

EXECUTIVE SUMMARY

The Pacific Fishery Management Council (Council) proposes changes to its *Pacific Coast Groundfish Fishery Management Plan* (groundfish FMP) to rationalize Federal management of the Pacific Coast groundfish trawl fishery. This would be accomplished by implementing a limited access privilege (LAP) program and modifying the approach to controlling bycatch of Pacific halibut in the groundfish trawl fishery.¹ LAPs are a form of output control whereby an individual fisherman, community, or other entity is granted the privilege to catch a specified portion of the total allowable catch (TAC). The proposed action (termed “trawl rationalization”) is intended, among other things, to increase economic efficiency within the Pacific coast groundfish trawl fishery and reduce the incidental catch of overfished groundfish and possibly Pacific halibut (often referred to as bycatch and defined as fish that are not kept or sold and are discarded, usually at sea).² Implementing the action will involve both changes to the management framework in the FMP and promulgation of implementing regulations.

The Council is one of eight regional fishery management councils established by the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the principal legal basis for fishery management within the Exclusive Economic Zone (EEZ), which extends from the outer boundary of the territorial sea to a distance of 200 nautical miles from shore. The Council is responsible for Federal fisheries off of Washington, Oregon, and California.

ES.1 The Proposed Action and Why it is Needed

The proposed action is to create a management regime under which the owners of Pacific Coast groundfish fishery limited entry (LE) permits with trawl endorsements are more individually accountable for catch of target and nontarget species harvested by the vessels to which that their permits are registered. As originally framed, this action focused on the more general concept of dedicated

¹ Limited Access privilege is defined in MSA §3(26)(A). “The term limited access privilege means a Federal permit, issued as part of limited access system under section 303A to harvest a quantity of fish expressed by a unit or units representing a portion of the total allocable catch of the fishery that may be received or held for exclusive use by a person. . . .”

² Rationalization has a general connotation in economics and sociology as the practical application of knowledge to achieve a desired end. It is intended to increase efficiency or flexibility through the standardization of practices and workflow. In the context of the proposed action, the term is meant to encompass a variety of measures intended to improve the management of groundfish resources, in part by improving the economic efficiency of the fishery. Economic efficiency, in turn, is defined in various ways, but generally refers to a condition where no one can be made better off without making someone else worse off, outputs are maximized for a given level of inputs, and production is at its lowest cost.

access privileges (DAP), now more commonly referred to as LAPs. However, as the Council developed the range of alternatives, other methods to achieve the goals and objectives listed above were considered. The current range of alternatives includes individual fishing quotas (IFQs) and a framework for mandatory fishing vessel cooperatives as the primary catch control tools for selected sectors of the groundfish trawl fishery.³ Because of these changes, beginning in 2006, the developing program has been referred to with the more general term “trawl rationalization” to capture the social and economic objectives that are also expected to have substantial conservation benefits, for example by reducing bycatch.

Despite a program completed in 2003 to reduce fishing capacity through the buy back of groundfish LE permits and associated vessels, management of the west coast LE groundfish trawl fishery is still marked by biological, social, and economic concerns, similar to those cited in the U.S. Commission on Ocean Policy’s 2004 report (2004). The trawl fishery is currently viewed as economically unsustainable.

One major source of concern stems from the management of bycatch, particularly of overfished species.⁴ Over the past several years, the Council’s groundfish management efforts have focused on drafting rebuilding plans for overfished species, minimizing bycatch, and specific management of overfished species. The trawl rationalization program is expected to provide individual fishery participants more flexibility and more individual accountability for their impact on overfished species, other groundfish species, and possibly Pacific halibut.

The two approaches considered for rationalizing the fishery—harvest cooperatives or IFQs—although structurally different, are intended to fulfill the following goal:

Goal

Create and implement a capacity rationalization plan that increases net economic benefits, creates individual economic stability, provides for full utilization of the trawl sector allocation, considers environmental impacts, and achieves individual accountability of catch and bycatch.

Objectives

The above goal is supported by the following objectives:

1. Provide a mechanism for total catch accounting.
2. Provide for a viable, profitable, and efficient groundfish fishery.
3. Promote practices that reduce bycatch, discard mortality, and minimize ecological impacts.
4. Increase operational flexibility.
5. Minimize adverse effects from an IFQ program on fishing communities and other fisheries to the extent practical.
6. Promote measurable economic and employment benefits through the seafood catching, processing, distribution elements, and support sectors of the industry.
7. Provide quality product for the consumer.
8. Increase safety in the fishery.

³ In the multispecies groundfish fishery sectors are differentiated by target species, gear type, and management structure. The characteristics of these sectors are described in the next section.

⁴ Bycatch is defined in the MSA as “fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards.”

ES.2 The Groundfish Fishery

The groundfish fishery as a whole comprises several different sectors, defined by fishing gear, species targeted, and regulatory context. These sectors are discussed further below. The list of current trawl target species includes flatfish, roundfish, thornyheads, and a few species of rockfish. Primary flatfish target species include petrale sole and Dover sole. Roundfish target species include Pacific whiting, Pacific cod, and sablefish. Some rockfish species, especially Pacific ocean perch and widow rockfish, were important trawl targets until the mid 1990s. However, seven rockfish species are currently declared overfished pursuant to the MSA. The need to rebuild these stocks to a healthy size has led to a variety of harvest constraints on groundfish fisheries, and rockfish are generally no longer a target of these fisheries.

