



JUN 16 2010

Dear Reviewer:

In accordance with provisions of the National Environmental Policy Act (NEPA), we enclose for your review the Final Environmental Impact Statement (FEIS) for the Allocation of Harvest Opportunity between Sectors of the Pacific Coast Groundfish Fishery.

This FEIS is prepared pursuant to NEPA to assess the environmental impacts associated with NOAA proceeding with a program to allocate select federally-managed groundfish species off the U.S. west coast (Washington, Oregon, and California). Amendment 21 to the Pacific Coast Groundfish Fishery Management Plan (FMP) would allocate select groundfish species among sectors within the groundfish fishery, including trawl versus non-trawl, shoreside trawl versus at-sea trawl, and whiting versus nonwhiting. These allocations support Amendment 20 to the FMP, a trawl rationalization program. Amendment 20 to the FMP is intended to rationalize the west coast groundfish trawl fishery by managing the shoreside sectors (i.e., sectors of the limited entry trawl fleet that deliver groundfish to shoreside processing plants) under a system of individual fishing quotas (IFQs) and the at-sea whiting sectors under a system of closed harvesting cooperatives.

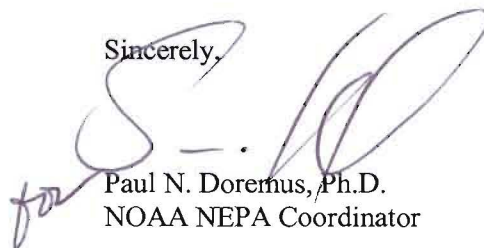
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Enclosure

**ALLOCATION OF HARVEST OPPORTUNITY
BETWEEN SECTORS OF THE PACIFIC COAST
GROUNDFISH FISHERY**

Final Environmental Impact Statement
Including Regulatory Impact Review and
Initial Regulatory Flexibility Analysis

**PREPARED BY
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EXECUTIVE SUMMARY

ES. 1 Overview and Purpose and Need for Action

Amendment 21 concerns formal, long-term allocations of a select subset of federally managed west coast groundfish species to the limited entry (LE) trawl sectors. These allocations are needed to support the Amendment 20 trawl rationalization program. The program would rationalize the west coast groundfish trawl fishery by managing the shoreside sectors (i.e., sectors of the LE trawl fleet that deliver groundfish to shoreside processing plants) under a system of individual fishing quotas (IFQs) and the at-sea whiting sectors under a system of closed harvesting cooperatives. Specifically, the purposes of the proposed Amendment 21 actions are as follows:

1. To simplify or streamline future decisions by making formal allocations of specified groundfish stocks and stock complexes. Formal allocations are fixed and do not have to be decided through every biennial process or developed indirectly through the structure of management measures.
2. To support rationalization of the LE trawl fishery (Amendment 20). Long-term, formal allocations of Amendment 21 species to the LE trawl sectors will provide more certainty to these sectors by reducing the risk that these sectors would be closed because of other non-trawl sectors exceeding their allocation. Such certainty will be especially important under the proposed IFQ and harvest cooperative systems proposed under the Amendment 20 trawl rationalization program, because it will make it easier for fishers to make long-range planning decisions based on the allocation of harvest privileges. In addition, supporting Amendment 20, which will require individual accountability of catch and bycatch, will improve overall total catch accounting of groundfish species by the group with the largest amounts of groundfish catch, the trawl sector. While allocations could be made biennially to support trawl rationalization, this would be a more difficult and controversial process than making those decisions in advance.
3. To limit the bycatch of Pacific halibut in future LE trawl fisheries. A total catch limit of Pacific halibut, with the intent of further minimization of Pacific halibut bycatch in Area 2A trawl fisheries, is consistent with the Magnuson-Stevens Fishery Conservation and Management Act (MSA) mandate to minimize bycatch and will provide increased benefits to Area 2A fishers targeting Pacific halibut.

ES.2 Proposed action

The Pacific Fishery Management Council (Council)/National Marine Fisheries Service (NMFS) *proposed actions*, evaluated in this document, are presented below:

1. To make long-term, formal allocations of Amendment 21 species to the combined LE trawl sectors. These species would include lingcod, Pacific cod, sablefish south of 36°N latitude, Pacific ocean perch (POP), widow rockfish, chilipepper rockfish, splitnose rockfish, yellowtail rockfish north of 40°10' N latitude, shortspine thornyhead (north and south of 34°27' N latitude), longspine thornyhead north of 34°27' N latitude, darkblotched rockfish, minor slope rockfish (north and south of 40°10' N latitude), Dover sole, English sole, petrale sole, arrowtooth flounder, starry flounder, and Other Flatfish.
2. To determine a weighting scheme for an initial shoreside trawl sector allocation to the shoreside whiting and shoreside non-whiting sectors of all Amendment 21 species other than darkblotched rockfish, POP, and widow rockfish, as well as sablefish north of 36°N latitude. [A four-trawl-sector allocation is not needed for these species since the bycatch of these species by the at-sea whiting trawl sectors is addressed through set-asides under proposed action 4.]
3. To apportion the LE trawl allocation of darkblotched rockfish, POP, and widow rockfish to the four current trawl sectors (shoreside non-whiting, shoreside whiting, at-sea whiting mothership, and at-sea whiting catcher/processor). [A four-trawl-sector allocation is needed for these species since the bycatch will be managed directly by using IFQs in the rationalized shoreside trawl sector and total catch limits in rationalized at-sea whiting sectors.]
4. To consider yield set-asides to accommodate the projected bycatch of all Amendment 21 species other than darkblotched rockfish, POP, and widow rockfish by the two at-sea whiting trawl sectors (motherships and catcher/processors). [This action would be revisited during every biennial management cycle based on the best available information at the time.]
5. To determine a total catch limit of Pacific halibut in Area 2A trawl fisheries to limit the future bycatch of this prohibited trawl species.
6. To determine a process for deciding future formal allocations or reallocations of FMP species. Included in this action is consideration for a formal future review of Amendment 21 actions after implementation.

The following sections describe the preferred alternative for each of these six proposed actions.

ES.2.1 Decision 1: Limited Entry Trawl Allocations for Amendment 21 Species

Formal allocations of Amendment 21 species are needed to support Amendment 20 trawl rationalization measures and, to that end, are to be implemented concurrent with Amendment 20. Annual optimum yields (OYs) are established for these species the same as for other groundfish species. The OYs are then reduced by deducting the estimated total mortality of these species in research, tribal, and non-groundfish fisheries, and the bycatch limits specified in adopted exempted fishing permits (EFP). The remainder of the OY is then allocated according to the percentages in Table ES-1. The trawl percentage is for the non-treaty trawl fishery managed under Amendment 21. The non-treaty, non-trawl percentage is for the LE fixed gear fishery, the open access fishery, and the recreational fishery.

The Council adopted its preferred alternative for LE trawl and non-trawl allocations at the April 2009 meeting in Millbrae, California (Table ES-1). In general, the Council believed the more recent catch period from 2003 to 2005 should form the basis for deciding sector allocations since discards during this period were better informed and current management strategies, such as specification of RCAs, are more likely in the near future when these allocations will likely be implemented. The Council agreed with the trawl and non-trawl allocations recommended by the Groundfish Allocation Committee (GAC)

at their January 2009 meeting, except for five stocks or stock complexes subject to Amendment 21 allocations. The GAC recommended a higher non-trawl allocation for chilipepper rockfish south of 40°10' N latitude with the stated objective of trying to gain greater non-trawl access to this healthy stock off California. The GAC-recommended trawl and non-trawl allocations of shortspine thornyhead south of 34°27' N latitude were found to be based on sector catch data from the north that were incorrectly assigned to ports south of 34°27' N latitude. The older catch data had all shortspine thornyhead catches south of 36° N latitude assigned to the area south of 34°27' N latitude. This problem was rectified by assigning all catches landed in Santa Barbara and ports south to south of 34°27' N latitude and assigning all catches landed in ports north of Santa Barbara to north of 34°27' N latitude. This reassignment of catches indicated that a maximum of 0.34 metric tons (mt) of shortspine thornyhead were landed south of 34°27' N latitude in any one year from 1995 to 2005.

On Groundfish Advisory Panel advice, the Council decided to allocate 50 mt of the southern shortspine thornyhead yield to the LE trawl sector and the remaining yield to the non-trawl fisheries, where shortspine thornyhead are a major target species. The Council also decided not to allocate longspine thornyhead south of 34°27' N latitude to the trawl fishery. Longspine thornyhead are an incidentally caught species south of 34°27' N latitude, and the available yields are not projected to constrain any of the groundfish fisheries there that incidentally catch these fish. No trawl allocation of longspine thornyhead south of 34°27' N latitude is needed given that the future trawl catch of this stock will not be managed using IFQs.

The Council also decided to allocate a much higher percentage of the available yield of starry flounder to non-trawl sectors (50 percent) than recommended by the GAC. The catch history of starry flounder is highly uncertain, but they are significantly caught in nearshore trawl fisheries and recreational fisheries on the west coast. The Council thought a 50:50 trawl and non-trawl sharing of the available harvest of starry flounder was the fairest allocation. Finally, the Council adopted a higher non-trawl allocation of species in the Other Flatfish complex than recommended by the GAC (10 percent vs. 5 percent). While most of these species are dominant to the trawl fishery, there are some species, such as Pacific sanddabs, that are significantly caught in non-trawl fisheries. The Council believed a higher non-trawl share of the available harvest of Other Flatfish species would better preserve non-trawl fishing opportunities for these species.

Table ES-1. Allocation percentages for limited entry trawl and non-trawl sectors specified for FMP groundfish stocks and stock complexes under Amendment 21.

Stock or Complex	All Non-Treaty LE Trawl Sectors	All Non-Treaty Non-Trawl Sectors
Lingcod – coastwide	45.0%	55.0%
Pacific Cod	95.0%	5.0%
Sablefish N. of 36° a/	52.5%	47.5%
Sablefish S. of 36°	42.0%	58.0%
PACIFIC OCEAN PERCH	95.0%	5.0%
WIDOW	91.0%	9.0%
Chilipepper S. of 40°10'	75.0%	25.0%
Splitnose S. of 40°10'	95.0%	5.0%
Yellowtail N. of 40°10'	88.0%	12.0%
Shortspine N. of 34°27'	95.0%	5.0%
Shortspine S. of 34°27'	50 mt	Remaining Yield
Longspine N. of 34°27'	95.0%	5.0%
Longspine S. of 34°27'		No Allocation
DARKBLOTCHED	95.0%	5.0%
Minor Slope RF North	81.0%	19.0%
Minor Slope RF South	63.0%	37.0%
Dover Sole	95.0%	5.0%
English Sole	95.0%	5.0%
Petrale Sole – coastwide	95.0%	5.0%
Arrowtooth Flounder	95.0%	5.0%
Starry Flounder	50.0%	50.0%
Other Flatfish	90.0%	10.0%

a/ The Council is not recommending a modification of the status quo allocation of sablefish N of 36° N latitude. The LE trawl percentage is status quo, but is recalculated as a percent of the total non-treaty available yield (90.6 % [the LE allocation] × 58% [the LE trawl allocation of the total LE amount]).

ES.2.2 Decision 2: Shoreside Trawl Sector Allocations

Under Amendment 20 trawl rationalization, the two existing LE trawl sectors delivering groundfish to shoreside processing plants (i.e., shoreside whiting and shoreside non-whiting) will be managed as one sector under a system of IFQs. However, before quota shares (QS) can be allocated to eligible LE trawl permit holders, an initial one-time allocation has to be made to the two shoreside sectors (see Section 2.2 in the FEIS). The Council's preferred alternative (Alternative 4) is to use the shoreside sector catch percentages during the 1995 to 2005 period as the weighting scheme for the initial allocation to the two shoreside trawl sectors for all Amendment 21 species other than the trawl-dominant overfished species (see Section 2.2.2) and yellowtail rockfish (see Table ES-2). The Council decided to allocate 300 mt of yellowtail rockfish to the shoreside whiting sector. Under the preferred alternative, the shoreside non-whiting sector would receive the remaining yield of yellowtail rockfish available to the LE trawl sectors minus any set-aside amount of yellowtail rockfish for the at-sea whiting sectors decided in the future. The Council's initial set-aside of yellowtail rockfish to accommodate bycatch by the at-sea whiting sectors is 300 mt (see Section 2.2.3).

Table ES-2. Council-preferred Alternative for shoreside trawl sector initial allocations of Amendment 21 species (i.e., shoreside whiting and shoreside non-whiting).

Stocks and Stock Complexes	Alternative 4: Council-preferred Sector Catch Percentage	
	Non-whiting	Whiting
Lingcod – coastwide	99.7%	0.3%
Pacific Cod	99.9%	0.1%
Pacific Whiting – coastwide	0.1%	99.9%
Sablefish N. of 36°	98.2%	1.8%
Sablefish S. of 36°	100.0%	0.0%
PACIFIC OCEAN PERCH	Remaining	17% or 30 mt, whichever is greater, to SS + at-sea whiting ^{a/}
WIDOW	Remaining	If under rebuilding, 52% to SS + at-sea. If stock rebuilt, 10% or 500 mt, whichever is greater, to SS + at-sea. ^{a/}
Chilipepper S. of 40°10'	100.0%	0.0%
Splitnose S. of 40°10'	100.0%	0.0%
Yellowtail N. of 40°10'	Remaining	300 mt
Shortspine N. of 34°27'	99.9%	0.1%
Shortspine S. of 34°27'	100.0%	0.0%
Longspine N. of 34°27'	100.0%	0.0%
Longspine S. of 34°27'	100.0%	0.0%
DARKBLOTCHED	Remaining	9% or 25 mt, whichever is greater, to SS + at-sea whiting ^{a/}
Minor Slope RF North	98.6%	1.4%
Dover Sole	100.0%	0.0%
English Sole	99.9%	0.1%
Petrale Sole – coastwide	100.0%	0.0%
Arrowtooth Flounder	100.0%	0.0%
Starry Flounder	100.0%	0.0%
Other Flatfish	99.9%	0.1%

a/ This comes from Decision 3 in Section 2.2.2. SS = shoreside.

ES.2.3 Decision 3: Trawl Sector Allocations of Trawl-Dominant Overfished Species

Under Amendment 20, the at-sea whiting sectors (i.e., catcher-processors and motherships) will be managed in a system of sector-specific harvest cooperatives. Each at-sea whiting sector will manage its bycatch of canary rockfish, darkblotched rockfish, POP, and widow rockfish using sector-specific total catch limits. An initial sector allocation of these four species has to be made to the four existing LE trawl sectors before initial allocation of Qs for the shoreside trawl fishery and catch history assignments for the at-sea mothership fishery under Amendment 20. Initial sector allocation of canary rockfish will be decided in the biennial harvest specification and management measures process immediately preceding implementation of amendments 20 and 21. The initial sector allocation of the trawl-dominant overfished species under Amendment 21 is as follows:

Darkblotched Rockfish

Allocate 9 percent or 25 mt, whichever is greater, of the total LE trawl allocation of darkblotched rockfish to the whiting fisheries (at-sea and shoreside combined). The distribution of the whiting trawl allocation of darkblotched to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation.

Pacific Ocean Perch

Allocate 17 percent or 30 mt, whichever is greater, of the total LE trawl allocation of POP to the whiting fisheries (at-sea and shoreside combined). The distribution of the whiting trawl allocation of POP to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation.

Widow Rockfish

Initially allocate 52 percent of the total LE trawl allocation of widow rockfish to the whiting sectors if the stock is under rebuilding or 10 percent of the total LE trawl allocation or 500 mt of the trawl allocation to the whiting sectors, whichever is greater, if the stock is rebuilt. If the stock is overfished when the initial allocation is implemented, the latter allocation scheme automatically kicks in when it is declared rebuilt. The distribution of the whiting trawl allocation of widow to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation.

ES.2.4 Decision 4: At-sea Whiting Trawl Sector Set-asides

The estimated fishing mortality of Amendment 21 species in the at-sea whiting fishery (i.e., total catch by catcher-processors and vessels delivering whiting to motherships) other than the three trawl-dominant overfished species will be set aside from the LE trawl allocations specified in Table ES-1 prior to making the initial shoreside trawl sector allocations. While set-aside amounts for the at-sea whiting fishery were preliminarily decided under Amendment 21 (Table 2-12), these are not formal allocations. It is anticipated that the projected incidental bycatch amounts in the at-sea whiting fishery will change in the future as better information becomes available. Therefore, the set-aside decision is not enduring; it could change through the biennial specifications and management measures process, potentially before trawl rationalization and Amendment 21 allocations are implemented.

ES.2.5 Decision 5: Pacific Halibut Total Catch Limit Alternatives

Pacific halibut is a prohibited species in the west coast LE trawl fishery. Under Amendment 20, Pacific halibut bycatch in the shoreside trawl fishery north of 40°10' N latitude will be managed using a system of individual bycatch quotas (IBQs). Under Amendment 21, the Council is recommending an allocation of Pacific halibut as follows:

The trawl mortality limit for legal and sublegal Pacific halibut would be set at 15 percent of the Area 2A (i.e., waters off California, Oregon, and Washington) constant exploitation yield for legal size halibut, not to exceed 130,000 pounds for the first four years of trawl rationalization and not to exceed 100,000 pounds starting in the fifth year. This total bycatch limit may be adjusted downward or upward through the biennial specifications and management measures process in future years. Part of the overall total catch limit is a set-aside of 10 mt of Pacific halibut, 5 mt to accommodate bycatch in the at-sea whiting fishery, and 5 mt to accommodate shoreside trawl bycatch south of 40°10' N latitude. The set-aside amount of Pacific halibut to accommodate the incidental catch in the trawl fishery south of 40°10' N latitude and in the at-sea whiting fishery may be adjusted in the biennial specifications and management measures process in future years as better information becomes available.

This alternative was preferred relative to the other action alternatives that called for smaller total catch limits of Pacific halibut for the LE trawl sectors and a more immediate decrease in this limit over time.

The preferred alternative still contemplates a stricter total catch limit of Pacific halibut to control trawl bycatch than observed in that fishery to date. This action will provide greater fishing opportunities for Pacific halibut by Area 2A directed halibut fisheries. Further, the ability to consider any changes to the trawl total catch limit of Pacific halibut, either increased or decreased limit amounts, in future biennial management processes is recommended under the preferred alternative to provide management flexibility to adapt this program to accommodate the needs of all sectors, including the trawl sectors.

ES.2.6 Decision 6: Formal Allocations in the FMP

Under Amendment 21, the Council is recommending that any formal allocations of species listed in the groundfish FMP be specified in the FMP. Future consideration for a reallocation of FMP species subject to a formal allocation will require an FMP amendment. This was preferred over the alternative frame-working procedure where formal allocations could be decided in a regulatory amendment.

The provision to suspend the LE, open access allocation temporarily if a species is declared overfished (see Section 4.6.1[5] of the FMP) is maintained under Amendment 21.

All intersector allocations will be formally reviewed, along with the formal review of the trawl rationalization program five years after implementation of Amendments 20 and 21.

CHAPTER 1 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

This document provides background information about, and analyses for, alternative allocations of groundfish species and species complexes to west coast fishing sectors that target federally managed groundfish species. The proposed action would require an amendment to the Pacific Coast Groundfish Fishery Management Plan (FMP), which contains the policies and framework for allocating the harvestable surplus of groundfish. The proposed action must conform to 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.

In addition to addressing MSA mandates, this document is an environmental impact statement (EIS), pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended. This document is organized so that it contains the analyses required under NEPA, the Regulatory Flexibility Act (RFA), and Executive Order (EO) 12866. For brevity, this document is referred to as an EIS, although it contains required elements of an Initial Regulatory Flexibility Analysis (IRFA) pursuant to the RFA and a Regulatory Impact Review (RIR) pursuant to EO 12866.

EISs (and environmental assessments [EAs]) have four essential components: a description of the purpose and need for the proposed action; a range of alternatives, including the proposed action, that represents different ways of accomplishing the purpose and need; a description of the human environment affected by the proposed action; and an evaluation of the predicted direct, indirect, and cumulative impacts of the alternatives. The human environment is interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment (40 Code of Federal Regulations [CFR] 1508.14). These elements allow the decision maker to look at different approaches to accomplishing a stated goal and understand the likely consequences of each choice or alternative. In this EIS, chapters 1 and 2 cover the purpose and need for the action and describe the alternatives, and chapters 3 and 4 focus on the biological, physical, and human environments potentially affected by the proposed actions. These chapters describe both the status quo environment potentially affected by the proposed actions and the predicted impacts of each of the alternatives. Based on this structure, the document is organized into 11 chapters:

- The rest of this chapter, Chapter 1, discusses the reasons for formal allocations of groundfish species and species complexes to west coast groundfish fisheries. This description of purpose and need defines the scope of the subsequent analysis.

- Chapter 2 outlines different alternatives that have been considered to address the purpose and need. The Pacific Fishery Management Council (Council) will choose their preferred alternative from among these alternatives. The preferred alternative covering long-term trawl allocations will be submitted to the National Marine Fisheries Service (NMFS) as FMP Amendment 21.
- Chapter 3 describes the human environment potentially affected by the proposed actions. The human environment includes the physical environment (i.e., west coast marine ecosystems and essential fish habitat [EFH]); biological environment (i.e., west coast groundfish and non-groundfish species), and socioeconomic environment (i.e., west coast fisheries and fishing communities).
- Chapter 4 describes the possible environmental consequences of the proposed actions. These include possible impacts to west coast marine ecosystems and EFH; target and non-target groundfish fishery management unit species and non-target, non-groundfish species; and west coast fisheries and fishing communities.
- Chapter 5 describes the possible cumulative impacts of the proposed actions in association with other reasonably foreseeable actions.
- Chapter 6 addresses consistency of the proposed action with the goals and objectives of the groundfish FMP, ten National Standards set forth in the MSA (Section 301(a)), and the goals and objectives of the Council's groundfish strategic plan, "Transition to Sustainability."
- Chapter 7 provides information on those laws and EOs, in addition to the MSA and NEPA, with which an action must be consistent and describes how these actions have satisfied those mandates.
- Chapters 8 through 11 include required supporting information: the list of preparers, the list of agencies and organizations consulted in the preparation of this document, responses to EIS comments, and the bibliography.
- Appendix A provides the minutes and recommendations of each meeting of the Groundfish Allocation Committee (GAC) when intersector allocation was discussed. The GAC was given the charge to develop intersector allocation alternatives by the Council, although formal Council action was still required to decide intersector allocation alternatives, including the preferred alternative. The GAC, therefore, recommended intersector allocation alternatives and design concepts to the Council in this process.
- Appendix B provides the draft FMP language incorporating Amendment 21 allocations.

1.2 Description of the Proposed Actions

The Council/NMFS *proposed actions*, evaluated in this document, are as follows:

1. To make long-term, formal allocations of Amendment 21 species to the combined limited entry (LE) trawl sectors. These species would include lingcod, Pacific cod, sablefish south of 36° N latitude, Pacific ocean perch (POP), widow rockfish, chilipepper rockfish, splitnose rockfish, yellowtail rockfish north of 40°10' N latitude, shortspine thornyhead (north and south of 34°27' N latitude), longspine thornyhead north of 34°27' N latitude, darkblotched rockfish, minor slope rockfish (north and south of 40°10' N latitude), Dover sole, English sole, petrale sole, arrowtooth flounder, starry flounder, and Other Flatfish.
2. To determine a weighting scheme for an initial shoreside trawl sector allocation to the shoreside whiting and shoreside non-whiting sectors of all Amendment 21 species other than darkblotched rockfish, POP, and widow rockfish, as well as sablefish north of 36° N latitude. [A four-trawl-sector allocation is not needed for these species since their bycatch by the at-sea whiting trawl sectors is addressed through set-asides under proposed action 4.]
3. Apportion the LE trawl allocation of darkblotched rockfish, POP, and widow rockfish to the four current trawl sectors (shoreside non-whiting, shoreside whiting, at-sea whiting mothership, and at-sea whiting catcher/processor). [A four-trawl-sector allocation is needed for these species since their bycatch will be directly managed using individual fishing quotas (IFQs) in the rationalized shoreside trawl sector and total catch limits in rationalized at-sea whiting sectors.]
4. Consider yield set-asides to accommodate the projected bycatch of all Amendment 21 species other than darkblotched rockfish, POP, and widow rockfish by the two at-sea whiting trawl sectors (motherships and catcher/processors). [This action would be revisited during every biennial management cycle based on the best available information at the time.]
5. Determine a total catch limit of Pacific halibut in Area 2A trawl fisheries to limit the future bycatch of this prohibited trawl species.
6. Determine a process for deciding future formal allocations or reallocations of FMP species. Included in this action is consideration for a formal future review of Amendment 21 actions after implementation.

1.3 Purpose and Need for the Proposed Actions

Formal long-term allocations of groundfish species and species complexes must be consistent with the goals, objectives, and management framework described in the groundfish FMP. The proposed actions fall within the management framework described in the groundfish FMP, which enumerates two goals that are specific to formal allocations: FMP Goal 2—Economics—Maximize the value of the groundfish resource as a whole; and FMP Goal 3—Utilization—Achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities. Any intersector allocations must also be decided within the context of FMP Goal 1—Conservation—Prevent overfishing and rebuild overfished stocks by managing for appropriate harvest levels and prevent, to the extent practicable, any net loss of the habitat of living marine resources.

The management regime described in the Groundfish FMP is itself consistent with 10 National Standards described in the MSA. Finally, the goals and objectives of the Council's Groundfish Strategic Plan, "Transition to Sustainability," are relevant for deciding formal allocations of groundfish species and complexes. Chapter 6 details how the proposed actions meet these goals and objectives.

These sources provide a general context for the purpose and need for the proposed actions. *The specific purposes of the actions* are as follows:

1. To simplify or streamline future decisions by making formal allocations of specified groundfish stocks and stock complexes. Formal allocations are fixed and do not have to be decided through every biennial process or developed indirectly through the structure of management measures.
2. To support rationalization of the LE trawl fishery (Amendment 20). Long-term, formal allocations of Amendment 21 species to the LE trawl sectors will provide more certainty to these sectors by reducing the risk that they would be closed because of other non-trawl sectors exceeding their allocation. Such certainty will be especially important under the IFQ and harvest cooperative systems proposed under the Amendment 20 trawl rationalization program, because it will make it easier for fishers to make long-range planning decisions based on the allocation of harvest privileges. In addition, supporting Amendment 20, which will require individual accountability of catch and bycatch, will improve overall total catch accounting of groundfish species by the group with the largest amounts of groundfish catch, the trawl sector. While allocations could be made biennially to support trawl rationalization, this would be a more difficult and controversial process than making those decisions in advance.
3. To limit the bycatch of Pacific halibut in future LE trawl fisheries. A total catch limit of Pacific halibut, with the intent of further minimizing Pacific halibut bycatch in Area 2A trawl fisheries, is consistent with the MSA mandate to minimize bycatch and will provide increased benefits to Area 2A fishers targeting Pacific halibut.

1.4 Action Area

The action area for the proposed action comprises the fishing grounds used by federally managed U.S. west coast groundfish fisheries and associated coastal communities. In general, the fishing grounds are within the west coast EEZ, which stretches from 3 to 200 nautical miles off the coasts of Washington, Oregon, and California (Figure 1-1), although groundfish fishing is largely confined to depths of 300 fathoms or less, or roughly within 30 miles of the coast. Some federally managed groundfish fishing that could be affected by the proposed action occurs in state waters from the shoreline to 3 nautical miles offshore. Groundfish fisheries are an important part of the local economy and social fabric in coastal communities in all three west coast states.

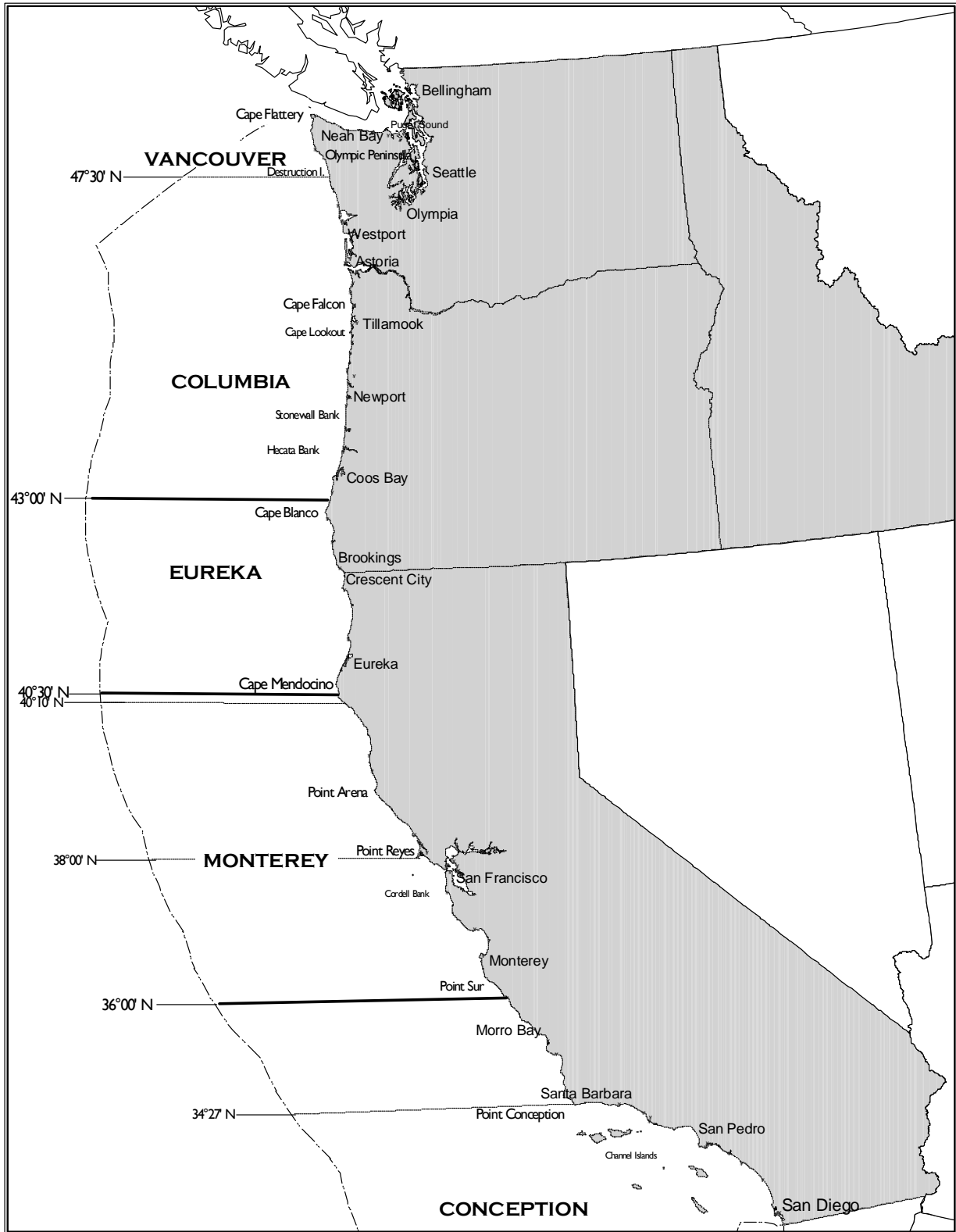


Figure 1-1. The west coast EEZ and some of the latitudinal management lines used in groundfish management.

1.5 Scoping Process

1.5.1 Council and Agency NEPA Scoping

The Council process, which is based on stakeholder involvement and allows for public participation and public comment on fishery management proposals during Council, subcommittee, and advisory body meetings, is the principal mechanism to scope the EIS. The advisory bodies involved in groundfish management include the Groundfish Management Team (GMT), with representation from state, federal, and tribal fishery scientists, and the Groundfish Advisory Subpanel (GAP), whose members are drawn from the commercial, tribal, and recreational fisheries, fish processors, and environmental advocacy organizations. The GAC, a subpanel of the whole Council, provides advice on allocating harvest opportunity among the various fishery sectors. Meetings of the Council and its advisory bodies constitute the Council scoping process, involving the development of alternatives and consideration of the impacts of the alternatives.

The Council first determined the need for intersector allocations in 2004 as they considered elements for designing a new trawl management program contemplating the use of IFQs and harvest cooperatives. In June 2004, the Council discussed separating development of a trawl IFQ program and deciding formal long-term allocations of future available yields of groundfish species to LE trawl sectors. The Council determined that the GAC should design intersector allocation alternatives. The GAC consists of Council members representing NMFS, the California Department of Fish and Game, the Oregon Department of Fish and Wildlife, the Washington Department of Fish and Wildlife, the Council chairman, and the Council parliamentarian. The GAC is advised by National Oceanic and Atmospheric Administration (NOAA) legal Counsel and Council staff. In November 2004, the Council appointed representatives from different sectors of the west coast groundfish fishery to advise the GAC on its intersector allocation deliberations. These advisors represented the LE trawl sector, the LE fixed gear sector, the open access sector, the recreational sector, the at-sea processing sector, the shoreside processing sector, and an environmental non-governmental organization representative. The first GAC meeting to discuss intersector allocations occurred in January 2005 (Appendix A). Seven more GAC meetings were convened between January 2005 and January 2009 to develop and recommend intersector allocation alternatives for Council consideration.

On November 21, 2005, NMFS and the Council published the Notice of Intent in the Federal Register (70 FR 70054) announcing their intent to prepare an EIS in accordance with NEPA for deciding intersector allocations. The comment period on the scope of the EIS ended on February 6, 2006. On December 27, 2005, NMFS and the Council published an extension of the public comment deadline for scoping the EIS in the Federal Register (70 FR 76447). The deadline was extended until May 24, 2006, as recommended by the Council. The Council and NMFS extended the public scoping comment deadline two more times in 2006 (71 FR 34306, 71 FR 38863), with a final deadline for written public comments of October 27, 2006, in preparation for their November 2006 meeting, where a preliminary range of intersector allocation alternatives were adopted for public review.

The GAC met two more times in 2007, as did the Council, to further refine the intersector allocation alternatives and provide guidance on analyses. In June 2007, the Council decided to limit the scope of the proposed action to deciding formal allocations of specified groundfish species to LE trawl sectors of the west coast groundfish fishery under Amendment 21 and then possibly consider formal allocations of specified groundfish species to the non-trawl sectors later in one or more trailing amendments. After considerations at four Council meetings and seven GAC meetings since January 2005 (Appendix A), the Council decided the preliminary range of intersector allocation alternatives analyzed in this EIS at its November 2007 meeting (see Chapter 2). At this meeting, the Council significantly reduced the scope of the proposed intersector allocation actions by removing the non-trawl-dominant overfished species

(i.e., bocaccio, canary rockfish, cowcod, and yelloweye rockfish), the species comprising the minor shelf rockfish complexes, and the species other than spiny dogfish comprising the Other Fish complex from the intersector allocation analysis. The species the Council decided to consider for intersector allocation are largely trawl-dominant, with a few exceptions, and the intersector allocation alternatives do not specify sector catch percentages that vary much from those observed in the recent past. This course of action was taken to reduce the complexity of analyses informing the decision on a preferred alternative and the potential significant impacts associated with determining formal allocations of the non-trawl-dominant overfished species. The non-trawl-dominant overfished species' rebuilding plans constrain all sectors of the west coast groundfish fishery, unlike the trawl-dominant overfished species (i.e., darkblotched rockfish, POP, and widow rockfish), which constrain fishing opportunities for the LE trawl sectors. Therefore, Council and NMFS staff discussion in January 2008 concluded an EA rather than an EIS was the appropriate document for analyzing intersector allocation alternatives.

A preliminary draft EA was provided to the Council in April 2008 to inform its decision on a preferred intersector allocation alternative. The Council decided not to choose a preferred alternative, but did decide to structure the NEPA analysis as an EIS as recommended by two environmental organizations (Environmental Defense and Natural Resources Defense Council) and the GAP. NMFS also explained it was going to develop a new intersector allocation alternative for consideration by the GAC in January 2009 and the Council in the spring of 2009, when intersector allocation would likely next be scheduled on the Council's agenda.

In January 2009, additional analysis and the new intersector allocation alternative developed by NMFS were presented to the GAC. The GAC decided to add the new alternative for analysis (see Chapter 2 for a description of this new alternative). The GAC also recommended the following:

- 1) Trawl/non-trawl splits that differed slightly from their recommendation in February 2008 (see Appendix A)
- 2) Rules for determining yield set-asides for some of the bycatch species in the at-sea whiting fisheries
- 3) Removing spiny dogfish from the list of intersector allocation species subject to long-term allocation
- 4) Limiting the maximum trawl allocation of Amendment 21 species to 95 percent of the available yield
- 5) Deciding any buffers that address management uncertainty in a separate amendment process that incorporates new National Standard 1 (NS1) guidelines in the groundfish FMP

All of these recommendations were presented to the Council in April 2009, when a final decision was made on intersector allocations. Further, the Council decided allocations to the shoreside whiting and shoreside non-whiting trawl sectors at its April 2009 meeting. These within-trawl sector allocations are needed to allocate future quota shares (Qs) to individual permit-holders properly prior to implementing a new trawl rationalization program. Once the new trawl rationalization program is implemented, the two shoreside trawl sectors will be combined into one sector and managed under an IFQ system.

1.5.2 Summary of Comments Received

1.5.2.1 Comments from Nongovernmental Organizations

In August 2004, Environmental Defense urged the Council to begin the intersector allocation process as soon as possible and to modify the membership of the GAC to include representation from all affected sectors and stakeholders when designing intersector allocation alternatives. The Council heeded this advice as described in the previous section.

The Pacific Marine Conservation Council (PMCC) recommended that area allocation of optimum yield (OY) for west coast groundfish should be used as a hedge against unpredictable spawning success at the November 2006 Council meeting. The Council conceptually agreed with the PMCC and decided that intersector allocation alternatives should allocate OYs by area as they are specified in biennial regulations. These OYs are based on recommended stock assessments, which are required in the stock assessment terms of reference to explore spatial needs of the stock and how fishery removals, which vary in time and area, affect the abundance and structure of the stock's spawning biomass.

In public testimony to the GAC at its February 2008 meeting, the Natural Resources Defense Council and Environmental Defense recommended that the intersector allocation analysis be developed as an EIS rather than an EA. It stated that formal allocations to the trawl sector would have significant impacts on species and EFH. These recommendations were also made to the Council at its April 2008 meeting. The Council acted at that meeting to develop an EIS rather than an EA as the principal NEPA analysis informing the decision on intersector allocations.

1.5.2.2 Other Scoping Comments

The Pacific Coast Federation of Fishers's Associations in July 2004 recommended the Council consider the needs of the non-trawl harvesting sectors, including the open access sector, prior to establishing a trawl IFQ system and allocating QS to individual trawl fishers. The Council largely agreed and has since determined that decision-making in the intersector allocation and trawl rationalization processes can occur independently, but intersector allocations have to be done prior to implementing trawl rationalization measures. Intersector Allocation Alternative 1 (see Section 2.1.4) does attempt to meet the recommendation to consider the needs of the non-trawl sectors before deciding trawl sector allocations.

In June 2004, the Coastal Jobs Coalition, a group formed by the West Coast Seafood Processors Association and representing a consortium of fish processors and related support industries, recommended that the Council determine allocations between groundfish harvesting sectors prior to developing a trawl rationalization program. As stated above, the Council largely agreed with this recommendation.

In July 2004, the West Coast Seafood Processors Association recommended that the Council consider and decide intersector allocations prior to developing a trawl IFQ program. As stated above, the Council largely agreed with this recommendation.

In August 2004, the United Anglers of California and the United Anglers of Southern California recommended that the Council consider and decide intersector allocations prior to developing a trawl IFQ program. As stated above, the Council largely agreed with this recommendation.

Representatives of sectors of the LE trawl whiting fishery were unanimous in recommending the status quo formal allocations of Pacific whiting to LE trawl sectors. The GAC and Council supported that position and decided to continue using the status quo formal trawl sector allocations of Pacific whiting.

Representatives of the LE fixed gear and directed open access sectors recommended reconsidering formal allocations of sablefish for fisheries north of 36° N latitude, while representatives of the LE trawl shoreside non-whiting sector recommended continuing the use of the status quo formal allocation among the three fleets. The GAC and Council decided on the latter course, since reconsidering sablefish allocations would likely be a contentious process that could complicate and extend the process of deciding intersector allocations under Amendment 21.

Mr. William Daspit provided comments at numerous Council and GAC meetings, recommending a personally conceived plan termed “Optimum Species Harvesting Unified Allocation” (OSHUA). The OSHUA plan contemplates biennial allocations of available yields of groundfish species to individual commercial fishers across all sectors of the fishery based on their ability to minimize bycatch. These allocations would not be IFQs, which are transferable quotas that allow fishers to trade quota pounds (QPs) and Qs. The GAC and Council did not embrace the OSHUA plan, and it was not considered in the range of trawl rationalization or intersector allocation alternatives.

In November 2007, Mr. Peter Huhtula recommended that the OSHUA plan be analyzed in the intersector allocation process because it created one commercial sector. The Council rejected this idea since it was beyond the scope of the proposed action to consider formal allocations of specified groundfish species to LE trawl sectors of the west coast groundfish fishery.

In November 2007, the Council’s Trawl Individual Quota Committee (TIQC) recommended revisiting intersector allocations for overfished species once those species are rebuilt. This is contemplated for the non-trawl-dominant overfished species in the current range of intersector allocation alternatives. However, the intersector allocation action alternatives contemplate an allocation framework for the trawl-dominant overfished species. See Section 4.4 for more detail on this allocation framework.

In January 2009, the Pacific Coast Federation of Fishers’s Associations recommended to the GAC that it disband the non-voting members of the GAC who represent various sectors of the groundfish fishery. The GAC did not recommend this change to the Council.

A number of fixed gear fishers testifying at the April 2009 Council meeting asked the Council to consider a higher non-trawl allocation of chilipepper rockfish, widow rockfish, yellowtail rockfish, lingcod, sablefish, and Other Flatfish than that recommended by the GAC. The Council decided under their preferred alternative to increase the non-trawl allocation of chilipepper rockfish and Other Flatfish relative to the GAC recommendation.

Mr. Zeke Grader, representing the Pacific Coast Federation of Fishers’s Associations, testified at the April 2009 Council meeting and asked for a delay of the Amendment 21 actions until the Council develops a plan to create and allocate to Community Fishing Associations (CFAs). The Council decided under its preferred alternative for Amendment 20 trawl rationalization to consider CFAs in a separate trailing amendment (Amendment 24). The Council also decided that deferring a decision on Amendment 21 would delay implementation of Amendment 20 trawl rationalization, thus delaying the significant environmental and socioeconomic benefits contemplated under the trawl rationalization program.

CHAPTER 2 DESCRIPTION OF THE ALTERNATIVES

Federally managed west coast groundfish species' yields are allocated to fishing sectors that target these species through long-term allocations specified in the Pacific Coast Groundfish FMP (i.e., Pacific whiting and sablefish N. of 36° N latitude) or with short-term (i.e., two-year) allocations decided in the biennial harvest specifications and management measures process. Prior to allocating the available harvest of a stock, some portion of the yield is set aside or subtracted from the OY or annual catch limit (ACL) to accommodate tribal fisheries, the projected bycatch in non-groundfish fisheries, and projected research catch. Yield set-asides can also be specified to accommodate the incidental bycatch in some fisheries targeting other groundfish species. Set-asides differ from an allocation. A set-aside is not necessarily accompanied with a specific and direct management tool, while an allocation is a direct management target that necessarily is accompanied with a management tool. Yield set-asides are decided to minimize the risk of constraining target-fishing opportunities, while also minimizing the risk of exceeding specified ACLs.

Long-term allocations contemplated under FMP Amendment 21 and analyzed in this EIS are designed to allow effective implementation of FMP Amendment 20 trawl rationalization measures. Most of the species considered for a long-term trawl allocation under Amendment 21 are dominant to the trawl fishery; however, other species subject to a formal allocation under Amendment 21 are caught in significant amounts in both trawl and non-trawl fisheries. Only trawl allocations are proposed under Amendment 21. However, there is significant exploration of the utilization and dependence of these species in west coast non-trawl fisheries to ensure that trawl allocations do not disrupt non-trawl fisheries. Once trawl allocations are decided for these species, a portion of that amount has to be allocated to the four existing trawl sectors (shoreside non-whiting, shoreside whiting, at-sea whiting motherships, and at-sea whiting catcher/processors) in order to implement trawl rationalization provisions effectively under Amendment 20. These within-trawl allocations take the form of historical sector catch percentages for the two shoreside trawl sectors (see Section 2.2.1) or set-aside amounts for the at-sea whiting sectors (see Section 2.2.3).

Six decisions are contemplated in this EIS: 1) LE trawl and non-trawl allocations, 2) shoreside whiting and shoreside non-whiting sector allocations, 3) allocations of trawl-dominant overfished species to all four trawl sectors, 4) at-sea whiting sector set-asides, 5) Pacific halibut total catch limits, and 6) a decision process for future sector allocations and potential reallocation of Amendment 21 species. Each of the first five allocation decisions is informed by the intersector alternatives described below and is

treated separately in the following sections. Two alternative processes for deciding future formal allocations, including reallocations of Amendment 21 species, are described in Section 2.4.

2.1 Decision 1: Limited Entry Trawl and Non-trawl Allocation Alternatives

Decision 1 corresponds to proposed action 1 in Section 1.2. The LE trawl and non-trawl intersector allocation alternatives analyzed in this EIS were largely developed by the Council's GAC with formal consideration and approval by the Council. The GAC met with agency and fishing industry advisors¹ eight times, between January 2005 and January 2009, to develop these alternatives (Appendix A). The goals and objectives of the FMP, as well as those outlined in the Groundfish Strategic Plan, "Transition to Sustainability," were considered in this process. While longer-term intersector allocations provide more stability and predictability in charting future business plans for all groundfish sectors (or fisheries) involved, the immediate need for intersector allocations is to implement a trawl rationalization program for the LE groundfish trawl sector more effectively by using a system of harvesting cooperatives and IFQs. To this end, the Council decided early in the process of developing intersector allocation alternatives that this action would focus on making long-term allocations to the LE trawl sector. These allocations will be specified in the FMP under Amendment 21 once a final recommendation on LE trawl allocations is made to NMFS. Longer-term allocations to non-tribal, non-trawl groundfish sectors, which include the recreational, LE fixed gear, and various open access fisheries, may be considered later in one or more trailing amendments to the FMP. The allocations in Amendment 21 could also be reconsidered in future amendments. If the Council decides to pursue longer-term groundfish allocations for any of the four west coast tribes with groundfish fishing rights in the west coast EEZ, they will request that NMFS engage in government-to-government negotiations with the tribes to decide these allocations.

