside vessels the EFPs included requirements for: the retention of all catch with exceptions of very large species and minor levels of operational discards; EMS to monitor maximized retention; and, required leasing of equipment from a NMFS approved EMS provider. The Pacific whiting shoreside first receiver EFP included: catch monitor coverage provisions; requirements for paying for and procuring the services of a NMFS certified catch monitor; catch monitoring plan submission and inspection requirements; prohibited action regarding the treatment of catch monitors; restrictions on the acceptance of unsorted catch; provision regarding the abandonment of prohibited species and overage catch; and requirements pertaining to sorting, weighing, and recordkeeping. The issuance of EFPs to vessels and first receivers in 2008 allowed the provisions of a maximized retention and monitoring program to be tested before regulatory implementation and provided NMFS with much needed information on effective implementation of a catch monitoring and verification program.



**Table 3.3.2.1 Provisions of the 2008 EFP Issued to the Pacific whiting Shoreside Fishery**

	Vessels	First Receivers
VMS with declaration report	X	
State paper logbooks	X	
EMS	X	
WCGOP Observers	(optional)	
Catch monitors		X
Electronic fish tickets		X
State paper fish tickets		X

As noted above, unsorted Pacific whiting EFP catch is generally delivered to the shoreside processing facilities, where it is sorted and processed. However, in a few cases catch has been transported by truck from the original processing facility to a secondary processor. This has primarily occurred during the early season fishery off California when catch has been trucked out of state for processing; during the coastwide season catch from coastal areas in Washington has been trucked to a Puget Sound processor; and in Oregon where sorted catch was trucked to a nearby facility.

**Table 3.3.2.2 Estimated Per Vessel costs of EMS in the 2008 EFP Fishery**

<b>Direct Costs of EMS to NMFS</b>		
	Total fishery cost 2008	Average per vessel cost
Outreach	\$17,755	\$455
EMS equipment	\$0	\$0
Installations/removals	\$0	\$0
Service	\$0	\$0
Review and cataloguing of data and video imagery	\$23,500	\$603
Analysis and final report	\$35,635	\$914
Certification program for EMS providers	\$0	\$0
Staff training on analyzing EMS data	\$12,644	\$324
TOTAL	\$89,534	\$2,296
<b>Direct Costs of EMS to Industry</b>		
	Total fishery cost 2008	Average per vessel cost
Outreach	\$0	\$0
EMS equipment	\$151,970	\$3,897
Installations/removals	\$71,380	\$1,830
Service	\$46,200	\$1,185
Review and cataloguing of data and video imagery	\$23,500	\$603
TOTAL	\$293,050	\$7,514

Beginning in 2008, Pacific whiting shoreside first receivers were required to procure the services of a single catch monitor from a NMFS-specified service provider. Catch monitors are third party employees paid for by industry and trained by NMFS in techniques used for the verification of fish ticket data. These individuals are trained in: species identification; observation techniques relative to the verification of fish ticket data; the types and use of commercial scales; documentation procedures for compliance purposes; and recordkeeping. NMFS has defined the acceptable verification methods and coordinates or conduct the training of these individuals.

If a catch monitor was unable to monitor all deliveries, they randomly selected deliveries to monitor for fish ticket verification. It is reasonable to expect an individual catch monitor would be limited to working twelve hours per day. Therefore, the only a portion of deliveries at first receivers that were in operation more than 12 hours per day were monitored in 2008. With a coverage requirement of a single catch monitor, assuming a 60 day season and 16 first receivers participating throughout the entire season, the cost to all first receivers assuming catch monitors average daily cost is between \$200 and \$300 dollars per day, is estimated to be approximately \$192,000 and \$288,000 including, training, debriefing, housing, and travel time .

Federal groundfish catch sorting requirements are currently specified at 50 CFR 660.370(h)(6) for species or species groups with trip limits, size limits, quotas, harvest guidelines, or OYs. Under Federal regulations at 50 CFR 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. Since 2007, Federal groundfish regulations have required individuals who receive unsorted catch on land to sort and weigh the catch before it can be transported to another location (NMFS 2007). In addition, 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.

Current 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. Regulatory requirements that require first receivers to submit electronic fish tickets within 24 hours of landing and prior to transporting catch from the port of first landing were implemented in October 2007 through a related action (NMFS 2007). 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). Requiring electronic fish ticket data to be submitted within 24 hours allows NMFS 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.

Each state requires the submission of fish tickets that include the actual weight or an estimated weight of each groundfish species or species group. 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. For all three states, 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 of individuals.

Each state has laws and regulations that pertain to the use of scales and scale performance 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 differ substantially between states.

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 knowledgeable, concerned personnel operating correct equipment result in correct weighing and measuring. 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 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)<sup>1</sup> Certificate of Conformance<sup>2</sup>. 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.

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<sup>1</sup> 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.

<sup>2</sup> 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.

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 place it into service, or inspected by a local weights and measures official prior to use. 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 commercial scales 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.

### *3.3.3. Pacific Whiting Fishery Management*

As previously discussed in Subsection 1.4 of this EA, 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 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.

*Overfished species:* 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.

*Pacific Salmon:* 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.

NMFS is required to monitor and collect data to analyze take levels. The Biological Opinion defines reasonable and prudent measures that include the continued monitoring of the Pacific whiting fishery such that the data is sufficient to define the bycatch rate for each sector and is adequate to detect any changing patterns of bycatch. In addition, it is necessary to evaluate the projected catch at least monthly, and to determine if action is necessary to reduce the take of Chinook salmon.

#### *3.3.4. Overages and prohibited species catch*

Because vessels fishing under the Pacific whiting EFPs are allowed to land unsorted catch, landings including species in excess of the trip limits, non-groundfish species, protected species, and prohibited species that would otherwise be illegal to have on board the vessel. Under the EFP structure, vessels are allowed to land the unsorted catch providing that they abandon the catch in excess of trip limits and prohibited species catch to the state of landing. The first receivers are allowed to process the marketable catch excluding salmon and Pacific halibut, but they must pay the state of landing fair market value for the catch. Fair market value is defined differently by each state. Prohibited species catch must be donated to a not for profit food bank or rendering.

#### *3.3.5. 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 U.S. Census Bureau 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 (U.S. Census Bureau 1997). Industries falling within the forestry, fishing, and other, and manufacturing sectors are largely made up of timber and fishing industry-related businesses, and timber and seafood processing. Food services, accommodation, and retail trade are largely made up of businesses reliant on the tourism sector.

Fishing communities along the west coast were recently categorized according to their level of resiliency and their level of dependence on fishing (see PFMC Amendment 16-4). In this analysis, all coastal communities engaged in the shorebased whiting fishery are identified as being dependent on groundfish fishing with the exception of Ilwaco, Washington. Communities engaged in the shorebased whiting industry tend to be larger than other coastal communities and their resiliency tends to be higher than smaller coastal communities. However, shorebased whiting communities suffer from many of the characteristics of rural cities including relatively high unemployment and poverty rates, and less industrial diversification of their economy than urban areas. This means that, while communities engaged in the shorebased whiting fishery may be more resilient to negative economic impacts than other coastal communities, they still suffer from many of the same issues as less resilient communities and are likely to suffer in a similar fashion from negative economic impacts.

A review of available data developed by the Pacific Council with respect to community incomes, race (% poverty, % non-white, % native American, and % Hispanic) and poverty uncovers no substantially large differences between the whiting communities although the California communities of Crescent City and Eureka have a higher presence of minorities in their communities, lower average household incomes and higher poverty rates. (The estimates below reflect the averaging of the Council’s “block group” and “census place” estimates described in “Appendix A To the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2005-2006 Pacific Coast Groundfish Fishery-Affected Environment”(NMFS and PFMC 2004). These estimates are based on 2000 Census data, the latest available.) The average annual household income for Eureka is \$30,000 whereas the group (all whiting communities) average is \$40,000. Crescent City’s population is about 12% Hispanic compared to the group average of 7%. Crescent City’s population is comprised of more Native Americans (6%) compared to the group average of 3%. Crescent City’s (22%) and Eureka’s (16%) non-white population proportions are above the group’s average of 12%. The percentage of households below the poverty line in all whiting communities is at least 12%; however, Crescent City (24%) and Eureka (19%) proportions exceed the group’s average of 16%.