As noted above, the groundfish trawl fishery is subject to a Federal license limitation program (referred to as LE), implemented in 1992; currently there are 178 extant groundfish LE trawl permits. (Groundfish fixed-gear fisheries—using longline and pot gear—are managed under a complimentary LE program. Some targeting of groundfish is allowed without an LE permit; these vessels comprise the “open access” sector.) The LE trawl fishery is divided into two broad sectors: a multi-species trawl fishery, which most often uses bottom trawl gear (hereafter called the nonwhiting sector), and the whiting fishery, which uses midwater trawl gear. The nonwhiting trawl fishery is principally managed through two-month cumulative trip limit periods along with closed areas to limit overfished species bycatch.⁵ Nonwhiting trawlers target the range of species described above with the exception of Pacific whiting.⁶

The Pacific whiting fishery almost exclusively catches that species, using midwater trawl gear, although co-occurring overfished species are also caught. The whiting fishery is further subdivided into three components. The shore-based fishery delivers its catch to processing facilities on land, and the vessels are similar in size and configuration (with the exception of the type of net used) to the nonwhiting fishery. In the mothership sector, catcher vessels deliver to floating processors called motherships. The catcher-processor sector comprises vessels that both catch Pacific whiting and process it on board.

In terms of the types of trawl rationalization measures that would be applied, these four sectors—nonwhiting trawl, shoreside whiting, motherships, and catcher processors—are considered separately.

ES.3 Alternatives Considered by the Council

The Council considered four basic alternatives for implementing the trawl rationalization program. These are as follows:

- Alternative 1: Status quo management (no action alternative)
- Alternative 2: IFQs for all groundfish trawl sectors
- Alternative 3: IFQs for the nonwhiting sector and cooperatives for all whiting sectors
- Alternative 4: IFQs for a single shore-based sector and co-ops for the whiting at-sea sectors

As part of the impact analysis in this environmental impact statement (EIS), which supported Council decisionmaking, variations on some alternatives were developed to contrast key program features,

⁵ The nonwhiting fishery currently uses bottom trawl gear exclusively. In the past, however, fisheries have targeted widow rockfish and other rockfish species with midwater gear. Due to the need to limit catches of overfished species, these fisheries have been closed. Once overfished species stocks are rebuilt, these fisheries could reopen.

⁶ Nonwhiting vessels are allowed to land up to 20,000 pounds (lb) of whiting per trip, which could motivate some limited targeting of whiting by these vessels.

which are sub-alternatives denoted by a letter suffix. These are Alternatives 2a, 2b, and 2c and Alternatives 4a and 4b. Alternatives 1 and 3 do not contain sub-alternatives. Alternative 4b is the preferred alternative. With these variations included, six alternatives are evaluated in Chapter 4 of this EIS. The four basic alternatives are summarized below. Where sub-alternatives were developed, differences between them are noted in the description of the four basic alternatives.

The trawl rationalization program the Council developed is complex, with a large number of specific program elements. For example, in developing the IFQ component of the program, the Council considered 26 different program elements. A similar number of program elements were considered for whiting co-ops. Many of these elements do not vary across the alternatives. The analysis in Chapter 4 of this EIS analyzes the overall impact of alternative programs, while Appendix A and Appendix B evaluate the performance and effect of each program element.

ES.3.1 Alternative 1: Status Quo Management

Under this alternative, most of the elements of the current management regime for the groundfish LE trawl fishery would remain in place.

Every 2 years, the Council establishes harvest limits, called optimum yield (OY), for various species or groups of species.⁷ OYs represent an annual quantity of fish that the groundfish fishery as a whole may catch. A few species, such as Pacific whiting and sablefish, have fixed trawl allocations. The FMP defines other allocations between different gears, which, in addition to the whiting and nonwhiting trawl fisheries, include LE fixed-gear, the open access sector, and recreational fisheries in each state. Other allocations are determined through the biennial process to specify harvest limits (ABCs, OYs, and harvest guidelines) and management measures. The need to rebuild the seven currently overfished rockfish species means that the OYs for these species are relatively low compared to target species OYs. Due to the multi-species nature of the fishery, these low OYs affect all aspects of groundfish management. Principal management measures for nonwhiting trawl fisheries are as follows:

- Trip limit periods. Two-month cumulative trip limit periods are the primary catch control tool.
- Gear restrictions. Gear restrictions focus on discouraging or prohibiting gear that may be used in rocky habitat, where some overfished species occur. The use of bycatch-reducing trawl nets has also been required in some areas.
- Rockfish conservation areas. Closed areas were first implemented in 2003 to keep vessels away from depth ranges where overfished species are more abundant. These closed areas, called Rockfish Conservation Areas (RCAs) are a coastwide feature of management.
- Essential fish habitat (EFH) conservation areas. These are a set of closed areas to protect bottom habitat from the adverse effects of trawl gear.

Each sector of the Pacific whiting fishery receives an annual allocation, and the 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 the cumulative trip limits used to manage the nonwhiting trawl fisheries. Incidental catch of nonwhiting groundfish species in the Pacific whiting fishery, however, is managed under the trip limit structure. Season start dates for each whiting sector are set by regulation, and each sector's fishery proceeds until the whiting quota is reached or the fishery is closed.

⁷ Under new rules in the MSA, the method for determining these harvest limits may change, and they may be referred to as annual catch limits (ACLs) by the time the trawl rationalization program is implemented.

To allow the Pacific whiting industry to have the opportunity to harvest the full Pacific whiting OY, the nontribal commercial fishery is managed with whiting sector specific bycatch limits for certain overfished species. To date, bycatch limits have been established for darkblotched, canary, and widow rockfish. Regulations provide for the automatic closure of the commercial (nontribal) portion of the Pacific whiting fishery upon attainment of a bycatch limit. This is different from the nonwhiting trawl fishery where harvest availability of target species is often constrained by the projected catch of overfished species.

Incidental take of endangered or threatened salmon runs is another concern for the Pacific whiting fishery. Chinook is the salmon species most likely to be affected because of the spatial/temporal overlap between the Pacific whiting fishery and the distribution of Chinook salmon that could result in incidental take of listed salmon. The season start dates are, in part, meant to prohibit fishing when listed Chinook salmon are most likely to be taken incidentally. National Marine Fisheries Service (NMFS) also has the option of closing inshore areas to fishing if too many salmon are caught.