The basic elements decided for the intersector allocation alternatives analyzed in this EIS are the groundfish FMP species to be considered, the fishing sectors to which these allocations will apply, the analytical basis for the decision (i.e., historical catch periods by sector), and any yield set-asides (i.e., buffers) to be assumed for analysis (Table 2-1). Alternatives analyzed in this EIS use the landings and discard mortality estimates by directed groundfish sectors found in the Council's 2008 Stock Assessment and Fishery Evaluation (SAFE) Volume 1 document (PFMC 2008b). Landings data were extracted in November 2006 from the Pacific Fishery Information Network (PacFIN). Recreational landings and discard mortalities were extracted in September 2006 from the Recreational Fishery Information Network (RecFIN) and updated by the states in October 2006. The PacFIN and RecFIN databases are managed by the Pacific States Marine Fisheries Commission and are available online at <http://www.psmfc.org/pacfin/> and <http://www.psmfc.org/recfin/>, respectively. Discard mortality estimates by species or species complex and sector were provided by the NMFS Northwest Fisheries Science Center (annual total catch reports available online at <http://www.nwfsc.noaa.gov/research/divisions/fram/observer/datareport/index.cfm>).

Proposed action 1 in Section 1.2 lists the following species as being considered for long-term allocations: lingcod, Pacific cod, sablefish south of 36° N latitude, POP, widow rockfish, chilipepper rockfish, splitnose rockfish, yellowtail rockfish north of 40°10' N latitude, shortspine thornyhead (north and south of 34°27' N latitude), longspine thornyhead north of 34°27' N latitude, darkblotched rockfish, minor slope rockfish (north and south of 40°10' N latitude), Dover sole, English sole, petrale sole,

¹ GAC advisors included representatives from the limited entry trawl sector, the limited entry fixed gear sector, the open access sector, the recreational sector, the processing sector, the at-sea whiting sectors, and the environmental community. Also advising the GAC were state representatives from the GMT, NOAA General Counsel, and Council staff.

arrowtooth flounder, starry flounder, and Other Flatfish. Not all groundfish species listed in the FMP were included in this list for several reasons. There are existing long-term allocations for Pacific whiting and sablefish (for fisheries north of 36° N latitude). The Council decided not to revisit these allocations; however, there is a need to apportion the LE trawl allocation of sablefish north of 36° N latitude to the four trawl sectors identified in these analyses to effectively implement trawl rationalization measures. The Council also decided not to consider long-term allocations of nearshore groundfish species at this time, since those fish are found predominately in state waters and the allocations are currently decided by the states under the auspices of nearshore FMPs and state policies for managing groundfish within their territorial waters (i.e., 0 to 3 nm). Furthermore, the Council decided not to consider long-term allocations of non-trawl-dominant overfished species (i.e., bocaccio, canary rockfish, cowcod, and yelloweye rockfish), the minor shelf rockfish species, and the species in the Other Fish complex². These shelf species have been caught extensively by both trawl and non-trawl sectors in the past, and current harvest opportunities for these species are significantly constrained by rebuilding plans for the non-trawl-dominant overfished species. Harvest opportunities for each sector are predicted to vary considerably by time and area depending on the future allowable yield of each of the non-trawl-dominant overfished species and the selectivity of the sector's gear in avoiding these species. Predicting an equitable balance of fishing opportunities and economic outcomes under such a dynamic mix of target and constraining species led the Council to recommend against pursuing long-term allocations for these species. Any species not allocated in this process are recommended for short-term allocations every two years in the Council process to decide biennial harvest specifications and management measures. While this may compromise some of the fishery stability and certainty inherent in deciding long-term allocations, such short-term allocations can be better informed with new assessments and other information relevant to making these decisions.

There are yield buffer options under action alternatives 1 through 3 of 5 percent, 15 percent, and 25 percent, respectively. These options are designed to buffer against sector catch overages that might exceed prescribed OYs or to accommodate new emerging fisheries. The former objective of buffering against OY overage is one explicitly discussed by the Council when specifying the buffer options for analysis. This objective recognizes the catch monitoring uncertainty inherent in estimating catch, especially in recreational fisheries, and is borne from recent experience of unexpected catch overages that exceeded some sectors' harvest guidelines. The second objective of accommodating new emerging fisheries is not explicitly discussed by the Council, but it was discussed at the February 2008 GAC meeting. New NS1 guidelines that accommodate conservation mandates in the reauthorized MSA of 2006 were finalized in January 2009. One feature of the new NS1 guidelines is to consider buffers to annual catch limits (ACLs; analogous to the current definition of OYs) or sector-specific ACLs to account for management uncertainty. These buffers are designed to prevent overfishing (i.e., exceeding a target exploitation rate (F_{MSY}) that is used to set an overfishing level [OFL]). The Council is developing a separate FMP amendment to bring the FMP into compliance with the new NS1 guidelines. The Council recommended consideration of buffers under this new amendment (Amendment 23) rather than under this Amendment 21 action.

² Spiny dogfish, a species currently managed in the Other Fish complex, was considered for a formal allocation with the expectation that an assessment would be done in 2009 for the spiny dogfish stock. However, in September 2008, the Council decided not to recommend a spiny dogfish assessment. Therefore, the stock was recommended for removal from an Amendment 21 allocation consideration (see Section 2.5 for more details).

Table 2-1. Intersector allocation alternatives for limited entry trawl and non-trawl sector allocations.

Feature	No Action	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Preferred
Species with Allocations a/	Status quo allocations of Sablefish (N of 36° N lat.), Pacific whiting, and all nearshore species allocated by the states	Status quo plus all other species (including Conception area sablefish) except bocaccio, canary, cowcod, yelloweye, minor shelf rockfish, and species in the Other Fish complex	Status quo plus all other species (including Conception area sablefish) except bocaccio, canary, cowcod, yelloweye, minor shelf rockfish, and species in the Other Fish complex	Status quo plus all other species (including Conception area sablefish) except bocaccio, canary, cowcod, yelloweye, minor shelf rockfish, and species in the Other Fish complex	Status quo plus all other species (including Conception area sablefish) except bocaccio, canary, cowcod, yelloweye, minor shelf rockfish, and species in the Other Fish complex	Status quo plus all other species (including Conception area sablefish) except bocaccio, canary, cowcod, yelloweye, longspine thornyhead south of 34°27' N lat, minor shelf rockfish, and species in the Other Fish complex
Sectors with Allocations b/	Nontribal whiting among 3 whiting LE trawl sectors; sablefish among LE trawl, LE fixed gear, and open access. (See Section 2.1.1)	4 LE trawl sectors + all other sectors combined	4 LE trawl sectors, LE fixed gear, directed open access, recreational	4 LE trawl sectors + all other sectors combined	4 LE trawl sectors + all other sectors combined	4 LE trawl sectors + all other sectors combined

Table 2-1. Intersector allocation alternatives for limited entry trawl and non-trawl sector allocations (continued).

Feature	No Action	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Preferred
<p>Variation in Allocation Percentages (Analytical Basis for an Allocation Scheme)</p>	<p>Sablefish and whiting codified in regulation. Some LE and open access allocations in regulation through biennial specs process. Tribal whiting sliding scale. (See Section 2.1.1)</p>	<p>2003 to 2005 sector total catch percentages</p>	<p>2003 to 2005 sector total catch percentages</p>	<p>1995 to 2005 sector landed catch percentages</p>	<p>2003 to 2005 sector total catch percentages with 10% higher non-trawl allocation relative to Alt. 1 for select species</p>	<p>2003 to 2005 sector total catch percentages, except a 95% LE trawl cap and higher non-trawl allocations for chilipepper rockfish, starry flounder, shortspine thornyhead south of 34°27' N lat, and species in the Other Flatfish complex</p>
<p>Set-Asides</p>	<p>Set-asides will be determined for projected research catches, EFPs, and incidental open access catches, and yield buffers of 5%, 15%, and 25%</p>					<p>Set-asides will be determined for projected research catches, EFPs, and incidental open access catches, as well as for incidental bycatch for most species in the at-sea whiting fishery</p>

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

b/ Tribal allocations may be considered in a separate government-to-government process (see October 2006 GAC minutes in Appendix A for details). Projected tribal catches by species will be deducted from available yields in the analysis of intersector allocation alternatives.

2.1.1 ***The No Action Alternative for Trawl and Non-trawl Allocation***

Under the No Action Alternative (status quo), only long-term fixed allocations for Pacific whiting and sablefish north of 36° N latitude exist, but all other species are not formally allocated between trawl and non-trawl. Pacific whiting allocations are codified in regulation at 50 CFR 660.323. Projected total mortalities of Pacific whiting in recreational, research, and non-groundfish fisheries are first set aside, then a yield amount is set-aside to accommodate tribal whiting fisheries. Whiting is then allocated to the tribal fisheries as described in further detail in Section 3.4.1.5. The remaining portion of the harvest is allocated to the nontribal commercial whiting fishery as follows: 42 percent for the shoreside whiting sector, 24 percent for the at-sea mothership whiting sector, and 34 percent for the at-sea catcher-processor whiting sector. Sablefish allocations north of 36° N latitude are codified in regulation at 50 CFR 660.322. Sablefish allocations north of 36° N latitude are determined by first deducting the tribal share from the OY specified for north of 36° N latitude, then deducting the estimated total mortality of sablefish in research and nongroundfish fisheries, then dividing the remaining yield (nontribal share) between open access (9.4 percent) and LE fisheries (90.6 percent), with the LE share divided between the trawl (58 percent) and fixed gear (42 percent) (longline and fishpot) sectors. The LE fixed gear allocation is then further subdivided between permits with and without sablefish endorsements. The sablefish allocations are further described in Section 3.4.1.5.

Amendment 6, which established the commercial non-treaty LE system, also established allocation procedures for any species to be newly allocated between commercial open access (including directed and incidental open access) and LE sectors based on catch history for the license limitation allocation period (July 11, 1984, through August 1, 1988; Table 2-2). The FMP also suspends such allocations for overfished species. In current practice, the LE and open access allocations are rarely met due to constraints imposed by management measures designed to rebuild overfished species. Allocating the available harvest of groundfish species and species complexes occurs in the Council process of deciding biennial harvest specifications and management measures; as such, they can be considered short-term allocations. In addition, the Council will set aside some yield for non-groundfish fisheries, tribal fisheries, exempted fishing permits (EFPs), projected research catch, and a buffer against unexpected catch overages in any sector of the groundfish fishery. Set-asides are not quotas or harvest guidelines and, if inseason information indicates that a sector will exceed its set-aside, inseason action to prevent that occurrence is not necessarily required. In some cases, allocations and/or set-asides are designated for only a few of these uses. In other cases, all of the uses will have an allocation/set-aside, and the total will be lower than the OY. When total allocations and set-asides are lower than the OY, a residual yield is generally available to any fishery that may need it during the year. For some species, geographic allocations are also specified as harvest guidelines (e.g., state-specific recreational harvest guidelines (HGs) for canary, black, and yelloweye rockfish). Intersector allocation decisions for nearshore groundfish species and complexes are currently deferred to the states of Washington, Oregon, and California, where policies and nearshore groundfish FMPs (in Oregon and California) guide those decisions.

Table 2-2. Limited entry and open access allocations based on historical catch levels for the period from July 11, 1984, to August 1, 1988 (as established by FMP Amendment 6), as compared to 2003 to 2005 average percentage of annual non-treaty total catch (based on data presented in Table 2-4).

Stock or Complex	FMP-based allocations		2003-05 Ave. Total Catch %	
	LE	OA	LE	OA
Lingcod – coastwide	81.0%	19.0%	73.36%	26.64%
Pacific Cod			99.9%	0.10%
Sablefish N. of 36° a/	90.6%	9.4%		
Sablefish S. of 36°			88.10%	11.90%
PACIFIC OCEAN PERCH			99.90%	0.10%
WIDOW	97.0%	3.0%	99.14%	0.86%
CANARY	87.7%	12.3%		
Chilipepper S. of 40°10'	55.7%	44.3%	99.28%	0.72%
BOCACCIO S. of 40°10'	55.7%	44.3%		
Splitnose			99.90%	0.10%
Yellowtail N. of 40°10'	91.7%	8.3%	99.22%	0.78%
Shortspine N. of 34°27'	99.73%	0.27%	100.00%	0%
Shortspine S. of 34°27'			99.70%	0.30%
Longspine N. of 34°27'			100.00%	0%
Longspine S. of 34°27'			99.20%	0.80%
DARKBLOTCHED			99.40%	0.60%
Minor Slope RF North	91.7%	8.3%	97.40%	2.60%
Minor Slope RF South	55.7%	44.3%	81.16%	18.84%
Dover Sole			100.00%	0%
English Sole			100.00%	0%
Petrale Sole – coastwide			100.00%	0%
Arrowtooth Flounder			99.80%	0.20%
Starry Flounder			99.89%	0.11%
Other Flatfish			99.90%	0.10%

a/ Sablefish N. of 36° are not recommended for intersector allocation. These percentages are displayed to allow comparison with intersector allocation Alternative 1, where this stock is considered for intersector allocation.

LE = limited entry, OA – open access

2.1.2 Intersector Allocation Alternative 1: Recent Total Catch Percentages by Combined Trawl Sectors and Combined Non-treaty Non-trawl Sectors

Intersector Allocation Alternative 1 applies the 2003 to 2005 average total catch (landings plus discard mortalities) percentages to the four LE trawl sectors combined plus all the non-treaty, non-trawl, directed groundfish sectors combined relative to the total non-treaty catch of groundfish species subject to intersector allocation (Table 2-3).

Table 2-3. Intersector allocation Alternative 1 (status quo allocations plus all other species; four non-treaty, trawl sectors + all non-treaty, non-trawl sectors combined; 2003 to 2005 average percentage of annual non-treaty total catch in directed groundfish fisheries).

Stock or Complex	2003-05 Ave. Total Catch %	
	All Non-Treaty LE Trawl Sectors	All Non-Treaty Non-Trawl Sectors
Lingcod – coastwide	19.8%	80.2%
Pacific Cod	98.2%	1.8%
Sablefish N. of 36° a/	50.3%	49.7%
Sablefish S. of 36°	41.9%	58.1%
PACIFIC OCEAN PERCH	99.5%	0.5%
WIDOW	91.4%	8.6%
Chilipepper S. of 40°10'	94.0%	6.0%
Splitnose	99.8%	0.2%
Yellowtail N. of 40°10'	88.4%	11.6%
Shortspine N. of 34°27'	98.4%	1.6%
Shortspine S. of 34°27'	58.0%	42.0%
Longspine N. of 34°27'	99.4%	0.6%
Longspine S. of 34°27'	0.0%	100.0%
DARKBLOTCHED	98.7%	1.3%
Minor Slope RF North	81.0%	19.0%
Minor Slope RF South	63.3%	36.7%
Dover Sole	99.9%	0.1%
English Sole	100.0%	0.0%
Petrale Sole – coastwide	100.0%	0.0%
Arrowtooth Flounder	99.2%	0.8%
Starry Flounder	87.5%	12.5%
Other Flatfish	97.7%	2.3%

a/ Sablefish N. of 36° are not recommended for intersector allocation. These percentages are displayed to allow comparison with Intersector Allocation Alternative 1, where this stock is considered for intersector allocation.

2.1.3 **Intersector Allocation Alternative 2: Recent Total Catch Percentages by All Trawl Sectors and All Non-trawl Sectors**

Intersector Allocation Alternative 2 is identical to Intersector Allocation 1 except that recent year total catch percentages relative to the total non-treaty catch of groundfish species subject to intersector allocation are displayed for each directed groundfish sector (Table 2-4). The analyses of impacts in Chapter 4 apply these sector total catch percentages to specified 2010 OYs in determining potential intersector impacts.

Table 2-4. Intersector allocation Alternative 2 (status quo plus all other species; four non-treaty trawl sectors plus limited entry fixed gear, directed open access, and recreational sectors; 2003 to 2005 average percentage of annual non-treaty total catch in directed groundfish fisheries).

Stock or Complex	200305 Ave. Total Catch %								
	LE Trawl					All Non-Treaty Trawl Sectors	LE Fixed Gear	Directed OA	Rec.
	CP	MS	Shoreside Whiting	Shoreside Non-whiting					
Lingcod – coastwide	0.0%	0.1%	0.4%	19.3%	19.8%	1.4%	7.7%	71.1%	
Pacific Cod	0.0%	0.0%	0.1%	98.1%	98.2%	0.6%	0.1%	1.1%	
Sablefish S. of 36°	0.0%	0.0%	0.0%	41.9%	41.9%	46.2%	11.9%	0.0%	
PACIFIC OCEAN PERCH	1.8%	0.3%	0.5%	96.9%	99.5%	0.2%	0.1%	0.3%	
WIDOW	22.3%	16.8%	43.7%	8.6%	91.4%	0.8%	0.8%	7.0%	
Chilipepper S. of 40°10'	0.0%	0.0%	0.0%	94.0%	94.0%	1.9%	0.7%	3.4%	
Splitnose	0.0%	0.0%	0.0%	99.8%	99.8%	0.2%	0.1%	0.0%	
Yellowtail N. of 40°10'	6.3%	4.3%	39.2%	38.6%	88.4%	0.4%	0.7%	10.4%	
Shortspine N. of 34°27'	2.1%	0.1%	0.1%	96.2%	98.4%	1.5%	0.0%	0.0%	
Shortspine S. of 34°27'	0.0%	0.0%	0.0%	58.0%	58.0%	41.7%	0.3%	0.0%	
Longspine N. of 34°27'	0.0%	0.0%	0.0%	99.4%	99.4%	0.6%	0.0%	0.0%	
Longspine S. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	99.2%	0.8%	0.0%	
DARKBLOTCHED	2.7%	1.6%	1.5%	93.0%	98.7%	0.7%	0.6%	0.0%	
Minor Slope RF North	9.0%	1.4%	0.9%	69.7%	81.0%	16.3%	2.6%	0.0%	
Minor Slope RF South	0.0%	0.0%	0.0%	63.3%	63.3%	17.7%	18.8%	0.2%	
Dover Sole	0.0%	0.0%	0.0%	99.9%	99.9%	0.1%	0.0%	0.0%	
English Sole	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%	
Petrale Sole – coastwide	0.0%	0.0%	0.0%	99.9%	100.0%	0.0%	0.0%	0.0%	
Arrowtooth Flounder	0.0%	0.0%	0.0%	99.1%	99.2%	0.7%	0.2%	0.0%	
Starry Flounder	0.0%	0.0%	0.0%	87.5%	87.5%	0.0%	0.1%	12.5%	
Other Flatfish	0.2%	0.0%	0.0%	97.5%	97.7%	0.0%	0.1%	2.1%	

2.1.4 **Intersector Allocation Alternative 3: Historical Landed Catch Percentages by All Trawl Sectors and Combined Non-trawl Sectors**

Intersector Allocation Alternative 3 applies the 1995 to 2005 average landed catch percentages to each of the four LE trawl sectors plus all the non-treaty, non-trawl, directed groundfish sectors combined relative to the total non-treaty catch of groundfish species subject to intersector allocation (Table 2-5). This retrospective look at sector catch percentages is more indicative of catch sharing under a management regime much less constrained by the need to rebuild overfished species. Consequently, many target species could be harvested close to the annual limits specified for each sector or for the fishery in its entirety. However, without the availability of Council data, total catch impacts are not as well known despite the fact that regulatory discards were likely less than under the current management regime.

Table 2-5. Intersector allocation Alternative 3 (status quo plus all other species; four non-treaty, trawl sectors plus all non-treaty, non-trawl sectors combined; 1995 to 2005 average percentage of annual non-treaty landed catch in directed groundfish fisheries).

Stock or Complex	1995-05 Ave. Landed Catch %					
	LE Trawl					All Non-Treaty Non-Trawl Sectors
	CP	MS	Shoreside Whiting	Shoreside Non-whiting	All Non-Treaty LE Trawl Sectors	
Lingcod – coastwide	0.0%	0.0%	0.1%	39.3%	39.5%	60.5%
Pacific Cod	0.0%	0.0%	0.1%	99.0%	99.1%	0.9%
Sablefish S. of 36°	0.0%	0.0%	0.0%	47.7%	47.7%	52.3%
PACIFIC OCEAN PERCH WIDOW	1.7%	1.1%	2.1%	94.4%	99.4%	0.6%
Chilipepper S. of 40°10'	0.0%	0.0%	0.0%	79.5%	79.5%	20.5%
Splitnose	0.0%	0.0%	0.0%	97.2%	97.2%	2.8%
Yellowtail N. of 40°10'	5.3%	8.2%	10.7%	72.1%	96.3%	3.7%
Shortspine N. of 34°27'	1.1%	0.0%	0.1%	96.7%	97.9%	2.1%
Shortspine S. of 34°27'	0.0%	0.0%	0.0%	78.8%	78.8%	21.2%
Longspine N. of 34°27'	0.0%	0.0%	0.0%	98.8%	98.9%	1.1%
Longspine S. of 34°27'	0.0%	0.0%	0.0%	0.3%	0.3%	99.7%
DARKBLOTCHED	2.3%	0.8%	0.6%	95.3%	99.0%	1.0%
Minor Slope RF North	6.7%	1.2%	1.1%	78.5%	87.5%	12.5%
Minor Slope RF South	0.0%	0.0%	0.0%	69.9%	69.9%	30.1%
Dover Sole	0.0%	0.0%	0.0%	99.9%	100.0%	0.04%
English Sole	0.0%	0.0%	0.1%	99.9%	100.0%	0.0%
Petrale sole – coastwide	0.0%	0.0%	0.0%	99.9%	99.9%	0.1%
Arrowtooth Flounder	0.1%	0.0%	0.0%	99.8%	99.9%	0.1%
Starry Flounder	0.0%	0.0%	0.0%	48.9%	48.9%	51.1%
Other Flatfish	0.2%	0.0%	0.1%	97.0%	97.3%	2.7%

2.1.5 Intersector Allocation Alternative 4: Higher Non-trawl Allocations

Intersector Allocation Alternative 4 proportionally increases the non-trawl percentage under intersector allocation Alternative 1 by 10 percent for the following species: lingcod (coastwide), Pacific cod, sablefish (north and south), widow rockfish, chilipepper rockfish, yellowtail rockfish, shortspine thornyhead (north and south), minor slope rockfish (north and south), and starry flounder (Table 2-6). The GAC recommended this alternative for analysis because it would shift a percentage of the allocation from trawl gear to non-trawl gear. Alternative 4 is consistent with public testimony to the Council that allocation is a potentially useful management tool in reducing bycatch and protecting EFH.

Table 2-6. Proposed intersector allocation Alternative 4 (10 percent higher non-trawl allocation of select species relative to Intersector Allocation Alternative 1).

Stock or Complex	All Non-Treaty LE Trawl Sectors	All Non-Treaty Non-Trawl Sectors
Lingcod – coastwide	11.8%	88.2%
Pacific Cod	98.0%	2.0%
Sablefish N. of 36°	45.3%	54.7%
Sablefish S. of 36°	36.1%	63.9%
PACIFIC OCEAN PERCH	99.5%	0.5%
WIDOW	90.6%	9.4%
Chilipepper S. of 40°10'	93.4%	6.6%
Splitnose	99.8%	0.2%
Yellowtail N. of 40°10'	87.3%	12.7%
Shortspine N. of 34°27'	98.3%	1.7%
Shortspine S. of 34°27'	53.8%	46.2%
Longspine N. of 34°27'	99.4%	0.6%
Longspine S. of 34°27'	0.0%	100.0%
DARKBLOTCHED	98.7%	1.3%
Minor Slope RF North	79.1%	20.9%
Minor Slope RF South	59.6%	40.4%
Dover Sole	99.9%	0.1%
English Sole	100.0%	0.0%
Petrale Sole – coastwide	100.0%	0.0%
Arrowtooth Flounder	99.2%	0.8%
Starry Flounder	86.2%	13.8%
Other Flatfish	97.7%	2.3%

2.1.6 ***The Council's Preferred Alternative for Trawl and Non-trawl Allocations***

The Council adopted its preferred alternative for LE trawl and non-trawl allocations at its April 2009 meeting in Millbrae, California (Table 2-7). In general, the Council believed the more recent catch period from 2003 to 2005 should form the basis for deciding sector allocations since discards during this period were better informed, and current management strategies, such as specification of RCAs, are more likely in the near future when these allocations will likely be implemented. The Council agreed with the trawl and non-trawl allocations recommended by the GAC at its January 2009 meeting, except for five stocks or stock complexes subject to Amendment 21 allocations. A higher non-trawl allocation for chilipepper rockfish south of 40°10' N latitude was recommended with the stated objective of trying to gain greater non-trawl access to this healthy stock off California.

The GAC-recommended trawl and non-trawl allocations of shortspine thornyhead south of 34°27' N latitude were found to be based on sector catch data from the north that were incorrectly assigned to ports south of 34°27' N latitude. The older catch data had all shortspine thornyhead catches south of 36° N latitude assigned to south of 34°27' N latitude. This problem was rectified by assigning all catches landed in Santa Barbara and ports south to south of 34°27' N latitude and all catches landed in ports north of Santa Barbara assigned to north of 34°27' N latitude. This reassignment of catches indicated that a maximum of 0.34 mt of shortspine thornyhead were landed south of 34°27' N latitude in any one year during 1995 to 2005.

Upon GAP advice, the Council decided to allocate 50 mt of the southern shortspine thornyhead yield to the LE trawl sector and the remaining yield to the non-trawl fisheries, where shortspine thornyhead are a major target species. The Council also decided not to allocate longspine thornyhead south of 34°27' N latitude to the trawl fishery. Longspine thornyhead are an incidentally caught species south of 34°27' N latitude and the available yields are not projected to constrain any of the groundfish fisheries there that incidentally catch these fish. No trawl allocation of longspine thornyhead south of 34°27' N latitude is needed given that the future trawl catch of this stock will not be managed using IFQs.

The Council also decided to allocate a much higher percentage of the available yield of starry flounder to non-trawl sectors (50 percent) than recommended by the GAC. The catch history of starry flounder is highly uncertain, but they are significantly caught in nearshore trawl fisheries and recreational fisheries on the west coast. The Council thought a 50:50 trawl and non-trawl sharing of the available harvest of starry flounder was the fairest allocation.

Finally, the Council adopted a higher non-trawl allocation of species in the Other Flatfish complex than recommended by the GAC (10 percent vs. 5 percent). While most of these species are dominant to the trawl fishery, there are some species, such as Pacific sanddabs, that are significantly caught in non-trawl fisheries. The Council believed a higher non-trawl share of the available harvest of Other Flatfish species would better preserve non-trawl fishing opportunities for these species.

Table 2-7. The preferred alternative for limited entry trawl and non-trawl allocations recommended by the Council in April 2009.

Stock or Complex	All Non-Treaty LE Trawl Sectors	All Non-Treaty Non-Trawl Sectors
Lingcod – coastwide	45.0%	55.0%
Pacific Cod	95.0%	5.0%
Sablefish N. of 36° a/	52.5%	47.5%
Sablefish S. of 36°	42.0%	58.0%
PACIFIC OCEAN PERCH	95.0%	5.0%
WIDOW	91.0%	9.0%
Chilipepper S. of 40°10'	75.0%	25.0%
Splitnose S. of 40°10'	95.0%	5.0%
Yellowtail N. of 40°10'	88.0%	12.0%
Shortspine N. of 34°27'	95.0%	5.0%
Shortspine S. of 34°27'	50 mt	Remaining Yield
Longspine N. of 34°27'	95.0%	5.0%
Longspine S. of 34°27'		No Allocation
DARKBLOTCHED	95.0%	5.0%
Minor Slope RF North	81.0%	19.0%
Minor Slope RF South	63.0%	37.0%
Dover Sole	95.0%	5.0%
English Sole	95.0%	5.0%
Petrale Sole – coastwide	95.0%	5.0%
Arrowtooth Flounder	95.0%	5.0%
Starry Flounder	50.0%	50.0%
Other Flatfish	90.0%	10.0%

a/ The Council is not recommending a modification of the status quo allocation of sablefish N of 36° N latitude. The LE trawl percentage is status quo but is recalculated as a percent of the total non-treaty available yield (90.6 % (the LE allocation) × 58% (the LE trawl allocation of the total LE amount)).

2.2 Within-Trawl Sector Allocations

Allocations to each of the four current trawl sectors—shoreside non-whiting, shoreside whiting, and the two at-sea whiting sectors (catcher-processor and mothership)—are needed to effectively implement Amendment 20 trawl rationalization measures. An initial allocation of species to be managed using IFQs has to be made to the shoreside trawl sectors, and set-aside amounts have to be specified for the at-sea whiting sectors. Those species subject to Amendment 21 allocation are also considered for within-trawl allocation and treated as initial sector allocations for the shoreside trawl sectors and set-asides for the at-sea whiting sectors. Additionally, four bycatch species in the at-sea whiting fishery will be managed with sector-specific total catch limits under Amendment 20 trawl rationalization. An allocation of canary rockfish, darkblotched rockfish, POP, and widow rockfish to the two at-sea whiting sectors is therefore required.

In the trawl rationalization program, several species/sector combinations are not scheduled to be managed using IFQs or bycatch limits. It is these sector/species combinations where set-asides are necessary and where allocations are not necessarily appropriate. The perspective taken to establish a set-aside is different from the perspective taken for establishing allocations. Since set-asides are not accompanied with a firm and direct management tool, the appropriate amount of fish attributed to a set-aside is best examined as an amount that can reasonably accommodate the incidental amount of fish that a sector could take. This differs from an allocation where a firm catch level is established that is a direct target, and that target may be lower than historic catch amounts.

The species that would be treated with an initial allocation to the shoreside trawl sectors and the species set-asides are outlined in Table 2-8. This table is based on the Council's motion on trawl rationalization, which identified the species for which each sector would have IFQ or bycatch limits. Those species that have "white" cells require an allocation. Those species where a "grey" cell exists require a set-aside. In cases where each trawl sector has a "grey" cell, no decision on set-asides or allocations is necessary. In other words, set-asides are necessary if a) an allocation is made to the trawl sector, and b) one or more of the trawl subsectors does not have IFQ or bycatch limits. Any of the species requiring a trawl allocation yet not allocated to trawl sectors under this Amendment 21 process, will be allocated in the biennial harvest specifications and management measures process.

Table 2-8. The trawl allocation process by species and species complex contemplated under the provisions of FMP Amendments 20 and 21.

Allocation Process	Stock or Complex	SHORESIDE		MS	CP
		Non-Whiting	Whiting		
Sector Allocations Decided Through ISA Process	Lingcod				
	Pacific Cod				
	Pacific Whiting (U.S.)		a/	a/	a/
	Sablefish N. of 36°				
	Sablefish S. of 36°		NA	NA	NA
	PACIFIC OCEAN PERCH				
	WIDOW				
	Chilipepper S. of 40°10'		NA	NA	NA
	Splitnose S. of 40°10'		NA	NA	NA
	Yellowtail N. of 40°10'				
	Shortspine Thornyhead N. of 34°27'				
	Shortspine Thornyhead S. of 34°27'		NA	NA	NA
	Longspine Thornyhead N. of 34°27'				
	Longspine Thornyhead S. of 34°27'	NA	NA	NA	NA
	DARKBLOTCHED				
	Minor Slope RF N.				
	Minor Slope RF S.			NA	NA
	Dover Sole				
	English Sole				
	Petrals Sole – coastwide				
Arrowtooth Flounder					
Starry Flounder					
Other Flatfish					
Sector Allocations Decided Through Biennial Specifications and Management Measures Process	CANARY ROCKFISH				
	BOCACCI				
	COWCOD				
	YELLOWEYE				
	Black Rockfish (WA)				
	Black Rockfish (OR & CA)				
	Minor Nearshore RF N.				
	Minor Nearshore RF S.				
	Minor Shelf RF N.				
	Minor Shelf RF S.				
	California scorpionfish				
	Cabezon (off CA only)				
	Other Fish				
	Longnose Skate				

a/ Allocations fixed in the FMP; however, an initial allocation must be made for the two shoreside sectors before QSS are allocated.

Key:

	set-aside/no allocation necessary
	allocation necessary

NA = no allocation necessary to the sector.

There are three decision steps for deciding within-trawl allocations; the alternatives for each decision step are described in the following sections (Table 2-9).

Table 2-9. Decision steps for deciding within-trawl allocations.

Decision Step	Trawl Sectors Affected a/	Species Affected	Section Describing the Alternatives
2	SSW, SNW	All Am. 21 Species Other Than Darkblotched, POP, and Widow	2.2.1
3	SSW, SNW, CP, MS	Darkblotched, POP, and Widow	2.2.2
4	CP, MS	All Am. 21 Species Other Than Darkblotched, POP, and Widow	2.2.3

a/ SSW = shoreside whiting, SNW = shoreside non-whiting, CP = catcher-processors, and MS = motherships.

2.2.1 **Decision 2: Shoreside Trawl Sector Allocations**

Decision 2 corresponds to proposed actions 2 and 3 in Section 1.2. In its Amendment 20 trawl rationalization decision, the Council decided to manage the shoreside trawl fishery as a single sector. However, the QS allocation formula for each of the shoreside trawl sectors is different. This creates the need for a temporary within-trawl allocation between the shoreside whiting and non-whiting fisheries in order to complete the initial QS allocation. No Action (Alternative 1) would mean that no temporary within-trawl allocation would occur between the non-whiting and whiting shoreside trawl sectors. However, informal set asides for bycatch limit species (widow rockfish, darkblotched rockfish, and canary rockfish) and set asides have been historically used for widow and yellowtail. No Action (Alternative 1) is not a viable option if the future trawl rationalization program is approved and implemented. Within-trawl allocations are necessary for the shoreside fleet given the Council’s decision to handle shoreside nonwhiting and whiting QS differently (i.e., nonwhiting QS is divided as 90 percent to permit holders/10 percent to adaptive management; whiting QS is divided as 80 percent to permit holders/20 percent to shoreside processors).

The action alternatives in Decision 2 contemplate formal within-trawl sector allocations to the two shoreside trawl sectors (i.e., shoreside whiting and shoreside non-whiting) for all Amendment 21 species that are not formally allocated to the other two trawl sectors (i.e., the at-sea whiting fleets-catcher-processors and motherships). Formal allocations of Amendment 21 species contemplated for all four trawl sectors only apply to the trawl-dominant overfished species (i.e., darkblotched, POP, and widow) and is decision step 3 described in Section 2.2.2.

For the shoreside non-whiting sector, 90 percent of the allocation will be to the permits and 10 percent to an adaptive management program (AMP).³ Non-overfished species QS will be allocated based on permit catch history for each individual species, and QS will include an equal allocation component

³ The AMP is intended to provide QS to fishing communities and other entities to mitigate potential harm from implementation of the trawl rationalization program. The Council’s preferred alternative under the Amendment 20 trawl rationalization program is to defer implementation of the AMP until year 3 of the program to better understand the impacts of trawl rationalization to impacted fishing communities and entities.

from the catch histories of retired trawl permits from the buy-back program. Overfished species QS allocated to permits will be allocated using each individual permit's logbooks, fleet bycatch rates, and target species QS allocations. For the shoreside whiting sector, QS for all species other than whiting will be allocated to qualifying permits and processors in proportion to each entity's whiting QS allocation. Each of these methods will result in QS allocations that sum to 100 percent for each sector. The initial allocations of QS to each sector then have to be adjusted so that they sum to 100 percent when the two sectors are combined. This will be done using the results from the intersector allocation process. Figure 2-1 illustrates how the initial darkblotched QS allocations for two permits will be calculated based on the separate sector allocation rules and then adjusted using the allocation results from the intersector allocation process. Permit A, one for a shoreside non-whiting participant, is initially allocated 1 percent of the shoreside non-whiting sector darkblotched rockfish QS. Permit B, one for a shoreside whiting participant, is initially allocated 1 percent of the whiting sector allocation of darkblotched rockfish QS. These QS allocations are then multiplied by the results from the intersector allocation process to determine the amount of combined shoreside sector darkblotched QS each permit will receive. If 98 percent of the initial allocation goes to the shoreside non-whiting sector, then Permit A will end up with 0.98 percent of the combined sector's darkblotched QS, and Permit B will end up with 0.02 percent of that QS.

It has been the Council's intent to allocate QS among participants based on need. The initial sector allocation should also be based on need. To accomplish this, historical catch percentages can be used to weight allocations (Table 2-10). The alternative weighting schemes to make the initial shoreside sector allocations in order to combine the sectors and allocate QS to eligible participants are based on 1995 to 2005 catch percentages (Alternative 2) relative to total shoreside catches and alternatively the 2003 to 2005 sector catch percentages (Alternative 3) (Table 2-10). A weighting scheme based on the anticipated needs of each sector will likely reduce the amount of QS transfers in the initial years of the IFQ program relative to an equal weighting scheme or some other mechanism for deciding the initial sector allocation. Table 2-10 provides the shoreside sector catch percentages during the 1995 to 2005 period (Alternative 2), which was less influenced by the conservative management regime under rebuilding plans, and the sector catch percentages during 2003 to 2005 (Alternative 3) when groundfish management was heavily influenced by rebuilding plans.

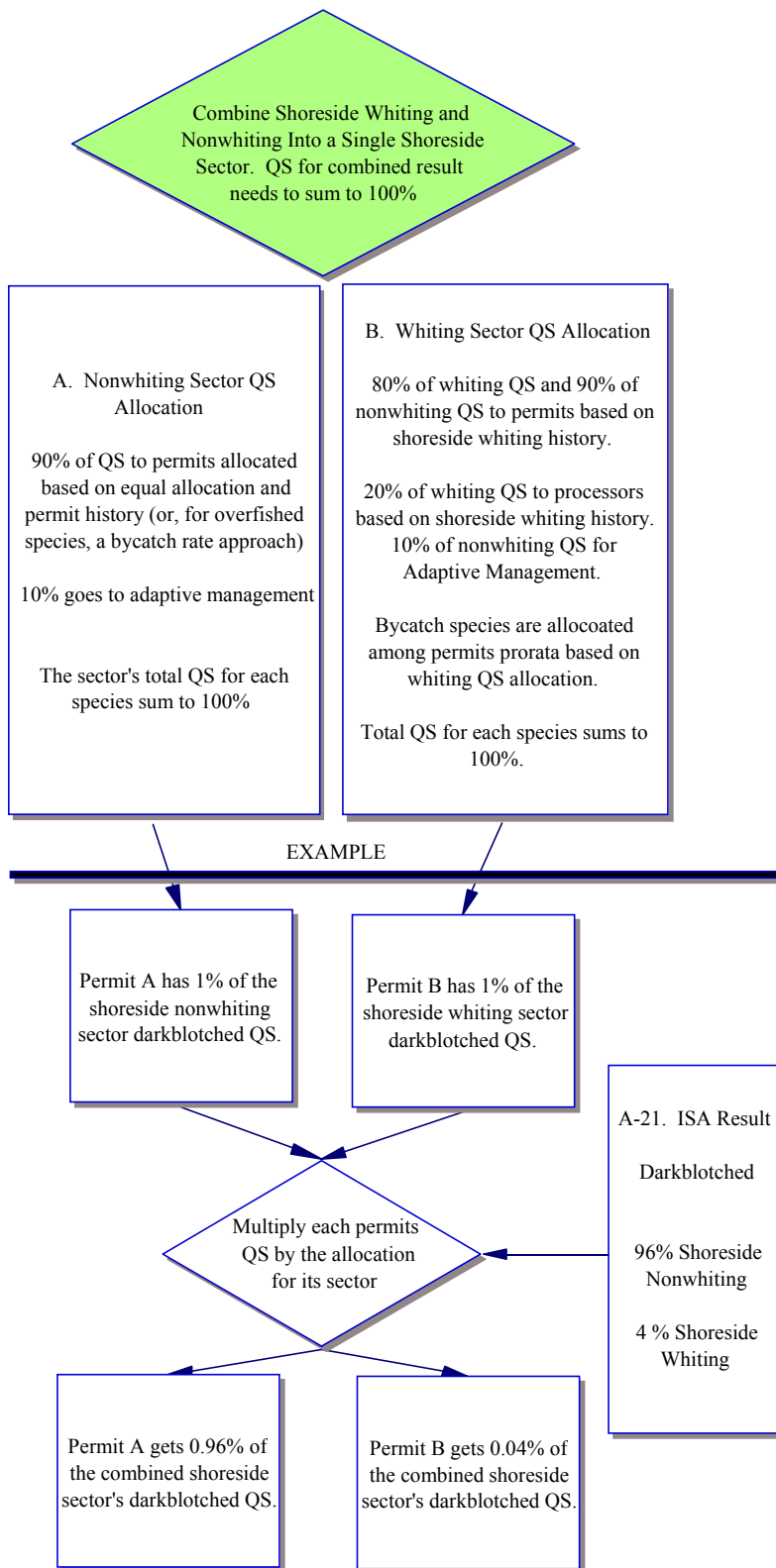


Figure 2-1. Flow diagram of how allocations to the shoreside trawl sectors (i.e., whiting and nonwhiting) affect the allocation of QS to eligible participants in a combined shoreside sector under trawl rationalization.

Table 2-10. Percentages of total shoreside trawl catches of intersector allocation species caught by the whiting and non-whiting sectors, 1995-2005 and 2003-2005, and the Council's -preferred alternative.

Stocks and Stock Complexes	Shoreside Trawl Sectors						
	Alternative 1: No Action	Alternative 2: 1995 to 2005 Sector Catch Percentage		Alternative 3: 2003 to 2005 Sector Catch Percentage		Alternative 4: Council-preferred Sector Catch Percentage	
		Non-whiting	Whiting	Non-whiting	Whiting	Non-whiting	Whiting
Lingcod – coastwide		99.7%	0.3%	98.1%	1.9%	99.7%	0.3%
Pacific Cod		99.9%	0.1%	99.9%	0.1%	99.9%	0.1%
Pacific Whiting – coastwide		0.1%	99.9%	2.8%	97.2%	0.1%	99.9%
Sablefish N. of 36°		98.2%	1.8%	97.6%	2.4%	98.2%	1.8%
Sablefish S. of 36°		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
PACIFIC OCEAN PERCH	No formal allocation of these species between the non-whiting and whiting shoreside trawl sectors.	97.8%	2.2%	99.5%	0.5%	Remaining	17% or 30 mt, whichever is greater, to SS + at-sea whiting^{a/}
WIDOW		94.5%	5.5%	16.5%	83.5%	Remaining	If under rebuilding, 52% to SS + at-sea. If stock rebuilt, 10% or 500 mt, whichever is greater, to SS + at-sea.^{a/}
Chilipepper S. of 40°10'	Informal set asides for bycatch limit species and set asides have been historically used for widow and yellowtail.	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Splitnose S. of 40°10'		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Yellowtail N. of 40°10'		87.0%	13.0%	49.6%	50.4%	Remaining	300 mt
Shortspine N. of 34°27'		99.9%	0.1%	99.9%	0.1%	99.9%	0.1%
Shortspine S. of 34°27'		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Longspine N. of 34°27'		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Longspine S. of 34°27'		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
DARKBLOTCHED		99.3%	0.7%	98.5%	1.5%	Remaining	9% or 25 mt, whichever is greater, to SS + at-sea whiting^{a/}
Minor Slope RF North		98.6%	1.4%	98.7%	1.3%	98.6%	1.4%
Dover Sole		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
English Sole		99.9%	0.1%	100.0%	0.0%	99.9%	0.1%
Petrale Sole – coastwide		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Arrowtooth Flounder		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Starry Flounder		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Other Flatfish		99.9%	0.1%	100.0%	0.0%	99.9%	0.1%

a/ This comes from Decision 3 in Section 2.2.2. SS = shoreside.

The appropriate intersector allocation formula or weighting scheme may depend on where the stock is projected to be at the time of initial allocation. Using a widow rockfish example, if the stock is not rebuilt, the appropriate shoreside whiting sector allocation may be about 83.5 percent (i.e., the 2003 to

2005 percentage) to appropriately provide the needed access to whiting. If widow is rebuilt, however, an allocation of 5.5 percent (i.e., the 1995 to 2005 percentage [Alternative 2]) may be more appropriate (Table 2-10). If the stock becomes rebuilt after the QS allocation is made, the market might be relied on to reallocate to those vessels that would target on widow. Alternatively, a provision in the trawl rationalization program allows for reallocation of QS after a stock is rebuilt; however, it has not been determined how that reallocation would be achieved. The two stocks whose distribution between the shoreside whiting and non-whiting participants will be most affected by rebuilding are widow rockfish and yellowtail rockfish, a healthy stock with harvest access that has been constrained by widow rockfish rebuilding measures.

The Council's preferred alternative (Alternative 4) is to use the shoreside sector catch percentages during the 1995-2005 period as the weighting scheme for the initial allocation to the two shoreside trawl sectors for all Amendment 21 species other than the trawl-dominant overfished species (see Section 2.2.2) and yellowtail rockfish. The Council decided to allocate 300 mt of yellowtail rockfish to the shoreside whiting sector. Under the preferred alternative, the shoreside non-whiting sector would receive the remaining yield of yellowtail rockfish available to the LE trawl sectors (Table 2-7) minus any set-aside amount of yellowtail rockfish for the at-sea whiting sectors decided in the future. The Council's initial set-aside of yellowtail rockfish to accommodate bycatch by the at-sea whiting sectors is 300 mt (see Section 2.2.3).