Readers who are interested in further information on coastal counties and fishing communities are referred to Section 7 of the EIS for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2007-2008 Pacific Coast Groundfish Fishery (NMFS and PFMC 2006). Copies of the EIS can be obtained from the 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>.

**Table 3.3.6.1. EFP Whiting Landings, Revenue, and Participation by Year and Region (PacFIN February 2007)**

Year	Port Region	Number of vessels a/	
2003	California	3	\$170,011
	Newport and Coos Bay	15	\$2,195,300
	Astoria and Ilwaco	13	\$1,670,804
	Northern Washington/Puget Sound	5	(D)
2004	California	4	\$640,302
	Newport and Coos Bay	14	\$3,361,010
	Astoria and Ilwaco	7	\$1,276,740
	Northern Washington/Puget Sound	5	(D)
2005	California	6	\$427,176
	Newport and Coos Bay	14	\$4,536,123
	Astoria and Ilwaco	7	\$2,498,728
	Northern Washington/Puget Sound	6	(D)
2006	California	6	\$632,222
	Newport and Coos Bay	11	\$4,536,123
	Astoria and Ilwaco	13	\$4,194,711
	Northern Washington/Puget Sound	9	(D)

a/ Some vessels deliver to more than one port

(D) Northern Washington / Puget Sound information is hidden because there are fewer than three first receivers

### *3.3.6. Electronic fish tickets*

On September 5, 2007, NMFS published a final rule to establish catch accounting requirements for persons who receive, buy, or accept Pacific whiting (whiting) deliveries of 4,000 pounds (lb) (1.18 mt) or more from vessels using mid-water trawl gear during the primary whiting season (72 FR 50906). The final rule became effective on October 5, 2007. The rulemaking included requirements for first receivers to have and use a NMFS-approved electronic fish ticket program (or other NMFS-approved software) and to send daily catch reports to the PSMFC. First receivers provide the computer hardware, operational software (Microsoft Office with Access 2003 or later if PSMFC software is used), and internet access necessary to support the electronic fish ticket program and daily e-mail transmissions. For companies that have developed their own software programs that meet the reporting requirements, provisions were included to allow the software to be NMFS-approved if the software meets specific requirements specified by PSMFC. Electronic fish tickets must be submitted within 24 hours from the date the catch is received. The electronic fish tickets are used to collect information similar to the information currently required in state fish receiving tickets or landing receipts (state fish tickets). The data are used to track catch allocations, bycatch limits and prohibited species catch.

## **4.0 ENVIRONMENTAL CONSEQUENCES**

The terms "effect" and "impact" are used synonymously under NEPA; the term "impact" is used in this document to assess the environmental consequences of each alternative. Impacts include effects on the environment that are ecological, aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Direct effects are caused by the action itself and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. 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.

### **4.1 Effects on the Physical Environment**

The alternatives are not expected to change the type of gear used in the fishery, the areas that the fishery occurs, the seasonality of the fishery, or the geographical location of the fishery. Therefore, any of the alternatives, including the no-action, would not result in any direct or indirect effects on the physical environment, including effects on trophic interactions (phytoplankton production), or the migration and spawning habitat.

### **4.2. Effects on the Biological Environment**

#### *4.2.1 Direct Biological Effects*

Direct effects on the biological environment (stock biomass, stock recruitment, or life history) resulting from fishery management actions primarily include changes in species mortality levels that may affect the stock biomass. Subsection 3.2 of this EA presented information on the fishing mortality levels (also referred to as total catch, or total catch mortality) for Pacific whiting and incidentally taken species. The total allowable catch levels for individual groundfish species or species groups are established during the biennial specification and management measure process. None of the alternatives are expected to change the process for establishing groundfish OYs (total catch harvest levels) or incidental catch allowances of non-groundfish, prohibited, protected or ESA listed species. Therefore, no direct effects on stock biomass are expected from the alternatives, including the No Action Alternative. None of the alternatives changes the fishing season or the geographical location of the fishery. Therefore, no direct effects on stock recruitment of groundfish, non-groundfish, prohibited, protected or ESA listed species life history are expected from the alternatives.

#### *4.2.2. Indirect Biological Effects*

##### Overview

In general, indirect effects 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 occur if fishing practices changed

such that there was a substantial increase or decrease in fishing mortality. Indirect biological impacts could also result if catch data were inaccurate or delayed such that fishery specifications (bycatch limits, species allocations, OYs, and biological opinion thresholds) could not be adequately monitored, or fishing stopped before a fishery specification were exceeded. If a fishery specification were exceeded, there could be a negative impact on the stock biomass. For groundfish, the magnitude of the impact would depend of the status of the species (healthy, precautionary zone, or overfished), the proportion of allowable fishing mortality represented by fishery specification that was exceeded, whether or not other fisheries exceeded specifications for the same species such that the OY or ABC were exceeded, and the stock's sensitivity to changes in fishing mortality.

Valid and timely data are needed to monitor total catch of Pacific whiting, Chinook salmon, and non-whiting groundfish, particularly overfished species. Positive indirect biological effects could occur if the quality of catch data were improved such that more timely and accurate data were available for managing the fishery and keeping total catch (fishing mortality) within the fishery specifications, including: bycatch limits, species allocations, OYs, ABC, and biological opinion thresholds. Negative indirect biological effects on stock biomass levels could result if catch data were inaccurate or delayed such that fishery specifications could not be adequately monitored or the fishing stopped before a specification were exceeded.

Exceeding a fishery specification due to unreported discarding at sea, inaccurate catch accounting or delayed catch reporting, affects groundfish stocks in different ways. Because of the robust biomass of healthy stocks, they are assumed to be less sensitive to changes in fishing mortality or from an OY occasionally being exceeded by a moderate amount. The biomass of a precautionary zone species is assumed to be more sensitive to changes in harvest mortality than healthy stocks. To provide an opportunity for a precautionary stock to increase to a healthy level and to buffer against harm associated with the OY being exceeded, harvest levels for precautionary zone stocks are set more conservatively. The risk to the stock biomass is of greatest concern for overfished species where the OY is set at a level that is intended to rebuild the stock within a defined period of time. Overfished species such as canary rockfish, are most sensitive to changes in harvest levels. For example, if the 2007 canary rockfish OY were exceeded by 3 mt, it is projected to result in the rebuilding time for the stock being extended by 11 years (NMFS and PFMFC 2006). Because there are many variables that affect the time it takes a stock to rebuild, with fishing mortality being only one of those variables, the risk between individual overfished species varies considerable. In general, exceeding the rebuilding based OY could extend the rebuilding period for a overfished species.

*Alternative 1 (No Action):* Under Alternative 1, the No Action Alternative, inseason catch accounting would be similar to the bottom trawl fishery. In the bottom trawl fishery, inseason catch estimates are based on: historical data for each target fishery, WCGOP at-sea discard data, logbook data, and unverified fish ticket data. As data becomes available, inseason estimates are updated with the best available data. Under Alternative 1, a one to two year delay in obtaining final catch estimates could be expected. The lack of catch data available inseason under Alternative 1 increases the likelihood of exceeding a groundfish OY or allocation and would be the greatest risk to the stock biomass levels. As discussed above, the potential impact to an individual stock would depend on the status of the stock (current biomass relative to an unfished

biomass), the extent to which the OY or allocation were exceeded, and the sensitivity of the stock to changes in fishing mortality (total catch).

*Alternative 2:* Under Alternative 2, EMS coverage would be required on all trips to assure that catch is retained until landing. Because full EMS coverage reduces the likelihood of catch being discarded at sea, the opportunity to conduct accurate shoreside catch accounting of all species would be improved over the No Action Alternative. Under Alternative 2, onshore catch accounting would be conducted by catch monitors. Pacific whiting shoreside first receivers would be required to procure the services of a single catch monitor from a NMFS-specified service provider. If a catch monitor was unable to monitor all deliveries, they would randomly select deliveries to monitor for fish ticket verification.