To improve bycatch accounting in the nonwhiting trawl fishery, NMFS implemented the West Coast Groundfish Observer Program (WCGOP) in 2002 for vessels that harvest catch and land the catch on shore. Currently less than 25 percent of nonwhiting trawl fishing trips is monitored by the WCGOP. The primary purpose of the observer coverage is to provide data that can be used to derive catch ratios of nontarget species. Using observer, fish ticket, and logbook data, the fishery is modeled to derive estimates of total catch by species. Due to the delayed availability of fish ticket and logbook data and the time needed to process observer data, the final analysis of estimated total catch by species typically is not finalized until well over 1 year after the fishing year has ended. The At-Sea Hake Observer Program (whiting mothership and catcher-processor sectors) is a seasonal program where the operational costs are shared by NMFS and the vessel owners. Observers are placed on all processing vessels.

ES.3.2 Alternative 2: IFQs for All Groundfish Trawl Sectors

Catch Control Tool

Under this alternative, all groundfish trawl sectors (both whiting and nonwhiting) would be managed with IFQs, which would replace the current two-month cumulative trip limit periods in the nonwhiting fishery and season/quota-based management in the whiting fishery as the primary catch control tool. Three sub-alternatives are evaluated under this alternative (Alternative 2a, 2b, and 2c) to compare and contrast certain key elements of the IFQ program.

Initial Allocation of IFQ and Qualification

At the start of the program quota shares (Qs) must be initially allocated to fishery participants based on catch/processing history during a catch history qualification period, 1994 to 2003. Thereafter, shareholders are free to buy and sell the Qs thus distributed.⁸ Qs represent a proportion, or percent, of the TAC (OY) of different groundfish stocks. Each year, these shares are converted from a percent to a quantity by issuing quota pounds (QPs) based on the OYs/ACLs established for the year. The amount of groundfish caught by an LE trawl vessel, even if it is subsequently discarded, must be matched by an

⁸ The Council considered issuing Qs for a fixed time period, after which all or a portion of the Qs would be periodically reallocated. Although a fixed duration is not part of this alternative, the MSA restricts the duration of a fishing privilege to 10 years, and specifies conditions for automatic renewal.

equivalent quantity of QPs.⁹ The QPs are expended in this way, with the matched amount deducted from the vessel's account. Both QSs and QPs are perfectly divisible and tradable.

QSs would be of long duration, so a transfer represents a long-term or permanent divestment. In contrast, QPs must be used within the year for which they are issued (although there is a provision for limited carry-over of unused QPs from one year to the next or QPs issued in the following year to be used in the current year), so QP transfer would not represent a permanent divestment of the harvest privilege, so long as one continues to control the underlying QSs. QS transfers would be prohibited in the first two years of the program so that transfers would only occur once participants fully understand how the program operates, and stable prices have been reached. QPs would still be fully transferable during the first two years.

Eligibility to own QSs/QPs would be defined very broadly; the main requirements are a U.S. citizen must be the owner, and a U.S. documented fishing vessel registered to a groundfish LE trawl permit must be used to harvest groundfish using QPs.¹⁰

Number of Sectors

Three sectors would be established whereby the two current whiting and nonwhiting shore-based sectors would be combined into a single sector. Participants in this single sector would be free to trade IFQ (QSs or QPs), eliminating any regulatory barrier between targeting whiting and nonwhiting (operational differences among participants may mean that a large degree of specialization in targeting could continue). The whiting mothership and catcher-processor sectors would each be managed separately with their own allocations of catch opportunity and IFQ. IFQ could not be traded among the three sectors.

Accumulation Limits and Grandfather Clause

The maximum number of QSs and QPs an entity may control would be limited, with these limits varying according to the management unit (stock or stock complex). QS limits restrict the amount an individual or entity may control through ownership or other means. QP limits refer to the maximum amount that may be assigned to any one vessel during a given year to cover catch. These vessel limits are twice the control limits to allow several QS holders to work together on a single vessel. These limits are intended to restrict the consolidation of quota holdings by just a few entities. Table ES-1 summarizes control and vessel limits under the alternatives. This alternative contains a grandfather clause under which initial recipients of QSs who exceed the accumulation limits would be allowed to possess excess QSs up to the amount initially allocated to them.

Initial Allocation of IFQ to Processors

Under Alternatives 2a and 2b, all of the initial allocation of QSs would go to LE permit holders (harvesters). Under Alternative 2c, shore-based processors would receive 25 percent of the initial allocation of nongroundfish species and 50 percent of the allocation of whiting QSs, and mothership

⁹ QSs/QPs would not be required to cover catch by LE permit holders in a few special circumstances: if they are fishing under an LE fixed-gear permit and using that gear type on their vessel, or if they are using trawl gear in a nongroundfish fishery, such as a shrimp trawl fishery (these nongroundfish trawl fisheries incidentally catch some groundfish).

¹⁰ Currently, LE permits include a length endorsement that defines the maximum size of vessel that may be registered to the permit. Permits may be combined to achieve a length endorsement for a larger vessel. The length endorsement would be suspended under the IFQ program.

processors would receive 50 percent of the initial allocation of whiting Qs based on their processing history during a qualification period. Catcher-processors both harvest and process fish. For the purposes of initial allocation, they would be considered harvesters.

Species Covered by IFQ

Qs/QPs would be issued for all of the current groundfish management units. Management units are fish stocks, or complexes comprising co-occurring or related stocks, for which an OY (annual catch limit [ACL]) is established. Table ES-2 shows the management units for which IFQ would be established.¹¹ Procedures would be established to reallocate Qs when management units are changed or new ones are added.

Alternative 2 also includes an individual bycatch quota (IBQ) for Pacific halibut. Although functionally equivalent to the IFQ system applied to other species, Pacific halibut are a prohibited species in the groundfish trawl fishery and cannot be retained. Therefore, although accounted for through the IBQ, all halibut must be discarded.