2.2.2 Decision 3: Trawl Sector Allocations of Trawl-Dominant Overfished Species

Decision 3 corresponds to proposed action 3 in Section 1.2, and it is also reflected in the Council's preferred alternative in Decision 2 (Table 2-10). The Council addressed within-trawl sector allocations of the three trawl-dominant overfished species by considering how to meet the needs of the shoreside non-whiting sector vs. the three whiting sectors as a first step. The at-sea whiting sectors need a specific allocation of darkblotched rockfish, POP, and widow rockfish since the bycatch of these Amendment 21 species will be managed using total catch limits.⁴

Table 2-11 provides a comparison among the alternatives for Decision 3. The No Action Alternative (Alternative 1) would have no formal allocation between the non-whiting and whiting (shoreside and at-sea) trawl sectors. Bycatch limits by sector in the whiting (shoreside and at-sea) fisheries would be implemented through the biennial specifications and management measures. Bycatch limits for the whiting (shoreside and at-sea) fishery are based on a weighted average approach and may be established, adjusted, and used inseason to close a sector or sectors of the whiting fishery to achieve the rebuilding of an overfished or depleted stock. These limits may be adjusted inseason or may have new species added to the list of those with bycatch limits. Bycatch limits are apportioned among the shoreside and at-sea whiting sectors.

Alternative 2 is based on the trawl sector catch percentages and weight (mt) of trawl-dominant overfished species from 1995-2005 between the non-whiting and whiting (shoreside and at-sea) fisheries. Alternative 3 is the same as Alternative 2, but uses a more recent period of 2003 to 2005. Alternatives 2 and 3 derived from tables (mt) in Section 4.4.2.2. The periods of 1995 to 2005 and 2003 to 2005 were used because Decision 3 is linked with Decision 2, which uses these periods. However, as explained in Section 4.4.3.2, these species' catch percentages change depending on when they were declared overfished and when management measures were adjusted for rebuilding. Under rebuilding,

⁴ Additionally, canary rockfish bycatch in the at-sea whiting fisheries will be managed using total catch limits. However, the within-trawl allocation of canary rockfish will not be considered in the Amendment 21 process for reasons discussed in Section 2.1. Rather, short-term allocations of canary rockfish will be decided in the biennial harvest specifications and management measures process.

the percentages for widow rockfish change the most for these three species. Darkblotched rockfish and POP changed little between rebuilding and pre-rebuilding.

The Council's preferred alternative (Alternative 4) for within-trawl allocations of the trawl-dominant overfished species is as follows:

Darkblotched Rockfish

Allocate 9 percent or 25 mt, whichever is greater, of the total trawl allocation of darkblotched rockfish to the whiting fisheries (at-sea and shoreside combined). The distribution of the whiting trawl allocation of darkblotched to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation. This amount accommodates the catches in both the 1995-2005 and 2003-2005 periods.

Pacific Ocean Perch

Allocate 17 percent or 30 mt, whichever is greater, of the total trawl allocation of POP to the whiting fisheries (at-sea and shoreside combined). The distribution of the whiting trawl allocation of POP to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation. This amount accommodates the catches in both the 1995 to 2005 and 2003 to 2005 periods.

Widow Rockfish

Initially allocate 52 percent of the trawl allocation of widow rockfish to the whiting sectors if the stock is under rebuilding or 10 percent of the trawl allocation or 500 mt of the trawl allocation to the whiting sectors, whichever is greater, if the stock is rebuilt. If the stock is overfished when the initial allocation is implemented, the latter allocation scheme automatically kicks in when it is declared rebuilt. The distribution of the whiting trawl allocation of widow to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation.

Table 2-11. Percentages and weight (mt) of total trawl catches of trawl-dominant overfished species caught by the whiting (shoreside + at-sea) and non-whiting sectors, 1995-2005 and 2003-2005, and the Council's -preferred alternative. (Alternatives 2 + 3 derived from tables (mt) in Section 4.4.2.2)

Stock	Four Trawl Sectors						
	Alternative 1: No action	Alternative 2: 1995 to 2005 Sector Catch Percentage		Alternative 3: 2003-2005 Sector Catch Percentage		Alternative 4: Council-preferred	
		Non-whiting	SS+at-sea Whiting	Non- whiting	SS+at-sea Whiting	Non- whiting	SS+at-sea Whiting
DARKBLOTCHED	No formal allocation between the non-whiting and whiting (SS + at-sea) trawl sectors. Bycatch limits by sector implemented thru biennial specifications for darkblotched and widow (not POP) in whiting (SS + at-sea) fisheries	96.4% (407 mt)	3.6% (15 mt)	94.2% (164 mt)	5.8% (10 mt)	Remaining	9% or 25 mt, whichever is greater, to SS + at-sea whiting
PACIFIC OCEAN PERCH		95.0% (389 mt)	5.0% (20 mt)	97.4% (123 mt)	2.6% (3 mt)	Remaining	17% or 30 mt, whichever is greater, to SS + at-sea whiting
WIDOW		89.8% (2,777 mt)	10.2% (315 mt)	8.2% (7 mt)	91.8% (78 mt)	Remaining	If under rebuilding, 52% to SS + at-sea. If stock rebuilt, 10% or 500 mt, whichever is greater, to SS + at-sea.

SS = shoreside.

2.2.3 Decision 4: At-sea Whiting Trawl Sector Set-asides

Decision 4 corresponds to proposed action 4 in Section 1.2. Yield set-asides are not formal allocations; rather they are projections of incidental catch by a sector. As such, yield set-asides are subject to change as better information regarding incidental catch amounts becomes available. Yield set-asides are intended to best account for all sources of fishing-related mortality to improve management of harvest specifications (i.e., to achieve the objective of not exceeding OYs). While there is no inseason management of the sectors to stay within a projected set-aside amount, trip limits and amounts of fish available to other sectors are adjusted based on the amounts remaining after set-asides are deducted. Therefore, set-asides are a type of informal allocation similar to research set-asides.

Table 2-12 provides a comparison among the alternatives for Decision 4. The No Action Alternative (Alternative 1) has no set-asides for the at-sea whiting fishery. Historically, there have been some set-asides for yellowtail and widow rockfish to accommodate catches in the at-sea whiting fishery. Once those fisheries were completed, the set-asides rolled back into the LE trawl amounts available to the entire fishery. If the trawl rationalization program, Amendment 21, is implemented, the distinction between Alternative 1 (No Action) and the action alternatives becomes clearer. Under trawl rationalization, these at-sea whiting set-asides in Alternative 2 and 3 become informal allocations to the at-sea fishery in that these amounts would not be made available to the shoreside fishery once the at-sea fishery was completed. However, as mentioned above, set-asides are necessary for the at-sea fishery

under the trawl rationalization program to accommodate the incidental catch in the at-sea fishery without exceeding the OYs.

Under Amendment 21, the rationalized at-sea sectors of the whiting fishery will be managed as closed sectors in a system of harvest cooperatives. Most of the species subject to intersector allocations under Amendment 21 are caught incidentally in the at-sea fishery. Pacific whiting are formally allocated to these sectors in the FMP. The GAC recommended setting aside enough yield for the remaining Amendment 21 species (other than darkblotched rockfish, POP, and widow rockfish) so that these sectors are not constrained, given the inter-annual variation in sector catches (Alternative 2). The GAC recommended a 5-mt minimum set-aside for any incidentally caught species in the at-sea fisheries and that all set-asides be rounded up to the nearest 5 mt. This would increase the minimum set aside from 1 mt to 5 mt for Pacific cod, longspine thornyheads north of 34°27' N. lat., English sole, Petrale sole, starry flounder, and longnose skate. Yelloweye rockfish would remain at 0 mt. Alternative 2 also sets aside 500 mt of yellowtail rockfish.

[NOTE: There is an inconsistency in the Council's motion from April 2009 on at-sea whiting trawl sector set-asides. "At-sea sector set asides: Adopt the GAC recommendation to set the at-sea sector set asides large enough to not constrain their fisheries given the interannual variation in sector catches by establishing a 5 mt minimum set-aside for any incidentally caught species in the at-sea fisheries with all set asides rounded up to the nearest 5 mt (actual amounts specified in Table 4-23, p. 102 of Preliminary Draft EIS)." This leaves open two interpretations: 1) 5mt minimum set-aside for any species and 2) actual amounts in the table that showed some species set-asides of less than 5 mt (e.g., 0 mt and 1 mt). NMFS has interpreted the GAC-recommended alternative to be a 5-mt minimum set aside for any species, except yelloweye rockfish, which remains at 0 mt, and the Council-preferred alternative to be the values that were originally reflected in the preliminary DEIS as reflected in Table 2-12. The impacts analysis covers the scope of both of these interpretations.]

The Council's preferred alternative (Alternative 3) for set-asides to the at-sea whiting sectors is found in Table 2-12. The Council's recommendation (Alternative 3) for yellowtail rockfish, 300 mt, differs from the GAC recommendation (Alternative 2) of 500 mt. In addition, the Council's -preferred alternative differs from the GAC-recommended alternative by setting aside only 1 mt of the following species: Pacific cod, longspine thornyheads north of 34°27' N. lat., English sole, Petrale sole, starry flounder, and longnose skate. Yelloweye rockfish would remain at 0 mt. Three hundred mt was chosen because it would split the difference between the average catches in the shoreside sector during the 1995 to 2005 period and the average catches that occurred under a healthy widow rockfish period (1995 to 2000). Section 4.4.3.3 provides the analysis of alternatives and data used to project these incidental catch amounts in the at-sea whiting fishery.

It is anticipated that the projected incidental bycatch amounts in the at-sea whiting fishery for Amendment 21 species that are not formally allocated (Table 2-12) will change in the future as better information becomes available. Therefore, the set-aside "decision" is not enduring and could very well change before trawl rationalization and Amendment 21 allocations are implemented.

Table 2-12. Alternatives for yield set-asides to accommodate the bycatch in future at-sea whiting fisheries under trawl rationalization.

Allocation Process	Stock or Stock Complex	Alternative 1: No Action	Alternative 2: GAC-recommended	Alternative 3: Council-preferred at-sea Set-aside (mt) ^{a/}
Sector Allocations Decided Through the Intersector Allocation Process	Lingcod	No set asides for the at-sea whiting fishery. Historically have been set-asides for yellowtail and widow rockfish to accommodate catches in the at-sea whiting fishery. Once those fisheries were completed, the set-asides rolled back in to the LE trawl amounts available to the entire fishery.	6	6
	Pacific Cod		5	1
	Pacific Whiting (U.S.)		NA	NA
	Sablefish N. of 36°		50	50
	Sablefish S. of 36°		NA	NA
	PACIFIC OCEAN PERCH		Formal Allocation	Formal Allocation
	WIDOW ROCKFISH		Formal Allocation	Formal Allocation
	Chilipepper S. of 40°10'		NA	NA
	Splitnose S. of 40°10'		NA	NA
	Yellowtail N. of 40°10'		500	300
	Shortspine Thornyhead N. of 34°27'		20	20
	Shortspine Thornyhead S. of 34°27'		NA	NA
	Longspine Thornyhead N. of 34°27'		5	1
	Longspine Thornyhead S. of 34°27'		NA	NA
	DARKBLOTCHED		Formal Allocation	Formal Allocation
	Minor Slope RF N.		55	55
	Minor Slope RF S.		NA	NA
	Dover Sole		5	5
	English Sole		5	1
	Petrale Sole – coastwide		5	1
	Arrowtooth Flounder		10	10
Starry Flounder	5	1		
Other Flatfish	20	20		
Pacific Halibut	10	5		
Sector Allocations Decided Through the Biennial Specifications and Management Measures Process	CANARY ROCKFISH	Formal Allocation	Formal Allocation	
	BOCACCI	NA	NA	
	COWCOD	NA	NA	
	YELLOWEYE	0	0	
	Black Rockfish	NA	NA	
	Blue Rockfish (CA)	NA	NA	
	Minor Nearshore RF N.	NA	NA	
	Minor Nearshore RF S.	NA	NA	
	Minor Shelf RF N.	35	35	
	Minor Shelf RF S.	NA	NA	
	California scorpionfish	NA	NA	
	Cabezon (off CA only)	NA	NA	
	Other Fish	520	520	
	Longnose Skate	5	1	

a/ The Pacific halibut set-aside is 10 mt, with 5 mt for the at-sea sector and 5 mt for the shoreside trawl sector south of 40°10' N latitude.

2.3 Decision 5: Pacific Halibut Total Catch Limit Alternatives

Decision 5 corresponds to proposed action 5 in Section 1.2. In November 2007, the Council decided to allocate a percentage of the Area 2A (i.e., all waters off Washington, Oregon, and California) total constant exploitation yield (TCEY) of Pacific halibut to the LE trawl sector based on the 2005 and 2006 estimated bycatch mortalities, the most recent information available at the time of analysis. Pacific halibut fisheries in the Northeast Pacific and Bering Sea are managed by the International Pacific Halibut Commission (IPHC). A long-standing policy of the IPHC has been to prohibit retention of Pacific halibut in trawl fisheries. Retention of Pacific halibut would continue to be prohibited for the trawl fishery under all alternatives, including the No Action Alternative. The Council's intent in this allocation is not to recommend a different policy to the IPHC, but to adopt a total catch limit of Pacific halibut in the west coast LE trawl fishery. The Council also expressed the intent to further reduce trawl bycatch of Pacific halibut in future fisheries to provide more yield for directed Area 2A halibut fisheries.

Alternative Pacific halibut total catch limits analyzed in this EIS are provided in Table 2-13. Each total catch limit alternative is applied to the Area 2A TCEY decided annually by the IPHC. The action alternatives differ by the percentage of the TCEY allocated to the west coast trawl fishery.

Under the No Action Alternative, catch of Pacific halibut in the groundfish trawl fishery would not be limited. Halibut bycatch is accounted for annually by the IPHC (Williams 2008) in its assessment of the halibut resource. This mortality is used to determine the remaining amount of halibut available for directed harvest in the halibut fishery for a given year. Generally, "other removals," including bycatch mortality in the trawl and fixed gear fisheries, are deducted from the TCEY to determine the fishery CEY available to the directed halibut fishery in Area 2A. Currently, halibut bycatch in the Area 2A groundfish trawl fishery is estimated from information collected by at-sea observers. Bycatch rates (pounds per hour) are derived from the observer data and applied to commercial fishery effort from logbooks (Wallace and Methot 2001). The most recent estimates are available in a report from Wallace and Hastie (2009). In Area 2A, NMFS observers have also been collecting release condition data on bottom trawlers for several years. These data have been used to estimate mortality since 2007.

Unlike the No Action Alternative, the action alternatives would set the amount of halibut bycatch permitted in the groundfish trawl fishery. The first two action alternatives for initial total catch limits of Pacific halibut originally specified by the Council for analysis were to use the trawl bycatch mortalities of legal-sized (≥ 32 in., >81 cm) Pacific halibut in 2005 and 2006 as a percent of the Area 2A TCEYs. These two alternatives differ very little (14.6 and 14.7 percent). A third alternative was added in November 2008, as part of the Council's final preferred alternative for Amendment 20 trawl rationalization. The third alternative specified a total trawl bycatch limit of 10 percent of the Area 2A CEY (the Council did not specify whether the total CEY or the fishery CEY⁵ should be used for the calculation).

⁵ There are two CEYs determined by the IPHC: the fishery CEY, which is the allocated yield of legal-sized commercial halibut (≥ 32 in., >81 cm) and recreational halibut with no current minimum size requirement, and the total CEY, which is the total allocated yield of Area 2A halibut. The FCEY does not contain the trawl portion of halibut caught and discarded in Area 2A and therefore is not an appropriate starting point for calculating trawl bycatch amounts.

A fourth alternative for Pacific halibut total catch limit alternative was added in March 2009 for analysis as follows:

Apply a halibut trawl bycatch reduction program in phases to provide sufficient time to establish a baseline of trawl halibut bycatch and for harvesters to explore methods (e.g., adjustments to time and/or area fished, gear modifications) to reduce halibut bycatch and bycatch mortality as follows:

Establish a limit for total Pacific halibut bycatch mortality (legal-sized and sublegal fish) through the use of an individual bycatch quota (IBQ) in the trawl fishery. The initial amount for the first two years of the trawl rationalization program would be calculated by taking 15 percent of the Area 2A CEY as set by the International Pacific Halibut Commission (IPHC) for the previous year not to exceed 130,000 pounds per year for total mortality. For example, if the trawl rationalization program went into effect in 2013, the trawl halibut IBQ would be set at 15 percent of the Area 2A CEY adopted for 2012 or 130,000 pounds per year, whichever is less, for 2013 and 2014 (Years 1 and 2 of the program).

Note: 130,000 pounds represents an approximate reduction of 50 percent from the total bycatch estimate provided by the Northwest Fisheries Science Center for the most recent year (2007) as contained in Agenda Item E.1.b, Supplemental NMFS Report, September 2008.

Beginning with the third year of implementation, the maximum amount set aside for the trawl rationalization program would be reduced to 100,000 pounds per year for total mortality. This amount may be adjusted downward through the biennial specifications process for future years.

Table 2-13. Alternative total catch limits in thousands of pounds net weight of Pacific halibut for the west coast limited entry trawl sector.

Year	TCEY (lb., net weight)	Assumed Mortality for LE Trawl	Actual Mortality (lb, net) by LE Trawl ⁶	No Action Alternative	Alternative 1 (14.6% of TCEY, in lbs.)	Alternative 2 (14.7% of TCEY in lbs.)	Alternative 3 (10% of TCEY in lbs.)	Alternative 4 (15% of TCEY in lbs.)
2004	2,110,000	--	260,590	No limit on bycatch; deducted from the TCEY.	308,060	310,170	211,000	316,500
2005	1,560,000	--	417,863		227,760	229,320	156,000	234,000
2006	1,710,000	--	345,648		249,660	251,370	171,000	256,500
2007	1,580,000	--	257,338		230,680	232,260	158,000	237,000
2008	940,000	345,648	--		137,240	138,180	94,000	141,000
2009	640,000	257,338	--		93,440	94,080	64,000	96,000

The Council-preferred alternative for a total catch limit of Pacific halibut in Area 2A trawl fisheries is a modified version of Alternative 4. The Council recommended that the trawl mortality limit for legal and sublegal halibut be set at 15 percent of the Area 2A constant exploitation yield for legal size halibut, not to exceed 130,000 pounds for the first four years of trawl rationalization and not to exceed 100,000 pounds starting in the fifth year. This total bycatch limit may be adjusted downward or upward through the biennial specifications and management measures process in future years. Part of the overall total catch limit is a set-aside of 10 mt of Pacific halibut, divided into 5 mt to accommodate bycatch in the at-sea whiting fishery and 5 mt to accommodate shoreside trawl bycatch south of 40°10' N latitude. This set-aside would come out of the trawl sector allocation.

⁶ Rates of discard mortality are derived from observer assessment of fish viability, not the 50 percent discard mortality rate.

The Council decided to extend the period under the 130,000 pound limit to four years from the two years under the alternative specified in March 2009 (Alternative 4) to give the trawl industry more time to learn strategies (and areas) for minimizing their Pacific halibut bycatch. Since this may become the most constraining bycatch species for the rationalized trawl fishery on the northern shelf, this extra period of adjustment before the further downward adjustment of the total catch limit to 100,000 pounds is considered for the fifth year. Additionally, allowing more flexibility for considering a new total catch limit of Pacific halibut in future processes to decide biennial management measures was considered necessary because the limit is lower than the bycatch observed under the Council, and it was unclear how such a stringent limit might affect the fishery. It may turn out that the socioeconomic impacts are too great under these stringent limits, and the Council may ultimately decide to increase the total catch limit. Conversely, the trawl industry may adjust well to these lower limits, and the realized bycatch of Pacific halibut will be lower than the prescribed total limits of 130,000 or 100,000 pounds. In that case, the Council may want to adjust the future total catch limit downward from 100,000 pounds to provide more benefits to Area 2A directed halibut fisheries. In either case, the Council preferred the flexibility of deciding future total catch limits of Pacific halibut in the biennial specifications and management measures process to avoid a more lengthy and burdensome FMP amendment process for making these decisions.

2.4 Decision 6: Formal Allocations in the FMP

Decision 6 corresponds to proposed action 6 in Section 1.2. The Council was asked whether it would prefer an alternative decision pathway for deciding formal allocations that would not require an FMP amendment. The concept would be to framework the allocation process in the FMP under Amendment 21 such that a formal allocation could be decided in the biennial management process and made in an amendment to federal regulations. Such changes would still require the same public process in the Council venue where such a change would require at least three Council meetings. A regulatory amendment would also require a NEPA analysis and notice and comment rulemaking. In those regards, the process for a regulatory amendment does not differ from an FMP amendment. However, an FMP amendment also requires additional administrative process by NMFS and the Department of Commerce to be implemented, which can delay implementation. Therefore, two alternatives exist for considering formal allocations of groundfish species and reallocation of Amendment 21 species. Alternative 1 is to maintain the status quo formal allocation process of amending the FMP to decide formal allocations. Alternative 2 would framework the process under Amendment 21 with enough analysis to enable future formal allocations in a regulatory amendment.

The Council elected to maintain the process to consider only formal allocations in an FMP amendment (Alternative 1). Deciding a formal allocation through an FMP amendment therefore imposes a higher standard for considering a change to the fishery. The Council believes formal allocations decided this way will be more durable and will not be subject to reconsideration every two years in the biennial management process. Many representatives of the trawl industry recommended maintaining this process to provide more long-term stability to allow better business planning.

The Council also decided to maintain the FMP provision to temporarily suspend any LE, open access allocations for a species if it is declared overfished. Shorter-term ad hoc allocations would then be decided in an approved rebuilding plan or in the biennial management process while the stock is still being managed under a rebuilding plan.

The Council also decided under its preferred alternative to schedule a formal review of all Amendment 21 allocations five years after implementation of Amendment 21. This five-year review is also a provision in the Amendment 20 preferred alternative to conduct a formal review of the trawl

rationalization program five years after implementation. Both amendments are scheduled for simultaneous implementation.

2.5 Alternatives Considered But Eliminated From Further Detailed Analysis

Early in the scoping process, the Council decided not to reconsider allocating Pacific whiting to the three whiting trawl sectors. There was a consensus among the representatives of the whiting fishery not to reallocate Pacific whiting. The Council also decided not to reconsider allocations of sablefish north of 36° N latitude to the LE trawl, LE fixed gear, and open access sectors. While representatives from the LE fixed gear sector favored reconsidering the formal allocation of the northern sablefish stock (see Appendix A), the Council judged that this was a fair and equitable allocation that has endured for many years, and a reallocation would be acrimonious and distract attention from the other allocation issues considered under Amendment 21. However, within-trawl allocations are considered for sablefish north of 36° N latitude to effectively implement new trawl rationalization management measures when and if that occurs.

The Council decided not to consider long-term fixed allocations of any nearshore groundfish species (e.g., Minor Nearshore Rockfish North and South, black rockfish, blue rockfish, California scorpionfish, cabezon) since allocations are currently decided in state-managed nearshore fishery managed plans in California and Oregon (Washington only allows recreational groundfish fishing in its territorial waters, where nearshore groundfish species off Washington reside). Under the Amendment 20 trawl rationalization program, none of the nearshore species will be managed with IFQs or total catch limits, obviating the need for a formal allocation of these species to the LE trawl sectors.

Mr. William Dasplit provided comments at numerous Council and GAC meetings recommending that a personally conceived plan termed OSHUA be analyzed. The OSHUA plan contemplates biennial allocations of available yields of groundfish species to individual commercial fishers across all sectors of the fishery based on their ability to minimize bycatch. These allocations would not be IFQs, which are transferable quotas that allow fishers to trade QPs and Qs. This alternative would have considerably broadened the scope of the proposed action and alternatives analyzed in this EIS by including all commercial sectors. Early in the scoping process for Amendment 21, the Council had decided to consider only formal allocations for the LE trawl sectors to support Amendment 20 trawl rationalization. Increasing the scope of the formal allocation process was considered undesirable at this time, since it would likely lead to a much more protracted allocation decision process, thus delaying trawl rationalization. Further, it was not clear how an allocation mechanism could be directly tied to bycatch minimization under the OSHUA plan. The concept also involved period reallocation based on performance of sectors, which could lead to fishery instability as the inevitable challenges to sector allocations would have to be addressed. Consequently, the GAC and Council did not embrace the OSHUA plan, and it was not considered in the range of trawl rationalization or intersector allocation alternatives. It is not, therefore, analyzed further in this EIS.

In November 2007, the Council decided not to pursue long-term fixed allocations of the non-trawl-dominant overfished species (bocaccio, canary rockfish, cowcod, and yelloweye rockfish) since these species' rebuilding plans currently constrain directed groundfish fishing opportunities coastwide. The multitude of possible allocation options and the significant effects each of those options might have on future fishing opportunities for each groundfish sector were too numerous and uncertain to enable accurate analysis. Likewise, many shelf groundfish species and complexes constrained by rebuilding plans for the non-trawl-dominant overfished species, which also reside on the shelf, are not considered for long-term, fixed allocations for the same reason. These shelf species and complexes include Minor Shelf Rockfish North and South and species other than spiny dogfish in the Other Fish complex.

In September 2008, the Council decided not to pursue a spiny dogfish assessment. This assessment could have formed the basis for future spiny dogfish harvest specifications. Without an assessment, there would be no basis for allocating amounts of spiny dogfish to trawl sectors. Consequently, alternatives contemplated to allocate available yields of spiny dogfish or the species of the Other Fish complex without spiny dogfish to sectors of the groundfish fishery were eliminated from further detailed analysis. This was considered the prudent course of action since there is no quantifiable basis for the harvest specifications for the Other Fish complex (i.e., the complex specifications are not based on life history traits or historical harvest of the component species), and historical harvest as a basis for allocating spiny dogfish is highly uncertain. Alternative sector catch percentages were recalculated for species in the Other Fish complex after aggregating sector catches for all species that are expected to remain in the complex in 2011-12. In January 2009, the GAC recommended eliminating spiny dogfish allocation alternatives from further analysis, and the Council agreed with that recommendation based on the lack of sector catch information for that species.

In its November 2008 action deciding the basic elements of the Amendment 20 trawl rationalization program, the Council decided not to manage longspine thornyhead catch in the trawl fishery south of 34°27' N latitude using IFQs. This is an incidental bycatch species for all sectors of the groundfish fishery, and the species is caught in *de minimus* amounts in the Southern California Bight. Given that there will be no active management of this stock in that area, there is no reason to adopt a formal allocation. The Council therefore decided to remove this stock from further consideration for an Amendment 21 allocation.

Allocations for all of the above species and complexes considered but eliminated from further detailed analysis will continue to be ad hoc allocations decided in the biennial harvest specifications and management measures process as described under the No Action Alternative.

The Council originally adopted alternative buffer amounts for analysis, which were contemplated to address management uncertainty. Buffers of 1, 5, 10, 15, and 25 percent of any allocation to directed groundfish fisheries were considered, with the Council later paring down the range of buffers to no greater than 15 percent. The GAC recommended consideration of buffers against management uncertainty in a separate amendment process (Amendment 23) contemplated to bring the FMP into compliance with new NS1 guidelines, which represent the NMFS interpretation of best practices for adhering to the conservation mandates of the reauthorized MSA. Buffers against specified ACLs are addressed in these new NS1 guidelines, and the Council began scoping for this new amendment at its April 2009 meeting. Therefore, it is recommended that the use of buffers to address management uncertainty be considered under this separate amendment and eliminated from further detailed analysis in this Amendment 21 EIS.

CHAPTER 3 **AFFECTED ENVIRONMENT**

3.1 Introduction

This chapter describes the Pacific Coast groundfish fishery and the resources that would be affected by the alternative action. Physical resources are discussed in Section 3.1, biological resources are described in Section 3.2, and socioeconomic resources are described in Section 3.3. Other recent NEPA documents prepared for the Pacific Coast groundfish fishery provide detailed information pertaining to the physical, biological, and socioeconomic environment. These NEPA documents include EFH Designation and Minimization of Adverse Impacts (NMFS 2005); the DEIS for a related action titled Amendment 20, Rationalization Of The Pacific Coast Groundfish Limited Entry Trawl Fishery, November 2009 (PFMC and NMFS 2009b); and the FEIS prepared for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2009-2010 Pacific Coast Groundfish Fishery (PFMC and NMFS 2009a). In addition, the 2008 Status of the Pacific Coast Groundfish Fishery, SAFE document prepared by the Pacific Fishery Management Council (Council) (PFMC 2008b) provides detailed information of the Pacific Coast groundfish fishery. These documents are incorporated by reference.

3.2 Physical Environment

The area affected by the proposed alternatives is the groundfish fishing grounds within the west coast EEZ, which stretches from 3 to 200 nautical miles off the coasts of Washington, Oregon, and California (Figure 1-1). Although groundfish fishing is largely confined to depths of 300 fathoms or less, or roughly within 30 miles of the coast, some federally managed groundfish fishing that could be affected by the proposed action occurs in state waters from the shoreline to 3 nautical miles offshore.

3.2.1 *West Coast Marine Ecosystems*

The proposed alternatives would be contained within the California Current ecosystem. The California Current is essentially the eastern limb of the Central Pacific Gyre. It begins where the west wind drift (or the North Pacific Current) reaches the North American Continent. This occurs near the northern end of Vancouver Island (Ware and McFarlane 1989). A divergence in the prevailing wind patterns causes the west wind drift to split into two broad coastal currents, the California Current to the south and the Alaska Current to the north. There are several dominant currents in the region, which vary in geographical location, intensity, and seasonal direction (Hickey 1979).

The California Current ecosystem, like other eastern boundary current ecosystems, are especially difficult to define, as they are characterized by tremendous fluctuations in physical conditions and productivity over multiple timescales (Mann and Lazier 1996; Parrish et al. 1981). Food webs tend to be structured around coastal pelagic species (CPS) that exhibit boom-bust cycles over decadal time scales (Bakun 1996; Schwartzlose et al. 1999). Similarly, the top trophic levels of such ecosystems are often dominated by highly migratory species such as salmon, albacore tuna, sooty shearwaters, fur seals and baleen whales, whose dynamics may be partially or wholly driven by processes in entirely different ecosystems, even different hemispheres. For the purposes of this analysis, the ecosystem is considered in terms of physical and biological oceanography, climate, biogeography, EFH, and the marine protected areas. A more detailed description of the California current ecosystem, and the effects of fishing on this ecosystem, can be found in Chapter 2 of the 2008 Status of the Pacific Coast Groundfish Fishery, SAFE document Volume 1 (PFMC 2008b).

3.2.2 *Essential Fish Habitat*

The MSA defines EFH to mean “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity” (16 U.S.C. 1802 sec. 3(10)). Regulatory guidelines elaborate that the words “essential” and “necessary” mean EFH should be sufficient to “support a population adequate to maintain a sustainable fishery and the managed species’ contributions to a healthy ecosystem.” The regulatory guidelines also establish authority for Councils to designate Habitat Areas of Particular Concern (HAPC) based on the vulnerability and ecological value of specific habitats. Councils are required to minimize, to the extent practicable, the adverse effects of fishing on EFH. NMFS works through a consultation process to minimize adverse effects (50 CFR 600 subpart J).

Amendment 19 revised the groundfish EFH definitions, specified HAPCs, and delineated area closures to mitigate the adverse impacts of fishing on habitat (NMFS 2005). There are 43 areas closed to bottom trawling off the West Coast and 17 areas off Oregon and California that are closed to all bottom-contact gear. Furthermore, all waters deeper than 700 fm is closed to bottom trawling. A comprehensive description of groundfish EFH can be found in the Final Groundfish Essential Fish Habitat EIS (NMFS 2005). Federal regulations (50 CFR 600.815(a)(10)) require that EFH provisions in FMPs to be periodically reviewed and revised, as warranted, at least every 5 years. Section 6.2.4 of the FMP describes the habitat conservation framework.

3.3 **Biological Environment**

There are over 90 species of groundfish managed under the groundfish FMP. These species include over 60 species of rockfish in the family Scorpaenidae, 7 roundfish species, 12 flatfish species, assorted shark species, skate species, and a few miscellaneous bottom-dwelling marine fish species. Groundfish species occur throughout the EEZ and occupy diverse habitats at all stages in their life history.

Under the Pacific coast groundfish FMP, stocks are defined as healthy, precautionary, or overfished. Healthy stocks are those stocks with current biomass levels greater than 40 percent of their unfished biomass level; precautionary zone stocks are those with a biomass between 25 percent and 40 percent of the unfished level, and overfished stocks are those stocks whose abundance has fallen 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 3-1 presents the groundfish stocks by their biomass status following the 2008 stock assessment cycle. The 2008 Status of the Pacific Coast Groundfish Fishery, SAFE document Volume 1, Chapter 1, provides detailed

information on species distributions, life histories and management areas for the groundfish species and species complexes (PFMC 2008b).

Table 3-1. Groundfish stock status (PFMC 2008).

Common name	Scientific name	Depletion (% unfished)
Healthy Stocks		
Arrowtooth flounder	<i>Atheresthes stomias</i>	79
Black rockfish	<i>Sebastes melanops</i>	53.4 (north) 70.5 (south)
Blackgill rockfish	<i>Sebastes melanostomus</i>	52
California scorpionfish	<i>Scorpaena gutatta</i>	80
Chilipepper rockfish	<i>Sebastes goodie</i>	71
Dover sole	<i>Microstomus pacificus</i>	63.2
English sole	<i>Parophrys vetulus</i>	116
Gopher rockfish	<i>Sebastes carnatus</i>	97
Kelp greenling	<i>Hexagrammos decagrammus</i>	48.8
Lingcod	<i>Ophiodon elongates</i>	64 (north and south)
Longnose skate	<i>Raja rhina</i>	66
Longspine thornyhead	<i>Sebastolobus altivelis</i>	71
Shortbelly rockfish	<i>Sebastes jordani</i>	
Shortspine thornyhead	<i>Sebastolobus alascanus</i>	62.9
Splitnose rockfish	<i>Sebastes diploproa</i>	
Starry flounder	<i>Platichthys stellatus</i>	50
Yellowtail rockfish	<i>Sebastes flavidus</i>	55
Precautionary Stocks		
Blue rockfish	<i>Sebastes mystinus</i>	29.9
Cabezon	<i>Scorpaenichthys marmoratus</i>	38
Pacific whiting	<i>Merluccius productus</i>	32.1 – 39.8
Petrale	<i>Eopsetta jordani</i>	32
Sablefish	<i>Anoplopoma fimbria</i>	38.3
Overfished Stocks		
Bocaccio	<i>Sebastes paucispinis</i>	12.7
Canary rockfish	<i>Sebastes pinniger</i>	32.4
Cowcod	<i>Sebastes levis</i>	3.8
Darkblotched rockfish	<i>Sebastes crameri</i>	22.4
POP	<i>Sebastes alutus</i>	27.5
Widow rockfish	<i>Sebastes entomelas</i>	35.5
Yelloweye rockfish	<i>Sebastes ruberrimus</i>	16.4
Stocks without quantitative assessments		
Aurora rockfish	<i>Sebastes aurora</i>	
Bank rockfish	<i>Sebastes rufus</i>	
Big skate	<i>Raja binoculata</i>	
Black-and-yellow rockfish	<i>Sebastes chrysomelas</i>	
Blackgill rockfish	<i>Sebastes melanostomus</i>	
Bronzespotted rockfish	<i>Sebastes gilli</i>	
Brown rockfish	<i>Sebastes auriculatus</i>	
Butter sole	<i>Isopsetta isolepis</i>	
California skate	<i>Raja inornata</i>	
Calico rockfish	<i>Sebastes dallii</i>	
China rockfish	<i>Sebastes nebulosus</i>	
Copper rockfish	<i>Sebastes caurinus</i>	
Curlfin sole	<i>Pleuronichthys decurrens</i>	
Dusky rockfish	<i>Sebastes ciliates</i>	
Dwarf-Red rockfish	<i>Sebastes rufinanus</i>	
Finescale codling	<i>Antimora microlepis</i>	
Flag rockfish	<i>Sebastes rubrivinctus</i>	
Flathead sole	<i>Hippoglossoides elassodon</i>	
Freckled rockfish	<i>Sebastes lentiginosus</i>	
Grass rockfish	<i>Sebastes rastrelliger</i>	
Greenblotched rockfish	<i>Sebastes rosenblatti</i>	
Greenspotted rockfish	<i>Sebastes chlorostictus</i>	
Greenstriped rockfish	<i>Sebastes elongates</i>	
Halfbanded rockfish	<i>Sebastes semicinctus</i>	
Harlequin rockfish	<i>Sebastes variegates</i>	
Honeycomb rockfish	<i>Sebastes umbrosus</i>	

Table 3-1. Groundfish stock status (PFMC 2008) continued.

Common name	Scientific name	Depletion (% unfished)
Stocks without quantitative assessments (continued)		
Kelp rockfish	<i>Sebastes atrovirens</i>	
Leopard shark	<i>Triakis semifasciata</i>	
Longnose skate	<i>Raja rhina</i>	
Mexican rockfish	<i>Sebastes macdonaldi</i>	
Olive rockfish	<i>Sebastes serranoides</i>	
Pacific cod	<i>Gadus macrocephalus</i>	
Pacific rattail	<i>Coryphaenoides acrolepis</i>	
Pacific sanddab	<i>Citharichthys sordidus</i>	
Pink rockfish	<i>Sebastes eos</i>	
Pinkrose rockfish	<i>Sebastes simulator</i>	
Puget Sound rockfish	<i>Sebastes emphaeus</i>	
Pygmy rockfish	<i>Sebastes wilsoni</i>	
Quillback rockfish	<i>Sebastes maliger</i>	
Rattfish	<i>Hydrolagus collicei</i>	
Redbanded rockfish	<i>Sebastes babcocki</i>	
Redstripe rockfish	<i>Sebastes proriger</i>	
Rex sole	<i>Glyptocephalus zachirus</i>	
Rock sole	<i>Lepidopsetta bilineata</i>	
Rosethorn rockfish	<i>Sebastes helvomaculatus</i>	
Rosy rockfish	<i>Sebastes rosaceus</i>	
Rougheye rockfish	<i>Sebastes aleutianus</i>	
Sand sole	<i>Psetichthys melanostictus</i>	
Semaphore rockfish	<i>Sebastes melanosema</i>	
Sharpchin rockfish	<i>Sebastes zacentrus</i>	
Shortraker rockfish	<i>Sebastes borealis</i>	
Silvergray rockfish	<i>Sebastes brevispinis</i>	
Southern shark	<i>Galeorhinus zyopterus</i>	
Spiny dogfish	<i>Squalus acanthias</i>	
Speckled rockfish	<i>Sebastes ovalis</i>	
Squarespot rockfish	<i>Sebastes hopkinsi</i>	
Starry rockfish	<i>Sebastes constellatus</i>	
Stripetail rockfish	<i>Sebastes saxicola</i>	
Swordspine rockfish	<i>Sebastes ensifer</i>	
Tiger rockfish	<i>Sebastes nigrocinctus</i>	
Treefish	<i>Sebastes serripes</i>	
Vermilion rockfish	<i>Sebastes miniatus</i>	
Yellowmouth rockfish	<i>Sebastes reedi</i>	

3.3.1 Overfished Groundfish

In 1996, the Sustainable Fisheries Act (SFA) amended the MSA. The SFA required that FMPs identify and rebuild overfished stocks. The FMP was revised to include an overfished species threshold of $B_{25\%}$ (25 percent of estimated unfished biomass level). Groundfish stocks with depletion levels that fall below $B_{25\%}$ are to be considered overfished. Once a stock has been declared overfished, it remains in overfished status until the biomass reaches $B_{40\%}$ and the stock has been declared rebuilt. The overfished groundfish species are bocaccio, canary rockfish, cowcod, darkblotched rockfish, POP, widow rockfish, and yelloweye rockfish. **Figure 3-1** shows the relative depletion trends for these species from the 1950s to the present. The three overfished species predominantly caught in LE trawl fisheries are darkblotched rockfish, POP, and widow rockfish.

Overfished species are managed under rebuilding plans. Amendment 16-1 set a framework for rebuilding parameters and requirements in the FMP; it also set an initial requirement that NMFS implement rebuilding plans through regulation. Amendments 16-2 (April 13, 2004; 69 FR 19347) and 16-3 (September 28, 2004; 69 FR 57874) revised the FMP to include rebuilding plans for the seven overfished species identified above, plus lingcod. Lingcod was declared rebuilt beginning in 2006 (December 19, 2005; 70 FR 75115). Amendment 16-4, approved on December 29, 2006 (71 FR 78638), revised the rebuilding parameters for the seven species currently managed via rebuilding plans. The 2008 Status of the Pacific Coast Groundfish Fishery, SAFE document Volume 1, Chapter 1, provides detailed information on overfished species distributions, life histories, and management areas (PFMC 2008b).

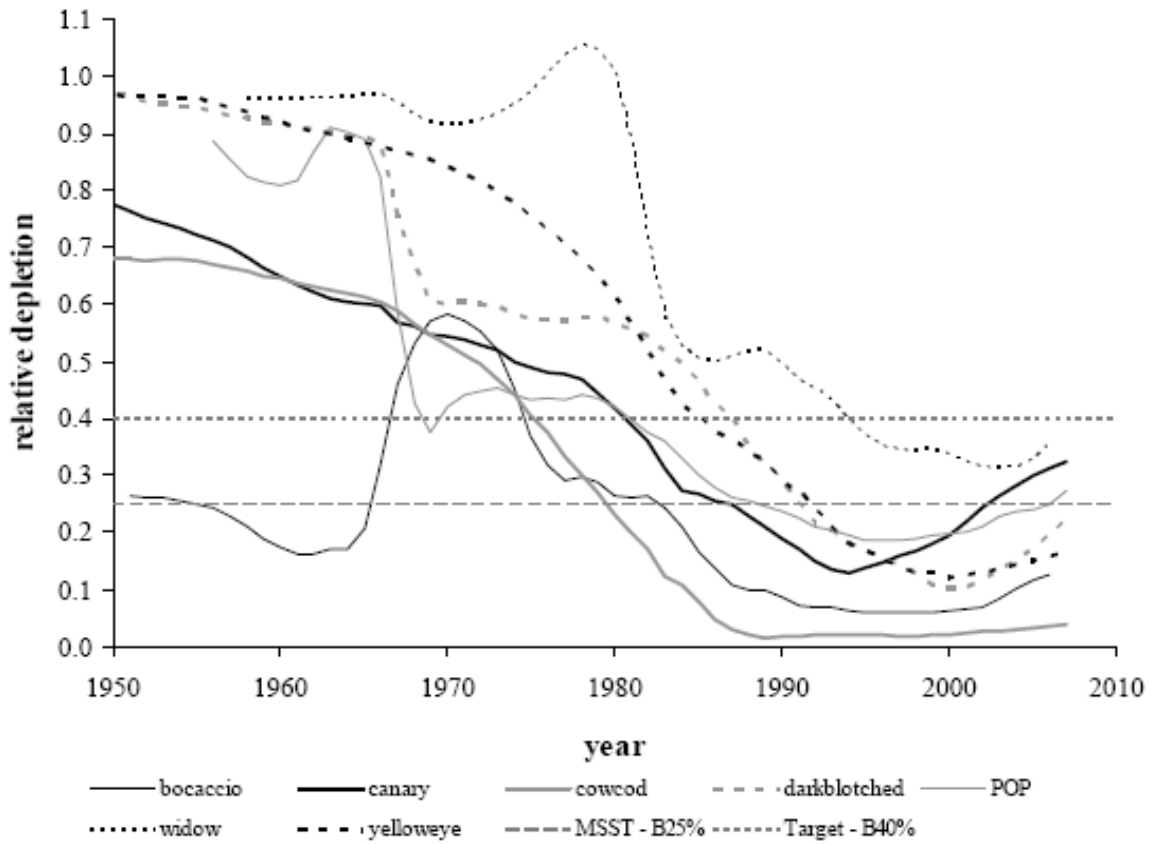


Figure 3-1. Relative depletion trends for rebuilding rockfish species (PFMC 2008).

3.3.2 *Precautionary and Healthy Groundfish Stocks*

Quantitative stock assessments have been prepared for the following precautionary and healthy stocks: lingcod, sablefish (south of 36° N latitude,) chilipepper rockfish, splitnose rockfish, yellowtail rockfish (north of 40°10' N latitude), shortspine thornyhead (north and south of 34°27' N latitude), longspine thornyhead (north of 34°27' N latitude), Dover sole, English sole, petrale sole, arrowtooth flounder, and starry flounder. A new petrale sole assessment the Council adopted in November 2009 for use in establishing the 2011 to 2012 harvest specifications and management measures indicates that the petrale sole stock is below the overfished threshold (PFMC, November 2009, Agenda Item G.2.a, Attachment 8).

The proposed alternatives consider long-term, formal allocations for Pacific cod, minor slope rockfish, and Other Flatfish complexes. These species are significantly caught or targeted in groundfish fisheries, but have harvest specifications primarily based on catch histories with some precautionary reductions in OYs. Minor rockfish includes the “remaining rockfish,” which generally includes species that have been assessed by less rigorous methods than stock assessment, and “other rockfish,” which includes species that do not have quantifiable stock assessments. Tables Table 3-2 and Table 3-3 contain a listing of the minor rockfish species by management categories.

The complex, minor nearshore rockfish south of 40°10’ N latitude, is subdivided into the following management categories: 1) shallow nearshore rockfish, 2) deeper nearshore rockfish, and 3) California scorpionfish. The Other Flatfish complex contains all the unassessed flatfish species in the Groundfish FMP. These species include butter sole, curlfin sole, flathead sole, Pacific sanddab, rex sole, rock sole, and sand sole. Detailed information on the stock distribution, life history, stock status, and management history for groundfish species can be found in volume 1, chapter 1 of the 2008 Status of the Pacific Coast Groundfish Fishery, SAFE document (PFMC 2008b).

Table 3-2. The minor rockfish complex north of 40°10’ N latitude.

Northern Nearshore Species	
black and yellow rockfish	grass rockfish
blue rockfish	kelp rockfish
brown rockfish	olive rockfish
calico rockfish	quillback rockfish
China rockfish	treefish
Northern Shelf Species	
bronzespotted rockfish	Mexican rockfish
bocaccio	pink rockfish
chameleon rockfish	pinkrose rockfish
chilipepper rockfish	pygmy rockfish
cowcod	redstripe rockfish
dusky rockfish	rosethorn rockfish
dwarf-red rockfish	rosy rockfish
flag rockfish	silvergray rockfish
freckled rockfish	speckled rockfish
greenblotched rockfish	squarespot rockfish
greenspotted rockfish	starry rockfish
greenstriped rockfish	stripetail rockfish
halfbanded rockfish	swordspine rockfish
harlequin rockfish	tiger rockfish
honeycomb rockfish	vermilion rockfish
Northern Slope Species	
aurora rockfish	sharpchin rockfish
bank rockfish	shortraker rockfish
blackgill rockfish	splitnose rockfish
redbanded rockfish	yellowmouth rockfish
rougheye rockfish	

Table 3-3. The minor rockfish complex south of 40°10' N latitude.