Because the primary objective of catch monitoring is to conduct fish ticket verification, catch monitor would oversee the sorting and weighing of all the incidental catch in as many deliveries as possible with the primary goal being verification of incidental catch weights and salmonids. The number of deliveries that can be monitored by an individual catch monitor is limited by factors such as: the number of deliveries received in a day, the time each delivery takes to be sorted and weighed, the process of how the catch is sorted, and the weighing process. Depending on a first receiver's capacity and efficiency, and the size of vessel deliveries, a full offload could take a few hours to the majority of the day. To provide accurate fish ticket verification of the target species, a large proportion of all deliveries would need to be monitored. To accurately monitor rare occurring species, a large proportion of each individual delivery would also need to be monitored.

With one catch monitor per first receiver, it is reasonable to expect that 100 percent of the days that fish are received would be monitored. However, within each day the proportion of individual deliveries that could be monitored by a single catch monitor would vary between first receivers. At some facilities, a catch monitor could monitor all deliveries. Because of physical limitations of using a human monitor, it is not reasonable to expect a catch monitor to regularly work more than 12 hours per day (11 hours monitoring plus one hour of paperwork) or to have less than a 6 hour break after a 12 hour shift. At smaller facilities (those at which the offloading, sorting and weighing process take less than 12 hours per day) and trucking operations a single catch monitor would likely be able to monitor all deliveries or nearly 100 percent. At larger facilities, (those that offload, sort, and weigh catch more than 12 hours per day) or those that offload, sort and weigh catch from more than one vessel at a time a single catch monitor would be require to randomly monitor a sub group of all deliveries.

Under Alternative 2, if catch reporting issues are identified during the season, the catch monitor would provide data that could be used to modify catch values. Having the ability to make corrections inseason improves the quality of data used to monitor the attainment of fishery specifications. However, having only a portion of the hauls directly monitored limits the ability to adjust catch values inseason and would primarily be limited to monitored deliveries. The potential risk a fishery specification being exceeded is less under Alternative 2 than under the No Action, but more of a risk than under Alternative 3.

*Alternative 3:* Like Alternative 2, Alternative 3 would required EMS coverage on all trips to assure that catch is retained until landing. Because full EMS coverage reduces the likelihood of

catch being discarded at sea, the opportunity to conduct accurate shoreside catch accounting of all species would be improved over the No Action Alternative, but would be the same as Alternative 2.

Under Alternative 3, on shore monitoring would be conducted on shore by catch monitors. Pacific whiting shoreside first receivers would be required to procure the services of enough catch monitors to provide full coverage of every delivery from a NMFS-specified service provider. Beginning in 2009, sector-specific bycatch limits for overfished species will be used allow each sector of the whiting fishery to be closed when the bycatch limit is projected to be attained. Bycatch limits are used to reduce the risk of exceeding a specified bycatch limit and possibly an overfished species OY. To insure the integrity of sector-specific bycatch limits, the Council recommended full catch monitor coverage in which all Pacific whiting deliveries beginning in 2009. With full coverage, the number of individual catch monitors per facility would vary depending on the hours of operation and the number of Pacific whiting deliveries received each day. This is compared to the No Action Alternative in which there would be no mechanism for fish ticket verification on shore, and Alternative 2 where a subset of the deliveries would be monitored.

Alternative 3 has the greatest potential for providing the most accurate data. When considering the alternative coverage levels, full catch monitor coverage would provide the most accurate data on bycatch limit and rare occurring species. As discussed above, exceeding a fishery specification is of greatest concern for the most sensitive overfished species. Because of this, the risk of a fishery specification being exceeded is lowest under Alternative 3. Having the ability to verify that all catch is being brought to shore where accurate accounting can occur, is a substantial benefit over sorting the catch and discarding unmarketable species and overages at sea (No Action). If catch reporting issues are identified during the season, the catch monitor would provide data that could be used to modify catch values on any delivery.

*Summary of Biological impacts:*

As noted in the overview for the subsection, valid and timely data are needed to monitor total catch of Pacific whiting and non-whiting groundfish, particularly overfished species. Positive indirect biological effects could occur if the quality of catch data were improved such that more timely and accurate data were available for managing the fishery inseason and keeping total catch (fishing mortality) within the fishery specifications, including: bycatch limits, species allocations, and OYs. Negative indirect biological effects on stock biomass levels could result if catch data used to manage the fishery inseason were inaccurate or delayed such that fishery specifications could not be adequately monitored or the fishing stopped before one of the fishery specifications were exceeded. The magnitude of the impact would depend on the status of the species (healthy, precautionary zone, or overfished), the proportion of allowable fishing mortality represented by fishery specification that was exceeded, whether or not other fisheries exceeded specifications for the same species such that the OY were exceeded, and the stock's sensitivity to changes in fishing mortality.

Sorting catch at sea (No Action) and discarding overage and unmarketable fish has the greatest biological risk to the stock. If inaccurate estimates of fishing mortality occurred as a result of discarding at sea, a fishery specification could be exceeded without managers knowing. EMS cameras turn on when the gear is first set and turn off when the vessel returns to port. EMS

provides managers with a comprehensive picture of fishing behavior of an individual vessel by capturing data on the areas fished and visual images of fishing activity. EMS is capable monitoring and simultaneously documenting potential discarding from multiple positions at one time and is therefore highly effective in deterring unauthorized discarding at sea. The quality of catch accounting on shore is affected by the level and type of at-sea monitoring. Having the ability to verify that all catch taken is brought to shore improves the accuracy of catch accounting (Alternatives 2 and 3) over the no action alternative.

When catch is returned to shore (Alternatives 2 and 3) it can be sorted and accurately weighed by species or species group. Because the bycatch of incidental species in the whiting fishery is typically less than 2 percent over a season, and because most catch is assumed to have little chance of survival when discarded at sea, returning to shore with unsorted catch results in no greater mortality for the vast majority of incidentally caught stocks than if it were sorted and discarded at sea (Alternative 1). To accurately monitor rare occurring species, a large proportion of each individual delivery would also need to be monitored as well as a large proportion of overall deliveries. Low levels of on shore monitoring may also result in misreporting, particularly of bycatch limit species that are likely to result in fishing restrictions or closures (Alternative 2). Increasing the levels of monitoring on shore increases and improves the accuracy of catch accounting (Alternative 3). The type of onshore monitoring also affects the quality of the data used for fish ticket verification. It is important to note that as more constraints are placed on a fishery and as the value of the fishery relative to other fishing opportunities increases, the incentives to intentionally underestimate the weight of constraining species also increases (Randall 2004).

#### *4.2.3. Non-groundfish species, prohibited species, and protected species*

*Non-groundfish species interactions:* There would be no direct biological impacts on the non-groundfish species as a result of the alternatives because the actions do not: establish harvest levels, change the gears used to harvest Pacific whiting, change the fishing season, or change the geographical location of the fishery. The maximized retention and monitoring requirements under Alternative 2 and 3 may provide some data that could improve the estimated catch of non-groundfish species in the Pacific whiting shoreside fishery. However it is not a data priority. If WCGOP coverage were to occur under the No Action Alternative, low levels of subsample data (<20 percent of the trips) on non-groundfish species could become available one-two years after the end of the fishing season.

*Salmonids:* There would be no direct biological impacts on salmonids as a result of the alternatives as they do not: establish harvest levels, identify Biological Opinion thresholds, change the gears used to harvest Pacific whiting, change the fishing season, or change the geographical location of the fishery. Potential indirect effects could occur if the quality of catch data were improved such that more timely and accurate data were available for monitoring incidental take thresholds and if it allowed management action to be taken to restrict further incidental take.