Adaptive Management

Under Alternative 2b each year up to 10 percent of the Qs that would otherwise be distributed to eligible recipients would be set aside for an adaptive management program (AMP). This program is meant to address a variety of objectives, ranging from socioeconomic dislocation resulting from implementation of the trawl rationalization program to encouraging innovative fishing methods, for example to reduce bycatch. The Council would decide how much QP would be set aside every two years for adaptive management use as part of the biennial harvest specifications process. The harvest specifications process establishes OYs/ACLs for a two-year period and adjusts management measures so that catches will not exceed these limits.

Area Management

Under Alternative 2, no separate Qs would be created for different latitudinal areas. Area-specific Qs is considered under other alternatives because this could prevent substantial geographic redistribution of Qs holdings and related impacts to communities. Some stocks are currently managed geographically with separate OYs established for each component; for those stocks, Qs/QPs would be denominated accordingly.

Carryover of Unused QPs between Consecutive Years

Under Alternative 2, unused QPs amounting to 10 percent of the used and unused QPs in the vessel account may be carried over for use in the next year. Similarly, to cover an overage (landings that exceed the amount of QPs held in a vessel account) QPs that may be allocated in the next year may be transferred to the current year, up to 10 percent of the used and unused QPs in the vessel account during the current year.

¹¹ Under Alternative 4b (the preferred alternative), IFQ would not be used as the catch control tool for selected management units, as noted in Table ES-1. Under Alternative 2, these management units would be managed with IFQ.

Tracking and Monitoring

All vessels would be required to carry at-sea observers to monitor sorting and discarding of the catch and shoreside landings. There would also have to be an electronic system to report bycatch and landings, which may be integrated with the current state fish ticket (landings reporting) system. Plant monitors would be employed to ensure that the electronic fish tickets are accurate. NMFS would also administer a system to track QS/QP holdings. Fees would be charged to cover the cost of the tracking system. A comprehensive mandatory monitoring program is expected to require minimal increases in enforcement effort.

Gear Conversion

Once QSs have been distributed, recipients would be free to use them with any legal groundfish gear, which, aside from trawl, principally means bottom longline and fish pots. There is a separate allocation of catch opportunity to nontrawl sectors, which would be unaffected by any catches resulting from gear conversion under the IFQ program.

Table ES-1. Control limits for QSs, co-op shares, or processing and QP vessel limits under the alternatives.

Alternative	Control Limits: QSs / Co-op Share / Processing					QP Vessel Limit / Co-op Usage Limit				
	NW	SSW	MS	MS(CV)	CP	NW	SSW	MS	MS(CV)	CP
Alternative 1	N/A	N/A		N/A	N/A	N/A	N/A		N/A	N/A
Alternative 2	3%	12%		25%*	60%	6%	25%		50%*	75%
Alternative 3	1.5%	15% [†]	20%	10%	-	3%	-	-		-
Alternative 4a	2.2%	25%	30%	15%	-	4.4%	12%	-		-
Alternative 4b	2.7%	10%	45%	20%	-	3.2%	15%		30% [‡]	-

Notes:

NW: Nonwhiting sector; SSW: Shoreside whiting; MS: Whiting Mothership processors; MS(CV): Mothership catcher vessels; CP: catcher-processor whiting

CV: coefficient of variation

*Under Alternative 2 the mothership sector would be managed with IFQs, and there would be no distinction as to the type of entity that could hold QSs.

[†]Under Alternative 3, whiting sectors would be managed with co-ops; shoreside whiting control limit applies to vessels.

[‡]Catcher vessel usage limit.

ES.3.3 Alternative 3: IFQs for the Nonwhiting Sector and Cooperatives for all Whiting Sectors

Catch Control Tool

Under this alternative, the nonwhiting sector would be managed with IFQs in a program similar to that described under Alternative 2 (differences are summarized below), while the three whiting sectors would be managed with cooperatives. A separate co-op structure would be used for each of the whiting sectors.

Unlike Alternative 2, there would be four separately managed trawl sectors: shoreside nonwhiting, shoreside whiting, mothership whiting, and catcher-processor whiting.

Differences between the IFQ Program for the Nonwhiting Sector in Alternative 3 and the IFQ Program in Alternative 2

Initial Allocation: Under this alternative, the initial allocation of QSs would be based on both catch history during the qualification period and an equal allocation of the catch history associated with LE trawl permits that were bought back and retired in 2003 as part of a capacity reduction program. The buyback program is partly funded through a loan to remaining participants, which is being paid back through landing fees. Equal allocation of QSs associated with the buyback permits would result in a more even distribution of QSs among permit holders compared to allocation based on catch history alone.

Allocation of Overfished Species: Unlike Alternative 2 (where all species are allocated based on catch history) under this alternative, a different formula is used for overfished species. These species will still be under rebuilding programs after the projected implementation date of the trawl rationalization program (2011), requiring relatively small OYs. Thus, QSs/QPs for these species could act as a primary constraint on target fisheries to the degree that incidental catch is unavoidable. Furthermore, since regulations prompted a large proportion of overfished species catch to be discarded, landings toward the end of the allocation period (1994 to 2003) do not accurately reflect the actual distribution of historical catch among fishery participants. Therefore, a different formula would be applied to overfished species to allocate QSs. This formula takes into account the amount of target species QSs received by including a proportional component for overfished species QSs. It also factors in areas where fishing occurred, 2003 to 2006, by a vessel associated with an eligible permit in order to account for geographic variation in overfished species bycatch rates. This approach is intended to better balance individual holdings of target and overfished species QSs and take into account the areas where permit holders have fished in the recent past. Provisions may allow QSs to be reallocated once a species is rebuilt, recognizing that the annual OY/ACL could be increased substantially once the rebuilding restrictions are lifted. This formula would be applied to the landings history associated with current permits, which account for 57 percent of the landings history. As with nonoverfished species, landings history for overfished species associated with the buyback permits would be divided equally among the current permits.