Southern Nearshore Species	
<i>Shallow nearshore rockfish consists of:</i>	
black and yellow rockfish	grass rockfish
China rockfish	kelp rockfish
Gopher rockfish	
<i>Deeper nearshore rockfish consists of:</i>	
black rockfish	copper rockfish
blue rockfish	olive rockfish
brown rockfish	quillback rockfish
calico rockfish	treefish
<i>California scorpionfish</i>	
Southern Shelf Species	
bronzespotted rockfish	Mexican rockfish
chameleon rockfish	pink rockfish
dusky rockfish	pinkrose rockfish
dwarf-red rockfish	pygmy rockfish
flag rockfish	redstripe rockfish
freckled rockfish	rosethorn rockfish
greenblotched rockfish	rosy rockfish,
greenspotted rockfish	silvergray rockfish
greenstriped rockfish	speckled rockfish
halfbanded rockfish	squarespot rockfish
harlequin rockfish	starry rockfish
honeycomb rockfish	
Southern Slope Species	
aurora rockfish	roughey rockfish
bank rockfish	sharpchin rockfish
blackgill rockfish	shortraker rockfish
POP	yellowmouth rockfish
redbanded rockfish	

3.3.3 **Non-Groundfish Species**

Non-groundfish species that are harvested commercially, such as California halibut, Pacific halibut, CPS, highly migratory species, Dungeness crab, shrimp, prawns, and sea cucumber, occur in the area. Other species that occur in the action area include Pacific salmon, marine mammals, turtles, and seabirds. Further information on the distribution and life history of these species can be found in the most recent SAFE document, Volume 1, Chapter 1, Section 1.5 (PFMC 2008b).

3.3.3.1 Pacific Halibut

Pacific halibut (*Hippoglossus stenolepis*) belong to a family of flounders called Pleuronectidae. Coastwide (Alaska, Canada, and west coast), the 2008 assessment for Pacific halibut found that the populations are healthy with the exploitable biomass of 325 million pounds in 2009, down from the 361 million pound estimated at the beginning of 2008. The decrease in biomass was due to lower survey and commercial catch rates of legal-sized halibut. Projections suggest that the exploitable and female spawning biomasses will increase over the next several years as a sequence of strong year classes recruit to the legal-sized component of the population (Hare and Clark 2008). Figure 3-2 shows the projections of Pacific halibut exploitable biomass from 1995 to 2015.

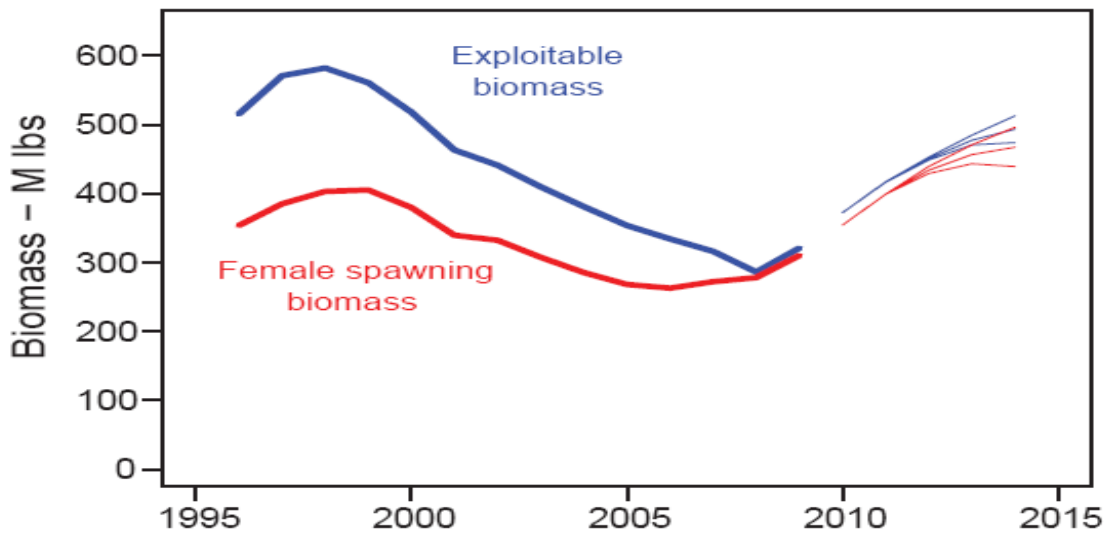


Figure 3-2. Projected exploitable and spawning biomass for coastwide population of Pacific halibut (IPHC 2008).

3.3.4 **Protected Species**

3.3.4.1 Salmon

Salmon caught in west coast fisheries have life cycle ranges that include coastal streams and river systems from Central California to Alaska and marine waters along the U.S. and Canada seaward into the north central Pacific Ocean, including Canadian territorial waters and the high seas. Chinook, or king salmon (*Oncorhynchus tshawytscha*), and coho, or silver salmon (*O. kisutch*), are the main species caught in Council-managed ocean salmon fisheries. In odd-numbered years, catches of pink salmon (*O. gorbuscha*) can also be significant, primarily off Washington and Oregon. Table 3-4 lists the ESA listed salmon species and their status.

Section 7 of the ESA requires Federal agencies, in consultation with and with the assistance of the U.S. Secretary of Commerce, to ensure that their actions are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat that has been designated for those species. NMFS issued biological opinions (BOs) 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 BO included an analysis of the effects of the Pacific whiting fishery on listed Chinook salmon. The BOs indicate that Chinook is the salmon species most likely to be affected by the groundfish fishery, while other salmon species are rarely encountered in the Pacific whiting and other groundfish fisheries. The following “evolutionarily significant units” (ESUs) of ESA-listed Chinook are most likely to be affected by the groundfish fisheries: Snake River fall Chinook (threatened), Upper Willamette River Chinook (threatened), Lower Columbia River Chinook (threatened), Puget Sound Chinook (threatened), Sacramento River winter-run Chinook (endangered), California coastal Chinook (threatened), and Central Valley spring-run Chinook (threatened). Further information on the distribution and life history of these salmon species can be found in the most recent SAFE document, Volume 1, Chapter 3 (PFMC 2008b).

Table 3-4. Endangered Species Act status of West Coast salmon and steelhead.

Species	ESU	Current ESA Listing Status
Sockeye Salmon (<i>Oncorhynchus nerka</i>)	Snake River	Endangered
	Ozette Lake	Threatened
Chinook Salmon (<i>O. tshawytscha</i>)	Sacramento River Winter-run	Endangered
	Upper Columbia River Spring-run	Endangered
	Snake River Spring/Summer-run	Threatened
	Snake River Fall-run	Threatened
	Puget Sound	Threatened
	Lower Columbia River	Threatened
	Upper Willamette River	Threatened
	Central Valley Spring-run	Threatened
	California Coastal	Threatened
	Central Valley Fall and Late Fall-run	Species of Concern
Coho Salmon (<i>O. kisutch</i>)	Central California Coast	Endangered
	Southern Oregon/Northern California	Threatened
	Lower Columbia River	Threatened
		Critical habitat
	Oregon Coast	Threatened
	Southwest Washington	Undetermined
Chum Salmon (<i>O. keta</i>)	Puget Sound/Strait of Georgia	Species of Concern
	Hood Canal Summer-run	Threatened
Steelhead (<i>O. mykiss</i>)	Columbia River	Threatened
	Southern California	Endangered
	Upper Columbia River	Threatened
	Central California Coast	Threatened

¹ The ESA defines a “species” to include any distinct population segment of any species of vertebrate fish or wildlife. For Pacific salmon, NOAA Fisheries Service considers an ESU, a species under the ESA. For Pacific steelhead, NOAA Fisheries Service has delineated distinct population segments (DPSs) for consideration as species under the ESA.

3.3.4.2 Marine Mammals

Approximately thirty species of marine mammals, including seals and sea lions, sea otters, and whales, dolphins, and porpoise, occur within the EEZ. Many marine mammal species seasonally migrate through Pacific Coast waters, while others are year-round residents. Federal legislation in the form of the Marine Mammal Protection Act (MMPA) and the ESA guide marine mammal species protection and conservation policy. Under the MMPA, NMFS is responsible for the management of cetaceans and pinnipeds, while the U.S. Fish and Wildlife Service (USFWS) manages sea otters. Stock assessments review new information every year for strategic stocks (those whose human-caused mortality and injury exceeds the potential biological removal [PBR]) and every three years for non-strategic stocks. Marine mammals whose abundance falls below the optimum sustainable population are listed as “depleted” according to the MMPA.

Fisheries that interact with species listed as depleted, threatened, or endangered may be subject to management restrictions under the MMPA and ESA. Species listed as endangered under the ESA include sperm whale (*Physeter macrocephalus*), humpback whale (*Megaptera novaeangliae*), blue whale (*Balaenoptera musculus*) and fin whale (*Balaenoptera physalus*). Species listed as threatened under the ESA include Steller sea lion (*Eumetopias jubatus*) eastern stock Guadalupe fur seal (*Arctocephalus townsendi*), southern sea otter (*Enhydra lutris*) California Stock. Species listed as depleted under the MMPA include northern fur seal (*Callorhinus ursinus*), eastern Pacific stock killer whale (*Orcinus orca*) eastern north Pacific, southern resident Stock.

NMFS publishes an annual list of fisheries based on the level of serious injury and mortality of marine mammals occurring incidentally in that fishery. The categorization of a fishery in the list of fisheries determines whether participants in that fishery are subject to certain provisions of the MMPA, such as registration, observer coverage, and take reduction plan requirements. The Pacific Coast groundfish

fisheries (with the exception of sablefish pot gear) are in Category III, indicating a remote likelihood of, or no known, serious injuries or mortalities, to marine mammals.

3.3.4.3 Seabirds

The California Current System supports more than two million breeding seabirds and at least twice that number of migrant visitors. Tyler et al. (1993) reviewed seabird distribution and abundance in relation to oceanographic processes in the California Current System and found that over 100 species have been recorded within the EEZ. These species include albatross, shearwaters, petrels, storm-petrels, cormorants, pelicans, gulls, terns and alcids (murrelets, murrelets, guillemots, auklets and puffins). In addition, millions of other birds are seasonally abundant in the EEZ, including waterfowl, waterbirds (loons and grebes), and shorebirds (phalaropes). There is considerable overlap of fishing areas and areas of high bird density in this highly productive upwelling system. The species composition and abundance of birds vary spatially and temporally. The highest seabird biomass is found over the continental shelf, and bird density is highest during the spring and fall when local breeding species and migrants predominate. Seabird species listed as endangered under the ESA include short-tail albatross (*Phoebastria albatrus*), California brown pelican (*Pelecanus occidentalis*), and California least tern (*Sterna antillarum browni*). The only species listed as threatened under the ESA is the marbled murrelet (*Brachyramphus marmoratus*).

3.3.4.4 Sea Turtles

Four sea turtle species have been sighted off the U.S. west coast: loggerhead (*Caretta caretta*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), and olive ridley (*Lepidochelys olivacea*). Under the ESA, green, leatherback, and olive ridley sea turtles are listed as endangered; loggerheads are listed as threatened. Although sea turtles have been sighted off the west coast, no takes of these species have been documented in the groundfish fishery.

3.3.4.5 Green Sturgeon

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

3.4 Socioeconomic Environment

3.4.1 Groundfish Fishery

NMFS approved FMP Amendment 6 for a groundfish license limitation (limited entry) program on September 4, 1992. The groundfish fishery was operating under a LE system beginning in 1994. Under the groundfish LE program, vessels were issued limited entry permits (LEPs) based on catch history. Each LEP is endorsed for used with trawl and/or fixed gears. Most of the Pacific coast commercial groundfish harvest is taken by the LE fleet. The smaller portion of the commercial groundfish fishery that is not permitted, and which targets groundfish or catches and retains groundfish caught incidentally to a non-groundfish fishery, is the open access fishery. The gears used by participants in open access fisheries include longline, vertical hook and line, troll, pot, setnet, trammel net, shrimp and prawn trawl, California halibut trawl, and sea cucumber trawl gears. Open access trawl gear may not be used to target groundfish, but may land incidental groundfish caught while targeting other state managed species. Open access trap/pot and longline vessels may target groundfish under certain restrictions.

The Makah, Quileute, Hoh, and Quinault Tribes off the Washington coast participate in tribal commercial, ceremonial and subsistence fisheries for groundfish according to their treaty rights. Participants in the tribal commercial fishery use gear similar to that used in non-tribal commercial fisheries operating off Washington. Groundfish caught in the tribal commercial fishery is typically sold through the same markets as non-tribal commercial groundfish catch. Management of tribal fisheries is conducted by the individual tribes.

In addition to commercial and tribal participants, there are state-managed recreational fisheries that harvest groundfish. Marine recreational fisheries consist of charter vessels, private vessels, and shore anglers. Charter vessels are larger vessels for hire, which typically can fish farther offshore than most vessels in the private recreational fleet. Shore-based anglers often fish in intertidal areas, within the surf, or off jetties. Recreational fisheries are managed by a series of seasons, area closures, and bag limits. Those groundfish species that are part of the proposed action and that are targeted in recreational west coast groundfish fisheries are lingcod, Pacific cod, chilipepper rockfish, yellowtail rockfish, widow rockfish, starry flounder, and some species in the Other Flatfish complex (e.g., Pacific sanddabs). However, only lingcod and starry flounder are significantly utilized by the recreational sector according to criteria informing Table 4-17.

This information has been summarized from the most recent SAFE document for the Pacific Coast groundfish fishery. Volume 1 Chapter 5, of the SAFE document contains detailed information on the fishery participants, including harvester, processors, and communities (PFMC 2008b). In addition, a related FEIS for Amendment 20, Rationalization of the Pacific Coast Groundfish Limited Entry Trawl Fishery, June 2010, contains additional information on trawl fishery participants within Chapter 3.

3.4.1.1 Limited Entry Trawl

Non-whiting trawl vessels use midwater trawl gear and small and large footrope bottom trawl gear (defined at 50 CFR660.302 and 660.322(b)). The LE non-whiting trawl vessels catch a wide range of species. By weight, the following species account for the bulk of non-whiting landings: Dover sole, arrowtooth flounder, petrale sole, sablefish, longspine thornyhead and shortspine thornyhead, and yellowtail rockfish. Larger non-whiting LE trawl vessels focus more heavily on the DTS complex in deep water, while smaller trawl vessels focus more heavily on the shelf. Large trawl vessels also tend to participate in the trawl fishery for more months of the year than small trawl vessels.

Management measures intended to reduce the directed and incidental catch of overfished rockfish and other depleted species have significantly reduced rockfish catches in recent years. The primary management measures used to control effort in the non-whiting trawl fisheries are closed area management, combined with cumulative trip limits and gear restrictions. Non-whiting trawl vessels are subject to area closures including trawl Rockfish Conservation Areas (RCA) and EFH closures. RCA closures are designed to reduce catch of overfished species by prohibiting fishing in areas where overfished rockfish species are relatively abundant. The RCAs and cumulative limits are adjusted inseason. Management measures are designed with several objectives in mind, including protecting rebuilding species while simultaneously providing for a year-round fishing opportunity. While many adjustments to catch limits and trawl RCA boundaries are relatively minor, some of the adjustments in recent years have closed fishing opportunity for wide areas of the coast midseason.

Pacific whiting trawl vessels use only mid-water trawl gear. Regulations at 50 CFR 660.323(a)(4) divide the commercial fishery into three non-tribal commercial sectors: catcher/processor, mothership, and shore-based. The catcher/processor sector consists of vessels that harvest and process Pacific whiting. The mothership sector consists of catcher vessels that harvest Pacific whiting for delivery to motherships. Motherships are vessels that process, but do not harvest, Pacific whiting. The shoreside sector consists of vessels that harvest Pacific whiting for delivery to shoreside processors. Each sector

receives a portion of the Pacific whiting commercial OY in accordance with the regulations at 50 CFR 660.323(a)(4).

The Pacific whiting fishery is managed under a primary season structure, where vessels harvest Pacific whiting until either a sector's Pacific whiting allocation is reached and that sector is closed, or the non-tribal fishery reaches an overfished species bycatch limit and the sector is closed. Under the current management structure, the primary season, combined with bycatch limit management, allows the Pacific whiting fishery to access a greater portion of the biologically available Pacific whiting harvest than other non-whiting groundfish fisheries, which have the OYs of their target species reduced or otherwise constrained to protect bycatch species. To date, bycatch limits in the Pacific whiting fishery have been established for darkblotched, canary, and widow rockfish, the three overfished groundfish species most commonly taken as incidental catch in the non-tribal Pacific whiting fishery. Overfished species bycatch limits are further described in Section 3.4.1.5. Pacific whiting vessels are not subject to RCA restrictions.

Volume 1 Chapter 5, of the SAFE document contains detailed information on the fishery participants, including harvesters, processors, and communities, as well as summaries of total landings (all species), from the 1995 to 2005 period (PFMC 2008b). In addition, a related FEIS for Amendment 20, Rationalization of the Pacific Coast Groundfish Limited Entry Trawl Fishery, June 2010, contains further descriptive information on trawl fishery participants within Chapter 3.

3.4.1.2 Limited Entry Fixed Gear

LE fixed gear vessels use longline and fish pots (traps) to target groundfish. LE fixed gear vessels principally target sablefish, a species that tends to reside in relatively deep water. Like trawl, closed areas are used to control catch of overfished species. The LE fixed gear sector cannot fish within the boundaries of the non-trawl RCAs (the boundaries are different the trawl RCAs). Some overfished rockfish species, such as yelloweye rockfish, are more vulnerable to being caught with fixed gear; therefore, the use of fixed gear is more restricted on the continental shelf than trawl.

FMP Amendment 9 established requirements for a permit endorsement to participate in the primary sablefish fishery, and Amendment 14 introduced permit stacking to allow up to three sablefish-endorsed permits to be used per vessel. Through a tier system, sablefish landing limits vary with the number and type (tier level) of permits held. Limits of species other than sablefish are managed with per vessel trip limits that cannot be stacked.

LE fixed gear vessels may also participate in open access fisheries or in the LE trawl fishery. Like the LE trawl fleet, LE fixed gear vessels deliver their catch to ports along the Washington, Oregon, and California coast. Volume 1 Chapter 5, of the SAFE document contains detailed information on the fishery participants, including harvesters, processors, and communities, as well as summaries of total landings (all species), from the 1995 to 2005 period (PFMC 2008b).

3.4.1.3 Open Access

Directed open access vessels use various non-trawl gears to target particular groundfish species or species groups. Longline and hook and line gear are the most common open access gear types used by vessels directly targeting groundfish and are generally used to target sablefish, rockfish, and lingcod. Pot gear is used for targeting sablefish, thornyheads, and rockfish. Though largely prohibited from use under current regulations, setnet gear was used in the past to target rockfish, including chilipepper rockfish, widow rockfish, bocaccio, yellowtail rockfish, and olive rockfish, and, to a lesser extent, vermilion rockfish off southern and central California. Groundfish retention and landings by open

access vessels are regulated under the Groundfish FMP. Open access vessels must comply with non-trawl RCA restrictions and with cumulative trip limits established for the open access sector, as well as other operational restrictions imposed in the regulations.

Though fishery managers divide the open access sector into directed and incidental categories, such segregation is difficult, as the choice depends on the intention of the fishers. Over the course of a year or during a single trip, fishermen may engage in different strategies, and they may switch between directed and incidental fishing categories. Such changes in strategy are likely the result of a variety of factors, including the potential economic return from landing a particular mix of species.

Rockfish, thornyheads, and sablefish account for most of the open access landings and revenue, and hook and line is the major gear type used for open access landings. Fixed gears are used to catch most open access groundfish, although non-shrimp trawl gear and net gear also make substantial landings. Open access landings in the state of California have a large live fish component, which is made evident by the relatively high unit value of rockfish in that state compared to the unit value of rockfish landed in Oregon and Washington.

Volume 1 Chapter 5, of the SAFE document contains detailed information on the fishery participants, including harvesters, processors, and communities, as well as summaries of total landings (all species), from the 1995 to 2005 period (PFMC 2008b).

3.4.1.4 *Groundfish Management*

Since 2000, groundfish management has been heavily centered on the need to rebuild overfished stocks. West coast groundfish stocks are highly inter-mixed, meaning that overfished species co-occur and are caught in common with more abundant groundfish stocks (stocks with healthy or precautionary status). This intermixed nature of groundfish stocks means that eliminating the directed targeting of overfished species usually does not achieve the catch reductions needed to meet rebuilding goals. To adequately constrain total catch of overfished species, management measures have constrained target-fishing opportunity on the more abundant stocks that co-occur with overfished species to reduce the catch of overfished species. The need to constrain harvest of healthy stocks has economic implications for the harvesters, processors, and communities due to the loss of landings and revenue that could have been derived from both overfished species and many target species that co-occur with those overfished species. The EIS prepared for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2009-2010 Pacific Coast Groundfish Fishery (PFMC and NMFS 2009a) contains detailed information on the management measures currently used in the Pacific coast groundfish fishery.

3.4.1.5 *Groundfish Allocations*

The Pacific coast groundfish fishery is managed on a biennial calendar with harvest specifications and management measures being announced every other year. During each cycle, the harvest specifications for each species or species complex is set for two sequential years. Fishery specifications include ABCs, designation of OYs (which may be represented by harvest guidelines [HGs] or quotas for species that need individual management,) and allocation of commercial OYs between the open access and LE segments of the fishery. The specifications include fish caught in state ocean waters (0 to 3 nm offshore) as well as fish caught in the EEZ (3 to 200 nm offshore).

An allocation is the apportionment of a harvest specification for a specific purpose, to a particular person or group of persons. Allocation of groundfish resources is generally a direct allocation stated as a numerical quota or HG for a specific gear or fishery sector, but indirect allocation also occurs as a

result from management measures. Direct allocation occurs when numerical quotas, HGs, or other management measures are established with the specific intent of affecting a particular group's access to the fishery resource. Most fishery management measures allocate fishery resources to some degree, because they invariably affect access to the resource by the different participants.

The FMP allows groundfish resources to be allocated to accomplish a single biological, social, or economic objective, or a combination of such objectives. The entire resource, or a portion thereof, may be allocated to a particular group, although the MSA requires that allocation among user groups be fair and equitable, reasonably calculated to promote conservation, and determined in such a way that no group, person, or entity receives an undue excessive share of the resource. Allocative impacts of all proposed management measures should be analyzed and discussed during the decision-making process. In addition to the requirements described in Section 6.2.3 of the FMP, the FMP requires the Council to consider the following factors when intending to recommend direct allocation of the resource:

1. Present participation in and dependence on the fishery, including alternative fisheries
2. Historical fishing practices in and historical dependence on the fishery
3. The economics of the fishery
4. Any consensus harvest sharing agreement or negotiated settlement between the affected participants in the fishery
5. Potential biological yield of any species or species complex affected by the allocation
6. Consistency with the MSA national standards
7. Consistency with the goals and objectives of the FMP

The modification of a direct allocation cannot be designated as routine unless the specific criteria for the modification have been established in the regulations.

FMP Amendment 6 established the commercial non-treaty LE program and established procedures for allocating species and species complexes between the LE and open access fisheries. Chapter 11.2.2 for the FMP addresses the allocation of groundfish between the limited and open access fisheries. Allocations for the open access fishery are based on historical catch levels for the period from July 11, 1984, to August 1, 1988, by exempted, longline, and fishpot gears used by vessels that did not receive an endorsement for the gear. Based on the record of landings over this period, an open access percentage of catch was determined. LE and open access allocations are derived by applying the percentage to the commercial harvest guideline or quota. The commercial harvest guideline or quota is the OY after subtracting any recreational fishery estimates or tribal allocations harvest guidelines or set-asides, projected bycatch in non-groundfish fisheries, and estimated research catch. Table 4-1 of this document provides summarized information on scientific research catches of groundfish.

The open access portion of harvest guideline or quota is to be set aside before other allocations are made. An open access allocation based on catch history will be determined for each separate species, species group, and area for which the Council determines an allocation is necessary. Initial determination and any subsequent revision of the species or species groups and areas for which an open access allocation will be made will occur through rulemaking. Open access allocations for species, species groups, and areas identified for such allocation by the Council are specified during the biennial specification process. A change in the catch history allocation method for determining the allocation for the open access fishery requires an FMP plan amendment.

The tribal fishery allocations to the Makah, Hoh, and Quileute Tribes and the Quinault Indian Nation are accommodated through a regulatory process, found at 50 CFR 660.324. Tribal allocations, harvest guidelines, or set-asides are deducted from the OY prior to dividing the balance of the allowable catch between the LE and open access fisheries. The estimated yield set-asides for the treaty tribes and the total yield potentially for 2010 can be found in Table 4-2 of this document.

Recreational fishery management measures are implemented through state regulations. The main tool for limiting recreational catch is the bag limit, which specifies the number of fish of a given type an angler may possess and land on each trip. Like the tribal fisheries, allocations, harvest guidelines, or set-asides are deducted from the OY prior to dividing the balance of the allowable catch between the LE and open access fisheries.

Sablefish Allocations

North of 36° north latitude (to the U.S./Canada border), formal allocations have been established for sablefish. Formal allocations are established for the tribal fisheries, LE, and open access fisheries. The LE allocation is further divided between trawl and fixed gear. Sablefish allocations north of 36° N latitude are determined by first deducting the tribal share from the OY specified for north of 36° N latitude, then deducting the estimated total mortality of sablefish in research and non-groundfish fisheries, then dividing the remaining yield (non-tribal share) between open access and LE fisheries, with the LE share divided between the trawl and fixed gear (longline and fishpot) sectors. The proportions of each of these divisions are indicated in Figure 3-3. The LE fixed gear share is then generally divided into 85 percent for the primary fishery for LE fixed gear vessels with sablefish endorsements and 15 percent for the daily-trip-limit fishery, for such vessels with and without sablefish endorsements.

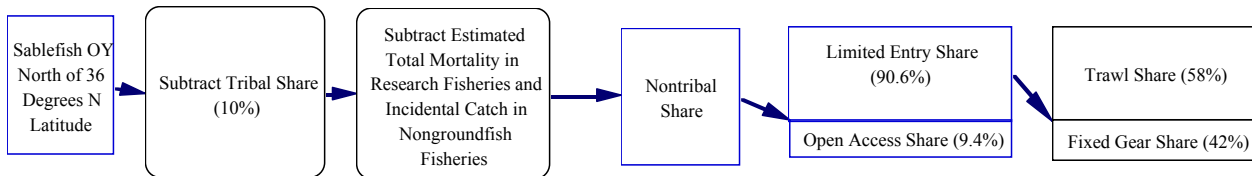


Figure 3-3. Fixed intersector allocations of sablefish north of 36° N latitude.

Pacific whiting Allocations

Projected total mortalities of Pacific whiting in recreational, research, and non-groundfish fisheries are first set aside (2,000 mt have been set aside annually for these fisheries in recent years with 4,000 mt set aside in 2009 based on a higher bycatch of juvenile whiting in 2007 shrimp trawls), then a yield amount is set aside to accommodate tribal whiting fisheries. Prior to 2009, the tribal allocation was set aside for the Makah Tribe, the only coastal tribe prosecuting a whiting fishery, based on a sliding scale of the range of annually specified U.S. OYs for Pacific whiting (Table 3-5). In 2009, the Makah Tribe requested a tribal whiting set-aside of 17.5 percent of the U.S. whiting OY. In addition, the Quileute Tribe announced its intent to enter the whiting fishery. The Council set aside 8,000 mt of whiting in 2009 to accommodate the Quileute Tribe's request. The level of tribal allocation will probably change in the future.

Table 3-5. The tribal whiting allocation based on a sliding scale of the U.S. OY.

Whiting OY Range		Tribal Share
More Than	Less Than	
0 mt	145,000 mt	15% of the commercial OY
145,000 mt	175,000 mt	25,000 mt
175,000 mt	200,000 mt	27,500 mt
200,000 mt	225,000 mt	30,000 mt
225,000 mt	250,000 mt	32,500 mt
250,000 mt	-	35,000 mt

The nontribal commercial share of whiting is allocated to directed whiting trawl sectors as follows: 42 percent for the shoreside whiting sector, 24 percent for the at-sea mothership whiting sector, and 34 percent for the at-sea catcher-processor whiting sector. In some years, the whiting set-aside may be increased to accommodate other programs, such as EFPs. Five percent of the shoreside whiting sector's allocation may be taken south of 42° N latitude prior to the start of the shore-based whiting season north of 42° N latitude (in waters off Oregon and Washington). Under the current regulations, that portion of a sector's allocation that the Regional Administrator determines will not be used by the end of the fishing year shall be made available for harvest by the other sectors, if needed, in proportion to their initial allocations, on September 15 or as soon as practicable thereafter. NMFS may release whiting again at a later date to ensure full utilization of the resource. Whiting not needed in the tribal fishery may also be made available.

Overfished Species

The FMP allows the allocations for overfished species to be suspended to achieve rebuilding. OY recommendations must be consistent with established rebuilding plans and achieving the goals and objectives of the rebuilding plan. Under the current FMP, for any stock that has been declared overfished, the open access/LE allocation shares may be temporarily revised for the duration of the rebuilding period by amendment to the regulations in accordance with the biennial management process. However, the Council may at any time recommend that the shares be reinstated without requiring further analysis. Once reinstated, any change may be made only through the allocation process.

The LE and open access allocations that have been specified are shown in Table 3-6 below. The indirect allocations of most species due to constraints imposed by management measures designed to rebuild overfished species varied from the FMP allocations. In recent years, due to the constraints of rebuilding, the available harvest of groundfish species and species complexes occurs when management measures are adopted through the biennial harvest specifications and management measures process. The management measures result in indirect allocations.

Table 3-6. Limited entry and open access allocations based on historical catch levels for the period from July 11, 1984, to August 1, 1988 (established in FMP Amendment 6).

Stock or Complex	FMP-based allocations	
	LE	OA
Lingcod - coastwide	81.0%	19.0%
Sablefish N. of 36°	90.6%	9.4%
WIDOW	97.0%	3.0%
CANARY	87.7%	12.3%
Chilipepper S. of 40°10'	55.7%	44.3%
BOCACCIO S. of 40°10'	55.7%	44.3%
Yellowtail N. of 40°10'	91.7%	8.3%
Shortspine N. of 34°27'	99.73%	0.27%
Minor Slope RF North	91.7%	8.3%
Minor Slope RF South	55.7%	44.3%

BOLD CAPS = overfished species

Overfished Species OY Set-asides

For some non-groundfish species, a portion of the OY of overfished species is set aside prior to establishing the commercial OY. These set-asides are for the needs of the tribal fisheries, EFPs, projected research catch, and as a buffer against uncertainty in catch accounting that could result in unexpected catch overages in any sector of the groundfish fishery. Set-asides are not quotas or harvest guidelines.

More recently, the projected levels of fishing mortality resulting from management measures (indirect allocations), plus the overfished species set-asides, have been presented at the beginning of the biennial management period and at the start of each fishing year. When the sum of the projected total catch and set-asides are lower than the OY, a residual yield results that can be shifted to any fishery, should it be needed during the fishing year. Catch levels are tracked throughout each fishing year. If inseason information indicates that a set-aside has been or could be exceeded, inseason action may be taken to modify management measures to reduce the projected catch or to shift catch from set-asides or the residual yield.

Overfished Species Bycatch Limits

To allow the Pacific whiting industry to have the opportunity to harvest higher Pacific whiting OYs, the Council has used bycatch limits to restrict the catch of certain overfished species. Bycatch limits are based on a weighted average approach and are a form of set-aside that can be modified inseason. With bycatch limits, the industry has the opportunity to harvest a larger amount of whiting, if it can do so while keeping the incidental catch of overfished species within adopted bycatch limits. In recent years, bycatch limits have been used for the most constraining overfished species; darkblotched, canary, and widow rockfish. From 2005 through 2008, a single bycatch limit for each species was used for all commercial sectors of the fishery.

Concern that bycatch in one sector would result in closure of a different sector of the fishery led the Council to recommend sector-specific bycatch limits rather than a single bycatch limit for all commercial sectors. Therefore, sector-specific bycatch limits were implemented for each of the commercial sectors of the Pacific whiting fishery in 2009. If a sector-specific bycatch limit is reached or is projected to be reached, the Pacific whiting fishery for that sector would be closed, regardless of whether the Pacific whiting allocation has been achieved. When a sector is closed because a bycatch limit has been reached or was projected to be reached, unused amounts of the bycatch limit species would be rolled-over to the remaining sectors of the non-tribal Pacific whiting fishery. If a sector reaches its whiting allocation, unused amounts of bycatch limit species would be shifted to those sectors of the non-tribal Pacific whiting fishery that remain open. The bycatch limits implemented for 2009 and beyond were based on each sector's respective initial whiting allocations (pro-rata). Under the pro-rata approach, each sector would receive a portion of the overall bycatch limit, with the catcher/processors getting 34 percent, the motherships getting 24 percent, and the shore-based sector getting 42 percent.

Catch Allocation to, or Gear Flexibility for, Gear Types with Lower Bycatch Rates

Section 6.3 of the FMP (Catch allocations), Section 6.7 (catch limits), and Section 6.8 (fishing areas) may be set so that users of gear types with lower bycatch rates have greater fishing opportunities than users of gear with higher bycatch rates. Increased fishing opportunities for users of gear types with lower bycatch rates could come in the form of increased overall amounts of fish available for directed or incidental harvest, increased landings limits, or increased allowable fishing areas. Increased fishing opportunities made available under this provision may not be provided in such a way that the number of fishing vessels participating in the groundfish fisheries is expected to increase.

3.4.2 Pacific Halibut Fishery

Total catch limits of Pacific halibut are being considered for the trawl fishery. The action would limit the incidental catch of Area 2A Pacific halibut in the trawl fisheries. Pacific halibut are managed by the bilateral (U.S./Canada) International IPHC with implementing regulations set by Canada and the U.S. in their own waters. The Pacific Halibut Catch Sharing Plan for waters off Washington, Oregon, and California (Area 2A) specifies IPHC management measures for Pacific halibut on the west coast.

Implementation of IPHC catch levels and regulations is the responsibility of the Council, the states of Washington, Oregon, and California, and the Pacific halibut treaty tribes. Of groundfish fisheries, the fixed gear sablefish fishery is responsible for the most catch of Pacific halibut. To allow landing of these halibut, the Catch Sharing Plan stipulates that when the Area 2A total allowable catch (TAC) is above 900,000 pounds, halibut may be retained in the LE primary sablefish fishery north of Point Chehalis, Washington (46°53' 18" N latitude) (IPHC 2008).

Between 1997 and 2006, total removals were stable, averaging 1.6 million pounds in Area 2A. Removals declined sharply in 2007 and 2008, due to relative halibut abundance in Area 2. Surplus production estimates suggest that removals have exceeded surplus production in Area 2 for most of the past decade. Commercial effort has steadily increased in Area 2A for almost a decade.

Rockfish have commonly been caught in the commercial halibut fishery. However, recent encounters have been significantly reduced as a result of restrictions on fishing in depths less than 100 fm. The Area 2A catch rate (hook occupancy) as estimated from survey data collected between 2006 and 2008 provides insight into groundfish catch rates. Figure 3-4 shows the Pacific halibut survey hook occupancy rate for 2006 to 2008.

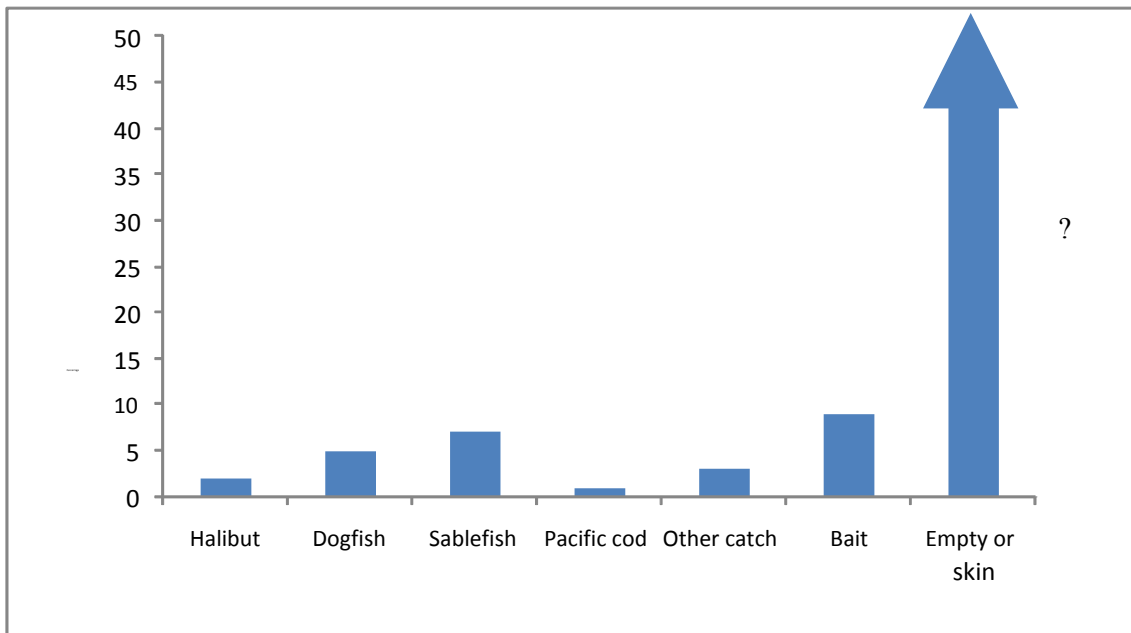


Figure 3-4. Area 2A Pacific halibut survey hook occupancy rates, 2006-2008 (IPHC 2008).

3.4.3 **Salmon Fisheries**

The 1992 Biological Opinion included an incidental take statement that authorized the incidental take of 0.05 salmon per mt of Pacific whiting. NMFS reinitiated a formal Section 7 consultation under the ESA in 2005 for both the Pacific whiting midwater trawl fishery and the groundfish bottom trawl fishery. The December 19, 1999 Biological Opinion had defined an 11,000 Chinook incidental take level for the Pacific whiting fishery. During the 2005 Pacific whiting season, more than 11,000 fish Chinook were taken, triggering reinitiation. NMFS prepared a Supplemental Biological Opinion dated March 11, 2006, which addressed salmon take in both the Pacific whiting midwater trawl and groundfish bottom trawl fisheries. In that Supplemental Biological Opinion, NMFS concluded that catch rates of salmon in the 2005 Pacific whiting fishery were consistent with expectations considered during prior consultations. Chinook bycatch has averaged about 7,300 over the last 15 years and has only

occasionally exceeded the reinitiation trigger of 11,000. The Chinook ESUs most likely affected by the Pacific whiting fishery have generally improved in status since the 1999 Section 7 consultation. Although these species remain at risk, as indicated by their ESA listing, NMFS concluded that the higher observed bycatch in 2005 does not require a reconsideration of its prior “no jeopardy” conclusion with respect to the fishery. For the groundfish bottom trawl fishery, NMFS concluded that incidental take in the groundfish fisheries is within the overall limits articulated in the Incidental Take Statement of the 1999 Biological Opinion. The groundfish bottom trawl limit from that opinion was 9,000 fish annually. NMFS 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.

The salmon troll fishery has an incidental catch of groundfish; this is particularly significant with respect to canary rockfish catch. In addition, to account for yellowtail rockfish landed incidentally while not promoting targeting on the species, a federal regulation was adopted in 2001 that allowed salmon trollers to land up to 1 pound of yellowtail per 2 pounds of salmon, not to exceed 300 pounds per month (north of Cape Mendocino). Salmon trollers may land other groundfish species, including lingcod, within the limits outlined in the groundfish open access trip limit tables (Table 5 [north] and Table 5 [south]).

3.4.4 *Affected West Coast Fishing Communities*

Trawl vessels make most of their landings in Oregon. During the 2004 to 2006 period, the Oregon ports that received the largest amounts of landed weight and revenue were Newport, Astoria, and Charleston/Coos Bay. Eureka, Fort Bragg and Crescent City, California; Brookings, Oregon; and Bellingham Bay, Blaine and Neah Bay, Washington, comprise the remaining top 10 largest ports for trawl vessel landings (PFMC 2008). Non-whiting landings and revenues by non-tribal trawlers in Oregon are significantly larger than in the other two states.

By weight, the vast majority of trawl vessel groundfish is caught with midwater trawl gear targeting Pacific whiting. In contrast, most trawl ex-vessel revenues are attributed to the bottom trawl sector. On average for the period from 2000 to 2005 whiting accounted for about 75 percent of landings by weight, but only 21 percent by value. LE trawlers took the vast majority of the groundfish harvest measured by weight, but somewhat less if measured by value. The difference between the weight and revenue shares is mostly due to the catch of Pacific whiting. Since whiting fetch a relatively low price and are caught almost exclusively by LE trawl vessels, they skew the overall value per unit weight for this sector (PFMC 2008).

A detailed description of west coast fishing communities and their economic dependence on the groundfish fishery is found in the last two final EISs for biennial harvest specifications and management measures (PFMC 2006; PFMC 2008a) and in the most recent SAFE document, Volume 1, Chapter 5 (PFMC 2008b).

CHAPTER 4 ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

The proposed action to make formal allocations of specified groundfish species and Pacific halibut (Decisions 1 through 3 and Decision 5) and set-asides (Decision 4) to LE trawl sectors of the west coast groundfish fishery neither affects overall harvest levels of any species, nor does it affect management measures for any sector of the fishery. The proposed action to require formal allocations to be an FMP amendment (Decision 6) is an administrative/process decision and does not have physical, biological, or socioeconomic impacts. The proposed actions are not expected to change the magnitude or distribution of trawl efforts compared to the No Action Alternative. Therefore, the proposed action is expected to have no differential direct impacts and potentially low indirect impacts to the west coast biological environment (i.e., affected species) or the physical environment (i.e., west coast marine ecosystems and EFH).⁷

Related actions to Amendment 21 (intersector allocation) include the biennial harvest specifications process and Amendment 20 (trawl rationalization). Overall harvest levels for groundfish species are decided separately through the biennial harvest specifications process, with the next management cycle being the 2011-2012 harvest specifications and management measures. As described in the purpose and need for this action (Section 1.3), intersector allocation (Amendment 21) is needed to support Amendment 20 (trawl rationalization). Long-term, formal allocations will provide more certainty for participants in the trawl rationalization program. While the proposed actions for intersector allocations

⁷ In public testimony to the Council, the idea of allocation was proposed as a potentially useful management tool in reducing bycatch and protecting EFH. Allocation among gears may have a positive or a negative influence on bycatch and/or EFH depending on a complex array of spatial and temporal factors. Alternative 4 in Decision 1 begins to address this issue by shifting a percentage of the allocation from the trawl to non-trawl gears. It will be necessary, through subsequent processes, and before the 5-year review of the trawl rationalization program, to take a hard look at these factors to determine whether allocations are an appropriate tool for addressing conservation goals. In April 2009, the Council adopted a motion supporting the NMFS proposal to prepare an analysis of the environmental and economic impacts of shifting allocations among gear types. NMFS is planning to have this available well before the 5-year review of the trawl rationalization program. For more information, see Agenda Item F.3.b., Supplemental NMFS Report, from the Council's April 2009 meeting.

may not have direct impacts on the physical or biological environment, the corresponding action, the trawl rationalization program (Amendment 20), will change the way the trawl fishery is managed and may result in changes in the timing, location, and intensity of harvest patterns, as described in the EIS for that action.

The anticipated impacts of the proposed actions for intersector allocation are largely socioeconomic. Therefore, most of the environmental consequences of the proposed actions are discussed in Section 4.4.

4.2 Impacts of the Alternatives on the Physical Environment

NMFS completed an EIS to comprehensively evaluate groundfish habitat and the effects of groundfish fishing on that habitat in response to litigation (*American Oceans Campaign v. Daley et al.*, Civil Action No 99-982(GK)). The action analyzed in the EFH EIS, authorizing harvest of groundfish within EFH, is incorporated by reference. A Record of Decision for Pacific Coast Groundfish EFH was issued on March 8, 2006, and it concluded that partial approval of Amendment 19 to the FMP would minimize to the extent practicable adverse impacts to EFH from fishing. Amendment 19, approved on March 8, 2006, provides for a comprehensive strategy to conserve EFH, including its identification, designation of HAPC, and the implementation of measures to minimize, to the extent practicable, adverse impacts to EFH from fishing. The final rule implementing Amendment 19 provided measures necessary to conserve EFH.

There is currently insufficient information to predict the effects of fishing on the marine ecosystem in any precise way. NEPA regulations address this issue. When an agency is evaluating reasonably foreseeable significant adverse effects, there is incomplete or unavailable information, and the costs of obtaining it are exorbitant or the means unknown, the agency must (1) so state, (2) describe the importance of the unavailable information to the assessment, (3) summarize any existing scientific information, and (4) evaluate impacts based on generally accepted scientific principles (40 CFR Part 1502.22), which may accord with the best professional judgment of agency staff.

NMFS acknowledges that the information necessary to fully evaluate impacts on the marine ecosystems cannot be reasonably obtained at this time, and impacts are generally unknown. While it is not possible to fully evaluate the impacts to the physical environment, the level of potential significant impact to EFH and the marine ecosystem from the proposed actions is anticipated to be low or have no expected differential impact from the No Action Alternative. The proposed action to make formal allocations of specified groundfish species and Pacific halibut (Decisions 1 through 3 and Decision 5) and set-asides (Decision 4) to LE trawl sectors of the west coast groundfish fishery neither affects overall harvest levels of any species, nor does it affect management measures for any sector of the fishery. The proposed action to require formal allocations to be an FMP amendment (Decision 6) is an administrative/process decision and does not have physical impacts.