The monitoring requirements under Alternatives 2 and 3 are expected to improve the quality and timeliness of data used for inseason management of the Pacific whiting shoreside fishery over the No Action Alternative. It is assumed that the No Action Alternative would not meet the

requirements of the incidental take statement in the current Biological Opinion for the Pacific whiting fishery, because it does not provide for adequate accounting of incidentally taken Chinook salmon. Alternative 2 is expected to provide less information on interactions with Chinook Salmon than Alternative 3, but more than under the No Action Alternative.

*Marine Mammals:* None of the alternatives is expected to affect the incidental mortality levels of marine mammals, because none of the alternatives change fishing intensity or fishing effort, the gear type used, the fishing season, or the geographical location of the fishery. Alternatives 2 and 3 consider maximized retention and monitoring under EFPs. The degree to which marine mammal interaction data is needed by resource managers and if additional monitoring information could have an indirect benefit to marine mammals is unknown, but is assumed to provide a minor benefit. Availability of data under the No Action Alternative is required to be provided by the vessel operators without verification. The EMS monitoring requirements under Alternative 2 and 3 would document most incidental takes and would therefore be expected to deter operators from not reporting incidental takes of marine mammals.

*Seabirds:* None of the alternatives is expected to affect the incidental mortality levels of seabirds, because none of the alternatives change fishing intensity (effort), the gear type used, the fishing season, or the geographical location of the fishery. The monitoring requirements under Alternative 2 and 3 would be expected to provide very limited data on interactions with seabirds over the no action Alternative. The EMS video recorders are primarily focused on deck activities and are not of high enough resolution to provide seabird interaction data. Birds found at the first receivers would likely be recorded in a species general category and be of limited use. The degree to which such data is needed by resource managers, how the need varies between seabird species, or if additional monitoring information could have an indirect benefit is unknown but is assumed to provide a minor benefit under Alternatives 2 and 3.

*Endangered Species:* In the Pacific whiting fishery (all sectors,) salmon are caught over a broad range from northern California to Washington; therefore, the fishery affects many of the ESA listed Chinook stocks. All activities that affect ESA listed species are subject to some form of ESA review and constraint with the goal being to reduce mortality and improve the status of the species to the point where the survival and recovery of the species is reasonably assured. To that end, all activities, including the Pacific whiting fishery, are obligated to be managed to stay within their respective take limits as defined in the associated ESA Section 7 Biological Opinion incidental take statements. Adequate monitoring is required to ensure that activities are operating within their respective take limits. Adequate monitoring is not discretionary. To avoid negative biological consequences that may result to a species if the prescribed take limits are exceeded, there is a collective obligation of all activities to be managed within the defined limits considered necessary for the species' survival and recovery.

There would be no direct biological impacts on salmonids as a result of the alternatives, because it does not: establish harvest levels, identify Biological Opinion thresholds, change the gears used to harvest Pacific whiting, change the fishing season, or change the geographical location of the fishery. The potential indirect effects of inaccurate catch accounting on salmon were discussed above. The monitoring requirements under Alternative 3 are expected to improve the quality and timeliness of data used for inseason management of the Pacific whiting shoreside fishery over Alternative 2. Alternative 2 is expected to provide less information on interactions

with Chinook Salmon than Alternative 1, the No Action Alternative. It is assumed that the No Action Alternative would not meet the requirements of the incidental take statement in the current Biological Opinion, because it does not provide for adequate catch accounting of incidentally taken Chinook salmon. Without adequate catch accounting, NMFS is unable to take action inseason to reduce the take on Chinook salmon in the Pacific whiting fishery.

### **4.3 Effects on the Socioeconomic Environment**

The following subsection 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 in this EA are: changes in the cost of participation for first receivers, changes in revenue, changes in how the fishery is managed, the changes in cost to management, and changes in communities.

#### *4.3.1 Changes in the Cost of Participation*

*Federal permits, endorsements, and certifications:* Under each of the alternatives, vessels participating in the Pacific whiting shoreside fishery must be registered to a limited entry permit with a trawl endorsement, as has been required since the mid-1990s. In 2006, the cost to renew a limited entry permit with a trawl endorsement was \$152.00. The costs for limited entry trawl permits with trawl endorsements are expected to remain relatively unchanged, with only minor upward adjustments being made when administrative costs increase. Under Alternatives 2 and 3, vessels would apply for annual EFPs. At this time, there is no charge to the vessel owners or operators to obtain an EFP. The costs associated with obtaining an EFP includes the time for vessel owners and operators to: complete a request for an EFP; submit vessel documentation; and attend annual mandatory pre-season meetings, which may require travel in addition to participation time. EFP participants may be required to attend mandatory pre-season meeting which included the time to participate as well as the cost of travel. The cost to attend pre-season meetings varies greatly between individuals.

*Reporting requirements:* Under Alternative 1 fish ticket weights would be combined with fleetwide estimates of discard to estimate of the total catch of groundfish by species or species group taken in the fishery. Under the Alternatives 2 and 3 all catch would be delivered in unsorted deliveries and the total catch of each species or species group would be the summed values from the electronic fish tickets. However, data collected under the EFP could be used to modify catch estimates to include species that were unreported, under-reported, or discarded at sea.

Accuracy of electronic fish ticket weights is an important component of the EFPs for a Pacific whiting shoreside monitoring program. Data quality is paramount to the accuracy of any monitoring program. It is assumed that the weights reported on the electronic fish tickets are relatively accurate; however, accuracy of total catch could be significantly affected by inaccurate weights or scale readings, improperly sorted catch, and, recording errors. 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 and have much more tolerance for error in weight estimates than species such as canary rockfish, which is managed to the nearest 10<sup>th</sup> 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 state 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 Subsection 3.3.2, 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 varies substantially between states. Under each of the alternatives, first receiver would be required to meet the existing state requirements as defined in State law for methods used to derive electronic fish ticket weights, as they apply to seafood processors. The No Action Alternative contains no additional burden on the first receivers. EFP provisions under Alternatives 2 and 3 would reinforce existing State by requiring that actual weights derived from scales be used on electronic fish tickets; and that the weights used on electronic fish tickets be derived from scales appropriate to the amount being weighed. These requirements concur with state requirements and may improve the degree to which state requirements are followed by first receivers. The costs to the industry does not change for first receiver that are currently in compliance with existing state requirements.

First receivers in the states of Washington and California would continue to complete and submit the required paper fish tickets on forms as required by the state of landing. In the State of Oregon, first receivers would either complete paper fish ticket forms provided by the state, or print computer generated tickets providing they contain all data fields specified in state law. State requirements for fish ticket submissions would not change under any of the alternatives. The electronic fish ticket reporting requirements that are currently in federal regulation will continue to apply under all of the alternatives. However, Under Alternatives 2 and 3 Pacific whiting shoreside deliveries with less than 4,000 lb of whiting would need to be reported on electronic fish tickets as Alternatives 2 and 3 would require all deliveries from vessels fishing under the EFPs be reported on electronic fish tickets, regardless of the amount of whiting. In addition to holding an EFP, Under Alternatives 2 and 3 vessels would be required to declare their intent to fish in the Pacific whiting shoreside fishery. Such a declaration would only need to be made when they first started fishing under the EFP and if they choose to return to EFP fishing after making non-whiting (non-EFP) trips.

Under all of the alternatives, trawl logbooks must be maintained by the vessel operator as required by the applicable state law. Under Alternatives 2 and 3, each EFP trip that the vessels participates in would required the vessel operator to write "Maximum Retention Fishing Trip" (or "MAX") at the bottom of each page of the log. Vessels participating under EFPs issues under Alternative 2 or 3 must also including the documentation of all discard events in the vessel logbook. An estimate of the total amount of discarded catch (in pounds) for each species, must be legibly written at the bottom of the page. Accurate location of the tow, and reason for discarding must also be recorded and labeled "discard" in the logbook, on the line associated with that tow. If discard occurs as a result of gear malfunction, a description of the event must be recorded in the logbook required by the State of landing and labeled "gear malfunction" in the logbook, on the line associated with that tow. Under Alternatives 2 and 3, if a vessels fails to

bring all catch onboard the vessel and retain that catch (including all prohibited species) until offloading, with the exception of large marine organisms and operational discards as defined in the EFP, they must cease fishing and return to port. On the way to port they must notify NMFS office for Law Enforcement of the event. This could be a substantial burden on the vessel, however NMFS believes that most behaviors that result in dumping events can be controlled by the vessel operator and the need to maintain the integrity of the monitoring program is paramount.