Accumulation Limits and Grandfather Clause: Under Alternative 3, the nonwhiting sector would be subject to lower accumulation limits in comparison to Alternative 2 (see Table ES-1). Alternative 3 does not contain a grandfather clause; any potential initial allocation in excess of the accumulation limit would instead be redistributed to those permits below the limits.

Initial Allocation of IFQ to Processors: In Alternative 3, 25 percent of nonwhiting groundfish would be allocated to shoreside processors. This differs from Alternative 2c, because shoreside whiting is not included since that sector would be managed with co-ops. Small amounts of whiting, representing incidental catch by nonwhiting vessels, would be allocated as QSs to the nonwhiting sector permit holders.

Species Covered: Unlike Alternative 2, this alternative does not include a halibut IBQ. Pacific halibut bycatch would be subject to status quo management. Under status quo, the allocation to other fishery sectors in the west coast management area (International Pacific Halibut Commission [IPHC] Area 2A) is determined by reducing the area (TAC) by an amount equal an estimate of the previous year's groundfish trawl sector halibut bycatch. This is an approximate method for accounting for trawl bycatch; if the trawl bycatch in a given year exceeds the amount by which the area TAC was reduced, that is factored into the next stock assessment.

Adaptive Management Program: This alternative would include the AMP described above for Alternative 2b.

Area Management: Under this alternative, Qs/QPs for each management unit would be divided geographically so that area-specific QPs would be needed to cover catches in each area. Two zones would be established, one north and the other south of 40°10' N. latitude.

Carryover of Unused QP: This alternative would not contain the carry-over provision included under Alternative 2.

Cooperatives for the Shore-based and Mothership Pacific Whiting Sectors

Under Alternative 3, the shore-based and mothership whiting sectors would be managed separately but with a co-op structure that is very similar. For that reason, the co-op structure for both sectors is described here, but differences in the co-op rules for the two sectors are pointed out. The catcher-processor sector currently operates under a voluntary co-op. Under Alternative 3, this voluntary structure would continue with modest changes to the management system. The catcher-processor co-op included in this alternative is described in a separate, subsequent section.

The existing allocation of whiting between the shoreside whiting, mothership, and catcher-processor sectors would not change (42, 24, and 34 percent, respectively). No portion of one sector's whiting allocation could be transferred to another sector.

Although Pacific whiting comprises the dominant portion of the catch in this sector, some overfished rockfish do get caught. As discussed above, bycatch caps have been imposed on the whiting fishery. These sector caps would continue to be used under trawl rationalization. Under this alternative, there would be a single cap to cover catch in all three whiting sectors for each overfished species managed this way. These bycatch caps would be established for those overfished species likely to be caught in the whiting fishery: widow, canary, darkblotched rockfish, and Pacific ocean perch (a separate cap for the same species would be applied to the catcher-processor sector). In addition, the current ESA-listed Chinook salmon bycatch management measure, a triggered 100-fathom closure, and an ESA consultation threshold would continue in effect.¹² Status quo management (trip limits) would be used for other bycatch species. In addition, an amount would be deducted from allocations to the trawl sector for these species to account for the expected small amounts of bycatch. Caps on overfished species would be expected to indirectly limit bycatch of these other species.

Motherships and catcher-processors are already subject to full observer coverage, so few changes in the current monitoring program are needed under this alternative. Shore-based whiting vessels must land all their catch, allowing full dockside monitoring. Under this alternative, this full retention requirement would continue, possibly with additional monitoring to better detect at-sea discards.

New Permit Requirements

Mothership processor permit: Historically, any vessel with the proper groundfish LE permit could enter this sector as a processor. The Council adopted a stopgap measure to limit participation, which would be replaced by a new mothership permit under this alternative. Permit qualification would be based on whiting processing history.

¹² This threshold, based on the total amount of Chinook salmon caught or the Chinook bycatch rate, triggers a reinitiation of consultation under section 7 of the ESA. As part of the consultation process, new measures can be required to mitigate listed species take.

Shore-based processor permit: Similarly, a new shore-based processor permit would be created under this alternative. Only those processors possessing one of these permits could receive whiting during the first two years of the program. Thereafter, any shore-based processor could receive whiting.

Catcher vessel permit: New, separate LE permit endorsements would be created for catcher vessels participating in either the mothership or shoreside co-op sectors. Qualification for a permit would be based on past participation in the relevant whiting sector.

Co-op Formation and Allocation

Each year, catcher vessels would be able to choose to join a co-op or fish in a non-co-op fishery. If a vessel chooses to fish in a co-op, it would have to deliver all of its catch to the processor in its co-op (a mothership or shoreside facility). If a catcher vessel wishes to change its co-op membership, it would have to first fish for a year in the non-co-op fishery before joining the new co-op.

Each co-op that is formed would receive an allocation of the sector's overall whiting allocation, based on the combined catch history associated with each member's LE permit. Although the co-op allocation would be based on particular LE permits' catch history, vessels in the co-op would be able to arrange to have another vessel harvest all or a portion of their catch if they do not want to participate in the fishery.

The non-co-op fishery would receive an allocation based on the collective catch history of vessels that choose not to join a co-op, in a fashion similar to the co-op allocations. However, harvest would be further controlled in the non-co-op fishery through season restrictions. A vessel fishing in the non-co-op fishery would not be obligated to deliver to any one processor.

Control Limits

Shoreside and mothership co-ops would be subject to control limits similar to those described for the IFQ program. Shoreside whiting catcher vessel permit holders would be limited in terms of their control of co-op shares (recognizing that one entity could own multiple permits). In the mothership sector, the mothership processors and associated catcher vessels would be limited with respect to how much of the allocation they could process or control through co-op shares. Table ES-1 summarizes these limits.

Co-op Operation

Co-ops are expected to facilitate coordination and cooperation among members with respect to harvest strategy. Although co-op members would be guaranteed catch opportunity equal to the portion of the allocation they brought into the co-op through their catch history, the co-op allocation, in general, is pooled. Members could jointly agree on the specifics of harvesting.