The intersector allocation alternatives under Decisions 1 through 5 are not expected to change the magnitude or distribution of bottom trawl effort compared to the No Action Alternative. However, the related action, Amendment 20 (trawl rationalization), may result in geographic changes in harvest patterns, and consequently, the potential for changes in impacts on EFH as described in the EIS for that action. Under both trawl rationalization (Amendment 20) and intersector allocation (Amendment 21), no change in fishing activity would occur in areas that are currently closed to fishing with specific gears, because no changes are anticipated to RCAs or other EFH conservation measures. Because all of the alternatives, including no action, under Decisions 1 through 5 are similar to indirect allocations that have occurred through the biennial specifications and management measures, and because the alternatives do not affect overall harvest levels or fishing practices, NMFS concludes that the effects of intersector allocation is not significant on EFH or the marine ecosystem.

4.3 Impacts of the Alternatives on the Biological Environment

The proposed action to require formal allocations to be an FMP amendment (Decision 6) is an administrative/process decision and does not have biological impacts. The impacts on the biological environment of the alternatives for Decisions 1 through 5 are discussed below.

4.3.1 *Groundfish and Non-groundfish Species*

The proposed action of deciding long-term allocations of the future available harvest of some groundfish species and Pacific halibut (Decisions 1 through 3 and Decision 5) and set-asides (Decision 4) to west coast LE trawl sectors does not have differential direct impacts on any groundfish or non-groundfish species anticipated to be caught in future fisheries. Overall harvest levels of groundfish species (i.e., ABCs and OYs) are decided biennially in a separate Council process; this process also contemplates the effects of future groundfish fishery management measures on non-groundfish and protected species. In addition, any changes that may result in the timing, location, and intensity of fishing as a result of the corresponding action, trawl rationalization (Amendment 20), are discussed in the EIS for that action.

Formal trawl allocations, in and of themselves, are neither anticipated to increase trawl efforts, nor to increase impact of species that are primarily caught in trawl fisheries. In fact, the preferred alternative under Decision 1 for trawl allocations provides less harvestable surplus of Amendment 21 species to the trawl sector than the No Action Alternative (i.e., no formal allocation for these species) or the other action alternatives analyzed, except perhaps for lingcod. These impacts are further explored in Section 4.4. Similarly, when compared to the No Action Alternative, no differential significant impacts on groundfish or non-groundfish species are expected from any of the action alternatives under Decisions 2 through 5. The corresponding action, trawl rationalization (Amendment 20), would create a new management structure for the trawl fishery that would have biological impacts. The EIS for that action discusses those impacts.

When compared to the No Action Alternative, the possible differential indirect impacts of any of the action alternatives for Decisions 1 through 5 on groundfish and non-groundfish species due to gear selectivity effects are also expected to be minimal. Gear switching (e.g., harvesting groundfish using fixed gears rather than trawls) is allowed for LE trawlers under the Council's preferred alternative for a related action, the trawl rationalization program (Amendment 20). Trawl fleet behavior (i.e., magnitude and distribution of trawl efforts) is anticipated to change once trawl rationalization measures are implemented. Such effects are evaluated in the Amendment 20 trawl rationalization EIS. No other differential indirect impacts are associated with the any of the action alternatives for Decisions 1 through 5, compared to the No Action Alternative.

Lower impacts from the action alternatives under Decision 5 are expected for Pacific halibut, a species prohibited in trawl fisheries throughout the species' range by the IPHC. In contrast to the No Action Alternative, which does not limit the take of Pacific halibut in trawl fisheries, the action alternatives under Decision 5 would limit trawl-induced bycatch mortality on Pacific halibut to amounts lower than recent mortality levels in the status quo fishery by establishing a total catch limit for the fleet north of 40°10' N latitude. Under all alternatives, including no action, for Decision 4, at-sea whiting trawl sector set-asides, mortality of Pacific halibut by that sector is estimated. The action alternatives would deduct that estimated mortality from the total catch limit available to the trawl sector, while the No Action Alternative would deduct the mortality from the TCEY through the IPHC annual process as described in Section 2.3. This would be a neutral impact on Pacific halibut because the overall take of Pacific

halibut would not change as a result of any of the alternatives, including no action. All of the alternatives, including no action, under Decisions 1 through 3 do not affect Pacific halibut.

4.3.2 Protected Species

When compared to the No Action Alternative, no differential impacts from any of the alternatives for Decisions 1 through 5 are anticipated to salmonids (ESA-listed and non-listed). This action would not affect overall harvest levels of groundfish, nor would fishing practices change as a result of this action. Under any of the alternatives, west coast groundfish fishing would remain under guidance contained in the BO for listed salmonids taken incidentally in this fishery.

When compared to the No Action Alternative, no differential impacts from any of the action alternatives for Decisions 1 through 5 are anticipated to marine mammals and sea turtles. This action would not affect overall harvest levels of groundfish, and, therefore, would not increase the rate of interaction with marine mammals and sea turtles. This fishery already has low-to-zero mammal interactions and no known sea turtle bycatch. These bycatch levels are expected to remain unchanged under any of the alternatives because fishing practices would not be changed by this action.

When compared to the No Action Alternative, no differential impacts from any of the action alternatives for Decisions 1 through 5 are anticipated to seabirds. This fishery's already low annual bycatch levels are expected to remain unchanged under any of the alternatives because fishing practices would not be changed by this action.

4.4 Impacts of the Alternatives on the Socioeconomic Environment

4.4.1 Summary of the Socioeconomic Impacts

Since the actions contemplated in this EIS concern allocations of groundfish FMP species, the anticipated effects are largely socioeconomic, and they are not interrelated with the environmental effects. Differences in sector catch percentages between alternatives affect future fishing opportunities differentially by sector. However, further spatial restrictions are not part of the actions analyzed in this intersector allocation EIS, and available yields by area, as indicated in 2010 harvest specifications, are assumed in all analyses in this EIS. Since nearshore species and sablefish are the predominant targets in the fixed gear fleets (i.e., LE fixed gear and directed open access), and allocation of these species is not contemplated in this action (beyond within-trawl allocations of sablefish), significant fleet displacement from status quo is not anticipated. Trawl rationalization will likely result in redistribution of trawl effort, although this connected action is analyzed in a separate EIS and is not considered further in any quantitative analysis in this EIS.

Six decisions are contemplated in this EIS: 1) LE trawl and non-trawl allocations, 2) shoreside whiting and shoreside non-whiting sector allocations, 3) allocation of the trawl-dominant overfished species (i.e., darkblotched rockfish, POP, and widow rockfish) to the four LE trawl sectors, 4) at-sea whiting sector set-asides, 5) Pacific halibut total catch limits, and 6) the process for deciding future sector allocations and potential reallocation of Amendment 21 species. Each of the first five allocation decisions is informed by the intersector alternatives described in Chapter 2, and they are treated separately in the following sections. A discussion regarding how future allocations decisions might be made is provided in Section 4.5.

The first decision, deciding trawl sector and non-trawl sector allocations, is fundamental to the next two decisions, which apportion trawl allocations to the four trawl sectors that comprise the west coast LE trawl fishery. Alternative trawl and non-trawl allocations are informed by catch percentages during

1995 to 2005, a period when the west coast groundfish fishery was in transition from one relatively unconstrained to a fishery significantly constrained by rebuilding plans designed to minimize fishing mortality of overfished groundfish species. Using historical catch as the basis for intersector allocation Alternative 1 in Decision 1 enables exploration of how past regulatory limits have affected landings by sector. Using recent catch histories as the basis for intersector allocation Alternatives 1 and 2 in Decision 1 provides a better estimate of the discarded portion of the catch and how fishing opportunities are constrained by the more conservative management regime under groundfish rebuilding. Intersector allocation Alternative 1 in Decision 1, an alternative recommended for analysis by the GAC, allows exploration of a higher non-trawl allocation for some of the intersector allocation species by increasing the non-trawl allocations relative to Alternative 1 in Decision 1 by 10 percent. The GAC recommended an alternative at its January 2009 meeting, which formed the basis for most of the Council's preferred alternative. The preferred alternative was decided at the Council's April 2009 meeting. This alternative differed from the allocations recommended by the GAC with more favorable non-trawl allocations for chilipepper rockfish, starry flounder, and species managed in the Other Flatfish complex, as well as a more favorable trawl allocation of lingcod.

Alternatives are not informed with income impact analysis that would typically be useful in understanding the potential socioeconomic impacts to fishing communities. Management measures (i.e., seasons, landing limits, etc.) associated with the alternatives would be needed to do an income impact analysis. Since trawl allocations do not specify where fishing occurs, what gears are used (gear switching is allowed under trawl rationalization), or what type of effort might occur, there is no measurable metric for doing income impact analysis. One could assume the types of impacts under No Action regulations that have been analyzed in recent management cycles (PFMC 2009). However, impacts are likely to be much different under a rationalized fishery where the fishery is managed using IFQs and a system of harvesting cooperatives. These effects are explored in the EIS analyses informing Amendment 20 actions.

The main socioeconomic impact of Amendment 21 allocations is longer-term stability for the trawl industry. While the preferred Amendment 21 allocations do not differ significantly from status quo ad hoc allocations made biennially, there is more certainty in future trawl harvest opportunities, which enables better business planning for participants in the rationalized fishery. This is the main purpose for the Amendment 21 actions.

4.4.2 ***Decision 1: Limited Entry Trawl and Non-trawl Allocations***

The LE trawl and non-trawl allocation decision has received the most attention in GAC and Council meetings concerning Amendment 21. Intersector allocation Alternatives 1 and 2 differ only in the catch percentages for the various non-trawl sectors targeting groundfish species. Therefore, they are treated the same in comparing possible impacts of the alternatives on trawl vs. all non-trawl sectors combined. Consequently, economic impacts are compared between intersector allocation Alternatives 1, 3, 4, and the preferred alternative recommended by the Council.

4.4.2.1 *Criteria Used to Evaluate Impacts*

Three criteria are used to evaluate impacts of the trawl and non-trawl allocation alternatives: 1) the utilization of a species by each sector, 2) the estimated potential value of alternative trawl allocations, and 3) a comparison of historical catches of Amendment 21 species by trawl and non-trawl sectors to the estimated amount available to these sectors in 2010 under the alternatives.

Utilization of Yields by Limited Entry Trawl and Non-Trawl Sectors

One overall objective of the intersector allocation process is optimal use of the available harvest of target groundfish species. This objective is guided by two of the three management goals in the Groundfish FMP: 1) goal 2 – Economics – maximize the value of the groundfish resource as a whole; and 2) goal 3 – Utilization – achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities (see Section 6.1). While the proposed action is to determine long-term formal allocations of a portion of the groundfish FMP species to the LE trawl sectors, this decision cannot be made without understanding the needs of the directed non-trawl sectors. This is the intent of analyzing intersector allocation Alternative 2 and understanding how target opportunities may be constrained by the bycatch of some of the species under consideration in the proposed action. These analyses attempt to tease out these constraints to all the groundfish sectors, so that trawl allocations will not unnecessarily constrain other groundfish sectors by allocating enough yield for their historic needs. In some alternatives, trawl allocations are lower than those observed since 1995, with the remaining available yield allocated to non-trawl sectors. In those cases, potential trawl values are relatively lower with greater benefits to non-trawl sectors. The overall value of those higher non-trawl opportunities will depend on the ability to effectively catch and/or utilize some of these Amendment 21 species, given conservation goals, different gear selectivities, and the fact that many of these species are predominantly caught with trawl gear.

The utilization goal is first addressed in these analyses by understanding the available yields or ACLs of the groundfish species under consideration during 1995 to 2005 and the harvests in each sector relative to these ACLs and relative to the annual catch in all non-treaty directed sectors combined. Significant utilization of a groundfish species by a sector is defined as landing an average of at least 10 percent of the total annual non-treaty landings during the 1995 to 2005 period. Dominant utilization of a groundfish species by a sector is defined as landing an average of at least 90 percent of the total annual non-treaty landings during the 1995 to 2005 period. Species thus categorized are “sector-dominant.” This evaluation is done for all the LE trawl sectors combined (referred to as the LE trawl sector), the LE longline and pot/trap sectors combined (referred to as the LE fixed gear sector), the directed open access sector, and the recreational sector using Table 4-17. Shares landed in the incidental open access sector should be considered as set-asides in the intersector allocation process.

Potential Value of Alternative Shoreside Trawl Sector Allocations

The economics goal is addressed by first determining the risk to non-trawl sectors caused by allocating too much yield to the trawl sectors. Then the value of alternative shoreside trawl sector allocations is estimated after deducting yield for projected catch in tribal and research fisheries, as well as the incidental bycatch in non-groundfish and at-sea whiting fisheries. The maximum annual amount of the total catch of each species subject to intersector allocations in treaty fisheries was used for the tribal set-aside, except for lingcod and Pacific cod, where 250 mt and 400 mt, respectively, were requested by the coastal tribes and set aside. The maximum annual scientific research catch of each intersector allocation species during 2001 to 2006 was used for the research set-aside (Table 4-1). The estimated annual catch in incidental open access fisheries was also set aside for non-groundfish fisheries. All set-asides were subtracted from the 2010 OYs specified for intersector allocation species to estimate the total amount of each species that would potentially be available to non-treaty, directed groundfish sectors in 2010 (Table 4-2).

Table 4-1. Summary of scientific research catches (mt) of groundfish species permitted by NMFS, 2001-2006.

Stock/Category	2006	2005	2004	2003	2002	2001	2001 - 2006	
							MAX	AVG
Lingcod	5.7	4.2	4.3	4.5	3.3	10.1	10.1	5.4
Sablefish North of 36° N. lat.	13.6	30.1	16.2	43.5	15.0	61.6	61.6	30.0
Sablefish South of 36° N. lat.	1.7							
PACIFIC OCEAN PERCH	1.2	3.6	1.1	5.0	0.3	2.3	5.0	2.3
WIDOW	0.3	0.9	0.2	1.0	0.3	0.3	1.0	0.5
Chilipepper S. of 40°10'	8.3	12.6	8.6	12.6	1.7	10.8	12.6	9.1
Yellowtail N. of 40°10'	1.7	4.3	3.7	4.3	0.0	4.9	4.9	3.2
Shortspine Thornyhead – coastwide	4.2	3.8	2.9	8.1	5.4	13.3	13.3	6.3
Longspine N. of 34°27'	10.6	11.2	4.2	11.2	8.6	22.7	22.7	11.4
Longspine S. of 34°27'	1.0						1.0	0.0
DARKBLOTCHED	0.9	3.8	1.4	5.1	0.1	1.9	5.1	2.2
Minor Slope Rockfish North	2.2	2.9	4.0	3.4	0.5	2.8	4.0	2.6
Minor Slope Rockfish South	1.4	1.9	2.6	2.2	0.3	1.8	2.6	1.7
Dover Sole	28.9	31.1	27.4	40.0	20.1	72.1	72.1	36.6
English Sole	2.5	4.1	7.5	4.1	1.3	6.6	7.5	4.3
Petrale Sole – coastwide	2.3	1.7	2.2	1.9	0.9	2.1	2.3	1.8
Arrowtooth Flounder	6.6	6.5	8.7	17.2	4.7	18.0	18.0	10.3
Other Flatfish	11.9	7.6	11.4	9.1	3.3	19.9	19.9	10.5

Table 4-2. The estimated yield set-asides and the total yield potentially available to non-treaty, directed sectors of the west coast groundfish fishery in 2010.

Stock or Complex	2010 OY (mt)	Set-asides					2010 Total Non-Treaty (NT) Amt. (mt)
		Tribal		Inc. OA (mt)	Research (mt)	Total (mt)	
		%	Amt. (mt)				
Lingcod - coastwide	4,829		250	31	10	291	4,538
Pacific Cod	1,600		450	3		453	1,147
Sablefish N. of 36°	6,471	10.0%	647		62	709	5,762
Sablefish S. of 36°	1,258	-	-	2	2	4	1,254
PACIFIC OCEAN PERCH	200	0.9%	2	3	5	9	191
WIDOW	509		40	7	1	48	461
Chilipepper S. of 40°10'	2,447	-	-	4	13	17	2,430
Splitnose S. of 40°10'	461	-	-	1		1	460
Yellowtail N. of 40°10'	4,562		580	103	5	688	3,874
Shortspine N. of 34°27'	1,591		15	1	13	29	1,562
Shortspine S. of 34°27'	410	-	-	0		0	410
Longspine N. of 34°27'	2,175		5	1	23	29	2,146
Longspine S. of 34°27'	385	-	-		1	1	384
DARKBLOTCHED	291	0.9%	3	3	5	11	280
Minor Slope RF North	1,160	2.5%	29	5	4	38	1,122
Minor Slope RF South	626	-	-			0	626
Dover Sole	16,500	1.9%	314	51	72	437	16,064
English Sole	9,745	2.6%	253	24	8	284	9,461
Petrale Sole - coastwide	2,393	3.1%	74	30	2	107	2,286
Arrowtooth Flounder	10,112		160	8	18	186	9,926
Starry Flounder	1,077		2	16		18	1,059
Other Flatfish	4,884	1.0%	49	60	20	129	4,755

The potential yield to trawl and non-trawl sectors is then estimated by applying the alternative sector catch percentages to the potential yield available to non-treaty, directed groundfish sectors.

Potential trawl allocation amounts are then multiplied by the 2004-2006 average ex-vessel price of each of the intersector allocation species to determine the potential value of alternative trawl allocations. The difference in the value of alternative trawl allocations provides a relative measure of economic impacts to trawl sectors assuming the full allocation is taken, although it is unlikely that trawl allocations will be fully attained. The full economic impacts of the alternatives also depend on the utilization of these species' yields by non-trawl sectors, which are not estimated in this EIS. Income impact analyses are beyond the scope of the analyses in this EIS since intersector allocations among non-trawl sectors is not part of this action⁸.

Trawl and Non-trawl Sector Dependence on Amendment 21 Species

The combined non-treaty trawl and combined non-treaty non-trawl sector catches during 1995-2005, as well as total catch by sector and species in 2006 and 2007, are evaluated to understand sector dependence on Amendment 21 species. Potential trawl and non-trawl allocation amounts in 2010 under the intersector allocation alternatives are compared to the historical catch data to evaluate whether the trawl and non-trawl allocations meet sector needs and equitably allocate available yields. Further evaluation of the potential sector impacts by alternative and trawl and non-trawl sector dependence on Amendment 21 species is done on a species-by-species basis.

4.4.2.2 Socioeconomic Impacts of Alternative Trawl and Non-trawl Allocations

Utilization of Available Yields by Sector

Table 4-3 depicts the OYs, formerly called harvest guidelines (HGs), for each of the groundfish species subject to intersector allocation during 1995-2010. Those species in Table 4-3 without an OY during all or part of this period were managed under a groundfish species complex with its own OY. OYs evolved during this period from landed catch limits 1995-1997, to a mix of landed catch and total catch limits (including estimated discard mortalities) in 1998, to total catch limits from 1999 to the present.

Table 4-4 depicts the utilization of these ACLs for specified species by all directed groundfish sectors combined (including treaty fisheries), while Tables 4-5 to 4-9 show individual groundfish sector landings or deliveries as a percent of the ACLs. The most heavily utilized species of those subject to intersector allocations are lingcod, sablefish north of 36° N latitude, widow rockfish, shortspine thornyhead, darkblotched rockfish, Dover sole, and petrale sole.

Sector annual landings as a percent of the total annual landed catch in non-treaty fisheries for each of the specified species are provided to understand the utilization of yields by sector. Tables 4-10 through 4-13 depict landings as a percent of total non-treaty landings during 1995-2005 for the LE trawl sectors (at-sea whiting catcher-processors, at-sea whiting motherships, shoreside whiting, and shoreside non-whiting), the LE fixed gear sector, the open access sectors (directed and incidental), and the recreational groundfish sector, respectively. Tables 4-14 through 4-16 show the maximum, minimum, and average shares by sector, respectively.

⁸ Since only trawl sector allocations are considered in this EIS, a more comprehensive economic analysis is not provided. One would have to posit how the available yields of Amendment 21 species are allocated among the various non-trawl sectors to perform a more comprehensive economic analysis of impacts under the intersector allocation alternatives.

Table 4-3. Optimum yield (mt) for groundfish FMP species subject to intersector allocations, 1995-2010.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	HG	HG	HG	Total Catch or Landed Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY
Lingcod – coastwide	2,400	2,400	2,400	838	730	378	611	577	651	735	2,414	2,414	6,170	6,170	5,278	4,829
Pacific Cod								3,200	3,200	3,200	1,600	1,600	1,600	1,600	1,600	1,600
Pacific Whiting (U.S.)	178,400	212,000	232,000	232,000	232,000	232,000	190,400	129,600	148,200	250,000	269,069	269,545	242,591	269,545	135,939	TBD
Sablefish N. of 36°	7,800	7,800	7,800	5,200	7,919	7,919	6,895	4,367	6,500	7,510	7,486	7,363	5,723	5,723	7,052	6,471
Sablefish S. of 36°	425	425	425	425	472	472	212	229	294	276	275	271	210	210	1,371	1,258
PACIFIC OCEAN PERCH	1,300	750	750	650	595	270	303	350	377	444	447	447	150	150	189	200
Shortbelly Rockfish	23,500	23,500	23,500	23,500	23,500	13,900	13,900	13,900	13,900	13,900	13,900	13,900	13,900	13,900	6,950	6,950
WIDOW ROCKFISH	6,500	6,500	6,500	4,960	5,023	4,333	2,300	856	832	284	285	289	368	368	522	509
CANARY ROCKFISH	850	850	1,000	1,045	857	200	93	93	44	47	47	47	44	44	105	105
Chilipepper Rockfish					3,724	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,885	2,447
BOCACCIO	1,700	1,700	387	230	230	100	100	100	20	250	307	308	218	218	288	288
Splitnose Rockfish					868	615	461	461	461	461	461	461	461	461	461	461
Yellowtail Rockfish	6,340	6,170	2,762	3,118	3,435	3,539	3,146	3,146	3,146	4,320	3,896	3,681	4,548	4,548	4,562	4,562
Shortspine Thornyhead - coastwide	1,500	1,500	1,380	1,300	1,325	1,145	751	955	955	983						
Shortspine N. of 34°27'											999	1,018	1,634	1,634	1,608	1,591
Shortspine S. of 34°27'													421	421	414	410
Longspine Thornyhead - coastwide	6,000	6,000	6,000	4,102	4,102	4,102	2,461	2,461	2,461	2,461	2,656					
Longspine N. of 34°27'											2,461	2,461	2,220	2,220	2,231	2,175
Longspine S. of 34°27'				428	429	429	195	195	195	195	195	195	476	476	395	385
COWCOD						5	5	5	5	5	4	4	4	4	4	4
DARKBLOTCHED							130	168	172	240	269	294	290	330	285	291
YELLOWEYE								14	22	22	26	27	23	20	17	17
Black Rockfish - coastwide									835	1,315						
Black Rockfish (WA)											540	540	540	540	490	464
Black Rockfish (OR-CA)											753	736	722	722	1,000	1,000
Minor Rockfish North	4,610	4,160	2,894	2,894	2,325	3,814	3,137	3,115	2,251	2,251	2,250	2,250	2,270	2,270	22,863	2,283
Minor Nearshore RF North											122	122	142	142	155	155
Minor Shelf RF North											968	968	968	968	968	968
Minor Slope RF North											1,160	1,160	1,160	1,160	1,160	1,160

Table 4-3. Annual catch limits (mt) for groundfish FMP species subject to intersector allocations, 1995-2010 (continued).

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	HG	HG	HG	Total Catch or Landed Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY	Total Catch OY
Minor Rockfish South	11,500	11,500	8,897	8,209	2,475	1,899	2,040	2,015	2,015	1,968	1,968	1,968	1,904	1,904	1,990	1,990
Minor Nearshore RF South											615	615	564	564	650	650
Minor Shelf RF South											714	714	714	714	714	714
Minor Slope RF South											639	639	626	626	626	626
California scorpionfish													175	175	175	155
Cabezon (off CA only)											69	69	69	69	69	79
Dover Sole	13,600	11,050	11,050	9,426	9,426	9,426	7,677	7,440	7,440	7,440	7,476	7,564	16,500	16,500	16,500	16,500
English Sole									3,100	3,100	3,100	3,100	6,237	6,237	14,326	9,745
Petrals Sole – coastwide									2,762	2,762	2,762	2,762	2,499	2,499	2,433	2,393
Arrowtooth Flounder									5,800	5,800	5,800	5,800	5,800	5,800	11,267	10,112
Starry Flounder													890	890	1,004	1,077
Other Flatfish									7,700	7,700	4,909	4,909	4,884	4,884	4,884	4,884
Longnose Skate															1,349	1,349
Other Fish									14,700	14,700	7,300	7,300	7,300	7,300	5,600	5,600

Table 4-4. Landings or deliveries of groundfish species subject to intersector allocations as a share of annual catch limits by all directed groundfish sectors combined (including treaty), 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum	Minimum	Average
												Share (%)	Share (%)	Share (%)
Lingcod – coastwide	77.9%	86.4%	83.6%	84.6%	114.3%	113.6%	67.8%	153.8%	211.4%	66.2%	29.6%	211.4%	29.6%	99.0%
Pacific Cod								23.7%	39.9%	44.6%	54.1%	54.1%	23.7%	40.6%
Sablefish N. of 36°	96.6%	102.9%	98.7%	81.3%	82.2%	78.9%	79.9%	83.9%	81.6%	77.1%	81.7%	102.9%	77.1%	85.9%
Sablefish S. of 36°	76.7%	80.4%	61.7%	50.3%	38.5%	25.9%	66.8%	82.8%	74.5%	66.5%	52.6%	82.8%	25.9%	61.5%
PACIFIC OCEAN PERCH	69.8%	116.7%	91.7%	101.1%	92.0%	53.8%	68.6%	43.6%	37.0%	30.7%	14.6%	116.7%	14.6%	65.4%
WIDOW ROCKFISH	103.1%	97.2%	103.1%	85.4%	83.3%	93.8%	86.1%	50.4%	5.2%	35.7%	67.7%	103.1%	5.2%	73.7%
Chilipepper S. of 40°10'					24.8%	22.9%	19.0%	8.5%	0.4%	2.5%	1.9%	24.8%	0.4%	11.4%
Splitnose S. of 40°10'					23.8%	14.5%	20.1%	12.7%	32.8%	35.5%	18.9%	35.5%	12.7%	22.6%
Yellowtail N. of 40°10'	82.2%	93.5%	82.9%	100.8%	102.6%	101.0%	63.2%	39.5%	15.4%	15.4%	23.0%	102.6%	15.4%	65.4%
Shortspine Thornyhead - coastwide	128.0%	107.7%	106.1%	96.2%	62.5%	74.0%	72.5%	82.8%	88.5%	82.4%	66.5%	128.0%	62.5%	87.9%
Shortspine N. of 34°27'											38.5%	38.5%	38.5%	38.5%
Shortspine S. of 34°27'														
Longspine Thornyhead - coastwide	89.5%	80.7%	65.4%	54.4%	43.5%	35.6%	46.5%	77.1%	63.4%	29.4%	24.3%	89.5%	24.3%	55.4%
Longspine N. of 34°27'											25.9%	25.9%	25.9%	25.9%
Longspine S. of 34°27'				2.6%	3.5%	6.2%	15.8%	6.5%	5.5%	3.9%	4.0%	15.8%	2.6%	6.0%
DARKBLOTCHED							132.5%	67.2%	49.1%	82.0%	36.4%	132.5%	36.4%	73.5%
Minor Slope Rockfish North											21.4%	21.4%	21.4%	21.4%
Minor Slope Rockfish South											26.2%	26.2%	26.2%	26.2%
Dover Sole	77.0%	111.0%	92.2%	86.1%	98.2%	94.2%	89.5%	85.4%	100.9%	97.0%	95.0%	111.0%	77.0%	93.3%
English Sole									30.4%	31.4%	30.3%	31.4%	30.3%	30.7%
Petrale Sole - coastwide									73.9%	70.7%	101.2%	101.2%	70.7%	81.9%
Arrowtooth Flounder									40.5%	42.7%	39.5%	42.7%	39.5%	40.9%
Starry Flounder														
Other Flatfish									20.5%	17.9%	24.0%	24.0%	17.9%	20.8%

Table 4-5. Landings or deliveries of groundfish species subject to intersector allocations as a share of annual catch limits by all limited entry trawl sectors, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum	Minimum	Average
												Share (%)	Share (%)	Share (%)
Lingcod - coastwide	44.6%	50.2%	48.8%	26.0%	29.8%	17.8%	9.7%	17.8%	9.4%	8.6%	3.6%	50.2%	3.6%	24.2%
Pacific Cod								21.6%	32.5%	34.5%	45.8%	45.8%	21.6%	33.6%
Sablefish N. of 36°	45.5%	50.8%	46.1%	40.1%	38.9%	34.1%	37.0%	35.5%	35.4%	33.6%	31.3%	50.8%	31.3%	38.9%
Sablefish S. of 36°	48.6%	50.4%	36.1%	26.9%	17.6%	7.7%	13.4%	21.4%	26.4%	29.0%	20.0%	50.4%	7.7%	27.0%
PACIFIC OCEAN PERCH	68.9%	114.5%	89.7%	100.8%	90.0%	53.4%	68.3%	43.2%	36.3%	29.8%	13.7%	114.5%	13.7%	64.4%
WIDOW ROCKFISH	101.3%	95.6%	101.1%	80.5%	80.6%	92.6%	84.4%	46.2%	3.5%	22.1%	55.6%	101.3%	3.5%	69.4%
Chilipepper S. of 40°10'					21.0%	18.0%	14.9%	7.7%	0.4%	2.0%	1.5%	21.0%	0.4%	9.3%
Splitnose S. of 40°10'					23.7%	13.6%	19.6%	12.1%	32.7%	35.5%	18.7%	35.5%	12.1%	22.3%
Yellowtail N. of 40°10'	77.1%	84.7%	66.3%	83.0%	83.6%	93.5%	54.3%	23.9%	4.7%	5.5%	7.1%	93.5%	4.7%	53.1%
Shortspine Thornyhead - coastwide	124.1%	100.9%	101.4%	91.3%	53.8%	68.5%	64.8%	71.0%	71.3%	68.1%	51.2%	124.1%	51.2%	78.8%
Shortspine N. of 34°27'											36.7%	36.7%	36.7%	36.7%
Longspine Thornyhead - coastwide	88.6%	79.2%	64.2%	54.2%	43.2%	34.8%	46.0%	77.1%	63.1%	29.3%	23.8%	88.6%	23.8%	54.8%
Longspine N. of 34°27'											25.7%	25.7%	25.7%	25.7%
Longspine S. of 34°27'				0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%
DARKBLOTCHED							130.2%	65.6%	48.7%	81.6%	34.8%	130.2%	34.8%	72.2%
Minor Slope Rockfish North											13.3%	13.3%	13.3%	13.3%
Minor Slope Rockfish South											17.4%	17.4%	17.4%	17.4%
Dover Sole	76.3%	110.1%	91.5%	85.5%	96.9%	93.5%	89.0%	84.9%	100.3%	95.8%	93.0%	110.1%	76.3%	92.4%
English Sole									27.6%	28.6%	28.0%	28.6%	27.6%	28.1%
Petrale Sole - coastwide									68.9%	67.4%	99.7%	99.7%	67.4%	78.7%
Arrowtooth Flounder									39.8%	41.2%	36.6%	41.2%	36.6%	39.2%
Starry Flounder														
Other Flatfish									19.2%	16.5%	22.3%	22.3%	16.5%	19.3%

Table 4-6. Landings or deliveries of groundfish species subject to intersector allocations as a share of annual catch limits by the limited entry fixed gear sector, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum	Minimum	Average
												Share (%)	Share (%)	Share (%)
Lingcod - coastwide	1.8%	2.3%	2.7%	3.0%	4.4%	4.2%	2.9%	2.1%	1.3%	1.6%	0.6%	4.4%	0.6%	2.4%
Pacific Cod								0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Sablefish N. of 36°	33.9%	32.4%	35.3%	28.6%	29.8%	29.5%	26.1%	29.5%	27.7%	27.0%	28.9%	35.3%	26.1%	29.9%
Sablefish S. of 36°	10.4%	20.2%	24.2%	22.4%	18.3%	14.7%	46.6%	48.2%	36.3%	27.8%	26.4%	48.2%	10.4%	26.9%
PACIFIC OCEAN PERCH	0.3%	1.3%	0.3%	0.0%	0.2%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	1.3%	0.0%	0.2%
WIDOW ROCKFISH	0.1%	0.1%	0.1%	0.2%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.1%
Chilipepper S. of 40°10'					0.3%	0.4%	0.1%	0.0%	0.0%	0.1%	0.1%	0.4%	0.0%	0.2%
Splitnose S. of 40°10'					0.1%	0.8%	0.2%	0.3%	0.1%	0.0%	0.1%	0.8%	0.0%	0.2%
Yellowtail N. of 40°10'	0.2%	0.5%	1.3%	1.4%	1.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.4%
Shortspine Thornyhead - coastwide	2.2%	5.2%	3.8%	4.4%	7.5%	4.5%	6.8%	10.8%	16.3%	13.6%	14.2%	16.3%	2.2%	8.1%
Shortspine N. of 34°27'											0.7%	0.7%	0.7%	0.7%
Shortspine S. of 34°27'														
Longspine Thornyhead - coastwide	0.4%	1.3%	0.9%	0.1%	0.3%	0.8%	0.5%	0.1%	0.4%	0.0%	0.6%	1.3%	0.0%	0.5%
Longspine N. of 34°27'											0.3%	0.3%	0.3%	0.3%
Longspine S. of 34°27'				2.6%	3.3%	4.7%	12.4%	5.1%	5.4%	3.9%	4.0%	12.4%	2.6%	5.2%
DARKBLOTCHED							1.7%	0.1%	0.1%	0.1%	0.8%	1.7%	0.1%	0.6%
Minor Slope Rockfish North											4.6%	4.6%	4.6%	4.6%
Minor Slope Rockfish South											4.1%	4.1%	4.1%	4.1%
Dover Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
English Sole									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Petrals Sole - coastwide									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Arrowtooth Flounder									0.1%	0.0%	0.1%	0.1%	0.0%	0.1%
Starry Flounder														
Other Flatfish									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 4-7. Landings or deliveries of groundfish species subject to intersector allocations as a share of annual catch limits by the open access sector (directed groundfish plus incidental groundfish fisheries), 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum	Minimum	Average
												Share (%)	Share (%)	Share (%)
Lingcod - coastwide	14.5%	12.6%	14.1%	13.0%	16.4%	17.2%	12.3%	14.2%	11.6%	11.2%	3.1%	17.2%	3.1%	12.7%
Pacific Cod								0.1%	0.2%	0.0%	0.0%	0.2%	0.0%	0.1%
Sablefish N. of 36°	7.3%	8.7%	7.0%	4.0%	4.5%	6.3%	7.2%	8.7%	9.0%	6.9%	12.1%	12.1%	4.0%	7.4%
Sablefish S. of 36°	17.7%	9.9%	1.3%	0.9%	2.6%	3.5%	6.8%	13.2%	11.8%	9.6%	6.2%	17.7%	0.9%	7.6%
PACIFIC OCEAN PERCH	0.5%	0.9%	0.8%	0.2%	1.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.4%
WIDOW ROCKFISH	1.6%	0.9%	1.1%	3.3%	1.0%	0.4%	0.6%	0.1%	0.2%	0.1%	0.4%	3.3%	0.1%	0.9%
Chilipepper S. of 40°10'					2.8%	2.5%	1.4%	0.2%	0.0%	0.1%	0.0%	2.8%	0.0%	1.0%
Splitnose S. of 40°10'					0.1%	0.1%	0.3%	0.3%	0.0%	0.0%	0.0%	0.3%	0.0%	0.1%
Yellowtail N. of 40°10'	4.4%	6.2%	9.3%	9.0%	3.1%	2.9%	2.2%	1.0%	0.2%	0.2%	0.2%	9.3%	0.2%	3.5%
Shortspine Thornyhead - coastwide	1.2%	1.0%	0.4%	0.2%	0.7%	0.7%	0.3%	0.4%	0.3%	0.1%	0.1%	1.2%	0.1%	0.5%
Shortspine N. of 34°27'											0.0%	0.0%	0.0%	0.0%
Shortspine S. of 34°27'														
Longspine Thornyhead - coastwide	0.5%	0.2%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.1%
Longspine N. of 34°27'											0.0%	0.0%	0.0%	0.0%
Longspine S. of 34°27'				0.0%	0.2%	1.6%	3.3%	1.1%	0.1%	0.0%	0.0%	3.3%	0.0%	0.8%
DARKBLOTCHED							0.6%	0.6%	0.2%	0.2%	0.8%	0.8%	0.2%	0.5%
Minor Slope Rockfish North											0.9%	0.9%	0.9%	0.9%
Minor Slope Rockfish South											4.7%	4.7%	4.7%	4.7%
Dover Sole	0.6%	0.9%	0.7%	0.6%	1.3%	0.7%	0.4%	0.2%	0.2%	0.1%	0.1%	1.3%	0.1%	0.5%
English Sole									0.6%	0.2%	0.2%	0.6%	0.2%	0.3%
Petrals Sole - coastwide									1.9%	0.2%	0.4%	1.9%	0.2%	0.8%
Arrowtooth Flounder									0.3%	0.0%	0.0%	0.3%	0.0%	0.1%
Starry Flounder														
Other Flatfish									0.5%	0.6%	0.1%	0.6%	0.1%	0.4%

Table 4-8. Landings of groundfish species subject to intersector allocations as a share of annual catch limits by the recreational groundfish sector, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum	Minimum	Average
												Share (%)	Share (%)	Share (%)
Lingcod - coastwide	16.32%	19.7%	17.8%	40.1%	60.9%	70.0%	39.8%	105.2%	155.8%	40.5%	20.3%	155.8%	16.3%	53.3%
Pacific Cod								0.1%	0.3%	0.4%	0.5%	0.5%	0.1%	0.3%
Sablefish N. of 36°	0.04%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%
Sablefish S. of 36°	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
PACIFIC OCEAN PERCH	0.00%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.3%	0.0%	0.0%	0.3%	0.0%	0.0%
WIDOW ROCKFISH	0.09%	0.4%	0.7%	1.0%	0.7%	0.3%	0.6%	0.3%	0.2%	5.4%	1.1%	5.4%	0.1%	1.0%
Chilipepper S. of 40°10'					0.7%	1.9%	2.6%	0.6%	0.0%	0.3%	0.2%	2.6%	0.0%	0.9%
Splitnose S. of 40°10'					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellowtail N. of 40°10'	0.47%	0.5%	1.5%	2.1%	0.8%	0.7%	0.6%	0.7%	0.7%	0.8%	0.8%	2.1%	0.5%	0.9%
Shortspine Thornyhead - coastwide	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Shortspine N. of 34°27'											0.0%	0.0%	0.0%	0.0%
Shortspine S. of 34°27'														
Longspine Thornyhead - coastwide	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Longspine N. of 34°27'											0.0%	0.0%	0.0%	0.0%
Longspine S. of 34°27'				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DARKBLOTCHED							0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Minor Slope Rockfish North											0.0%	0.0%	0.0%	0.0%
Minor Slope Rockfish South											0.1%	0.1%	0.1%	0.1%
Dover Sole	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
English Sole									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Petrale Sole - coastwide									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Arrowtooth Flounder									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Starry Flounder														
Other Flatfish									0.6%	0.6%	0.6%	0.6%	0.6%	0.6%

Table 4-9. Landings or deliveries of groundfish species subject to intersector allocations as a share of annual catch limits by the treaty sector, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum	Minimum	Average
												Share (%)	Share (%)	Share (%)
Lingcod - coastwide	0.0%	0.1%	0.0%	0.3%	0.4%	0.8%	0.7%	2.0%	3.4%	3.2%	1.3%	3.4%	0.0%	1.1%
Pacific Cod								1.8%	6.7%	9.6%	7.7%	9.6%	1.8%	6.5%
Sablefish (Coastwide)										9.2%	9.0%	9.2%	9.0%	9.1%
Sablefish N. of 36°	9.9%	10.9%	10.3%	8.6%	9.0%	8.9%	9.6%	10.0%	9.3%	9.5%	9.3%	10.9%	8.6%	9.6%
Sablefish S. of 36°	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PACIFIC OCEAN PERCH	0.0%	0.0%	0.9%	0.1%	0.2%	0.0%	0.2%	0.1%	0.3%	0.9%	0.8%	0.9%	0.0%	0.3%
WIDOW ROCKFISH	0.0%	0.2%	0.1%	0.3%	0.7%	0.2%	0.5%	3.8%	1.4%	8.1%	10.5%	10.5%	0.0%	2.3%
Chilipepper S. of 40°10'					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Splitnose S. of 40°10'					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellowtail N. of 40°10'	0.0%	1.5%	4.4%	5.3%	14.1%	3.8%	5.9%	14.0%	9.8%	8.8%	14.8%	14.8%	0.0%	7.5%
Shortspine Thornyhead - coastwide	0.5%	0.5%	0.6%	0.3%	0.5%	0.4%	0.7%	0.5%	0.6%	0.7%	1.1%	1.1%	0.3%	0.6%
Shortspine N. of 34°27'											1.1%	1.1%	1.1%	1.1%
Shortspine S. of 34°27'														
Longspine Thornyhead - coastwide											0.0%	0.0%	0.0%	0.0%
Longspine N. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Longspine S. of 34°27'				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DARKBLOTCHED							0.1%	0.9%	0.0%	0.1%	0.0%	0.9%	0.0%	0.2%
Minor Slope Rockfish North											2.5%	2.5%	2.5%	2.5%
Minor Slope Rockfish South											0.0%	0.0%	0.0%	0.0%
Dover Sole	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	0.4%	1.1%	1.9%	1.9%	0.0%	0.4%
English Sole									2.2%	2.6%	2.1%	2.6%	2.1%	2.3%
Petrale Sole - coastwide									3.1%	3.0%	1.1%	3.1%	1.1%	2.4%
Arrowtooth Flounder									0.4%	1.4%	2.8%	2.8%	0.4%	1.5%
Starry Flounder														
Other Flatfish									0.1%	0.2%	1.0%	1.0%	0.1%	0.4%

Table 4-10. Limited entry trawl sectors' share of non-treaty landings or deliveries (including recreational landed catch only) of groundfish species subject to intersector allocation, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Maximum Minimum		Average Share (%) a/	
											2005 Share (%)	Share (%)		
Lingcod - coastwide	57.8%	59.2%	58.5%	31.7%	26.7%	16.3%	15.0%	12.8%	5.3%	13.9%	12.9%	59.2%	5.3%	28.2%
Pacific Cod	97.9%	97.5%	99.0%	98.7%	98.7%	98.9%	99.0%	98.9%	98.0%	98.5%	98.7%	99.0%	97.5%	98.5%
Sablefish N. of 36°	52.4%	55.3%	52.1%	55.1%	53.1%	48.8%	52.6%	48.0%	49.0%	49.7%	43.3%	55.3%	43.3%	50.9%
Sablefish S. of 36°	63.3%	62.6%	58.6%	53.6%	45.7%	29.7%	20.0%	25.9%	35.5%	43.7%	37.9%	63.3%	20.0%	43.3%
PACIFIC OCEAN PERCH	98.8%	98.1%	98.8%	99.8%	98.1%	99.5%	100.0%	99.4%	99.0%	100.0%	99.5%	100.0%	98.1%	99.2%
WIDOW ROCKFISH	98.2%	98.5%	98.2%	94.6%	97.6%	99.0%	98.5%	99.1%	91.7%	80.2%	97.3%	99.1%	80.2%	95.7%
Chilipepper S. of 40°10'	78.1%	80.9%	76.0%	77.6%	84.7%	78.7%	78.3%	90.6%	96.0%	79.7%	82.2%	96.0%	76.0%	82.1%
Splitnose S. of 40°10'	91.9%	98.7%	98.2%	96.0%	99.5%	93.8%	97.7%	95.5%	99.6%	99.9%	99.2%	99.9%	91.9%	97.3%
Yellowtail N. of 40°10'	93.8%	92.1%	84.5%	87.0%	94.5%	96.2%	94.9%	93.5%	83.3%	83.8%	87.4%	96.2%	83.3%	90.1%
Shortspine Thornyhead - coastwide	97.3%	94.2%	96.0%	95.2%	86.8%	92.9%	90.2%	86.3%	81.1%	83.3%	78.2%	97.3%	78.2%	89.2%
Shortspine N. of 34°27'	97.8%	98.0%	97.5%	97.9%	96.7%	97.5%	97.6%	97.9%	98.5%	98.6%	98.0%	98.6%	96.7%	97.8%
Shortspine S. of 34°27'	96.4%	85.8%	92.5%	88.8%	67.3%	85.7%	73.4%	70.7%	57.3%	63.7%	51.6%	96.4%	51.6%	75.7%
Longspine Thornyhead - coastwide	99.0%	97.8%	97.8%	99.2%	98.3%	96.0%	96.2%	99.2%	98.7%	98.8%	97.7%	99.2%	96.0%	98.1%
Longspine N. of 34°27'	99.0%	98.2%	98.2%	99.7%	99.1%	97.8%	98.8%	99.9%	99.4%	99.8%	98.9%	99.9%	97.8%	99.0%
Longspine S. of 34°27'		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	0.0%	0.0%	3.6%	0.0%	0.4%
DARKBLOTCHED	99.1%	99.4%	99.2%	97.1%	97.6%	95.6%	98.3%	98.9%	99.4%	99.6%	95.7%	99.6%	95.6%	98.2%
Minor Slope Rockfish North	83.1%	87.5%	96.5%	85.3%	95.5%	86.5%	86.1%	66.2%	83.0%	85.3%	70.5%	96.5%	66.2%	84.1%
Minor Slope Rockfish South	63.0%	71.9%	77.0%	67.6%	64.4%	73.3%	74.3%	77.8%	53.3%	70.1%	66.3%	77.8%	53.3%	69.0%
Dover Sole	99.1%	99.1%	99.3%	99.3%	98.7%	99.2%	99.5%	99.7%	99.8%	99.9%	99.9%	99.9%	98.7%	99.4%
English Sole	98.7%	97.3%	95.6%	97.7%	96.3%	96.6%	97.5%	99.2%	97.8%	99.3%	99.4%	99.4%	95.6%	97.8%
Petrale Sole - coastwide	98.6%	98.5%	96.7%	98.2%	97.5%	97.3%	97.9%	99.1%	97.3%	99.6%	99.6%	99.6%	96.7%	98.2%
Arrowtooth Flounder	99.0%	99.7%	99.8%	99.8%	99.7%	99.4%	99.9%	99.7%	99.2%	99.9%	99.7%	99.9%	99.0%	99.6%
Starry Flounder	80.1%	60.8%	64.4%	61.3%	42.3%	57.7%	1.8%	41.1%	49.2%	82.7%	73.1%	82.7%	1.8%	55.9%
Other Flatfish	97.0%	93.1%	90.3%	94.8%	95.2%	93.0%	92.6%	93.0%	94.6%	93.4%	97.0%	97.0%	90.3%	94.0%

a/ Arithmetic average of non-empty cells in each row. Empty cell means total recorded species catch by non-treaty sectors in that year = 0.