*Monitoring Pacific whiting shoreside vessels at-sea:* Under the No Action Alternative, only vessels that were randomly selected for observer coverage by the WCGOP would be monitored at sea. Under Alternatives 2 and 3, EMS coverage requirements would be specified within the EFPs. As described in Subsection 3.3.2, EMS is a data collection tool that uses a software operating system connected to an assortment of electronic components, including video recorders, to create a data collection of vessel activities. The EMS is designed to independently monitor vessel fishing activities and provide accurate, timely, and verifiable data. Because EMS would be used as a compliance monitoring tool, NMFS believes it is necessary for 100 percent of the Pacific whiting trips to be monitored to effectively deter discarding at sea. Reducing EMS coverage would likely result in more restrictive management due to overfished species bycatch concerns, and give the ESA Biological Opinion monitoring requirements for Chinook salmon that are currently in place for the fishery.

The cost of EMS can be broken into major components: the cost of the physical system, and the cost to down and catalogue the data. The costs associated with the physical system includes: the cost to lease or purchase the EMS unit, the time and cost of installation, maintenance, equipment removal, and replacement as necessary. NMFS would be responsible for the costs associated with administering the EMS program, including the certification and oversight of EMS providers.

Under Alternatives 2 and 3 the vessels would be responsible for costs associated with the EMS physical system. This is the same requirement as was in place under the 2008 EFPs. Full coverage would be required on all Pacific whiting fishing trips and vessels would be required to lease or purchase EMS services from a NMFS-specified service provider. One company, Archipelago Marine Research, Ltd., which has extensive experience using EMS to monitor fishing fleets in British Columbia, was selected through an open bid process to provide EMS services for the Pacific whiting shoreside fishery EFPs during the 2004-2008 seasons. During the 2008 season, the costs of the EMS systems to the fishing industry for all 37 shoreside vessels was approximately \$293,050.

The cost of EMS to the individual vessel could vary depending on the approach taken. The fleet could choose to approach the cost of EMS in a number of ways including: a flat fee per vessel, a percentage of each vessel's landings, a combination of a lower flat fee with a percentage of landings, etc. Regardless, the cost on a per vessel basis is expected to decrease if the participating vessels approached a provider of qualified EMS as a group rather than as individual vessels. For example, a group could negotiate a group price that could be paid up front and if the overall maintenance of the systems cost less than estimated, some cost could be refunded to the group on a pro-rated basis at the end of the season. If a flat fee per vessel scenario were used during the 2008 season, the per vessel cost would have been roughly \$7,514. When compared to

the revenue from whiting in 2008 (Table 3.3.1.1) this is 2.6 percent of the exvessel value of the fishery. In 2008, several vessels choose to purchase the EMS. Therefore, the up-front costs are higher, but are reduced overtime, because they expect to only pay for data review and inventory, and equipment maintenance and upgrades in subsequent years. No EMS related costs would exist under the No Action Alternative. Table 4.3.1.1 shows the estimated costs of EMS to Industry and NMFS under the proposed alternatives. The cost to NMFS and the industry is not an increase from the current conditions and is therefore not a significant impact.

In addition to the direct costs of EMS vessels, vessels would be required to provide additional crew and skipper time to aid in the installation and removal of the EMS system. The estimated time is on a per vessel basis and assumes the vessel crew is readily available to turn hydraulic and electrical systems on and off during installations and/or repairs, the vessel is prepared for sensor installation (pressure fitting for hydraulic sensor installed), it is a typical EMS set-up, the system repair is due to normal wear and tear, downloads are done intermittently throughout the season and coaxial cables are capped and left in place. It takes two to six hours per vessels to install an EMS. During the season, on average, two to 10 hours per vessel are needed to repair an EMS repair, during which crew may be needed to help troubleshoot the EMS integration with vessel electrical and hydraulic systems. Access to the vessel to download the collected data is also needed. While the data download takes two to four hours per season per vessel, crew only has to provide access to the location of the EMS data box and does not have to be available during the entire download. Lastly, to remove the EMS at season's end takes one to two hours per vessel, during which time the crew must provide access to the service provider staff. Vessels that purchase the EMS, do not need to remove it.

**Table 4.3.1.1 Estimated costs of EMS to Industry and NMFS**

<b>Direct Costs of EMS to NMFS</b>	
	Alternatives 2 and 3
Outreach	\$17,755
EMS equipment	\$0
Installations/removals	\$0
Service	\$0
Review and cataloguing of data and video imagery	\$23,500
Analysis and final report	\$35,635
Certification program for EMS providers	\$0
Staff training on analyzing EMS data	\$12,644
<b>TOTAL</b>	<b>\$89,534</b>
<b>Direct Costs of EMS to Industry</b>	
Outreach	\$0
EMS equipment	\$151,970
Installations/removals	\$71,380
Service	\$46,200
Review and cataloguing of data and video imagery	\$23,500
<b>TOTAL</b>	<b>\$293,050</b>

*Monitoring Pacific whiting shoreside processors/first receivers:* Under Alternatives 2 or 3, Pacific whiting shoreside first receivers would be required to procure the services of a catch

monitor from a NMFS-specified service provider. Catch monitors are third party employees paid for by industry and trained by NMFS in techniques used for the verification of fish ticket data. These individuals would be trained in: species identification; observation techniques relative to the verification of fish ticket data; the types and use of commercial scales; documentation procedures for compliance purposes; and recordkeeping. NMFS would define verification methods and would coordinate or conduct the training of these individuals. This is compared to the No Action Alternative in which there would be no mechanism for fish ticket verification on shore.

With one catch monitor per first receiver (Alternative 2), it is reasonable to expect that 100 percent of the days that fish are received would be monitored. However, within each day the proportion of individual deliveries that could be monitored by a single catch monitor would vary between first receivers. At some facilities, a catch monitor could monitor all deliveries. Because human monitors have physical limitations, it is not reasonable to expect a catch monitor to regularly work more than 12 hours per day or per 24 hour period (this may be 12 consecutive hours, but is not always the case). At smaller facilities (those at which the offloading, sorting and weighing process take less than 12 hours per day) and trucking operations a single catch monitor would likely be able to monitor all deliveries or nearly 100 percent. At larger facilities, (those that offload, sort, and weigh catch more than 12 hours per day) or those that offload, sort and weigh catch from more than one vessel at a time a single catch monitor would be required to randomly monitor a sub group of all deliveries. With a coverage requirement of a single catch monitor (Alternative 2), assuming a 60 day season and 16 first receivers participating throughout the entire season, the cost to all first receivers assuming catch monitors average daily cost is between \$200 and \$300 dollars per day, is estimated to be approximately \$192,000 and \$288,000 including, training, debriefing, housing, and travel time .

With full catch monitor coverage (100 percent of deliveries monitored – Alternative 3), the number of catch monitors will vary between first receivers. As noted above, it is reasonable to expect an individual catch monitor would be limited to working twelve hours per day. Therefore, first receivers that are in operation more than 12 hours per day would be expected to require at least two catch monitors, unless they choose to reduce the hours of operation. In addition, first receivers that take more than one delivery at a time would be required to have at least two catch monitors and possibly more ( 3 or 4) if the facility regularly took deliveries from more than one vessel at a time and was in operation more than 12 hours per day. Based on the behavior of the 2008 Pacific whiting first receiver, it is estimated that 44 percent of the first receivers will need one catch monitor, 50 percent will need two catch monitors, and 6 percent will need three catch monitors. With a coverage requirement of full catch monitor coverage for the entire fleet, assuming a 60 day season and 16 first receivers participating throughout the entire season, the cost to all first receivers assuming catch monitors average daily cost is between \$200 and \$300 dollars per day, is estimated to be approximately \$338,000 and \$507,000 including, training, debriefing, housing, and travel time (these values were based on 2008 season in which 7 first receivers are estimated to have required 1 catch monitor, 8 would have required 2 catch monitors, and 1 first receiver would have required 3 catch monitors). The cost to the fleet for full catch monitor coverage is estimated to be between 2.98 and 4.47 percent of the exvessel value of the fishery revenue from 2006 (Table 3.3.1.1.)