Two or more co-ops could reach an inter-co-op agreement to coordinate harvest strategy and pool whiting and bycatch cap allocations. Various standards for both co-op and inter-co-op contractual agreements would be established, both to aid NMFS in its fishery management role and to prevent any member from being unduly disadvantaged by co-op participation.

Management of the Non Co-op Fishery

For the duration of any given year, a permitted catcher vessel could participate in the non-co-op fishery, but the structure of this sector is intended to encourage co-op participation. Non co-op fishery

participants would not have the surety of a buyer that a processor co-op obligation represents and could not easily coordinate fishing strategy in the way they are expected to in co-ops. In essence, it would be expected to function as an Olympic-style fishery with individual vessels competing against one another to catch the largest portion of the allocation.

Mothership and Catcher Vessel Quota Limits

As in the IFQ alternative, ownership limits would be imposed so that no single entity can accumulate too large a share of the overall sector allocation, based on the catcher vessel permits they own. Processors would be limited in terms of the share of the particular sector's allocation (mothership or shoreside) they could process.

Catcher-processor Sector Cooperatives

The catcher-processor sector currently operates under a single, voluntary co-op. A permit endorsement would be created to limit participation in the sector. Historically any vessel with the proper groundfish trawl LE permit could participate. The Council adopted a stopgap measure to limit participation, which would be replaced by the catcher-processor cooperative provisions of the trawl rationalization program. There is concern that new entrants could disrupt the current voluntary co-op. Provisions allow for implementing an IFQ program if the current voluntary co-op system were to fail. Few other changes are proposed for this sector under the alternatives.

Adaptive Management Program for Whiting Sectors

An AMP, similar in intent and structure of that described under Alternative 2 would be established for each of the whiting sectors such that only participants in a given sector would be eligible for the adaptive management amounts deducted from each sector's whiting allocation.

ES.3.4 Alternative 4: IFQs for a Single Shore-based Sector and Co-ops for the Whiting At-Sea Sectors (Preferred Alternative)

Two sub-alternatives, Alternative 4a and 4b, were considered in the analysis to compare and contrast certain program elements. The Council ultimately chose Alternative 4b as their preferred alternative. Differences between the two sub-alternatives are noted. All common elements are part of the preferred alternative.

Council decisionmaking on a preferred alternative occurred over several meetings from June 2008 to June 2009. At their June 2008 meeting, the Council identified a preliminary preferred alternative to garner public input. At their November 2008 meeting, they selected a preferred alternative. However, some details of the overall preferred alternative were not finalized at this meeting. At meetings in March, April, and June of 2009, the Council finalized these aspects of the overall trawl rationalization program. Final action, signifying adoption of a complete package containing all program elements, occurred at the June 11 to 18, 2009, meeting in Spokane, Washington. Subsequent concern by participants in the nonwhiting fishery about the allocation of Qs for canary rockfish led the Council to consider a change in the proposed AMP at their October 31 to November 5, 2009, meeting. Canary rockfish is an overfished species with very small harvest limits and is also difficult to completely avoid in the nonwhiting trawl fishery.

Catch Control Tool

Alternative 4 uses IFQs as the management tool for a combined whiting and nonwhiting shoreside sector and cooperatives for the two at-sea whiting sectors.

Differences between the IFQ Program for the Shoreside Sector in Alternative 4 and the IFQ Program in Alternative 2

Initial Allocation: In contrast to Alternative 2, where initial allocation is based on catch history alone, under this alternative, the initial allocation of Qs would be based on both catch history during the qualification period and an equal allocation of the catch history associated with buyback permits, as described under Alternative 3. Under Alternative 4a, equal sharing of buyback history would apply to the combined shoreside sector only; co-op shares for catcher vessels in the whiting mothership sector would be based on catch history alone. Under Alternative 4b (the preferred alternative) the equal sharing provision would apply to both the shoreside sector and the mothership sector.¹³ Since the catcher-processor sector would continue to operate as a single voluntary co-op, catch history assignment is unnecessary; the co-op has access to the full sector allocation.

Allocation of Overfished Species: Under Alternative 4, overfished species Qs would be distributed according to the area-based formula described above under Alternative 3. However, there are no equal sharing element based buyback permits except for canary rockfish under the preferred alternative (Alternative 4b), while in Alternatives 3 and 4a, IFQ based on buyback permit history is distributed equally for overfished species, as it is for nonoverfished species. This difference in the preferred alternative (Alternative 4b) resulted from a reconsideration adopted by the Council at their November 2009 meeting. Canary rockfish bycatch tends to be episodic and unpredictable and has occurred across a range of target strategies. The Council decided that an allocation formula for canary rockfish that included the equal sharing element (so that every permit gets at least some minimum level of canary rockfish IFQ) would lower the risk of some harvesters being forced out of the fishery because they did not possess, and could not obtain (due to expected high cost), the canary rockfish IFQ needed to cover their bycatch.

Accumulation Limits and Grandfather Clause: Table ES-1 compares accumulation limits (QS control/QP vessel) across the alternatives. Alternative 4a contains the grandfather clause allowing QS holdings in excess of accumulation limits based on initial allocation. Alternative 4b (the preferred alternative) does not contain the grandfather clause. Permit holders who would receive Qs in excess of the accumulation limits would have two years to divest their excess Qs to any willing receiver. This would occur in the third and fourth years of the program, since QS transfers are prohibited in the first two years of the program. Any Qs not divested at the end of the fourth year would be forfeited, and the excess Qs would be reallocated to other permit holders below the limit. Before divestiture, these quota holders are free to use the QPs derived from their excess Qs. This is meant to smooth the transition for those fishery participants with historically large catches.

Initial Allocation of IFQ to Processors: Under Alternative 4a, 50 percent of shoreside whiting would be allocated to processors based on processing history. Under Alternative 4b (the preferred alternative), 20 percent of shoreside whiting would be allocated to processors.