Table 4-11. Limited entry fixed gear sector shares of non-treaty landings or deliveries (including recreational landed catch only) of groundfish species subject to intersector allocation, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Maximum Minimum		Average Share (%) a/	
											2005 Share (%)	Share (%)		
Lingcod – coastwide	2.3%	2.7%	3.3%	3.7%	4.0%	3.8%	4.4%	1.5%	0.7%	2.6%	2.2%	4.4%	0.7%	2.8%
Pacific Cod	0.2%	0.3%	0.1%	0.2%	0.4%	0.4%	0.4%	0.1%	0.2%	0.4%	0.3%	0.4%	0.1%	0.3%
Sablefish N. of 36°	39.1%	35.2%	39.9%	39.3%	40.7%	42.2%	37.0%	40.0%	38.3%	40.0%	39.9%	42.2%	35.2%	39.2%
Sablefish S. of 36°	13.5%	25.1%	39.3%	44.6%	47.5%	56.8%	69.7%	58.2%	48.7%	41.9%	50.2%	69.7%	13.5%	45.0%
PACIFIC OCEAN PERCH	0.5%	1.1%	0.3%	0.0%	0.2%	0.2%	0.0%	0.2%	0.3%	0.0%	0.3%	1.1%	0.0%	0.3%
WIDOW ROCKFISH	0.1%	0.1%	0.1%	0.3%	0.4%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.4%	0.0%	0.1%
Chilipepper S. of 40°10'	0.8%	0.7%	0.7%	1.2%	1.4%	1.8%	0.8%	0.3%	1.1%	4.6%	7.8%	7.8%	0.3%	1.9%
Splitnose S. of 40°10'	0.5%	0.2%	0.2%	0.0%	0.3%	5.8%	1.0%	2.2%	0.3%	0.0%	0.8%	5.8%	0.0%	1.0%
Yellowtail N. of 40°10'	0.3%	0.6%	1.7%	1.5%	1.1%	0.1%	0.2%	0.1%	0.3%	0.4%	0.2%	1.7%	0.1%	0.6%
Shortspine Thornyhead – coastwide	1.7%	4.9%	3.6%	4.6%	12.1%	6.1%	9.4%	13.1%	18.5%	16.6%	21.7%	21.7%	1.7%	10.2%
Shortspine N. of 34°27'	1.5%	1.7%	2.1%	1.9%	3.0%	2.3%	2.3%	1.8%	1.4%	1.3%	1.9%	3.0%	1.3%	1.9%
Shortspine S. of 34°27'	2.0%	11.8%	7.1%	11.0%	29.9%	12.1%	25.5%	28.2%	42.0%	36.2%	48.2%	48.2%	2.0%	23.1%
Longspine Thornyhead – coastwide	0.5%	2.0%	1.8%	0.7%	1.4%	3.5%	3.1%	0.6%	1.2%	1.2%	2.3%	3.5%	0.5%	1.7%
Longspine N. of 34°27'	0.5%	1.6%	1.4%	0.2%	0.7%	2.1%	1.1%	0.1%	0.6%	0.1%	1.1%	2.1%	0.1%	0.9%
Longspine S. of 34°27'		98.2%	100.0%	99.1%	95.0%	74.6%	79.0%	79.2%	98.5%	99.0%	100.0%	100.0%	74.6%	92.2%
DARKBLOTCHED	0.3%	0.2%	0.1%	0.6%	0.2%	3.6%	1.3%	0.2%	0.3%	0.1%	2.1%	3.6%	0.1%	0.8%
Minor Slope Rockfish North	15.3%	9.8%	2.2%	13.1%	1.9%	10.9%	11.1%	32.0%	15.6%	13.4%	24.6%	32.0%	1.9%	13.6%
Minor Slope Rockfish South	7.8%	11.5%	8.6%	12.1%	14.3%	21.2%	15.6%	9.3%	22.4%	14.6%	15.7%	22.4%	7.8%	13.9%
Dover Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
English Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Petrale Sole – coastwide	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%
Arrowtooth Flounder	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.3%	0.2%	0.1%	0.2%	0.3%	0.0%	0.1%
Starry Flounder	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.4%	0.0%	0.1%
Other Flatfish	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%

a/ Arithmetic average of non-empty cells in each row. Empty cell means total recorded species catch by non-treaty sectors in that year = 0.

Table 4-12. Directed and incidental open access sectors' shares of non-treaty landings or deliveries (including recreational landed catch only) of groundfish species subject to intersector allocation, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum	Minimum	Average
												Share (%)	Share (%)	Share (%) a/
Lingcod – coastwide	18.8%	14.9%	16.9%	15.9%	14.7%	15.7%	19.0%	10.2%	6.5%	18.1%	11.2%	19.0%	6.5%	14.7%
Pacific Cod	1.9%	2.0%	0.8%	0.7%	0.7%	0.7%	0.6%	0.3%	0.7%	0.1%	0.1%	2.0%	0.1%	0.8%
Sablefish N. of 36°	8.4%	9.5%	7.9%	5.5%	6.2%	9.0%	10.3%	11.8%	12.5%	10.3%	16.8%	16.8%	5.5%	9.8%
Sablefish S. of 36°	23.1%	12.3%	2.2%	1.8%	6.7%	13.6%	10.2%	15.9%	15.8%	14.4%	11.8%	23.1%	1.8%	11.6%
PACIFIC OCEAN PERCH	0.7%	0.8%	0.8%	0.2%	1.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.3%	1.7%	0.0%	0.5%
WIDOW ROCKFISH	1.6%	1.0%	1.1%	3.9%	1.3%	0.4%	0.7%	0.2%	4.2%	0.3%	0.7%	4.2%	0.2%	1.4%
Chilipepper S. of 40°10'	20.7%	16.6%	19.7%	20.8%	11.3%	10.9%	7.3%	2.0%	2.8%	3.8%	1.6%	20.8%	1.6%	10.7%
Splitnose S. of 40°10'	7.6%	1.1%	1.6%	4.0%	0.2%	0.4%	1.3%	2.3%	0.1%	0.0%	0.1%	7.6%	0.0%	1.7%
Yellowtail N. of 40°10'	5.4%	6.7%	11.9%	9.4%	3.5%	3.0%	3.8%	3.8%	3.4%	3.6%	3.0%	11.9%	3.0%	5.2%
Shortspine Thornyhead – coastwide	1.0%	1.0%	0.4%	0.2%	1.1%	1.0%	0.4%	0.5%	0.3%	0.1%	0.1%	1.1%	0.1%	0.5%
Shortspine N. of 34°27'	0.6%	0.3%	0.4%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.6%	0.0%	0.2%
Shortspine S. of 34°27'	1.6%	2.4%	0.4%	0.2%	2.8%	2.3%	1.1%	1.1%	0.7%	0.1%	0.2%	2.8%	0.1%	1.2%
Longspine Thornyhead – coastwide	0.5%	0.2%	0.4%	0.1%	0.2%	0.5%	0.6%	0.1%	0.0%	0.0%	0.0%	0.6%	0.0%	0.3%
Longspine N. of 34°27'	0.5%	0.2%	0.4%	0.1%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.2%
Longspine S. of 34°27'		1.8%	0.0%	0.9%	5.0%	25.4%	21.0%	17.2%	1.5%	1.0%	0.0%	25.4%	0.0%	7.4%
DARKBLOTCHED	0.6%	0.4%	0.7%	2.3%	2.2%	0.8%	0.4%	0.9%	0.4%	0.3%	2.2%	2.3%	0.3%	1.0%
Minor Slope Rockfish North	1.6%	2.6%	1.3%	1.6%	2.6%	2.6%	2.7%	1.7%	1.5%	1.3%	5.0%	5.0%	1.3%	2.2%
Minor Slope Rockfish South	28.8%	14.4%	13.0%	19.9%	16.5%	4.2%	9.9%	12.3%	24.0%	15.2%	17.8%	28.8%	4.2%	16.0%
Dover Sole	0.8%	0.8%	0.7%	0.7%	1.3%	0.7%	0.5%	0.3%	0.2%	0.1%	0.1%	1.3%	0.1%	0.6%
English Sole	1.3%	2.7%	4.4%	2.3%	3.7%	3.4%	2.5%	0.8%	2.2%	0.7%	0.6%	4.4%	0.6%	2.2%
Petrale Sole – coastwide	1.3%	1.5%	3.2%	1.8%	2.4%	2.7%	2.0%	0.8%	2.7%	0.3%	0.4%	3.2%	0.3%	1.7%
Arrowtooth Flounder	0.9%	0.3%	0.2%	0.2%	0.3%	0.6%	0.1%	0.1%	0.6%	0.0%	0.1%	0.9%	0.0%	0.3%
Starry Flounder	13.8%	32.4%	32.0%	29.5%	48.3%	28.6%	3.9%	25.3%	24.0%	15.0%	0.9%	48.3%	0.9%	23.0%
Other Flatfish	2.3%	4.5%	7.9%	4.3%	3.7%	3.2%	4.9%	2.7%	2.6%	3.3%	0.2%	7.9%	0.2%	3.6%

a/ Arithmetic average of non-empty cells in each row. Empty cell means total recorded species catch by non-treaty sectors in that year = 0.

Table 4-13. Recreational sector shares of non-treaty landings or deliveries (including recreational landed catch only) of groundfish species subject to intersector allocation, 1995-2005.

Stock or Complex	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Maximum	Minimum	Average
												Share (%)	Share (%)	Share (%) a/
Lingcod – coastwide	21.2%	23.3%	21.4%	48.8%	54.6%	64.2%	61.6%	75.5%	87.5%	65.4%	73.7%	87.5%	21.2%	54.3%
Pacific Cod	0.0%	0.1%	0.1%	0.4%	0.1%	0.0%	0.0%	0.7%	1.0%	1.0%	1.0%	1.0%	0.0%	0.4%
Sablefish N. of 36°	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.2%	0.2%	0.1%	0.0%	0.2%	0.0%	0.1%
Sablefish S. of 36°	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
PACIFIC OCEAN PERCH	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.4%	0.7%	0.0%	0.0%	0.7%	0.0%	0.1%
WIDOW ROCKFISH	0.1%	0.4%	0.6%	1.2%	0.8%	0.4%	0.7%	0.7%	4.1%	19.4%	1.9%	19.4%	0.1%	2.8%
Chilipepper S. of 40°10'	0.4%	1.8%	3.6%	0.4%	2.6%	8.5%	13.6%	7.1%	0.1%	11.9%	8.4%	13.6%	0.1%	5.3%
Splitnose S. of 40°10'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yellowtail N. of 40°10'	0.6%	0.6%	1.9%	2.1%	0.9%	0.7%	1.1%	2.6%	12.9%	12.2%	9.5%	12.9%	0.6%	4.1%
Shortspine Thornyhead – coastwide	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Shortspine N. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%
Shortspine S. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Longspine Thornyhead - coastwide	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Longspine N. of 34°27'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Longspine S. of 34°27'		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DARKBLOTCHED	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Minor Slope Rockfish North	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Minor Slope Rockfish South	0.4%	2.2%	1.4%	0.4%	4.8%	1.4%	0.2%	0.6%	0.3%	0.1%	0.2%	4.8%	0.1%	1.1%
Dover Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
English Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Petrale Sole - coastwide	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Arrowtooth Flounder	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Starry Flounder	6.1%	6.7%	3.6%	9.2%	9.4%	13.7%	94.3%	33.1%	26.9%	2.3%	26.0%	94.3%	2.3%	21.0%
Other Flatfish	0.6%	2.4%	1.7%	0.8%	1.1%	3.7%	2.5%	4.2%	2.8%	3.3%	2.7%	4.2%	0.6%	2.4%

a/ Arithmetic average of non-empty cells in each row. Empty cell means total recorded species catch by non-treaty sectors in that year = 0.

Table 4-14. Maximum shares of annual non-treaty landings of groundfish species subject to intersector allocation by sector during the 1995-2005 period.

Stock or Complex	MAXIMUM Shares									
	CP	MS	Shoreside Whiting Trawl	Shoreside Non-whiting Trawl	LE Line Gear	LE Pot Gear	LE Fixed Gear	Directed OA	Incidental OA	Recreational
Lingcod - coastwide	0.08%	0.30%	0.91%	59.14%	4.1%	0.6%	4.7%	16.1%	6.7%	87.5%
Pacific Cod	0.07%	0.01%	0.20%	99.00%	0.4%	0.0%	0.5%	0.2%	1.9%	1.0%
Sablefish N. of 36°	0.82%	0.18%	4.09%	54.66%	33.7%	12.8%	46.5%	16.7%	1.3%	0.2%
Sablefish S. of 36°	-	-	-	63.34%	69.7%	0.1%	69.8%	22.9%	3.2%	0.1%
PACIFIC OCEAN PERCH	9.51%	3.10%	3.74%	98.41%	1.1%	0.1%	1.2%	0.3%	1.7%	0.7%
Shortbelly Rockfish	67.69%	99.69%	67.78%	98.85%	0.1%	-	0.1%	26.5%	4.8%	0.2%
WIDOW ROCKFISH	36.78%	21.78%	47.15%	92.82%	0.4%	0.0%	0.4%	3.7%	0.6%	19.4%
Chilipepper S. of 40°10'	-	-	-	96.03%	7.8%	-	7.8%	20.2%	1.2%	13.6%
Splitnose S. of 40°10'	-	-	-	99.93%	5.8%	-	5.8%	7.5%	0.7%	-
Yellowtail N. of 40°10'	15.01%	11.25%	54.77%	86.45%	1.7%	0.0%	1.7%	4.6%	7.3%	12.9%
Shortspine Thornyhead - coastwide	2.81%	0.11%	0.22%	97.01%	21.7%	0.0%	21.7%	0.9%	0.2%	0.1%
Shortspine N. of 34°27'	4.06%	0.20%	0.36%	97.78%	3.0%	0.1%	3.1%	0.4%	0.3%	0.2%
Shortspine S. of 34°27'	-	-	-	96.41%	48.2%	0.0%	48.2%	2.7%	0.4%	0.0%
Longspine Thornyhead - coastwide	0.00%	0.00%	0.05%	99.25%	3.5%	0.0%	3.5%	0.6%	0.1%	-
Longspine N. of 34°27'	0.00%	0.00%	0.05%	99.89%	2.1%	0.0%	2.2%	0.5%	0.1%	-
Longspine S. of 34°27'	-	-	-	3.58%	100.0%	-	100.0%	25.4%	0.9%	-
DARKBLOTCHED	6.68%	5.21%	5.61%	98.85%	3.6%	0.1%	3.7%	2.2%	2.1%	0.0%
Minor Slope Rockfish North	20.90%	5.28%	3.21%	92.32%	30.6%	2.1%	32.8%	4.9%	2.2%	0.1%
Minor Slope Rockfish South	-	-	-	77.79%	22.4%	0.3%	22.6%	28.6%	0.6%	4.8%
Dover Sole	0.02%	0.00%	0.04%	99.91%	0.0%	0.0%	0.1%	0.0%	1.3%	0.0%
English Sole	0.01%	0.02%	0.15%	99.39%	0.0%	-	0.0%	0.2%	4.4%	0.0%
Petrale Sole - coastwide	0.00%	0.00%	0.10%	99.63%	0.1%	0.0%	0.1%	0.4%	3.2%	0.0%
Arrowtooth Flounder	0.12%	0.09%	0.06%	99.83%	0.2%	0.1%	0.3%	0.0%	0.9%	0.0%
Starry Flounder	-	-	0.04%	82.68%	0.4%	-	0.4%	0.6%	47.8%	94.3%
Other Flatfish	1.03%	0.11%	0.25%	97.02%	0.1%	0.0%	0.1%	0.5%	7.6%	4.2%

Table 4-15. Minimum shares of annual non-treaty landings of groundfish species subject to intersector allocation by sector during the 1995-2005 period.

Stock or Complex	MINIMUM Shares									
	CP	MS	Shoreside Whiting Trawl	Shoreside Non-whiting Trawl	LE Line Gear	LE Pot Gear	LE Fixed Gear	Directed OA	Incidental OA	Recreational
Lingcod - coastwide	-	-	0.01%	5.20%	0.62%	0.01%	0.63%	5.59%	0.55%	21.16%
Pacific Cod	-	-	0.00%	97.40%	0.07%	-	0.07%	0.01%	0.02%	-
Sablefish N. of 36°	0.01%	0.00%	0.03%	42.62%	25.48%	6.28%	31.77%	4.67%	0.04%	0.00%
Sablefish S. of 36°	-	-	-	20.02%	13.52%	-	13.52%	1.55%	0.07%	-
PACIFIC OCEAN PERCH	0.29%	0.03%	0.02%	90.41%	0.00%	-	0.00%	0.00%	-	-
Shortbelly Rockfish	-	-	0.00%	0.00%	-	-	0.00%	-	-	-
WIDOW ROCKFISH	1.08%	1.40%	1.28%	1.87%	0.00%	-	0.00%	0.11%	0.07%	0.09%
Chilipepper Rockfish	-	-	-	75.96%	0.27%	-	0.27%	1.24%	0.11%	0.09%
Splitnose S. of 40°10'	-	-	-	91.92%	0.00%	-	0.00%	0.04%	0.00%	-
Yellowtail N. of 40°10'	0.99%	0.18%	5.30%	9.58%	0.07%	-	0.07%	0.07%	2.21%	0.56%
Shortspine Thornyhead - coastwide	0.00%	-	0.01%	77.04%	1.69%	0.00%	1.69%	0.06%	0.04%	-
Shortspine N. of 34°27'	0.00%	-	0.01%	93.36%	1.20%	0.01%	1.21%	0.00%	0.00%	-
Shortspine S. of 34°27'	-	-	-	51.58%	1.99%	-	1.99%	0.05%	0.02%	-
Longspine Thornyhead - coastwide	-	-	-	95.96%	0.48%	-	0.48%	0.00%	0.00%	-
Longspine N. of 34°27'	-	-	-	97.72%	0.10%	-	0.10%	0.00%	0.00%	-
Longspine S. of 34°27'	-	-	-	-	74.57%	-	74.57%	-	-	-
DARKBLOTCHED	0.22%	0.09%	0.01%	78.78%	0.06%	-	0.06%	0.02%	0.00%	-
Minor Slope Rockfish North	1.78%	0.08%	0.04%	45.16%	1.89%	-	1.89%	0.27%	0.01%	0.00%
Minor Slope Rockfish South	-	-	-	53.33%	7.81%	-	7.81%	3.93%	0.06%	0.13%
Dover Sole	-	-	0.00%	98.68%	0.01%	0.00%	0.01%	0.00%	0.05%	-
English Sole	-	0.00%	0.00%	95.55%	-	-	0.00%	0.00%	0.60%	-
Petrale Sole - coastwide	-	-	0.00%	96.61%	0.01%	-	0.01%	0.00%	0.27%	0.00%
Arrowtooth Flounder	0.00%	0.00%	0.01%	98.96%	0.01%	0.00%	0.01%	0.00%	0.03%	-
Starry Flounder	-	-	-	1.81%	-	-	0.00%	0.00%	0.88%	2.35%
Other Flatfish	0.00%	0.00%	0.00%	90.11%	0.01%	-	0.01%	0.14%	0.08%	0.64%

Table 4-16. Average shares of annual non-treaty landings of groundfish species subject to intersector allocation by sector during the 1995-2005 period.

Stock or Complex	AVERAGE Shares (Average of Annual Percentages)									
	CP	MS	Shoreside Whiting Trawl	Shoreside Non-whiting Trawl	LE Line Gear	LE Pot Gear	LE Fixed Gear	Directed OA	Incidental OA	Recreational
Lingcod - coastwide	0.02%	0.07%	0.23%	27.87%	2.66%	0.17%	2.83%	11.56%	3.14%	54.28%
Pacific Cod	0.01%	0.00%	0.07%	98.45%	0.28%	0.00%	0.28%	0.10%	0.69%	0.40%
Sablefish N. of 36°	0.34%	0.03%	1.05%	49.45%	28.39%	10.85%	39.24%	9.04%	0.78%	0.06%
Sablefish S. of 36°	-	-	-	43.32%	45.03%	0.01%	45.04%	10.61%	1.02%	0.01%
PACIFIC OCEAN PERCH	2.43%	0.91%	1.26%	94.55%	0.26%	0.02%	0.28%	0.09%	0.36%	0.11%
Shortbelly Rockfish	13.58%	20.47%	9.60%	52.90%	0.01%		0.01%	2.76%	0.64%	0.04%
WIDOW ROCKFISH	11.00%	5.38%	14.95%	64.38%	0.13%	0.00%	0.13%	1.15%	0.25%	2.76%
Chilipepper Rockfish			0.02%	82.04%	1.93%		1.93%	10.12%	0.58%	5.31%
Splitnose S. of 40°10'			0.00%	97.27%	1.03%		1.03%	1.58%	0.12%	
Yellowtail N. of 40°10'	5.18%	6.27%	18.01%	60.64%	0.58%	0.00%	0.58%	1.37%	3.86%	4.09%
Shortspine Thornyhead - coastwide	0.98%	0.02%	0.05%	88.18%	10.20%	0.02%	10.22%	0.44%	0.11%	0.02%
Shortspine N. of 34°27'	1.59%	0.03%	0.08%	96.14%	1.90%	0.04%	1.94%	0.10%	0.10%	0.03%
Shortspine S. of 34°27'			-	75.74%	23.08%	0.00%	23.08%	1.06%	0.11%	0.00%
Longspine Thornyhead - coastwide	0.00%	0.00%	0.01%	98.06%	1.66%	0.00%	1.66%	0.21%	0.05%	
Longspine N. of 34°27'	0.00%	0.00%	0.01%	98.96%	0.87%	0.00%	0.87%	0.10%	0.05%	
Longspine S. of 34°27'			-	0.36%	92.24%		92.24%	7.19%	0.21%	
DARKBLOTCHED	3.04%	1.18%	1.15%	92.80%	0.81%	0.01%	0.82%	0.47%	0.55%	0.00%
Minor Slope Rockfish North	8.92%	1.29%	1.17%	72.75%	12.82%	0.81%	13.63%	1.28%	0.94%	0.02%
Minor Slope Rockfish South		-	-	69.00%	13.83%	0.07%	13.90%	15.74%	0.26%	1.10%
Dover Sole	0.00%	0.00%	0.01%	99.40%	0.02%	0.01%	0.03%	0.01%	0.54%	0.00%
English Sole	0.00%	0.00%	0.06%	97.69%	0.00%	-	0.00%	0.03%	2.21%	0.00%
Petrale Sole - coastwide	0.00%	0.00%	0.03%	98.19%	0.04%	0.00%	0.04%	0.06%	1.67%	0.02%
Arrowtooth Flounder	0.06%	0.03%	0.04%	99.50%	0.07%	0.01%	0.08%	0.01%	0.29%	0.00%
Starry Flounder			0.01%	55.86%	0.05%	-	0.05%	0.24%	22.80%	21.03%
Other Flatfish	0.25%	0.03%	0.06%	93.66%	0.03%	0.00%	0.03%	0.30%	3.30%	2.36%

Table 4-17 characterizes the groundfish species subject to intersector allocations as being significant or dominant to each of the directed non-treaty groundfish sectors based on the utilization criteria defined above. All of the specified groundfish species except longspine and shortspine thornyhead south of 34°27' N latitude are at least significantly utilized by the LE trawl sector. Longspine south of 34°27' N latitude is caught in such insignificant amounts by LE trawl fisheries that it was eliminated from the list of Amendment 21 species under the preferred alternative (there was also no need to allocate this stock since it will not be managed with IFQs under the Council's final Amendment 20 decision). Pacific cod, POP, widow rockfish, splitnose rockfish, yellowtail rockfish, shortspine and longspine thornyhead north of 34°27' N latitude, darkblotched rockfish, Dover sole, petrale sole, arrowtooth flounder, and the species comprising the Other Flatfish complex are considered "trawl-dominant" according to these criteria.

Groundfish species subject to intersector allocation that are significantly utilized by the LE fixed gear sector are shortspine thornyhead south of 34°27' N latitude and species comprising the minor slope rockfish complexes. Groundfish species subject to intersector allocation that are significantly utilized by the directed open access sector are lingcod, chilipepper rockfish, and species comprising the Southern Minor Slope Rockfish Complex. Groundfish species subject to intersector allocation that are significantly utilized by the recreational sector are lingcod and starry flounder.

Table 4-17. Utilization by directed non-treaty groundfish sectors of groundfish species subject to intersector allocations (S = significant utilization, D = dominant utilization). a/

Stock or Complex	Directed Groundfish Sector Species Utilization			
	LE Trawl	LE Fixed Gear	Directed OA	Recreational
Lingcod - coastwide	S		S	S
Pacific Cod	D			
Sablefish N. of 36°	S	S		
Sablefish S. of 36°	S	S	S	
PACIFIC OCEAN PERCH	D			
WIDOW	D			
Chilipepper S. of 40°10'	S		S	
Splitnose S. of 40°10'	D			
Yellowtail N. of 40°10'	D			
Shortspine Thornyhead - coastwide	S	S		
Shortspine N. of 34°27'	D			
Shortspine S. of 34°27'		D		
Longspine Thornyhead - coastwide	D			
Longspine N. of 34°27'	D			
Longspine S. of 34°27'		D		
DARKBLOTCHED	D			
Minor Slope Rockfish North	S	S		
Minor Slope Rockfish South	S	S	S	
Dover Sole	D			
English Sole	D			
Petrals Sole - coastwide	D			
Arrowtooth Flounder	D			
Starry Flounder	S			S
Other Flatfish	D			

a/ Significant utilization of a groundfish species by a sector is defined as landing an average of at least 10 percent of the total annual non-treaty landings during the 1995-2005 period. Dominant utilization of a groundfish species by a sector is defined as landing an average of at least 90 percent of the total annual non-treaty landings during the 1995-2005 period.

Potential Value of Alternative Trawl Sector Allocations

The potential value of trawl sector allocations in 2010 under the alternatives is provided in Table 4-18. The highest potential value to trawl sectors is under Intersector Allocation Alternative 3 followed by Alternatives 1, 4, the GAC-recommended alternative, and the Council's preferred alternative.

Table 4-18. Potential 2010 yield to trawl and non-trawl sectors under the Amendment 21 alternatives and the potential 2010 value of alternative trawl allocations.

Stock or Complex	Ave. 2004-06 Trawl Ex-vessel Prices (\$/lb)	Intersector Alloc. Alt. 1				Intersector Alloc. Alt. 3				Intersector Alloc. Alt. 4			
		Trawl Alloc. %	2010 Total Trawl (mt)	2010 Total NT Trawl Ex-vessel Value (\$*10 ³)	2010 Total NT Non-Trawl (mt)	Trawl Alloc. %	2010 Total Trawl (mt)	2010 Total NT Trawl Ex-vessel Value (\$*10 ³)	2010 Total NT Non-Trawl (mt)	Trawl Alloc. %	2010 Total Trawl (mt)	2010 Total NT Trawl Ex-vessel Value (\$*10 ³)	2010 Total NT Non-Trawl (mt)
Lingcod - coastwide	\$0.41	19.8%	900	\$823	3,638	39.5%	1,792	\$1,638	2,746	11.8%	536	\$490	4,002
Pacific Cod	\$0.57	98.2%	1,126	\$1,420	21	99.1%	1,136	\$1,432	11	98.0%	1,124	\$1,417	23
Sablefish N. of 36°	\$0.57	50.3%	2,899	\$3,661	2,864	51.5%	2,967	\$3,748	2,795	45.3%	2,612	\$3,299	3,150
Sablefish S. of 36°	\$0.57	41.9%	525	\$663	729	47.7%	598	\$755	656	36.1%	452	\$571	802
PACIFIC OCEAN PERCH	\$0.46	99.5%	190	\$194	1	99.4%	189	\$194	1	99.5%	190	\$194	1
WIDOW	\$0.43	91.4%	422	\$399	39	98.0%	452	\$428	9	90.6%	418	\$395	43
Chilipepper S. of 40°10'	\$0.44	94.0%	2,285	\$2,229	145	79.5%	1,931	\$1,884	499	93.4%	2,271	\$2,215	160
Splitnose S. of 40°10'	\$0.39	99.8%	459	\$390	1	97.2%	447	\$380	13	99.8%	459	\$390	1
Yellowtail N. of 40°10'	\$0.40	88.4%	3,427	\$3,038	448	96.3%	3,730	\$3,307	144	87.3%	3,382	\$2,998	492
Shortspine N. of 34°27'	\$0.60	98.4%	1,538	\$2,047	24	97.9%	1,530	\$2,037	32	98.3%	1,535	\$2,044	27
Shortspine S. of 34°27'	\$0.55	58.0%	238	\$290	172	78.8%	323	\$393	87	53.8%	220	\$269	189
Longspine N. of 34°27'	\$0.53	99.4%	2,133	\$2,480	12	98.9%	2,122	\$2,466	24	99.4%	2,133	\$2,480	12
Longspine S. of 34°27'	\$0.56	0.0%	0	\$0	384	0.3%	1	\$1	383	0.0%	0	\$0	384
DARKBLOTCHED	\$0.46	98.7%	277	\$278	4	99.0%	278	\$279	3	98.7%	277	\$278	4
Minor Slope RF North	\$0.55	81.0%	909	\$1,112	213	87.5%	981	\$1,201	141	79.1%	888	\$1,086	234
Minor Slope RF South	\$0.54	63.3%	396	\$474	230	69.9%	438	\$524	188	59.6%	373	\$447	253
Dover Sole	\$0.37	99.9%	16,050	\$13,229	14	100.0%	16,057	\$13,235	7	99.9%	16,050	\$13,229	14
English Sole	\$0.35	100.0%	9,460	\$7,386	1	100.0%	9,457	\$7,383	4	100.0%	9,460	\$7,386	1
Petrale Sole - coastwide	\$0.98	100.0%	2,285	\$4,930	1	99.9%	2,284	\$4,927	3	100.0%	2,285	\$4,930	1
Arrowtooth Flounder	\$0.25	99.2%	9,843	\$5,487	83	99.9%	9,918	\$5,529	8	99.2%	9,843	\$5,487	83
Starry Flounder	\$0.57	87.5%	926	\$1,171	133	48.9%	518	\$654	541	86.2%	913	\$1,154	146
Other Flatfish	\$0.42	97.7%	4,647	\$4,333	108	97.3%	4,628	\$4,316	127	97.7%	4,647	\$4,333	108
Total potential value (\$*10 ³) to the LE Trawl sector in 2010:				\$56,035				\$56,711				\$55,094	

Table 4-18. Potential 2010 yield to trawl and non-trawl sectors under the Amendment 21 alternatives and the potential 2010 value of alternative trawl allocations (continued).

Stock or Complex	Ave. 2004-06 Trawl Ex-vessel Prices (\$/lb)	GAC-Recommended Alt.				Preferred Alt.			
		Trawl Alloc. %	2010 Total NT Trawl (mt)	2010 Total NT Trawl Ex-vessel Value (\$*10 ³)	2010 Total NT Non-Trawl (mt)	Trawl Alloc. %	2010 Total NT Trawl (mt)	2010 Total NT Trawl Ex-vessel Value (\$*10 ³)	2010 Total NT Non-Trawl (mt)
Lingcod – coastwide	\$0.41	45.0%	2,042	\$1,867	2,496	45.0%	2,042	\$1,867	2,496
Pacific Cod	\$0.57	95.0%	1,089	\$1,374	57	95.0%	1,089	\$1,374	57
Sablefish N. of 36°	\$0.57	52.5%	3,028	\$3,825	2,734	52.5%	3,028	\$3,825	2,734
Sablefish S. of 36°	\$0.57	42.0%	527	\$665	727	42.0%	527	\$665	727
PACIFIC OCEAN PERCH WIDOW	\$0.46	95.0%	181	\$185	10	95.0%	181	\$185	10
Chilipepper S. of 40°10'	\$0.44	80.0%	1,944	\$1,897	486	75.0%	1,823	\$1,778	608
Splitnose S. of 40°10'	\$0.39	95.0%	437	\$372	23	95.0%	437	\$372	23
Yellowtail N. of 40°10'	\$0.40	88.0%	3,409	\$3,022	465	88.0%	3,409	\$3,022	465
Shortspine N. of 34°27'	\$0.60	95.0%	1,484	\$1,976	78	95.0%	1,484	\$1,976	78
Shortspine S. of 34°27'	\$0.55	58.0%	238	\$289	172	50 mt	50	\$61	360
Longspine N. of 34°27'	\$0.53	95.0%	2,039	\$2,370	107	95.0%	2,039	\$2,370	107
Longspine S. of 34°27'	\$0.56	5.0%	19	\$24	365	NA	NA	NA	NA
DARKBLOTCHED	\$0.46	95.0%	266	\$267	14	95.0%	266	\$267	14
Minor Slope RF North	\$0.55	81.0%	909	\$1,112	213	81.0%	909	\$1,112	213
Minor Slope RF South	\$0.54	63.0%	394	\$472	232	63.0%	394	\$472	232
Dover Sole	\$0.37	95.0%	15,260	\$12,579	803	95.0%	15,260	\$12,579	803
English Sole	\$0.35	95.0%	8,988	\$7,017	473	95.0%	8,988	\$7,017	473
Petrale Sole – coastwide	\$0.98	95.0%	2,172	\$4,686	114	95.0%	2,172	\$4,686	114
Arrowtooth Flounder	\$0.25	95.0%	9,430	\$5,257	496	95.0%	9,430	\$5,257	496
Starry Flounder	\$0.57	87.0%	921	\$1,164	138	50.0%	529	\$669	529
Other Flatfish	\$0.42	95.0%	4,517	\$4,212	238	90.0%	4,279	\$3,990	475
Total potential value (\$*10 ³) to the LE Trawl sector in 2010:		\$55,029				\$53,941			

Trawl and Non-trawl Sector Dependence on Amendment 21 Species

The combined trawl sector and non-trawl sector catches by year and Amendment 21 species are provided in

Table 4-19. Table 4-20 shows the minimum, maximum, and average catches of groundfish species caught incidentally in the non-trawl sectors during 1995 to 2005. For greater recent context regarding the need and dependence of groundfish species subject to intersector allocations, the 2006 and 2007 summaries from the NMFS Northwest Fisheries Science Center annual total mortality reports are shown in Tables Table 4-21 and

Table 4-22, respectively. A species-by-species evaluation of alternative trawl and non-trawl allocations follows these tables.

Table 4-19. Combined trawl sector and non-trawl sector catches of Amendment 21 species by year, 1995-2005.

Stock or Complex	Total Catch (mt)											
	1995		1996		1997		1998		1999		2000	
	Total NT Trawl	Total NT Non-Trawl	Total NT Trawl	Total NT Non-Trawl	Total NT Trawl	Total NT Non-Trawl	Total NT Trawl	Total NT Non-Trawl	Total NT Trawl	Total NT Non-Trawl	Total NT Trawl	Total NT Non-Trawl
Lingcod – coastwide	1,069.9	823.7	1,204.9	885.1	1,170.9	897.8	217.8	495.5	217.3	629.4	67.2	361.3
Pacific Cod	490.8	11.7	433.5	12.5	589.4	6.5	406.5	6.0	277.1	4.9	274.2	4.1
Sablefish N. of 36°	3,549.0	5,862.1	3,962.4	5,730.6	3,592.7	6,054.5	2,085.6	3,182.3	3,080.7	5,078.0	2,702.8	5,175.2
Sablefish S. of 36°	206.3	163.5	214.1	213.5	153.5	211.6	114.5	194.5	83.1	184.9	36.2	155.1
PACIFIC OCEAN PERCH	896.2	14.8	858.5	26.9	672.9	10.2	655.4	1.7	535.6	11.8	144.3	1.1
WIDOW ROCKFISH	6,583.6	126.6	6,211.9	100.8	6,571.2	131.4	3,990.8	241.9	4,047.7	115.9	4,012.8	44.0
Chilipepper S. of 40°10'	1,474.8	429.7	1,395.6	342.3	1,535.2	499.5	1,036.2	314.8	783.1	154.8	359.5	105.7
Splitnose S. of 40°10'	274.5	25.7	401.7	6.4	429.4	8.7	1,304.8	54.3	205.7	1.6	83.5	10.7
Yellowtail N. of 40°10'	4,887.8	339.8	5,228.3	479.0	1,831.8	371.3	2,589.2	431.2	2,870.4	201.7	3,309.5	134.3
Shortspine Thornyhead - coastwide	1,861.3	83.4	1,514.1	172.2	1,399.0	110.4	1,187.4	117.8	713.5	207.8	784.1	111.3
Shortspine N. of 34°27'	1,218.8	46.2	1,083.6	41.4	996.9	47.3	859.0	35.6	527.1	34.2	503.4	24.8
Shortspine S. of 34°27'	642.4	37.2	430.4	130.7	402.1	63.1	328.4	82.1	186.4	173.6	280.7	86.5
Longspine Thornyhead - coastwide	5,314.2	81.3	4,751.1	202.6	3,851.7	155.1	2,223.7	33.6	1,770.4	56.4	1,426.9	110.8
Longspine N. of 34°27'	5,314.2	81.3	4,751.1	168.2	3,851.7	128.5	2,223.7	11.7	1,770.4	27.2	1,426.9	64.0
Longspine S. of 34°27'	0.0	0.0	0.0	34.3	0.0	26.7	0.0	21.9	0.0	29.2	0.0	46.8
DARKBLOTCHED	762.7	8.9	734.3	6.3	813.5	6.8	926.7	33.9	357.5	9.6	251.1	21.2
Minor Slope RF North	741.8	288.2	670.3	171.5	696.1	41.2	499.5	162.9	338.0	22.7	390.8	109.9
Minor Slope RF South	127.5	260.1	151.5	323.6	130.0	210.6	114.4	203.9	27.6	41.0	52.9	62.2
Dover Sole	10,377.3	93.9	12,162.1	110.0	10,116.1	78.2	8,062.2	57.3	9,129.1	124.4	8,814.1	69.7
English Sole	1,106.8	15.1	1,129.6	31.9	1,429.3	65.9	1,123.9	26.5	888.1	34.0	744.3	26.2
Petrale Sole - coastwide	1,588.5	24.8	1,804.2	28.1	1,863.4	66.5	1,460.3	26.9	1,473.4	36.9	1,849.6	51.4
Arrowtooth Flounder	2,306.7	23.8	2,174.6	6.4	2,326.1	5.3	3,193.0	6.8	5,343.3	17.9	3,286.5	22.3
Starry Flounder	49.8	12.4	27.9	18.0	58.9	32.5	53.0	33.5	22.2	30.3	25.1	18.4
Other Flatfish	2,364.4	72.6	1,870.1	140.2	1,819.0	196.8	1,539.0	84.8	1,884.3	94.7	1,529.2	114.9

Table 4-19. Combined trawl sector and non-trawl sector catches of Amendment 21 species by year, 1995-2005 (continued).

Stock or Complex	Total Catch (mt)									
	2001		2002		2003		2004		2005	
	Total NT Trawl	Total NT Non- Trawl	Total NT Trawl	Total NT Non- Trawl	Total NT Trawl	Total NT Non- Trawl	Total NT Trawl	Total NT Non- Trawl	Total NT Trawl	Total NT Non- Trawl
Lingcod - coastwide	59.4	353.0	102.9	713.2	131.6	1,296.5	155.0	404.2	277.6	603.9
Pacific Cod	315.2	4.5	690.7	7.9	1,071.9	22.9	1,109.7	25.6	736.6	12.6
Sablefish N. of 36°	2,554.0	4,094.0	1,548.6	2,965.5	2,836.8	2,452.4	2,845.1	2,642.3	2,608.0	3,154.7
Sablefish S. of 36°	28.4	212.1	49.0	251.0	86.1	143.3	88.8	104.7	60.8	91.2
PACIFIC OCEAN PERCH	207.1	0.1	151.1	1.3	149.3	1.4	156.4	0.1	72.0	0.6
WIDOW ROCKFISH	1,941.3	30.7	395.3	3.8	28.9	3.1	67.8	16.9	161.8	5.4
Chilipepper S. of 40°10'	297.3	85.4	153.8	16.4	14.5	0.3	166.1	10.1	82.1	7.1
Splitnose S. of 40°10'	90.3	3.1	55.7	3.9	201.7	0.9	313.4	0.1	230.2	0.7
Yellowtail N. of 40°10'	1,709.0	95.6	751.1	52.6	147.7	29.7	325.3	48.4	304.8	43.2
Shortspine Thornyhead - coastwide	486.6	104.0	677.7	211.0	1,153.6	186.3	876.6	145.7	649.3	143.9
Shortspine N. of 34°27'	364.9	17.5	439.2	17.2	477.9	7.2	443.8	6.1	366.9	7.3
Shortspine S. of 34°27'	121.7	86.5	238.6	193.7	202.8	151.2	225.3	128.4	144.3	135.4
Longspine Thornyhead - coastwide	1,131.7	81.1	1,896.7	26.3	1,841.9	32.3	850.2	9.1	726.4	15.0
Longspine N. of 34°27'	1,131.7	26.1	1,896.3	4.1	1,552.1	9.0	722.2	1.2	631.3	7.1
Longspine S. of 34°27'	0.0	55.0	0.5	22.2	0.0	10.7	0.0	7.6	0.0	7.9
DARKBLOTCHED	169.3	5.2	110.1	1.5	171.8	0.8	233.9	1.3	117.3	4.8
Minor Slope RF North	188.9	54.9	92.8	92.2	267.6	34.5	269.2	50.8	176.5	82.2
Minor Slope RF South	89.9	66.5	63.2	119.7	54.7	134.9	79.7	70.4	51.0	35.9
Dover Sole	6,832.2	36.7	6,319.9	20.7	8,215.2	21.9	7,500.0	8.3	7,625.2	10.1
English Sole	959.9	24.4	1,126.7	9.5	1,387.4	18.9	1,086.5	6.1	1,206.6	5.2
Petrale Sole - coastwide	1,777.7	37.8	1,783.7	16.1	2,046.4	53.2	1,984.7	6.8	2,813.1	12.2
Arrowtooth Flounder	2,455.1	4.2	2,078.1	12.3	9,430.1	49.0	5,599.4	35.4	3,545.3	88.9
Starry Flounder	7.3	396.4	18.4	26.5	30.2	29.9	141.8	24.8	26.0	9.3
Other Flatfish	1,615.7	129.2	1,633.8	122.7	2,327.6	93.1	1,769.9	92.6	1,939.8	35.1

Table 4-20. Yield amounts (mt) of incidentally caught groundfish species subject to intersector allocations predicted to be needed by the non-trawl sectors to prevent constraining target fishing strategies.

Stock or Complex	LE Fixed Gear			Directed Open Access			Recreational		
	Min 95-05 Catch	Ave 95-05 Catch	Max 95-05 Catch	Min 95-05 Catch	Ave 95-05 Catch	Max 95-05 Catch	Min 95-05 Catch	Ave 95-05 Catch	Max 95-05 Catch
Lingcod - coastwide	9.4	32.6	65.2						
Pacific Cod	0.5	1.0	1.4	0.0	0.7	1.5	0.0	4.4	12.3
Sablefish N. of 36°							0.2	3.1	8.0
Sablefish S. of 36°							0.0	0.1	0.1
PACIFIC OCEAN PERCH	0.0	2.1	9.7	0.0	0.5	1.8	0.0	0.3	1.0
WIDOW	0.0	7.4	15.4	0.3	37.9	155.4	1.3	19.0	51.9
Chilipepper S. of 40°10'							0.0	23.0	73.5
Splitnose S. of 40°10'	0.0	10.9	77.0	0.1	7.5	45.3	0.0	0.0	0.0
Yellowtail N. of 40°10'	0.6	21.2	43.7	1.3	36.8	123.7	19.2	31.6	64.0
Shortspine Thornyhead - coastwide				0.8	6.5	15.7	0.0	0.3	1.1
Shortspine N. of 34°27'	5.8	15.1	21.5	0.0	1.0	5.3	0.0	0.3	1.1
Shortspine S. of 34°27'				0.2	4.1	12.0	0.0	0.0	0.1
Longspine Thornyhead - coastwide	8.6	41.7	96.1	0.0	6.6	27.0	0.0	0.0	0.0
Longspine N. of 34°27'	0.9	27.9	79.1	0.0	4.6	27.0	0.0	0.0	0.0
Longspine S. of 34°27'				0.0	1.8	6.8	0.0	0.0	0.0
DARKBLOTCHED	0.2	3.2	9.5	0.2	1.7	11.0	0.0	0.0	0.0
Minor Slope Rockfish North							0.0	0.1	0.4
Minor Slope Rockfish South							0.4	4.9	21.8
Dover Sole	1.0	9.3	61.7	0.3	1.3	4.1	0.0	0.0	0.0
English Sole				0.0	0.4	1.9	0.0	0.0	0.0
Petrale Sole - coastwide	0.3	0.7	1.6	0.1	1.1	6.9	0.0	0.3	0.7
Arrowtooth Flounder	0.3	1.4	5.1	0.0	3.1	20.9	0.0	0.0	0.1
Starry Flounder	0.0	0.1	0.2	0.0	0.2	0.3			
Other Flatfish	0.1	0.5	1.1	1.9	5.3	8.2	13.5	40.4	74.6

Table 4-21. Estimated total mortality (mt) of groundfish species subject to intersector allocations during 2006, by sector. Data excerpted from the NMFS Northwest Fisheries Science Center total catch report.