*Overages:* Overages are the amounts of fish harvested by a vessel in excess of the applicable trip limit. Overages include non-whiting groundfish catch and prohibited species that cannot be sold by the vessel. Under Alternative 1 (No Action), there are no allowances for landing overages. Therefore, all overage fish would need to be discarded at sea. The cost of Alternative 1 (No Action) to the industry is the added cost to sort the catch at sea and the reduced value of the whiting catch if sorting reduces its quality. Most Pacific whiting shoreside fishers prefer to quickly and efficiently handle the catch and place it into the refrigerated salt water tanks as quickly as possible so they can return to port for offloading. Under a primary season structure, vessels that are quick and efficient are able to harvest more catch before the allocation is reached than vessels that take more time to handle the catch. Adequately sorting catch at sea is expected to require many hours of deck sorting, where the crew stays on deck to look through the catch before it flows into the holds. It is reasonable to expect that holding whiting on deck in the codend for hours could decrease the quality and value of the catch. However, since 2006, a single shoreside vessel with history in the whiting fishery has found a profitable way to partially process headed and Gutted Pacific whiting at sea. The vessel used a smaller net and tows of short duration to maintain quality. Head and gut machines were used at sea and the product immediately placed in thick slurry of ice. Because fish that are headed and gutted with no further processing (such as freezing) are not considered to be a processed product, the vessel's activities does not result in its activity being that of a catcher/processor. The ex-vessel price of the partially processed catch was approximately four times that of whiting landed whole in unsorted EFP landings.

Under the EFP structure (Alternatives 2 and 3), vessels would be allowed to land the unsorted catch providing that they abandon the catch in excess of trip limits and prohibited species catch to the state of landing. The first receivers would be allowed to process the marketable catch excluding salmon and Pacific halibut, but they must pay the state of landing fair market value for the catch. Fair market value is defined differently by each state. Prohibited species catch must be donated to a nonprofit food bank. Under the Alternatives 2 and 3, each state would be responsible for the distribution, tracking, sales of marketable overage fish. How overages are handled would likely vary between states. Salmon and Pacific halibut must be donated to a legitimate hunger relief agency. Port biologists and industry samplers transport donated catch to the hunger relief agencies.

*Impact on participants in the directed Chinook fishery:* The Pacific whiting shoreside fishery needs to have an adequate monitoring and catch reporting system in place to 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. The whiting fishery must be closely monitored to provide reasonable assurance of continued compliance with efforts to reduce bycatch. There would be no direct short-term consequences or implications for the directed Chinook fisheries under Alternatives 2 or 3. The groundfish and salmon fisheries are subject to separate regulations and ESA-related standards. When the groundfish fishery exceeds the consultation standard, consultation is reinitiated to examine why the standard was exceeded and changes that NMFS believes are necessary and appropriate to bring the fishery back in line are implemented. For the long term, and in a more general sense, if the status of one or more ESA-listed species continues to deteriorate, all activities are subject to review and further constraint. As salmon fisheries become increasingly restricted, other activities, including the groundfish fisheries, will be subject to further scrutiny, and could be subject to further constraint. The No Action Alternative is less

restrictive than Alternative 2 or 3 and would likely not meet the requirements of the incidental take statement in the current biological on Chinook salmon take in the Pacific whiting fishery

### 4.3.2 Changes in Fishery Revenue

There would be no direct change in revenue expected over the 2008 fishery if EFPs are issued under Alternatives 2 or 3. If vessels are required to sort at sea under the No Action Alternative, vessels would likely harvest whiting and return to port at a much slower rate than under EFPs. The added time could reduce the revenue per vessel if more vessels entered the fishery to supply first receivers. Slower operations could also result in an extended season.

Indirect impacts could occur under the No Action Alternative if catch monitoring and accounting difficulties resulted in the Pacific whiting shoreside fishery no longer being managed under a bycatch limit management strategy. To a lesser degree, indirect impacts could also result under Alternative 2 if it was determined that the monitoring mechanism was not adequate to support sector-specific bycatch limit management and there was a need to revert to fleetwide bycatch limits. Alternative 3 is expected to provide the most robust data which is expected to be adequate to support sector-specific bycatch limit management. In March of every year, the PFMC recommends harvest specifications for the Pacific whiting fishery that NMFS adopts into regulation. If it is determined that the bycatch limits of overfished species cannot be adequately managed, it may be necessary to take a more conservative approach when establishing the Pacific whiting shore-based allocation. A more conservative approach would be to restrict overall Pacific whiting harvest based on projected bycatch of overfished species, as is done in the bottom trawl fishery. Using 2006 as an example, had the Council recommended that the whiting allocation be restricted by overfished species bycatch like the bottom trawl fishery, the Pacific whiting 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 234,331 mt as compared to the OY of 267,662 mt that was adopted (based on the 2006 GMT whiting fishery bycatch model). The shore-based allocation would have been 83,929 mt rather than 97,718 mt, 13,789 mt less than what was available to the fishery under the bycatch limit management approach.

**Table 4.3.2.1 Change in Whiting revenue when OY is constrained by projected overfished species catch. (based on the 2006 GMT whiting fishery bycatch model)**

US Whiting OY	Change in Exvessel Revenue	Bycatch Implications					
		Canary	Darkblotched	Lingcod	POP	Widow	Yelloweye
300,000	\$34,819,768	7.8	18.3	3.1	7.1	143.7	0.0
250,000	\$28,977,525	6.5	15.0	2.6	5.9	118.4	0.0
200,000	\$23,135,282	5.2	11.9	2.1	4.7	94.0	0.0
150,000	\$17,293,039	4.0	8.6	1.5	3.5	68.7	0.0
100,000	\$11,450,796	2.7	5.6	1.0	2.3	45.2	0.0

**Table 4.3.2.2 Change in Whiting revenue by sector when OY is constrained by projected overfished species catch. (based on the 2006 GMT whiting fishery bycatch model)**

US Whiting		Exvessel Rev	Bycatch Implications					
OY	Sector		Canary	Darkblotched	Lingcod	POP	Widow	Yelloweye
300,000	Tribal	\$4,089,570	1.6	0.0	0.2	0.6	6.0	-
	Mothership	\$7,375,248	3.8	5.3	0.7	1.1	32.6	0.0
	CP	\$10,448,267	0.8	7.1	0.4	3.3	56.7	0.0
	Shoreside	\$12,906,683	1.6	5.9	1.9	2.0	48.3	0.0
	Total	\$34,819,768	7.8	18.3	3.1	7.1	143.7	0.0
250,000	Tribal	\$3,797,458	1.5	0.0	0.2	0.6	5.6	-
	Mothership	\$6,043,216	3.1	4.3	0.6	0.9	26.7	0.0
	CP	\$8,561,223	0.7	5.8	0.3	2.7	46.5	0.0
	Shoreside	\$10,575,628	1.3	4.8	1.5	1.6	39.6	0.0
	Total	\$28,977,525	6.5	15.0	2.6	5.9	118.4	0.0
200,000	Tribal	\$3,213,234	1.2	0.0	0.1	0.5	4.8	-
	Mothership	\$4,781,292	2.5	3.4	0.5	0.7	21.2	0.0
	CP	\$6,773,497	0.5	4.6	0.2	2.2	36.8	0.0
	Shoreside	\$8,367,260	1.0	3.8	1.2	1.3	31.3	0.0
	Total	\$23,135,282	5.2	11.9	2.1	4.7	94.0	0.0
150,000	Tribal	\$2,921,122	1.1	0.0	0.1	0.5	4.3	-
	Mothership	\$3,449,260	1.8	2.5	0.3	0.5	15.3	0.0
	CP	\$4,886,452	0.4	3.3	0.2	1.6	26.5	0.0
	Shoreside	\$6,036,205	0.7	2.8	0.9	0.9	22.6	0.0
	Total	\$17,293,039	4.0	8.6	1.5	3.5	68.7	0.0
100,000	Tribal	\$2,044,785	0.8	0.0	0.1	0.3	3.0	-
	Mothership	\$2,257,443	1.2	1.6	0.2	0.3	10.0	0.0
	CP	\$3,198,044	0.2	2.2	0.1	1.0	17.4	0.0
	Shoreside	\$3,950,525	0.5	1.8	0.6	0.6	14.8	0.0
	Total	\$11,450,796	2.7	5.6	1.0	2.3	45.2	0.0