Species Covered: Alternative 4a does not include a halibut IBQ; Alternative 4b (the preferred alternative) does include a halibut IBQ. Alternative 4b would not use IFQs as the catch control tool for

¹³ Since the mothership sector would be managed with co-ops under Alternative 4, the equal sharing provision applies to the allocation of catcher vessel co-op shares.

selected management units. Table ES-2 shows management units that would have IFQs for which separate Qs/QPs would be established and those for which IFQ would not be issued under Alternative 4b. Species for which IFQ is not issued would continue to be managed with current tools, such as cumulative landing limits. Part of the trawl allocation for nonwhiting management unit species taken in the at-sea whiting sectors would be set aside to accommodate catches in those sectors; the remainder would be available for harvest in the shoreside sector.

Adaptive Management Program: Alternative 4a would implement an AMP for the combined shoreside sector reserving 10 percent of the Qs for all species (as in Alternative 2b). Alternative 4b would implement a program where only nonwhiting species Qs would be reserved. In addition, under Alternative 4b during the first two years of implementation of trawl rationalization the adaptive management QPs would be passed through to QS holders in proportion to their holdings. Allocations of other species QPs under the program would begin in the third year, based on further specification of AMP objectives and mechanisms.

Area Management: As in Alternative 2, there would be no area management provisions under Alternative 4b, except for existing area designations as shown in Table ES-2. Alternative 4a would have the same area designations described under Alternative 3.

Carryover of Unused QPs: As in Alternative 2, Alternative 4 contains the carry-over provision.

Table ES-2. Management units considered for IFQ under the alternatives. Overfished species shown in bold.

IFQ Management Units	Flatfish
Roundfish	
Lingcod	Dover sole
Pacific cod	English sole
Pacific whiting	Petrals sole
Sablefish north of 36° N. latitude	Arrowtooth flounder
Sablefish south of 36° N. latitude	Starry flounder
	Other Flatfish stock complex
Rockfish	Not Managed With IFQs (Alternative 4b only)
Pacific ocean perch	Shortbelly rockfish
Widow rockfish	Longspine Thornyhead S. of 34°27'
Canary rockfish	Black Rockfish - coastwide
Chilipepper rockfish	Minor Rockfish North Nearshore complex
Bocaccio	Minor Rockfish South Nearshore complex
Splitnose rockfish	California scorpionfish
Yellowtail rockfish	Cabezon (off CA only)
Shortspine thornyhead north of 34° 27' N. latitude	Kelp Greenling
Shortspine thornyhead south of 34° 27' N. latitude	Other Fish*
Longspine thornyhead north of 34° 27' N. latitude	
Cowcod	
Darkblotched	
Yelloweye	
Minor Rockfish North slope species complex	
Minor Rockfish North shelf species complex	
Minor Rockfish South slope species complex	
Minor Rockfish South shelf species complex	

*Starting in 2009, Longnose skate is managed under its own OY. Because during the time period used to determine initial allocation of QSS, it was managed under the Other Fish complex, however, this species would not be managed with IFQ.

Differences between the Proposed Mothership Sector Cooperative Structure under Alternative 3 and Alternative 4

The mothership cooperative structure proposed under Alternative 4 is identical in most respects to that proposed in Alternative 3, with a few key differences. There are also some important differences between Alternative 4a and 4b. These are summarized below.

Under Alternative 4a, catcher vessels would be obligated to deliver 50 percent of their catch to the processor to which they are tied (compared to all their catch under Alternative 3). They would be free to deliver the remaining 50 percent to any mothership processor willing to receive it. As in Alternative 3, to change their processor affiliation they would have to participate in the non-co-op fishery first. Under Alternative 4b, catcher vessels would declare which co-op they would join before the beginning of the fishing year. They would then be obligated to deliver their catch to the associated mothership processor for that fishing season. In any subsequent year, they could change their affiliation without first participating in the non-co-op fishery through the pre-season declaration. Provision for a non-co-op fishery would still be included in the program structure. Any vessel not wishing to affiliate with a co-op could participate in the non-co-op fishery and deliver to any willing mothership processor.

Control limits for the mothership sector differ among the alternatives as shown in Table ES-1. In addition, under Alternative 4b, mothership catcher vessels would be subject to a usage limit as well as to a control limit. The usage limit is a limit on the amount any one vessel can catch and deliver to a processor. Since co-op shares would be pooled, and the allocation of catch opportunity among vessels would be decided by co-op members, it would be impossible to track the accumulation of co-op shares on a vessel in the way that QP vessel limits work in the IFQ program. The usage limit is an alternative approach to achieve the same end.

Catcher-processor Sector Cooperatives

The catcher-processor co-op structure would be the same as described for Alternative 3.

Adaptive Management Program for At-Sea Whiting Sectors

There would be no AMP for the mothership and catcher-processor whiting sectors.

ES.4 Impacts of Trawl Rationalization under the Preferred Alternative (Alternative 4b)

Chapter 4 analyzes the effects of the alternatives. The analysis is organized around the stakeholder groups and environmental components that would likely be affected by the proposed action. These are catcher vessels in the groundfish LE trawl fishery, captain and crew on groundfish LE trawl vessels, commercial harvesters in fisheries other than the LE trawl fishery, shoreside and at-sea processors of groundfish, processing labor, suppliers, fishing communities, tribal harvesters, management agencies, groundfish resources, protected resources, and the California current ecosystem. Major impacts are briefly summarized below.

Limited Entry Trawl Groundfish Harvesters (see Section 4.6)

- Consolidation would shrink fleet size with only the most efficient vessels remaining, leading to a decrease in the cost of harvesting.
- Harvest of under-utilized target species would increase, leading to higher gross revenue per vessel and per-vessel profits.
- Due to co-op harvest privileges in the Pacific whiting sectors there would be less motivation to “race for fish,” allowing harvesters to time fishing operations in a manner that optimizes revenue and improves product quality.
- A variety of factors, including bycatch avoidance, ease in transferring harvest privileges, and the use of nontrawl gear, would likely lead to changes in the geographic distribution and timing of harvest.
- Increased profits and greater flexibility would improve safety conditions on board trawl vessels.
- Harvesters not receiving an initial allocation (or one of sufficient size) would have to buy the quota necessary to participate in the fishery, increasing costs.