	Shoreside commercial fisheries				At-sea Whiting (Treaty + Non-Treaty)	Shoreside Tribal Whiting	Total recreational fishing mortality			Research	Estimated total fishing mortality
	Non-Whiting trawl a/	Whiting trawl	Non-trawl b/	Total Shoreside mortality			CA	OR	WA		
Non-rebuilding species											
Sablefish mortality	2,654	11.0	3,119	5,785	2	669	0.0	2.1	0	11	6,470
Shortspine thornyhead	649	0.1	178	827	0.5	21	0.0	0	0	4	853
Longspine thornyhead	821	0	21	843	0.0		0	0	0	11.6	854
Dover sole	7,476	0.0	5	7,480	0.0	221	0	0.0	0	28.8	7,730
Petrale sole	2,690	0.0	4	2,694	0	26	0.5	0.0	0	2.3	2,723
English sole	1,291	0.0	0.0	1,291	0.0	42	0.0	0.0	0	2.5	1,336
Arrowtooth flounder	2,818	2.3	79	2,899	2.8	197	0	0.0	0	6.1	3,105
Other Flatfish	1,855	0.1	4	1,859	0.3	60	27.6	3.3	0.2	11.8	1,962
Splitnose rockfish c/	159	na	0	160	na	na	0	na	na	2.1	162
Other slope rockfish N	187	2.8	58	248	8.2	25	0	0.0	0	2.5	283
Other slope rockfish S	122	na	10	132	na	na	0.0	na	na	1.3	133
Yellowtail rockfish d/	32	153.7	3	189	109	172	0.4	8.7	13.9	1.2	493
Chilipepper rockfish e/	116	na	0	116	na	na	1.6	na	na	8.3	126
Lingcod mortality	272	5.4	100	378	3.2	45	348	127	47	5.3	952
Pacific cod	344	0.9	0.5	346	0.1	36	0	0.0	3.5	0.2	385
Spiny dogfish	666	33.2	563	1,262	59	77	3.9	0.0	0	5.8	1,407
Rebuilding species											
Widow rockfish	6.5	47.9	0.8	55.2	143.3	9.9	3.3	1.1	0	0.2	213.8
Pacific ocean perch f/	71.7	0.1	0.3	72.1	3.1	3.9	0	0	0	1.2	80.3
Darkblotched rockfish	178.5	2.1	0.5	181.1	11.1	0.1	0	0	0	0.9	193.3

a/ Includes minor landings by trawlers not targeting groundfish.

b/ Includes minor landings made with troll gear.

c/ Amounts in this row are for the area south of 40°10' N latitude. Northern catch is included in the Other Slope Rockfish category.

d/ Amounts in this row are for the area north of 40°10' N latitude. Southern catch is included in the Other Shelf Rockfish category.

e/ Amounts in this row are for the area south of 40°10' N latitude. Northern catch is included in the Other Shelf Rockfish category.

f/ Amounts in this row are for the area north of 40°10' N latitude.

Table 4-22. Estimated total fishing mortality (mt) of major west coast groundfish species in 2007 by sector. Data excerpted from the NMFS Northwest Fisheries Science Center total catch report.

Stock or Stock Complex	Shoreside commercial fisheries						WA tribal landings	All at-sea whiting fisheries	Total recreational fishing mortality			Research	Remaining inc. OA fisheries landings	Est. total fishing mortality
	LE Bottom Trawl	CA halibut	Pink shrimp	Non-nearshore fixed gear	Nearshore fixed gear	Shoreside whiting trawl			WA	OR	CA			
Rebuilding species														
Bocaccio S. of 40°10'	5	--	NA	5	1	NA	NA	NA	NA	NA	54	1	2	67
Canary rockfish	19	0	0	0	4	2	1	2	1	2	11	3	--	46
Cowcod S. of 40°10'	3	--	NA	0	0	NA	NA	NA	NA	NA	0	0	0	3
Darkblotched rockfish	242	--	18	10	0	1	0	12	0	0	0	1	0	285
Pacific ocean perch	126	--	0	0	0	23	2	4	0	0	0	1	0	157
Widow rockfish	16	--	0	1	1	82	1	146	0	0	8	0	4	259
Yelloweye rockfish	0	--	--	1	3	0	0	0	2	3	8	2	0	19
Non-rebuilding species														
Arrowtooth flounder	2,769	--	11	77	0	3	225	3	0	0	0	7	4	3,099
Black rockfish (WA)	3	NA	--	--	NA	1	--	0	256	NA	NA	0	--	260
Black rockfish (CA & OR)	0	--	--	--	162	0	NA	0	NA	271	143	0	0	577
Cabezon (CA)	--	0	--	--	26	NA	NA	NA	NA	NA	16	0	0	42
California scorpionfish	--	1	NA	--	2	NA	NA	NA	NA	NA	64	0	1	68
Chilipepper rockfish S. of 40°10'	109	--	NA	4	0	NA	NA	NA	NA	NA	8	6	2	128
Dover sole	9,824	0	32	7	0	0	303	0	0	0	0	38	23	10,227
English sole	839	2	1	0	--	0	66	0	0	0	0	5	1	914
Lingcod	189	0	1	29	56	5	48	6	66	102	174	4	26	706
Other flatfish	1,443	7	103	0	0	1	48	0	0	0	19	12	15	1,649
Other groundfish	3,174	55	5	683	44	52	170	157	7	22	42	61	43	4,516
Kelp greenling	0	--	--	--	20	--	--	0	1	22	10	0	0	53
Skates	1,939	50	2	123	0	1	56	2	2	0	0	6	13	2,192
Spiny dogfish	652	3	1	509	0	51	113	155	0	0	5	13	1	1,504
Unspecified grenadiers	359	--	--	48	--	--	--	0	0	0	0	5	2	414
Other	225	2	1	3	24	0	1	1	4	0	27	36	27	352
Minor rockfish N. of 40°10'	418	NA	44	77	86	24		35	10	41	27	11	1	774
Minor Nearshore RF N.	0	NA	0	--	74	0	0	0	8	33	17	0	0	133
Minor Shelf RF N.	77	NA	25	5	11	6	1	3	2	8	10	6	1	153
Bocaccio	2	NA	0	0	0	0	--	1	1	0	0	0	--	4
Chilipepper rockfish	2	NA	0	0	--	6	--	0	0	0	0	2	--	11

Table 4-22. Estimated total fishing mortality (mt) of major west coast groundfish species in 2007 by sector. (continued)

Stock or Stock Complex	Shoreside commercial fisheries						WA tribal landings	All at-sea whiting fisheries	Total recreational fishing mortality			Research	Remaining inc. OA fisheries landings	Est. total fishing mortality
	LE Bottom Trawl	CA halibut	Pink shrimp	Non-nearshore fixed gear	Nearshore fixed gear	Shoreside whiting trawl			WA	OR	CA			
Minor rockfish N. of 40°10'	418	NA	44	77	86	24		35	10	41	27	11	1	774
Redstripe rockfish	1	NA	--	0	--	--	--	1	0	0	0	0	--	2
Silvergray rockfish	43	NA	--	0	--	--	--	0	0	0	0	0	--	43
Remaining shelf RF	29	NA	25	4	11	0	1	0	1	7	9	4	1	93
Minor Slope RF N.	342	NA	18	72	1	18	32	33	0	0	0	5	1	522
Sharpchin rockfish	9	NA	1	0	--	0	0	1	0	0	0	0	--	11
Splitnose rockfish	145	NA	14	0	0	9	0	2	0	0	0	5	0	175
Yellowmouth rockfish	11	NA	--	0	--	0	0	0	0	0	0	0	--	11
Remaining slope RF	177	NA	3	72	1	9	32	29	0	0	0	0	1	324
Minor rockfish S. of 40°10'	147	0	NA	27	78	NA	NA	NA	NA	NA	703	4	21	981
Minor Nearshore RF S.	1	0	NA	--	69	NA	NA	NA	NA	NA	396	0	1	466
Gopher rockfish	--	0	NA	--	21	NA	NA	NA	NA	NA	34	0	0	55
Remaining nearshore RF	1	0	NA	--	48	NA	NA	NA	NA	NA	361	0	1	411
Minor Shelf RF S.	35	0	NA	2	9	NA	NA	NA	NA	NA	308	3	9	365
Yellowtail rockfish	2	--	NA	0	2	NA	NA	NA	NA	NA	55	0	1	60
Remaining shelf RF	33	0	NA	2	7	NA	NA	NA	NA	NA	252	3	7	305
Minor Slope RF S.	112	0	NA	25	0	NA	NA	NA	NA	NA	0	1	11	149
Bank rockfish	27	--	NA	1	--	NA	NA	NA	NA	NA	0	0	8	36
Blackgill rockfish	29	--	NA	19	--	NA	NA	NA	NA	NA	0	0	3	51
Sharpchin rockfish	0	--	NA	0	--	NA	NA	NA	NA	NA	0	0	--	0
Remaining slope RF	56	0	NA	5	0	NA	NA	NA	NA	NA	0	0	0	62
Pacific cod	55	NA	0	0	--	0	45	0	0	0	0	0	0	101
Pacific whiting	1,155	--	2,808	3	0	73,300	11,789	126,237	0	0	0	49	0	215,340
Petrale sole	2,286	0	2	0	0	0	45	0	0	0	1	5	0	2,340
Sablefish	2,607	--	0	2,374	6	9	515	3	0	4	0	9	17	5,545
Shortbelly rockfish	0	--	0	0	--	--	--	0	0	0	0	0	--	1
Splitnose rockfish S. of 40°10'	140	--	NA	0	--	NA	NA	NA	NA	NA	0	3	0	143
Starry flounder	21	5	--	--	0	--	0	0	0	3	0	0	0	30
Thornyheads	1,876	--	1	193	0	1	38	3					2	2,114
Longspine thornyhead	890	--	0	23	0	1	0	0	0	0	0	12	1	928
Shortspine thornyhead	980	--	0	166	0	0	38	3	0	0	0	5	1	1,194
Mixed thornyheads	5	--	--	4	--	--	--	0	0	0	0	0	--	9
Yellowtail rockfish N. of 40°10'	17	NA	0	1	4	186	74	79	14	7	0	4	3	389

Lingcod Allocations

Lingcod is a target species for every directed groundfish sector, notwithstanding the utilization criteria informing Table 4-17 that suggest they are not significantly caught in LE fixed gear fisheries. **Figure 4-1** shows the annual trawl catches of lingcod during 1995 to 2005 compared to the alternative allocations applied to the 2010 OY (A) and the same data for the non-trawl sectors (B).

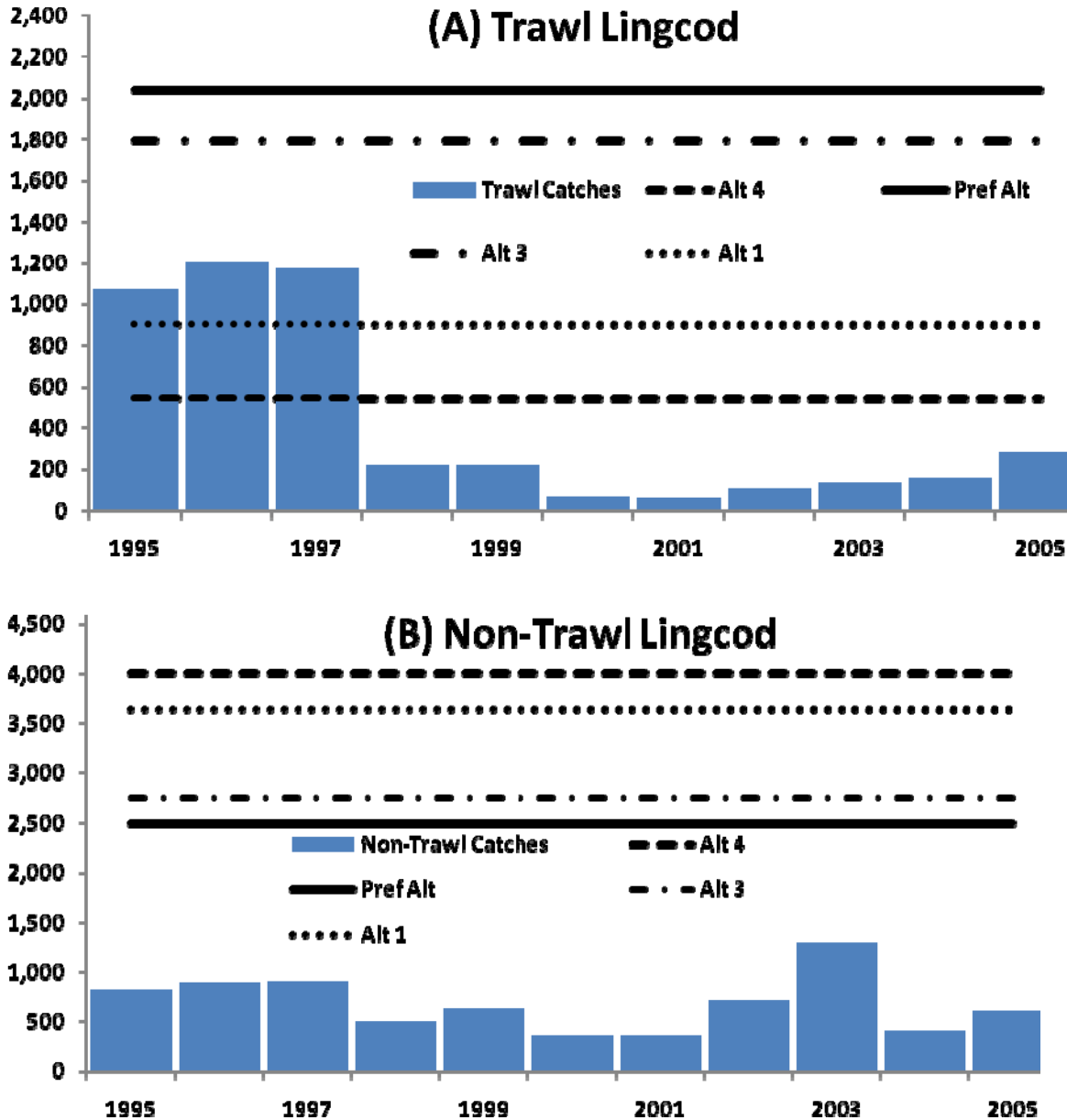


Figure 4-1. Trawl (A) and non-trawl (B) catches of lingcod during 1995-2005 compared to the alternative allocations applied to the 2010 lingcod OY.

Fisheries targeting lingcod have largely been constrained by conservation measures designed to rebuild depleted shelf rockfish. This is particularly evident for the trawl sector with recent lingcod catches that are much lower than those observed prior to 1998 when large footrope trawls targeted lingcod and

rockfish on the shelf. Since then, small footrope trawls and large trawl RCAs have been implemented where bottom trawling is prohibited. This has served to constrain the fleet's ability to target lingcod. The non-trawl sectors have been similarly constrained, with most current targeting occurring in nearshore areas by the directed open access and recreational fleets. The apparent maximum non-trawl lingcod catch in 2003 was driven largely by a very large estimated recreational fishery take. This estimate, derived in the imprecise Marine Recreational Fisheries Statistical Survey (MRFSS), is believed to be inflated and implausibly large. Lingcod are the most important recreational species of those subject to intersector allocation in this action.

The last assessment, done in 2005 (Jagiello and Wallace 2006), indicated the southern portion of the stock south of Cape Blanco, Oregon, was less productive and more depleted than the northern sub-stock. The Council set separate harvest guidelines for the California and Oregon/Washington recreational fisheries in response to this assessment. The last assessment done in 2009 (Hamel et. al 2009) assessed the lingcod stock off California separately from the stock off Oregon and Washington. The Council set separate lingcod harvest specifications north and south of the California/Oregon border at 42° N lat. The Council decided to use the trawl and non-trawl allocation under its preferred Amendment 21 alternative for both the southern and northern stocks.

Of the alternatives analyzed, the preferred allocation alternative for lingcod is most favorable to the trawl sectors. One industry comment to the Council that speaks to the rationale for a higher trawl allocation of lingcod is that, unlike the non-trawl sectors that predominantly use hook-and-line gears to target groundfish, the trawl sectors are not as constrained by management measures designed to foster yelloweye rockfish rebuilding. This is because the mandatory use of trawls with small-diameter footropes (i.e., ≤ 8 in.) shoreward of the RCA effectively keeps bottom trawls out of the high-relief habitats where yelloweye occur. The trawl representatives on the GAP argued a higher trawl allocation of lingcod would minimize stranding of harvestable yields of lingcod that would otherwise be allocated to non-trawl sectors and unavailable for harvest due to yelloweye rebuilding constraints. Specifically, the trawl representatives were seeking a larger trawl allocation of lingcod than what was recommended by the GAC and ultimately decided on as the preferred alternative. While the trawl representatives on the GAP preferred a higher trawl allocation than recommended under the preferred alternative, the non-trawl representatives unanimously supported the preferred alternative. Clearly, they believed that the non-trawl share of lingcod under the preferred alternative would accommodate the needs of the non-trawl sectors for the near future.

Pacific Cod Allocations

Trawl (A) and non-trawl (B) catches of Pacific cod during 1995 to 2005 are compared to the alternative allocations in Figure 4-2. Pacific cod are targeted by the shoreside non-whiting trawl fleet on the shelf in waters off northern Washington in years when they are available. There is large interannual variability in Pacific cod availability in the west coast EEZ since this is the southern fringe of their distribution. Trawl access to Pacific cod is also limited by the co-occurrence of canary rockfish on the shelf off northern Washington. In recent years, trawling on the shelf in waters off northern Washington has been severely restricted due to relatively high canary bycatch rates.

The preferred allocation alternative appears to accommodate the needs of both trawl and non-trawl sector needs given the 2010 OY, but may be too low for the trawl sectors in years such as 2004 when the stock is particularly accessible and targeting is occurring. Trawl access to Pacific cod may depend on strategies that minimize the bycatch of canary rockfish, even after implementation of trawl rationalization measures.

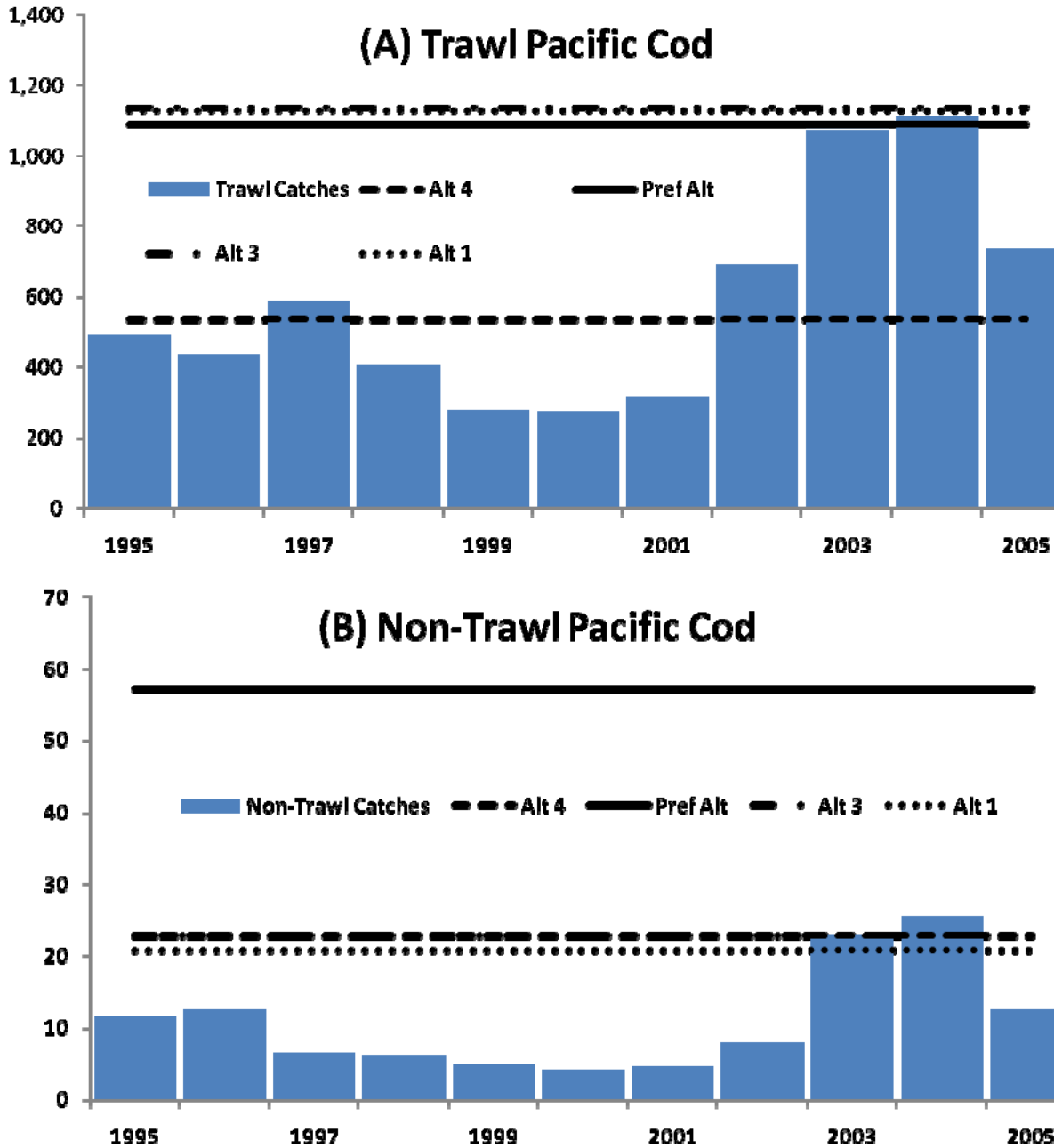


Figure 4-2. Trawl (A) and non-trawl (B) catches of Pacific cod during 1995-2005 compared to the alternative allocations applied to the 2010 Pacific cod OY.

Sablefish North of 36° N Latitude

Sablefish north of the Conception area (i.e., north of 36° N latitude) are already formally allocated, and the Council is not recommending a reallocation of the stock. However, the inclusion of intersector allocation Alternative 1 would have resulted in a reallocation if it had been chosen as the preferred alternative. Figure 4-3 depicts the trawl (A) and non-trawl (B) catches of sablefish north of 36° N latitude relative to the preferred alternative and intersector allocation Alternative 1 percentages applied

to the 2010 OY (only Alternative 1 contemplated a reallocation of sablefish north of 36° N latitude). The trawl and commercial non-trawl sectors do tend to attain or almost attain their sablefish allocations; therefore, while it appears either alternative in Figure 4-3 can be constraining, that result is more dependent on the specified OY. The potential value of the trawl allocation in 2010 under intersector allocation Alternative 1 is \$526,000 lower than the status quo allocation recommended by the Council under its preferred alternative (Table 4-18).

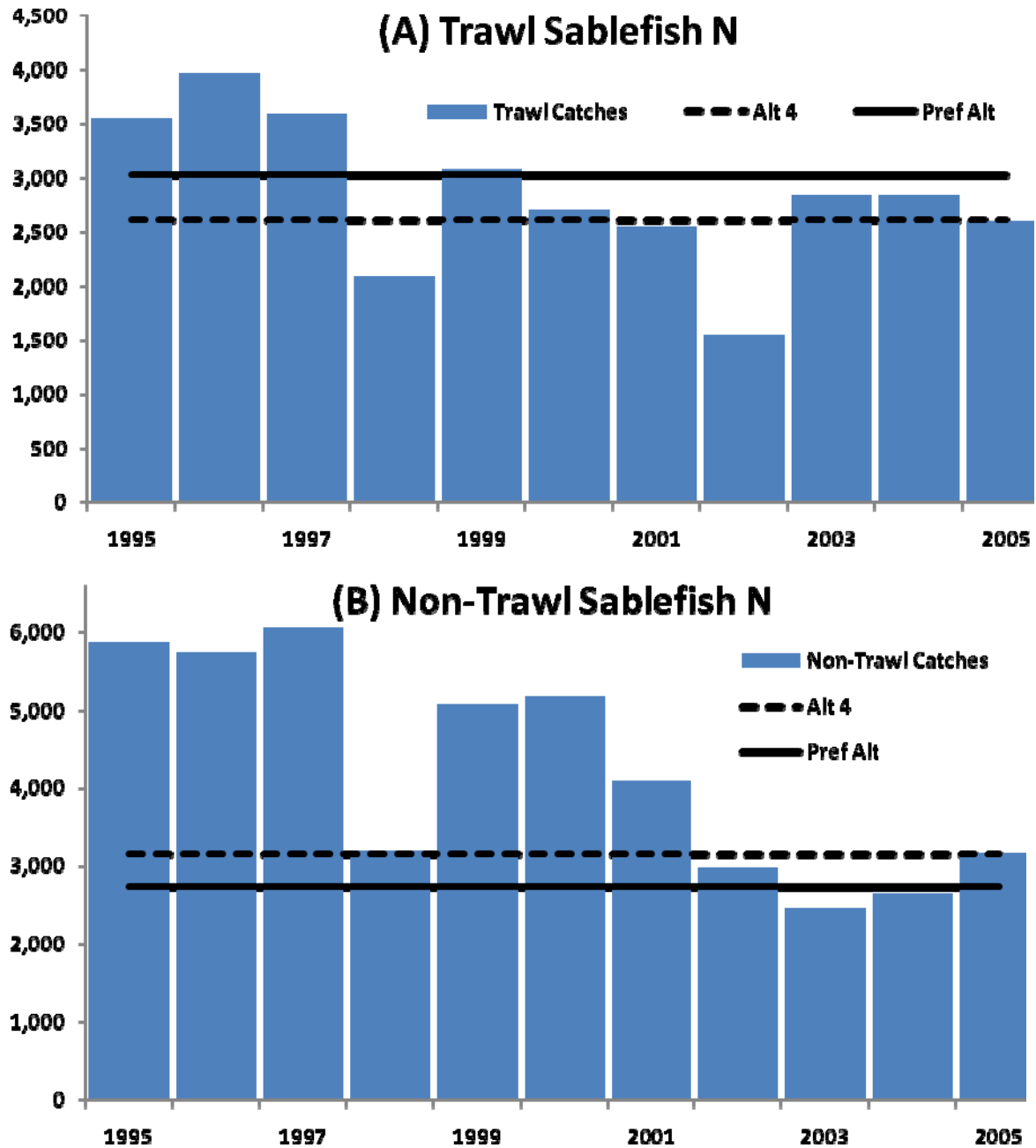


Figure 4-3. Trawl (A) and non-trawl (B) catches of sablefish north of 36° N latitude during 1995 to 2005, compared to the preferred alternative (status quo) and intersector allocation 4 catch percentages applied to the 2010 OY.

Sablefish South of 36° N Latitude

Trawl (A) and non-trawl (B) catches of Conception area (i.e., south of 36° N latitude) sablefish during 1995 to 2005 are compared to the alternative allocations in Figure 4-4. Since only the portion of the coastwide stock north of 36° N latitude has been allocated among the LE trawl, LE fixed gear, and open access sectors, the remaining harvestable surplus of Conception area sablefish has to be allocated to implement trawl rationalization. The whiting trawl sectors do not fish in the Conception area, so only the shoreside non-whiting trawl sector is considered for a trawl allocation. Conception area trawl efforts have been focused largely in the area north of Point Conception proper at 34°27' N latitude, and their sablefish catches have been mostly landed in Morro Bay and Port San Luis. Of the directed non-trawl sectors, only the commercial fleets (LE fixed gear and directed open access) target sablefish; however, a small yield of 0.1 mt should be considered as a set-aside to accommodate potential recreational impacts (Table 4-20).

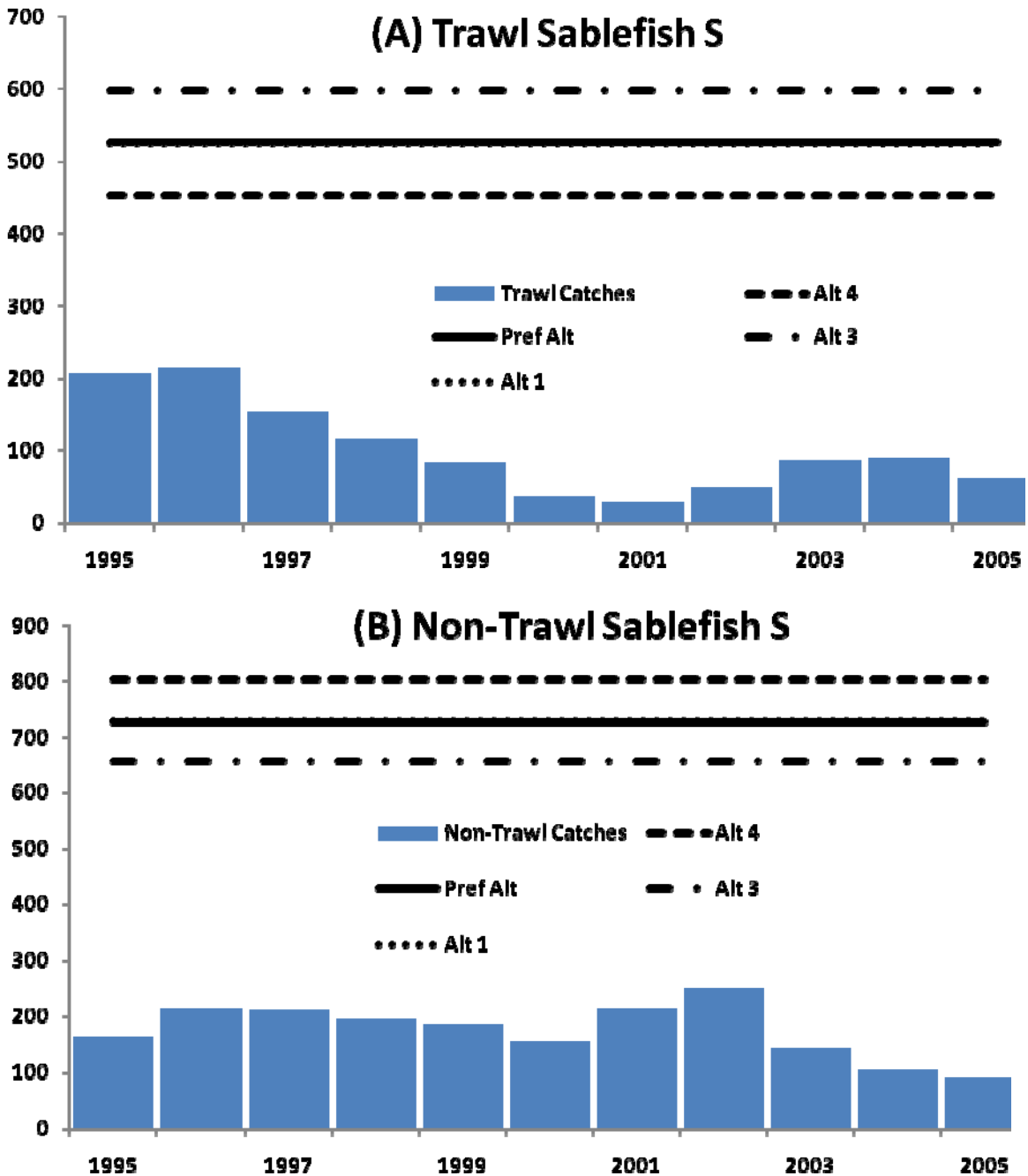


Figure 4-4. Trawl (A) and non-trawl (B) catches of Conception area sablefish during 1995 to 2005 compared to the alternative allocations applied to the 2010 Conception area sablefish OY.

Pacific Ocean Perch Allocations

Trawl (A) and non-trawl (B) catches of POP during 1995-2005 are compared to the alternative allocations in Figure 4-5. This is one of the trawl-dominant overfished species (Table 4-17), so the focus on deciding allocations may be to set aside enough yield to prevent constraining the non-trawl sectors. The preferred alternative is to allocate 95 percent of the available non-treaty harvest to the trawl fishery. This appears to leave enough yield to prevent constraining non-trawl fisheries, which do

not target the stock. Figure 4-5 shows that a 5 percent allocation will not likely constrain non-trawl fisheries while the stock is under rebuilding. Once the stock is rebuilt, the OY should be large enough to accommodate the higher non-trawl catches observed prior to 2000 under a 5 percent allocation.

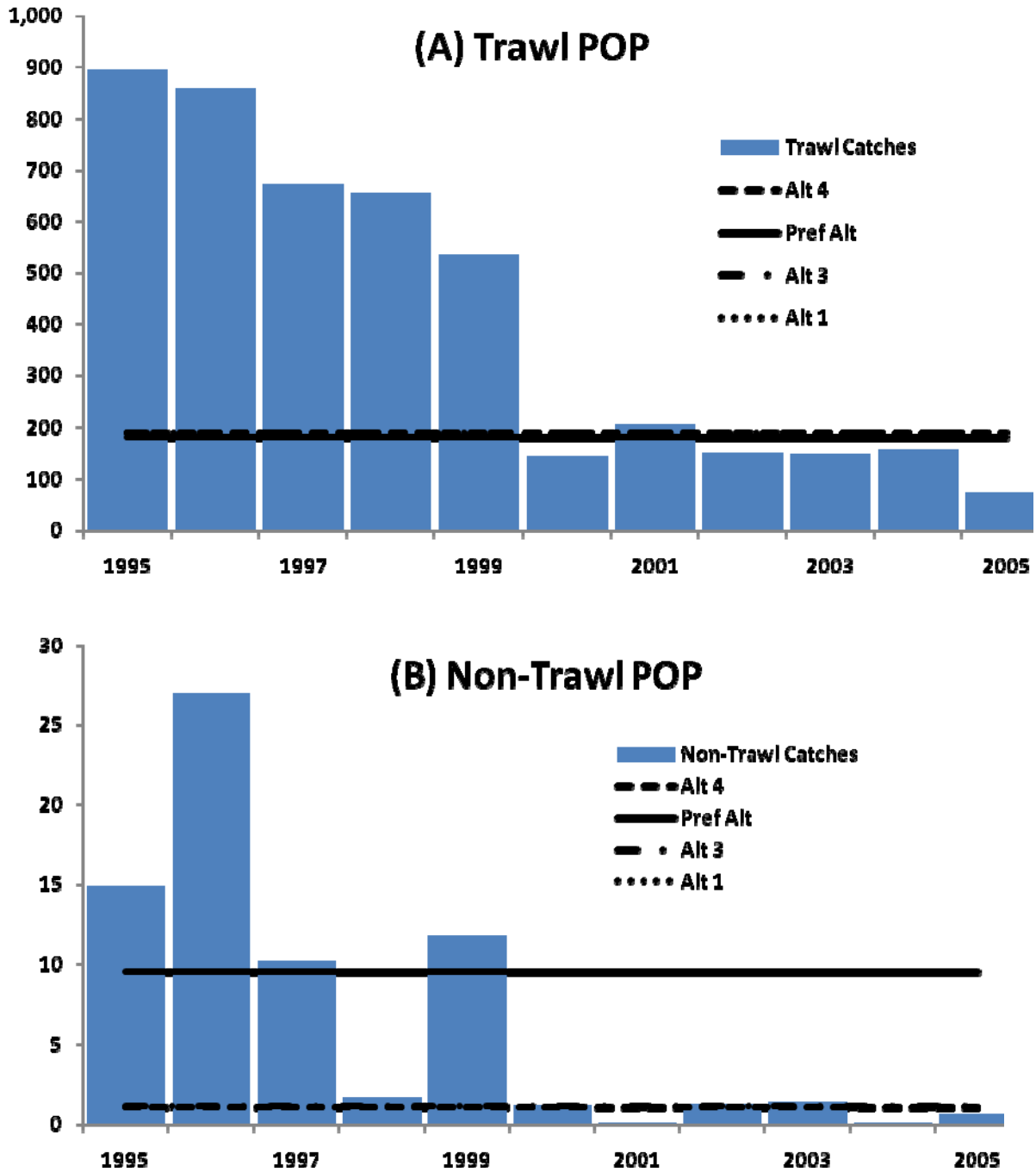


Figure 4-5. Trawl (A) and non-trawl (B) catches of Pacific ocean perch during 1995-2005 compared to the alternative allocations applied to the 2010 POP OY.

Widow Rockfish Allocations

Trawl (A) and non-trawl (B) catches of widow rockfish during 1995-2005 are compared to the alternative allocations applied to the 2010 OY in Figure 4-6. While these allocations seem to accommodate all directed groundfish sectors when widow rockfish are under rebuilding, it may be more constraining to the trawl fishery once the stock is rebuilt, and widow and yellowtail rockfish are again targeted by midwater trawls. The trawl fishery took over 95 percent of the total amount of widow landed in past years before the stock was declared overfished (Table 4-10). Therefore, there may be more benefits to west coast fishing communities with a higher trawl allocation, such as specified in Intersector Allocation Alternative 1 once the stock is rebuilt.

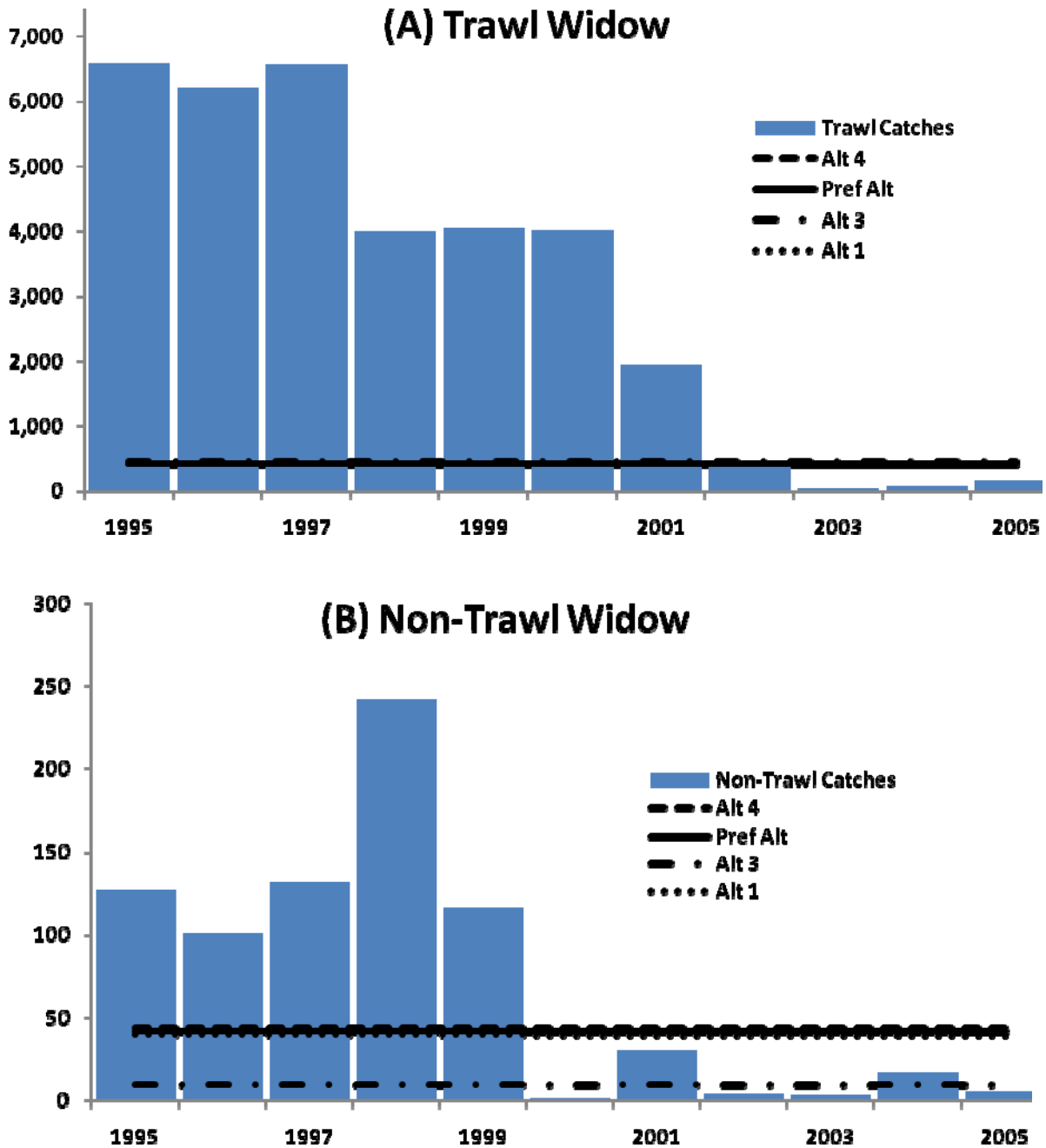


Figure 4-6. Trawl (A) and non-trawl (B) catches of widow rockfish during 1995-2005 compared to the alternative allocations applied to the 2010 widow OY.

Chilipepper Rockfish Allocations

Chilipepper rockfish allocations concern only those fisheries south of 40°10' N latitude since chilipepper rockfish are managed as part of the Minor Shelf Rockfish Complex in the north (this complex is not subject to intersector allocations under Amendment 21). Trawl (A) and non-trawl (B)

catches of chilipepper rockfish during 1995-2005 are compared to the alternative allocations applied to the 2010 OY in Figure 4-7.

Access to the southern shelf areas where chilipepper are most abundant is severely restricted to the non-trawl sectors to protect canary and yelloweye rockfish. In recent years, the shoreside non-whiting trawl fishery has been able to land more chilipepper and accrue a larger sector share than the non-trawl sectors, while prosecuting a shelf trawl effort targeting flatfish using small footrope trawls. These trawls are more selective at avoiding yelloweye rockfish than line gears, since they cannot be effectively deployed in the high-relief habitats where yelloweye reside. As more spatial information is gathered on canary and yelloweye rockfish, there may be more non-trawl shelf opportunities to target species like chilipepper in areas of low canary and yelloweye abundance. The preferred alternative of a 75 percent trawl share is less than the trawl allocation recommended by the GAC (the GAC recommended an 80 percent trawl share). This stock is important to the non-trawl fisheries operating off California, and the Council expressed the desire to try to gain greater non-trawl access to chilipepper in the future. To that end, the Council and NMFS have adopted EFP fisheries designed to test gears and strategies to selectively harvest chilipepper. EFP participants are also exploring areas within the RCA where chilipepper may be targeted without incurring a significant bycatch of overfished species⁹. Like yellowtail rockfish, the current catch of chilipepper rockfish is well below the available harvestable surplus for this healthy stock due to shelf fishing constraints.

⁹ Such areas are called Groundfish Fishing Areas (GFAs) in the groundfish FMP and in federal regulations.

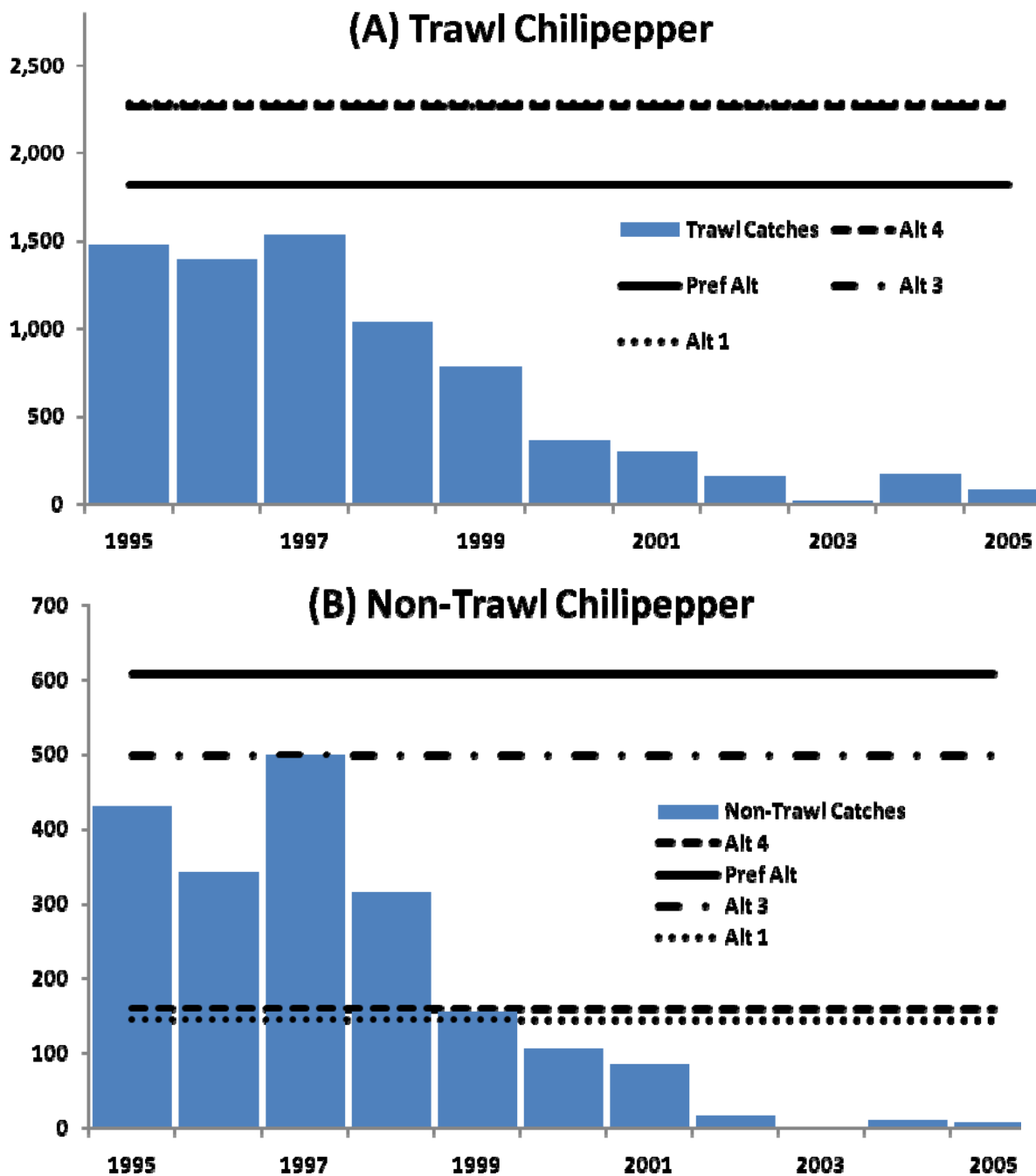


Figure 4-7. Trawl (A) and non-trawl (B) catches of chilipepper rockfish during 1995-2005 compared to the alternative allocations applied to the 2010 chilipepper OY.