#### 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 first receiver. 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. The No Action Alternative, under which there is a regulatory provision that defines 4,000 lb as the amount per trip that defines targeting Pacific whiting or a Pacific whiting delivery. Alternative 2 and 3 would require vessels to declare the intent to be in the Pacific whiting fishery before leaving port. All deliveries on a declared trip would be considered to be Pacific whiting. Reducing the amount used to identify whiting deliveries is necessary to prevent vessels from targeting Pacific whiting and avoiding monitoring.

#### 4.3.4. Changes in Cost to Management

The cost of EFPs to NMFS under Alternatives 2 and 3 are primarily the labor associated with: notifying the public of the intent to issue EFPs; drafting the terms and conditions of the permits; reviewing individual permit applications; and entering new data. In addition, there are minor costs associated with purchasing supplies and mailing the EFPs. The estimated cost to NMFS for issuing Pacific whiting shoreside EFPs was estimated to be \$13,000 in 2006. There are no direct costs to management associated with the No Action Alternative.

Under the EFPs the task of training catch monitors, providing equipment, managing data collection, and debriefing catch monitors would be a duty of NMFS, as would the infrastructure costs of EMS monitoring. Under Alternatives 2 and 3 existing resources would be used to the extent possible. Existing staff would monitor, compile, and analyze inseason information collected from catch monitors, troubleshoot various issues, and develop inseason reports. With a shoreside season that primarily ranges from April to August and with the development of year-end reports, it is estimated that the activities Under Alternatives 2 and 3 require a 0.5 GS 11 level FTE, which roughly equates to in terms of salary and benefits to about \$40,000. The cost to train, equip, and debrief catch monitors is projected to be about \$23,000 annually under Alternative 2 and \$43,000 under Alternative 3. The costs to NMFS based on the 2008 EFP are expected to be roughly \$90,000 per year (Table 3.3.2.2). The cost to NMFS in 2008 was about \$23,000, an increase from the current conditions is not considered to be a significant impact. There is no cost associated with EMS under the No Action Alternative. There are no direct costs to management associated with the No Action Alternative.

#### *4.3.5. Pacific Whiting Communities*

Changes occurring under each of the alternatives are not likely to have an effect on Pacific whiting fishing communities over the Alternative 2 Alternative, given the minimal goods and service needed to support this alternative. Under the No Action Alternative (Alternative 1.), 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, it is likely that fewer Pacific whiting would be available to the first receivers and vessels home-porting in communities than would be available under Alternatives 2 or 3, and this would reduce economic activity in those communities. A reduction in economic activity would translate into a reduced demand for support business that resides in those communities. Demand for fishing-related services such as fabrication, net manufacture, and mechanical services would tend to be diminished because of less whiting available, less fishing effort needed to catch the available whiting, and less revenue being generated because of that reduced quantity. While most communities engaged in the shorebased whiting fishery may be more resilient to negative economic impacts than other coastal communities, they still suffer from many of the same issues as less resilient communities and are likely to suffer in a similar fashion from negative economic impacts. This means that the No Action alternative is likely to cause economic harm to communities engaged in the shorebased whiting fishery.

The purposes of this EFP programs proposed under Alternative 2 and 3 include relaxing existing rules and regulations to test new policies and procedures that lead to better management of this fishery. Therefore, it is not expected that any of the communities/counties/ minority groups will disproportionately gain or lose as the result of this EFP.

#### 4.4. Cumulative Effects

Past actions affecting the same environment as the alternatives include:

- Groundfish conservation areas implemented under Amendment 16-3, the 2005-2006 annual specifications and harvest measures, the 2007-2008 annual specifications and harvest measures, and Amendment 16-4;
- EFH protection measures under Amendment 19 that include conservation areas and gear restrictions;
- Overfished species rebuilding measures adopted under Amendments 16-1, 16-2, 16-3, and 16-4, and related bycatch management measures adopted under Amendment 18;
- VMS requirements for limited entry vessels; and,
- Restrictions on overfished species catch to provide for rebuilding under the 2009-2010 annual specifications and harvest measures;

Reasonably foreseeable future actions affecting the same environment as the alternatives include:

- Amendment 15, A Limited Entry Program for the non-tribal sectors of the Pacific Whiting Fishery;
- A Maximized Retention and Monitoring Program for the Pacific Whiting Shoreside Fishery; and ,
- Trawl rationalization and individual fishing quotas used to manage the Pacific whiting and/or non-whiting catch of groundfish caught by vessels fishing under limited entry trawl permits.

**Table 4.4.1 Expected effects if accumulated over time**

Past Actions	Expected Effects
Harvest specifications and management measures for 2009-2010	<p><u>Salmon Conservation Zone:</u> If a vessel fished within a Salmon conservation zone, when one was in effect, EMS data under Alternatives 2, and 3 could be used to show that fishing activity occurred. Alternative 1 would provide no information</p> <p><u>Bycatch limits of canary, widow, and darkblotched rockfish:</u> EMS data under Alternatives 2 and 3 could be used to assure that bycatch limits species were brought to the first receiver. Alternative 2 provides shoreside catch accounting that may not be adequate for sector-specific bycatch limits, while Alternative 3 would be expected to improve catch accounting shoreside. Sector-specific bycatch limits cannot be effectively used under Alternative 1 to limit the impacts of the shoreside whiting fishery on canary, widow, or darkblotched rockfish.</p> <p><u>Pacific whiting OY and sector allocations:</u> The fishing mortality of Pacific whiting under Alternatives 2 and 3 are most likely to result in the fishery staying within its allocation and not result in the overall OY for Pacific whiting being exceeded. Alternative 1 is least likely to keep the fishing mortality within the allocation.</p> <p><u>OY management:</u> Data provided by Alternatives 2 and 3 could be used to improve catch accounting data used to monitor the attainment of harvest guidelines, allocations, and OY of all groundfish species, including overfished species.</p>
Catch Accounting requirements for processors/first receivers participating in the Pacific whiting shoreside fishery	<p><u>Electronic fish ticket reporting:</u> Alternatives 2 and 3 would require electronic fish ticket submissions for all Pacific whiting shoreside trips made by vessels issues EFPs. No action does not required vessels with high incidental bycatch and less than 4,000 lb of whiting to report catches on electronic fish tickets.</p> <p><u>Accurate sorting and weighing:</u> Catch monitors under Alternatives 2 and 3 would provide the most information for the verification of catch. Alternatives 1 does not provide verification of accurate sorting and weighing at first receivers.</p>

VMS requirements for vessels registered to limited entry permits

Accurate hourly vessels position reports: Alternatives 2 and 3 would provide GPS data that could be used in the event that the VMS fails. The EMS provided under these alternatives also provides continuous GPS position data that can be downloaded after the season as compared to hourly reports under VMS. Alternatives 1 provides no additional position data.