Captain and Crew (see Section 4.7)

- Rationalization is expected to result in a decrease in the number of captain and crew jobs, while those who remain in these jobs are expected to receive higher wages.

Nontrawl Commercial Harvesters (see Section 4.8)

- Fleet consolidation may lead to the spillover of excess vessels into the pink shrimp, Dungeness crab, or other fisheries that are operationally similar.
- Bycatch of nontarget species, such as Pacific halibut, in the trawl could change. Bycatch most likely will decrease due to IBQs, providing a benefit, but could increase as currently under-utilized target species catch increases.
- Resource, grounds, and market competition could increase due to greater operational flexibility and gear switching opportunities in the trawl sector.

Shoreside Processors of Trawl Groundfish (see Section 4.9)

Trawl rationalization may result in a wide range of impacts to shoreside processors, distributed according to the geographic shift of fishing effort and subsequent consolidation of fishing and processing enterprises. Impacts may also occur based on the extent to which processing companies gain and control QSs. The effects can be summarized as follows:

- Increased cost for raw fish could occur when harvesters hold the QSs.
- Potential regional shifts in landings may or may not be under the control of processors.
- Increase in the processing of under-utilized target species could occur.
- Lower cost of production in nonwhiting sector could occur due to increased harvest and more utilization of processing capital. Increased compliance costs could occur if first receivers must pay for the cost of shoreside catch monitors to observe offloadings.
- Lower cost of production could occur in whiting sector because of increased season length
- Consolidation could occur among shoreside whiting processors, reducing total capital costs while changing asset values.

Mothership Processors of Trawl Groundfish (see Section 4.10)

- Processor declarations would likely give mothership entities some certainty over delivery volumes in the upcoming year, but little leverage in negotiations over prices or profit sharing.
- Linkages would likely give processing entities more certainty over deliveries from catcher vessels.
- The amount of mothership processing capacity in the fishery may decline due to an increase in season length and a decline in peak harvest volumes.
- The cost of processing whiting may decline because of increased season length and less processing capital necessary to handle the same harvest volume.
- Product recovery and quality may improve along with the opportunity to develop new products and markets.

Trawl Catcher-processors (see Section 4.11)

- Minor impacts would be expected relative to status quo; measures to protect the current voluntary co-op would be implemented.

Fishing Communities (see Section 4.14)

- Fishing communities would be differentially affected due to fleet and processor consolidation. Some communities would likely benefit and others would be harmed.

- Fleet and processor consolidation could result in the concentration of vessels and commercial infrastructure in fewer ports, disadvantaging communities that lose vessels and infrastructure.
- Limits on the amount of Qs an entity can control would reduce ownership consolidation and would increase the number and types of businesses involved in the fishery, contributing to diversity and stability.
- Isolated communities, where there are few alternative employment opportunities, could be adversely affected by the loss of fishing-related jobs.
- Processors would likely consolidate and possibly move, affecting processor labor and municipal revenue.
- Fishing, in all its diversity, is culturally important to coastal communities. As a consequence, communities experiencing a decline in fishing activity due to trawl rationalization would be adversely affected.
- Family fishing businesses would have to deal with the implications of the asset value associated with IFQs (or co-op shares). This can complicate fishery entry and exit, leading to intra-family strife.
- Tourism could be adversely affected in communities that lose a working waterfront to the degree it is important to the tourist identity of the community.
- Nontrawl communities could be affected by rationalization through increased competition, gear conflicts, impacts on the support sector, infrastructure impacts, and competition in the marketplace.

Treaty Tribe Harvesters (see Section 4.15)

- Groundfish trawl fleet consolidation could make vessels available for use in other fisheries, lowering capital costs, but potentially increasing resource competition in nongroundfish fisheries.
- Loss of port infrastructure due to harvester and processor consolidation could affect tribal harvesters disproportionately.
- Changes in the Pacific halibut bycatch rate in the rationalized trawl fishery could have adverse or beneficial effects for treaty tribe halibut harvesters.
- Increased flexibility due to rationalization could increase market competition.

Management Agencies (see Section 4.16)

- Additional staff resources at the Federal level would be needed for program startup and management.
- Additional enforcement personnel would be needed at the state and Federal level; this is estimated to be one new hire for each agency.
- Changes in data collection and data sharing arrangements would occur between state and Federal agencies.
- Management of the groundfish trawl fishery in-season would likely be reduced.

Groundfish and Other Fish Stocks (see Section 4.17)

- Changes in location of catch could lead to localized depletion if fishing is concentrated in certain areas.
- Target species catch would increase, but harvest levels intended to maintain or rebuild stocks to MSY are specified separately and are not affected by the proposed action.

- Fishery-dependent data, including catch accounting, would improve due to the increased observer coverage, decreasing one source of uncertainty in some stock assessments

Protected Species including ESA-listed Salmon (see Sections 4.18 and 4.19)

- Trawl rationalization may change the level and type of interactions between trawl vessels and marine mammals and seabirds, but the magnitude and direction of this change cannot be predicted
- Take of ESA-listed salmon in trawl fisheries may change, but the changes cannot be predicted

Habitat and Ecosystem (see Section 4.20)

- Changes in catch may result in changes to the California current ecosystem food web
- A reduction in the biomass of large demersal predators (e.g., lingcod) and an increase in their prey (miscellaneous nearshore fish and shallow small rockfish) would occur at high catch levels, according to ecosystem modeling
- Fishing in different areas and using different gear (e.g., switching to fixed-gear or modifying trawl gear) would change how much and what kind of essential fish habitat would be affected by fishing.