**Table 4.4.1 Expected effects if accumulated over time, continued**

ESA listing of Pacific salmon	<u>Adequate monitoring of salmon take</u> : All activities that affect ESA listed species are subject to some form of ESA review and constraint with the goal being to reduce mortality and improve the status of the species to the point where the survival and recovery of the species is reasonably assured. To that end, all activities, including the Pacific whiting fishery, are obligated to be managed to stay within their respective take limits as defined in the associated incidental take statements. Adequate monitoring is required to ensure that activities are operating within their respective take limits. Adequate monitoring is not discretionary. To avoid negative biological consequences that may result to a species if the prescribed take limits are exceeded, there is a collective obligation of all activities to be managed within the defined limits considered necessary for the species' survival and recovery. Data provided under Alternatives 2 and 3 are expected to most meet the data need for salmon monitoring. Alternative 1 does not provide data for monitoring the incidental take of salmon.
Amendment 10, a maximized retention and monitoring program for the shoreside sector	The monitoring infrastructure created under Alternatives 2 and 3 would test provisions need to monitor the Pacific whiting fishery for maximized retention and to provide accurate inseason data in real time..
Amendment 15, restrictions on participation in the Pacific whiting fishery	Under Alternatives 2 and 3 vessel would be burdened in the short-term with submitting both EFP applications and a one-time Pacific whiting vessel license application.
Amendment 20, rationalization of the limited entry trawl fishery	The monitoring infrastructure created under Alternatives 2 and 3 is expected to be similar to that needed to monitor the fishery under a rationalization program.

In summary, the maximized retention and monitoring program proposed under Alternatives 2 and 3 would help to maintain regulatory provisions implemented under the 2009-2010 harvest specification and management measures; and the record keeping and reporting provisions implemented under the catch accounting requirements for processors/first receivers participating in the Pacific whiting shoreside fishery. The No Action Alternative would not ensure the integrity of bycatch limits management, overfished species OYs, the shore-based Pacific whiting allocation, or verification for recordkeeping and reporting requirements. Alternatives 2 and 3 also support the development of regulatory measures proposed under Amendment 10. In addition to monitoring costs proposed under Alternatives 2 and 3, the fishery participants have also incurred the monitoring costs associated with electronic fish ticket and the VMS program. However, the increased monitoring associated with Alternatives 2 and 3 provide greater fishing opportunity that would likely not be available otherwise.

## 5.0 LIST OF PREPARERS

Becky Renko, NMFS, Northwest Regional Office staff;

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## **7.0 FINDING OF NO SIGNIFICANT IMPACT FOR A MAXIMIZED RETENTION AND MONITORING PROGRAM FOR IN THE PACIFIC WHITING SHORESIDE FISHERY**

National Oceanic and Atmospheric Administration Administrative Order 216-6 (NAO 216-6) (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality regulations at 40 C.F.R. 1508.27 state that the significance of an action should be analyzed both in terms of “context” and “intensity.” Each criterion listed below is relevant in making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ’s context and intensity criteria. These include:

*1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?*

Response: The proposed action would implement a provisional catch retention and monitoring program for the Pacific whiting shoreside fishery and is not expected to change existing fishing practices. Therefore, no direct biological effects are projected to result from the proposed action. Beneficial indirect biological impacts could result because the catch reporting system could reduce the risk that inaccurate or delayed catch data resulting in the shore-side Pacific whiting (target species) specification being exceeded. The Pacific whiting harvest specification is a sub-allocation and the OY includes a precautionary adjustment. Therefore, the benefit to the resource would not be significant.

*2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?*

Response: The proposed action would implement a provisional catch retention and monitoring program for the Pacific whiting shoreside fishery and is not expected to change existing fishing practices. Therefore, no direct biological effects are projected to result from the proposed action. Beneficial indirect biological impacts could result because the catch reporting system could reduce the risk that inaccurate or delayed catch data that could result in a non-target species fishery specification being exceeded, including: bycatch limits, species allocations and OYs. The risk of exceeding a fishery specification would be reduced with adequate monitoring. Because non-target species specifications for the most sensitive groundfish stocks include precautionary adjustments with harvest levels being set below the ABCs, and because non-target species specifications represent a sub portion of the overall specifications, the benefits from the proposed action would not be significant.

*3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in FMPs?*

Response: The proposed action would implement a provisional catch retention and monitoring program for the Pacific whiting shoreside fishery and is not expected to change existing fishing practices. Therefore, it is not expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and

identified in FMP.

*4) Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?*

Response: The proposed action is not reasonably expected to have a substantial adverse impact on public health or safety because it is for a provisional catch retention and monitoring program that is not expected to change fishing behavior.

*5) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?*

Response: Because the proposed action would implement a provisional catch retention and monitoring program for the Pacific whiting shoreside fishery it is not expected to change existing fishing practices, and therefore does not constitute an action that may significantly affect endangered/threatened species listed under the ESA or their habitat within the meaning of the regulations implementing Section 7 of the ESA. The proposed action 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, which is expected to aid in the sustainable management of the Pacific Coast groundfish and salmon stocks.

*6) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?*

Response: The proposed action is not expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area because it would implement a provisional catch retention and monitoring program for the Pacific whiting shoreside fishery and is not expected to change existing fishing practices.

*7) Are significant social or economic impacts interrelated with natural or physical environmental effects?*

Response: There would be no significant social or economic impacts interrelated with natural or physical environmental effects because the proposed action would implement a provisional catch retention and monitoring program for the Pacific whiting shoreside fishery and is not expected to change existing fishing practices.

*8) Are the effects on the quality of the human environment likely to be highly controversial?*

Response: The effects on the quality of the human environment are not likely to be highly controversial because the proposed action is consistent with current fishery practices.

*9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?*

Response: The proposed action is not reasonably expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas because the proposed action would implement a provisional catch retention and monitoring program for the Pacific whiting shoreside fishery and would not in any way impact or involve these unique areas. Further, the action would not involve the construction of any new infrastructure.

*10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?*

Response: The effects to the human environment from the proposed action are all known. No unique or unknown risks have been identified.

*11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?*

Response: The proposed action would implement a provisional catch retention and monitoring program for the Pacific whiting shoreside fishery and is not expected to change existing fishing practices. Cumulative biological impacts of the proposed action have been already considered in the Final Environmental Impact Statement for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2009-2010 Pacific Coast Groundfish Fishery (NMFS and PFMC 2009).

*12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?*

Response: The proposed action is not likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places nor cause loss or destruction of significant scientific, cultural, or historical resources because of the limited scope of the action area, which includes none of the aforementioned structures or resources.

*13) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?*

Response: The proposed action would not result in the introduction or spread of a nonindigenous species because the proposed action implements a provisional catch retention and monitoring program for the Pacific whiting shoreside fishery and would not involve any activities that could cause this outcome.

*14) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?*

Response: The proposed action is not likely to establish a precedent for future actions with significant effects nor does it represent a decision in principle about a future consideration.

As a monitoring action only it would not trigger other future actions that could impact the environment. It is possible that additional monitoring requirements may be contemplated in the future, but they would not be predicated upon implementation of this monitoring action. Further, additional monitoring requirements are not anticipated to result in any type of significant adverse impact either to the environment or to processors, alone or in combination with this action. Future monitoring action requests would be analyzed through new NEPA reviews at the time of the request, and any possible cumulative significant effects would again be analyzed.

*15) Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?*

Response: The proposed action is not expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment. The proposed action would implement a provisional catch retention and monitoring program for the Pacific whiting shoreside fishery that is consistent with and moderately enhances existing state requirements for groundfish catch accounting and recordkeeping. The proposed action would be in full compliance with applicable laws.

*16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?*

Response: The proposed action is not expected to result in cumulative adverse effects on non-target listed species because the proposed action would implement a provisional catch retention and monitoring program for the Pacific whiting shoreside fishery and is not expected to change existing fishing practices over what has already been considered in other NEPA documents (NMFS and PFMC 2009). No NEPA review concluded that substantial cumulative effects could occur from existing fishing practices, and this proposed action is consistent with the parameters of those practices.

## DETERMINATION

In view of the information presented in the Environmental Assessment (EA) and analysis prepared for a proposed action for the issuance of EFPs for a maximized retention and monitoring program in the Pacific whiting shoreside fishery it is hereby determined that the approval by NMFS of this the action will not significantly impact the quality of the human environment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach conclusion of no significant impacts. Accordingly, preparation of an Environmental Impact Statement is not necessary.

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Acting Regional Administrator

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Date