Splitnose Rockfish

Splitnose rockfish are a trawl-dominant slope species taken incidentally in non-whiting bottom trawls (Table 4-17). Figure 4-8 depicts the trawl (A) and non-trawl (B) catches of splitnose during 1995-2005 and compares these catches to alternative allocations applied to the 2010 OY. Both trawl and non-trawl

sectors appear to be accommodated with the preferred allocation (i.e., 95 percent trawl, 5 percent non-trawl). However, no allocation scheme can apparently cover an unexpected aggregation with the consequent high catches that were observed in 1998. It is unlikely the largest catches of splitnose by non-trawl sectors will occur in the future. Most of the non-trawl catch of splitnose rockfish in the higher catch years of 1995 and 1998 (Figure 4-8B) were in a gill net fishery that occurred in waters off California, which is now prohibited.

A new splitnose rockfish assessment was adopted in 2009. This is a coastwide assessment extending north to the terminus of the west coast EEZ at the U.S./Canada border. The Council will presumably decide coastwide harvest specifications for this stock to be implemented beginning in 2011, which would change the allocation from one covering fisheries south of 40°10' N latitude to a coastwide allocation.

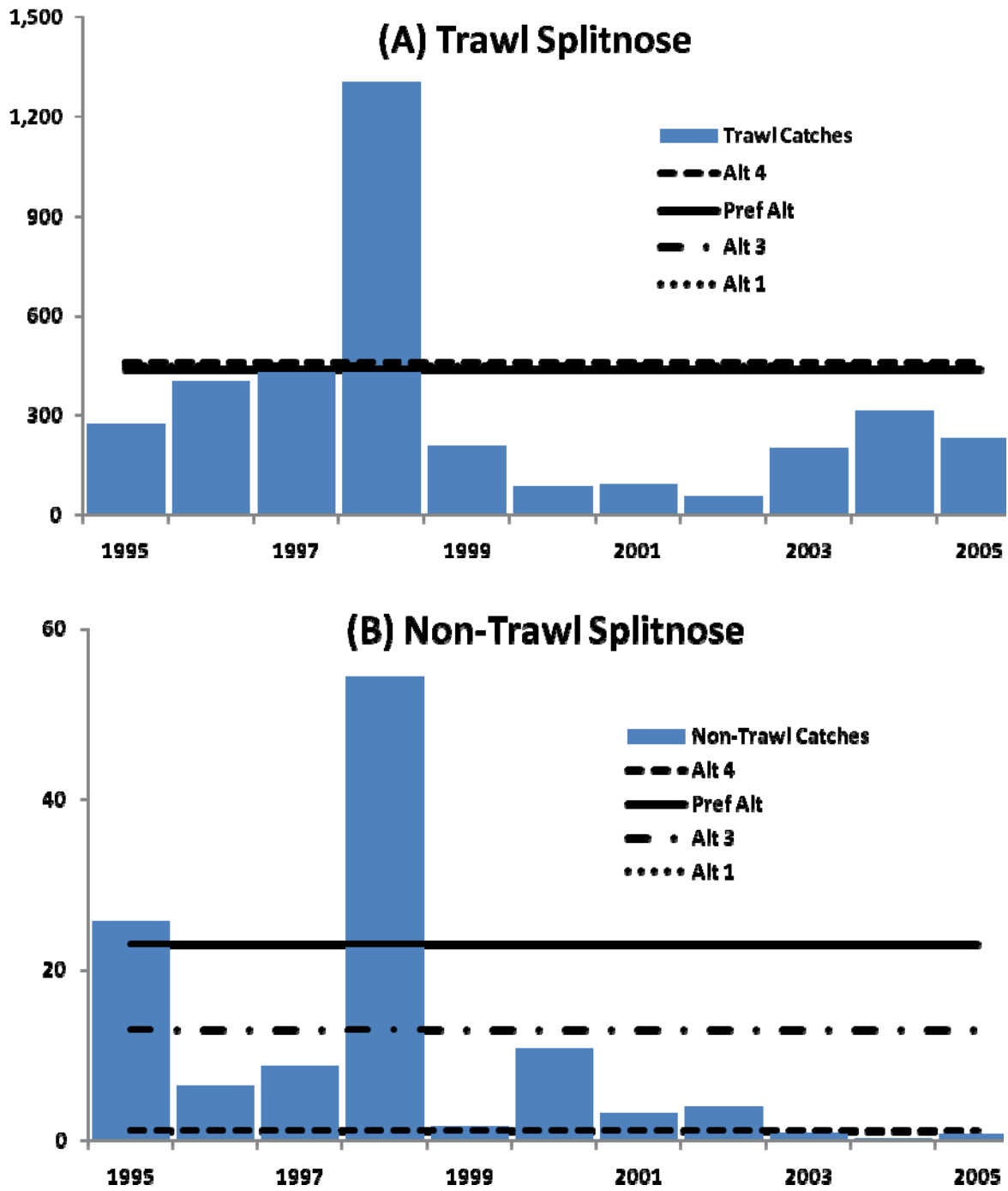


Figure 4-8. Trawl (A) and non-trawl (B) catches of splitnose rockfish during 1995-2005 compared to the alternative allocations applied to the 2010 splitnose OY.

Yellowtail Rockfish Allocations

Trawl (A) and non-trawl (B) catches of yellowtail rockfish during 1995-2005 are compared to the alternative allocations applied to the 2010 OY in Figure 4-9. Yellowtail rockfish are a healthy stock, but access to yellowtail is constrained by rebuilding measures imposed to rebuild depleted shelf rockfish species such as canary rockfish. This is true for all sectors; however, the trawl sector has lost a target midwater strategy for yelloweye and widow since widow was declared overfished. It appears from Figure 4-9 that the trawl fishery may be even more constrained under the preferred allocation alternative once widow is rebuilt as evidenced by the catches in 1995-1996 being higher than the allocated amount of the 2010 OY. Intersector Allocation Alternative 1 is more representative of the time when access to yellowtail was not so constrained. That alternative has a higher trawl allocation (96.3 percent) than the preferred alternative of 88 percent, which is more reflective of catches during the widow rockfish rebuilding period. Regardless, there is a longer projected rebuilding timeframe for canary rockfish, which co-occurs with yellowtail. A WDFW-sponsored EFP conducted in 2002 and 2003 attempted to test midwater trawl gear configurations, strategies, and areas off Washington where yellowtail rockfish could be selectively harvested without incurring a significant bycatch of canary and other overfished rockfish. The EFP experiment was not considered successful since canary rockfish were difficult to avoid, and the consequent bycatch rates were judged too high. This experiment proved the difficulty of significantly gaining trawl access to yellowtail under a canary rockfish rebuilding regime. The trawl fleet may be able to again test the ability of individual fishers to target yellowtail rockfish more selectively under an IFQ management system. However, canary QS will certainly be limited, and it is anticipated that there will be continuing difficulty accessing the trawl allocation of yellowtail rockfish. Likewise, the same impediment exists for the non-trawl sectors, which are as constrained by canary rockfish bycatch and more constrained by yelloweye rockfish bycatch.

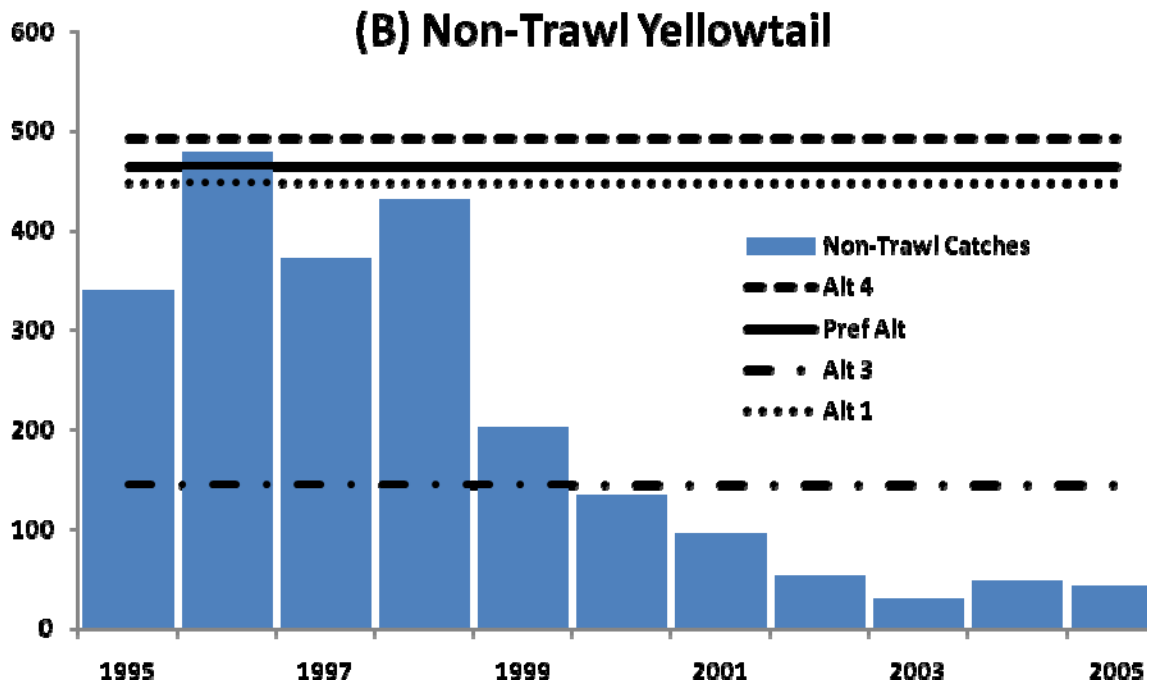
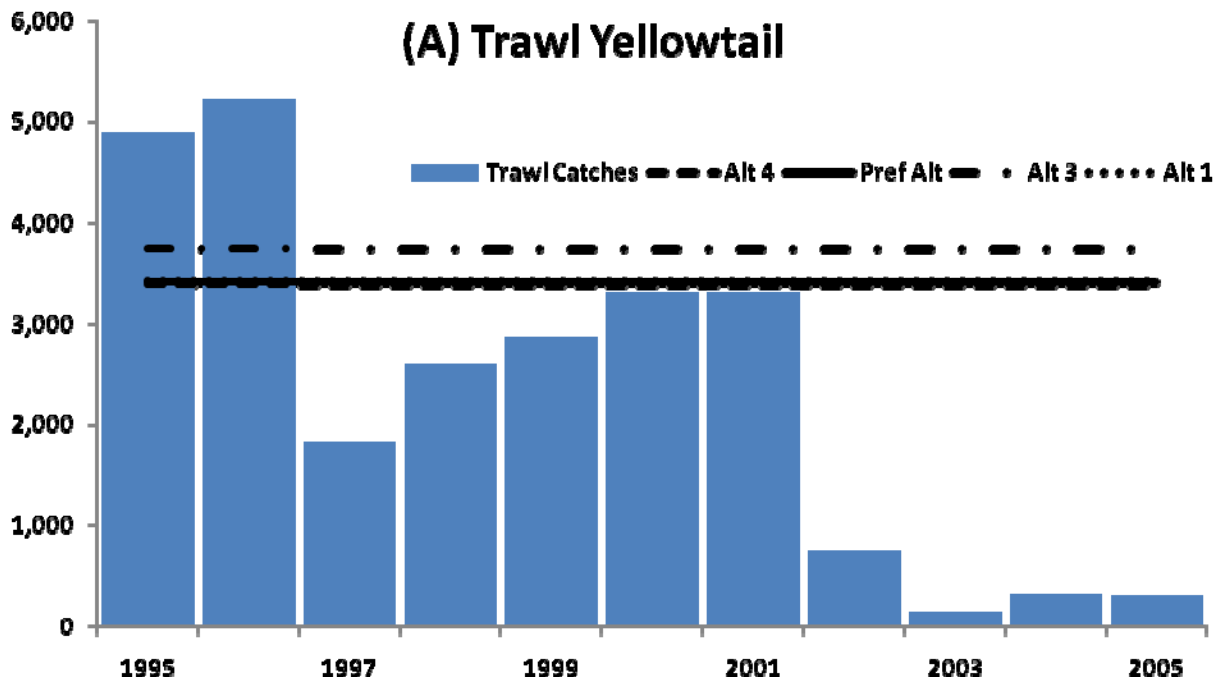


Figure 4-9. Trawl (A) and non-trawl (B) catches of yellowtail rockfish during 1995-2005 compared to the alternative allocations applied to the 2010 yellowtail OY.

Shortspine Thornyhead (North of 34°27' N Latitude)

Shortspine thornyhead north of Point Conception at 34°27' N latitude are considered trawl-dominant (Table 4-17). Figure 4-10 depicts the trawl (A) and non-trawl (B) catches of shortspine thornyhead

north of 34°27' N latitude during 1995-2005 and compares these catches to the alternative allocations applied to the 2010 OY. While shortspine thornyhead is a major target stock of commercial non-trawl fisheries south of 36° N latitude, it is apparently only a trawl target to the north. The preferred alternative allocation appears to accommodate the needs of both trawl and non-trawl sectors.

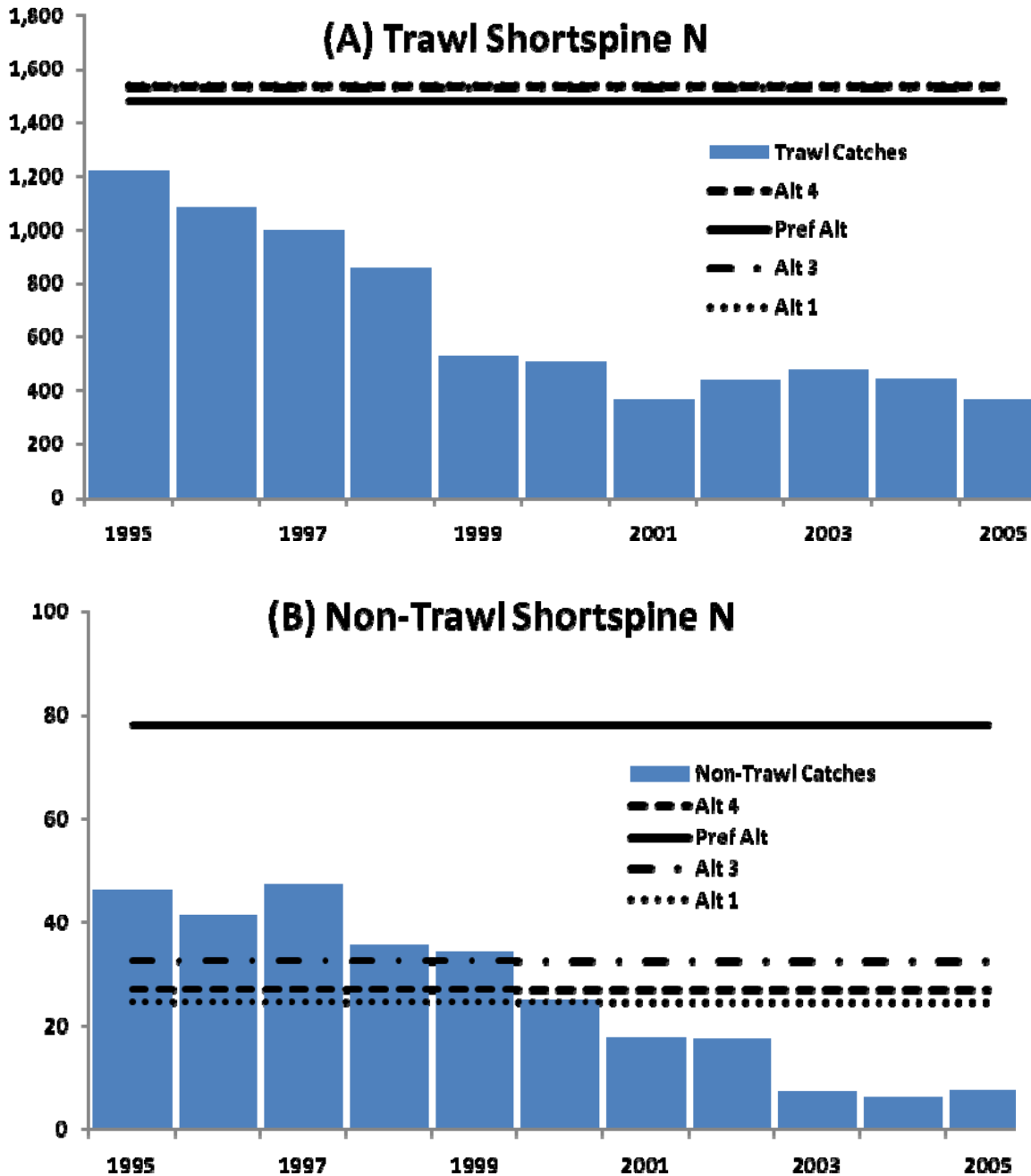


Figure 4-10. Trawl (A) and non-trawl (B) catches of shortspine thornyhead north of 34°27' N latitude during 1995-2005 compared to the alternative allocations applied to the 2010 OY.

Shortspine Thornyhead (South of 34°27' N Latitude)

At the April 2009 Council meeting, it was discovered there was a mistake in the compiled catch data for shortspine thornyhead south of 34°27' N latitude. All landings in ports south of 36° N latitude were incorrectly assigned to south of 34°27' N latitude. These data were corrected by assigning all landings by sector into Santa Barbara and ports south to the U.S./Mexico border to south of 34°27' N latitude and all landings into ports north of Santa Barbara to north of 34°27' N latitude. The resulting trawl landings for the southern shortspine stock were minor compared to those made by non-trawl sectors (Table 4-23). In hindsight, this is as expected since the majority of trawl efforts in the Conception area occurred north of 34°27' N latitude with most of those landings made in the ports of Morro Bay and Port San Luis. The bottom habitat in the Southern California Bight south of 34°27' N latitude has a very high relief with very few areas where bottom trawls can effectively operate. Non-trawl, hook-and-line gear is very effective in such habitats, and the revised catch history indicates dominant utilization of the southern shortspine stock by the LE fixed gear sector (Table 4-17). GAP representatives indicated that shortspine is a major target stock for this sector in the Southern California Bight, which supports the revised catch history.

Since the Council decided under Amendment 20 to manage shortspine thornyhead south of 34°27' N latitude with IFQs, an allocation to the trawl fishery still has to be made. The GAP recommended a small trawl allocation of 50 mt, which was endorsed by the Council and is the preferred alternative. While this is a much larger allocation for the LE trawl sector than has been landed in the 1995-2005 period (Table 4-23), discards are unknown for this period and an amount larger than the historical landed catch may be needed. The remaining available yield of this stock is allocated to non-trawl sectors.

Table 4-23. Revised commercial sector catches of shortspine thornyhead south of 34°27' N latitude, 1995-2005.

Year	LE Trawl Catch		LE Fixed Gear Catch		Dir. OA Catch		Inc. OA Catch	
	mt	% of nontribal directed comm. catch	mt	% of nontribal directed comm. catch	mt	% of nontribal directed comm. catch	mt	% of nontribal directed comm. catch
1995	0.00	0.0%	0.05	21.0%	0.17	79.0%	0.00	0.0%
1996	0.00	0.0%	8.82	100.0%	0.00	0.0%	0.00	0.0%
1997	0.00	0.0%	11.18	100.0%	0.00	0.0%	0.00	0.0%
1998	0.00	0.0%	23.91	98.8%	0.29	1.2%	0.00	0.0%
1999	0.00	0.0%	32.39	87.8%	4.50	12.2%	0.00	0.0%
2000	0.00	0.0%	28.48	80.4%	6.89	19.4%	0.07	0.2%
2001	0.00	0.0%	31.27	95.9%	1.34	4.1%	0.00	0.0%
2002	0.34	0.5%	72.48	96.8%	1.83	2.4%	0.20	0.3%
2003	0.00	0.0%	116.57	98.7%	1.35	1.1%	0.24	0.2%
2004	0.00	0.0%	104.06	99.8%	0.04	0.0%	0.16	0.2%
2005	0.00	0.0%	124.00	99.8%	0.27	0.2%	0.00	0.0%
95-05 avg.	0.03	0.1%	50.29	96.9%	1.52	2.9%	0.06	0.1%
max	0.34	0.5%	124.00	100.0%	6.89	79.0%	0.24	0.3%
min	0.00	0.0%	0.05	21.0%	0.00	0.0%	0.00	0.0%

Longspine Thornyhead (North of 34°27' N Latitude)

Figure 4-11 depicts the trawl (A) and non-trawl (B) catches of longspine thornyhead north of 34°27' N latitude during 1995-2005 and compares these catches to the alternative allocations applied to the 2010 OY. Longspine thornyhead north of Point Conception are considered trawl-dominant (Table 4-17), but are not heavily utilized. Longspine thornyheads have a much deeper distribution than any of the commercial fleet efforts. Much of the biomass exists deeper than the 700 fm limit for the LE trawl fleet, so it is likely that the stock will continue to be underutilized. It appears the preferred allocation can accommodate both trawl and non-trawl sectors.

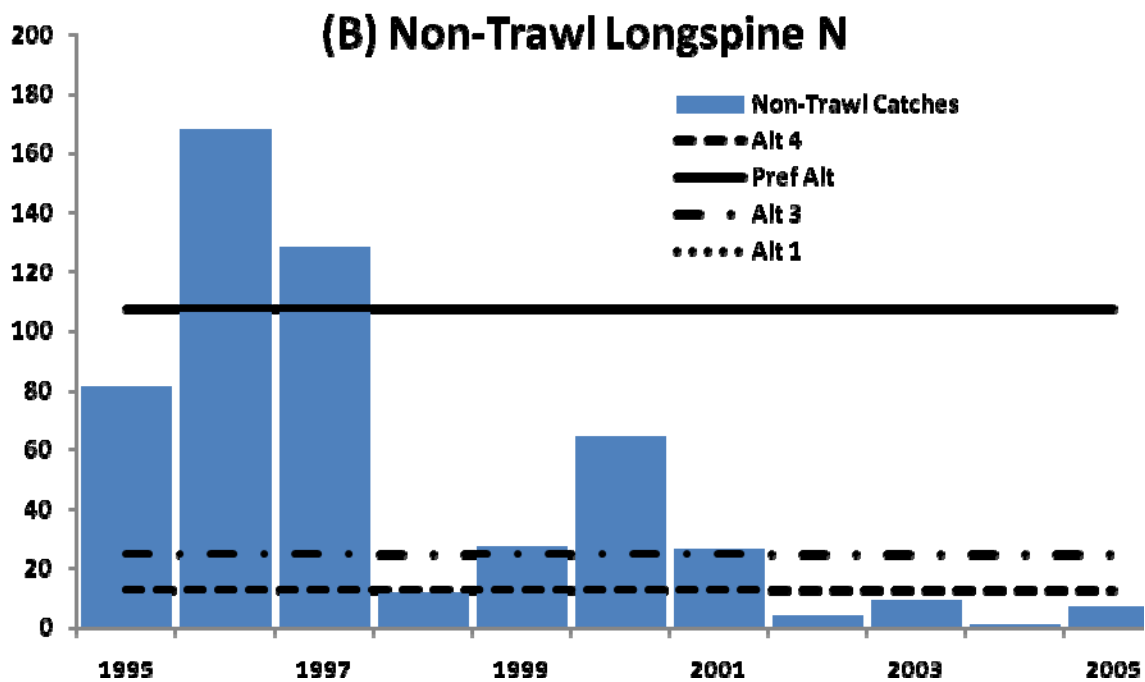
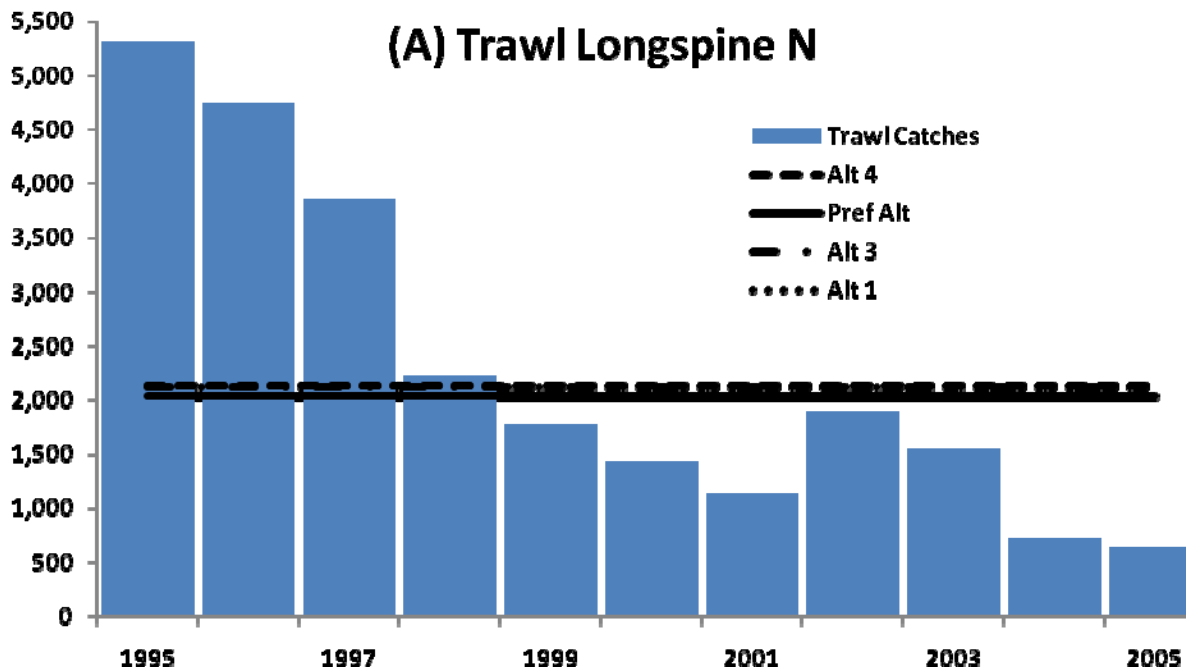


Figure 4-11. Trawl (A) and non-trawl (B) catches of longspine thornyhead north of 34°27' N latitude during 1995-2005 compared to the alternative allocations applied to the 2010 OY.

Longspine Thornyhead (South of 34°27' N Latitude)

Longspine thornyhead are caught in small amounts in the Southern California Bight (

Table 4-19), and the stock is neither dominant nor significant to any sector (Table 4-17). This is an incidentally caught stock and not a fishery target in any sector. Under its Amendment 20 decision, the Council decided not to manage trawl catch of this stock using IFQs; consequently, there is no need to allocate this stock. The preferred alternative under Amendment 21 is to drop this stock from consideration for a formal trawl allocation.

Darkblotched Rockfish

Figure 4-12 depicts the trawl (A) and non-trawl (B) catches of darkblotched rockfish during 1995-2005 and compares these catches to the alternative allocations applied to the 2010 OY. Darkblotched rockfish are a trawl-dominant overfished species (Table 4-17) that are caught in both whiting and non-whiting trawls. The preferred alternative is more constraining to the trawl fishery than any of the other alternatives analyzed. The lower trawl percentage in the preferred alternative affects the value of the fishery much more than the ex-vessel value of the difference in yield. Trawl access to important target species on the slope (i.e., Dover sole, sablefish, thornyheads, and petrale sole) is leveraged with darkblotched yield to accommodate incidental and unavoidable bycatch. The preferred alternative appears to accommodate both trawl and non-trawl sectors under the darkblotched rebuilding regime. It is not clear how the preferred allocation of 95 percent trawl and 5 percent non-trawl will accommodate the sectors once the stock is rebuilt. A new update assessment was done for darkblotched in 2009. This assessment estimates an MSY of 575 to 597 mt for darkblotched. The large trawl catches prior to 1999 cannot be accommodated, which may speak more about a more conservative estimate of MSY for this stock now than was believed then. However, it is likely the 5 percent darkblotched allocation will meet the needs of non-trawl sectors. The higher non-trawl catches prior to 1999 were likely attributed to gillnet gear, which is now prohibited. It is expected the lower catches observed in recent years will represent the magnitude of non-trawl catches in the future.

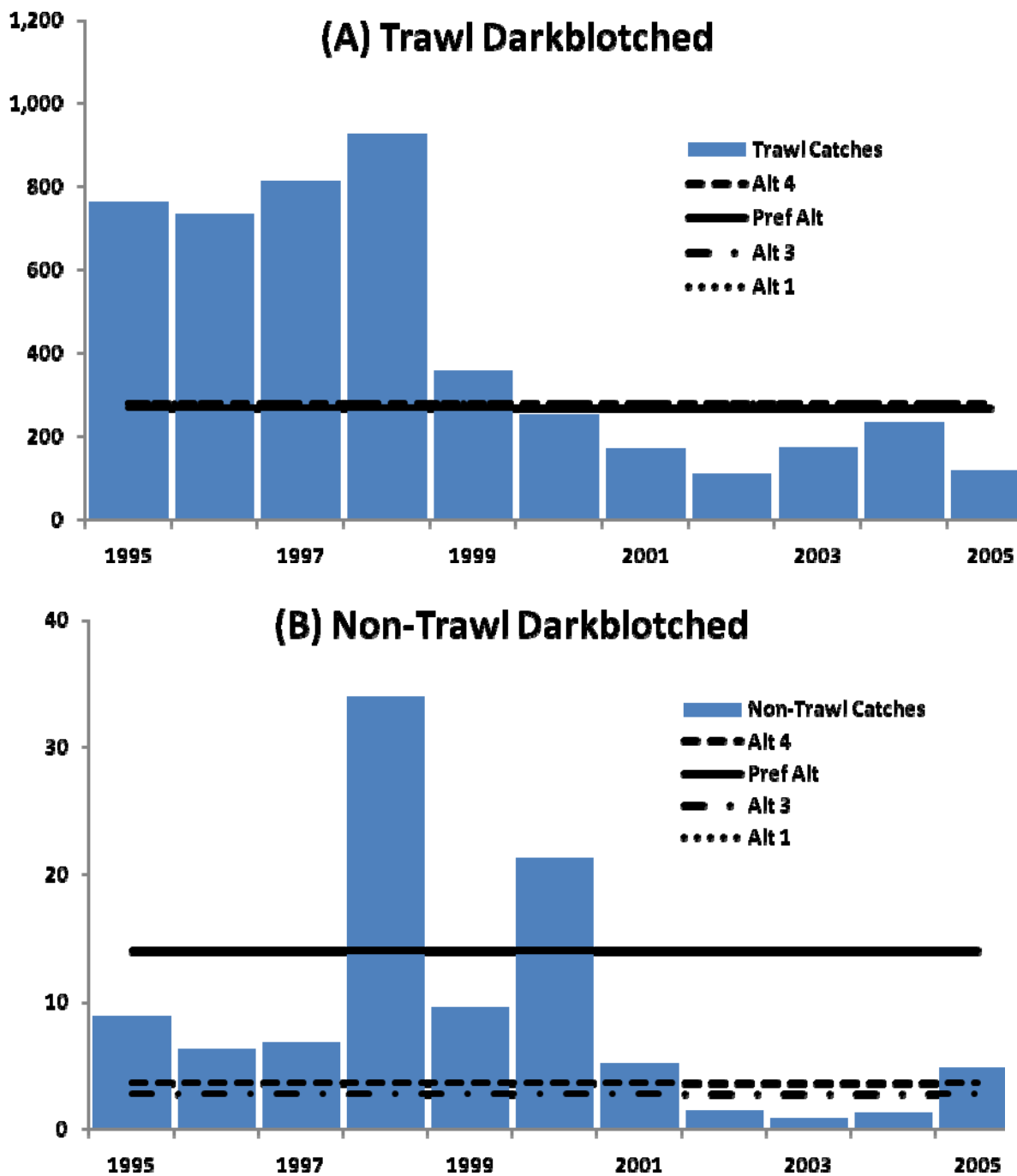


Figure 4-12. Trawl (A) and non-trawl (B) catches of darkblotched rockfish during 1995-2005 compared to the alternative allocations applied to the 2010 OY.

Minor Slope Rockfish

The minor slope rockfish complexes are slope rockfish species that have not been assessed. These complexes are managed north and south of 40°10' N latitude with separate OYs for each complex. The species comprising these complexes are significantly utilized by the trawl and LE fixed gear sectors in

the north and all the directed commercial sectors in the south (Table 4-17). Figure 4-13 depicts the trawl (A) and non-trawl (B) catches of minor slope rockfish north of 40°10' N latitude during 1995-2005 and compares these catches to the alternative allocations applied to the 2010 OY. Likewise, Figure 4-14 provides the same information for the minor slope rockfish complex south of 40°10' N latitude. The sector catch shares for each complex vary north and south, reflecting a greater trawl effort in the north. The preferred trawl allocation for these complexes is lower than the trawl share under Alternative 1, which reflects a greater distribution of trawl effort on the slope than is seen today.

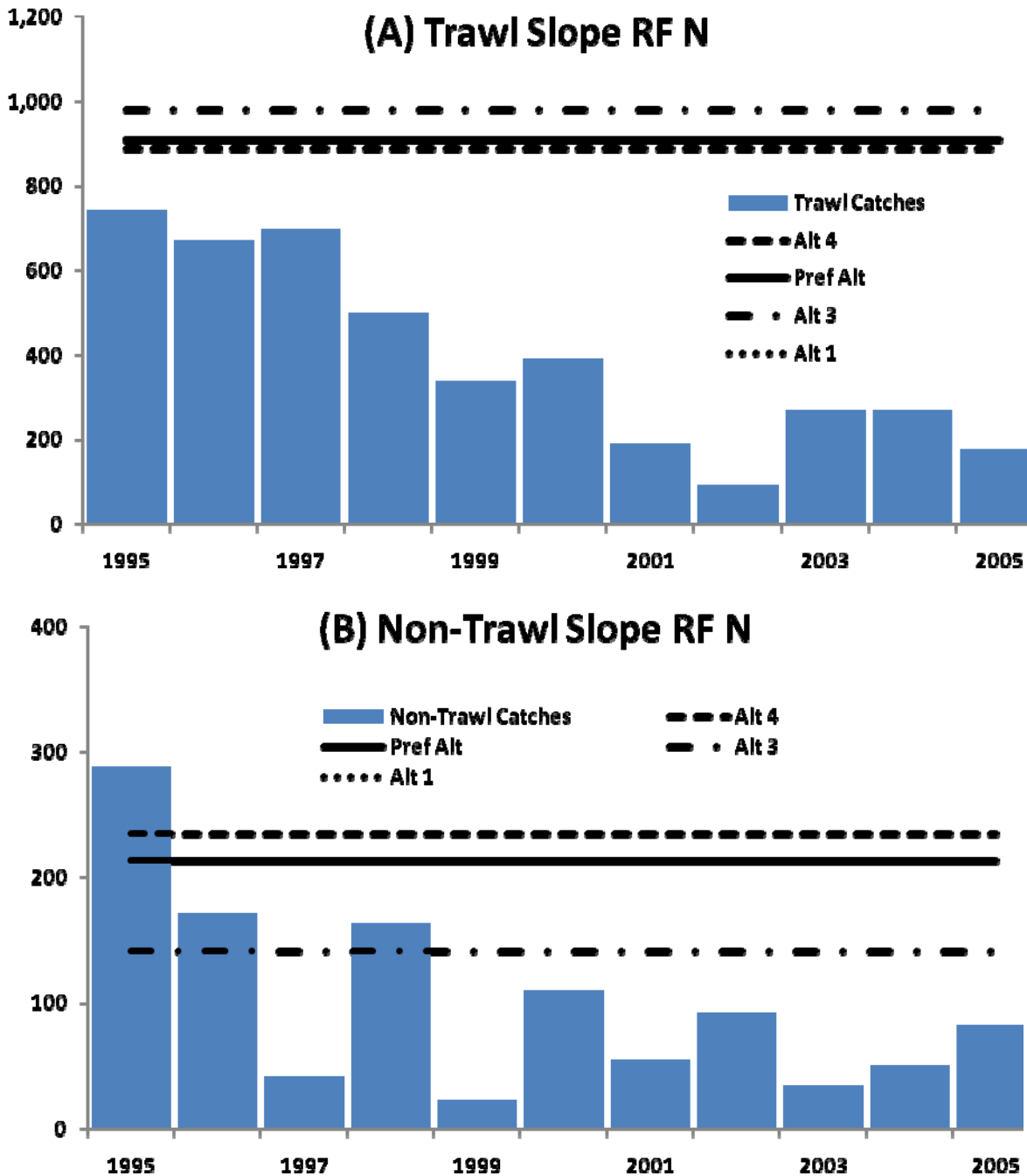


Figure 4-13. Trawl (A) and non-trawl (B) catches of minor slope rockfish north of 40°10' N latitude during 1995-2005 compared to the alternative allocations applied to the 2010 OY.

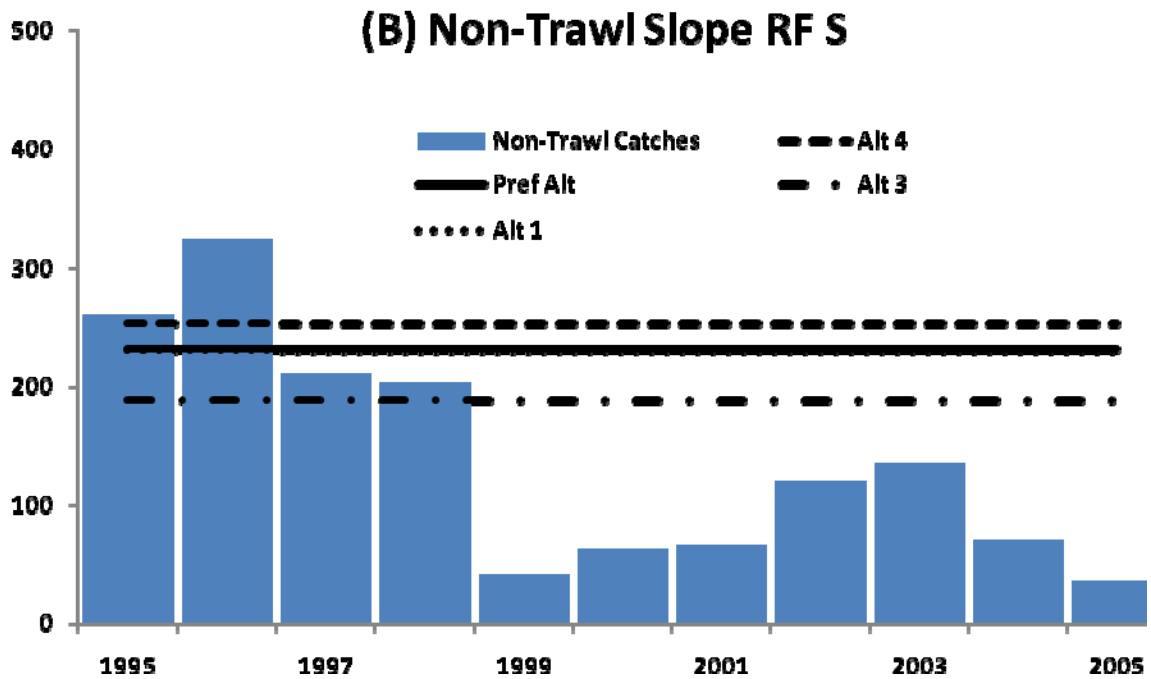
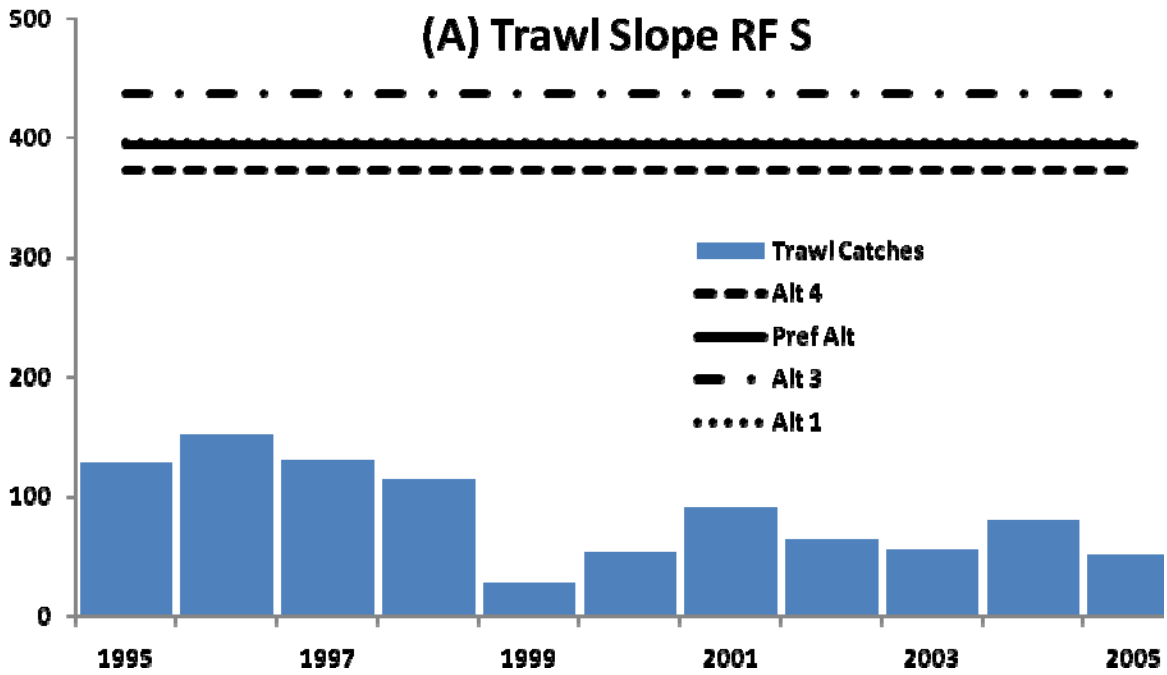


Figure 4-14. Trawl (A) and non-trawl (B) catches of minor slope rockfish south of 40°10' N latitude during 1995-2005 compared to the alternative allocations applied to the 2010 OY.

Dover Sole

Figure 4-15 depicts the trawl (A) and non-trawl (B) catches of Dover sole during 1995-2005 and compares these catches to the alternative allocations applied to the 2010 OY. Dover sole are trawl-dominant (Table 4-17) and a significant target species for the shoreside non-whiting trawl sector, both on the shelf and on the slope. The status quo and intersector allocation action Alternatives 1 to 3 all show 99.9 percent of the Dover sole catch occurring in the shoreside non-whiting sector. Small amounts of Dover sole are taken in the whiting trawl fisheries and by the non-trawl sectors; however, this is all incidental catch requiring small Dover sole yield set-asides to keep from constraining target opportunities for these sectors. The very small allocations of Dover sole to the LE and directed open access sectors under most of the intersector allocation alternatives can constrain these sectors when targeting sablefish. However, the preferred trawl share of 95 percent may be too low for the trawl sector. A higher than status quo non-trawl allocation was recommended in response to some fixed gear fishers hoping to employ new trap configurations to target soles and flatfishes. Experimental efforts have been tried in waters off Alaska and Oregon with limited success. While the non-trawl gears have yet to demonstrate an ability to take marketable amounts of Dover sole, trawl catches have not risen to the mark allocated to that sector in 2010 under the preferred alternative because of market limitations. If a greater market for Dover sole is created in the future, optimal benefits to the nation and west coast fishing communities may either depend on a higher trawl allocation than recommended by the Council (95 percent trawl allocation) or an innovative non-trawl gear type that can effectively catch Dover sole.

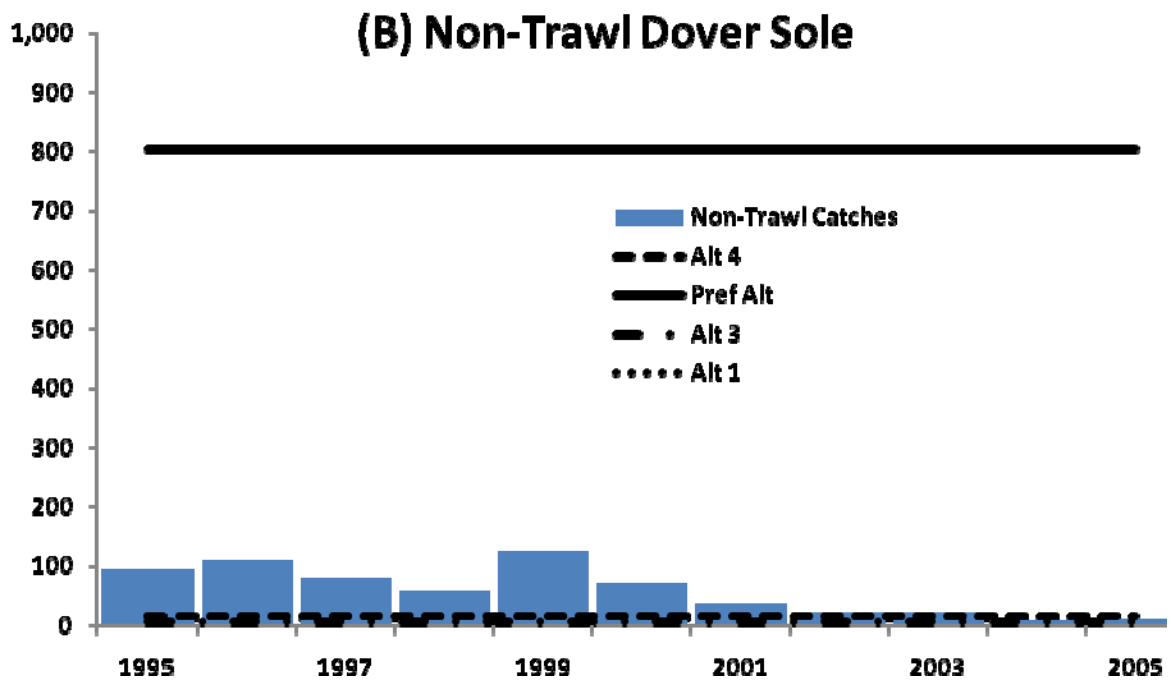
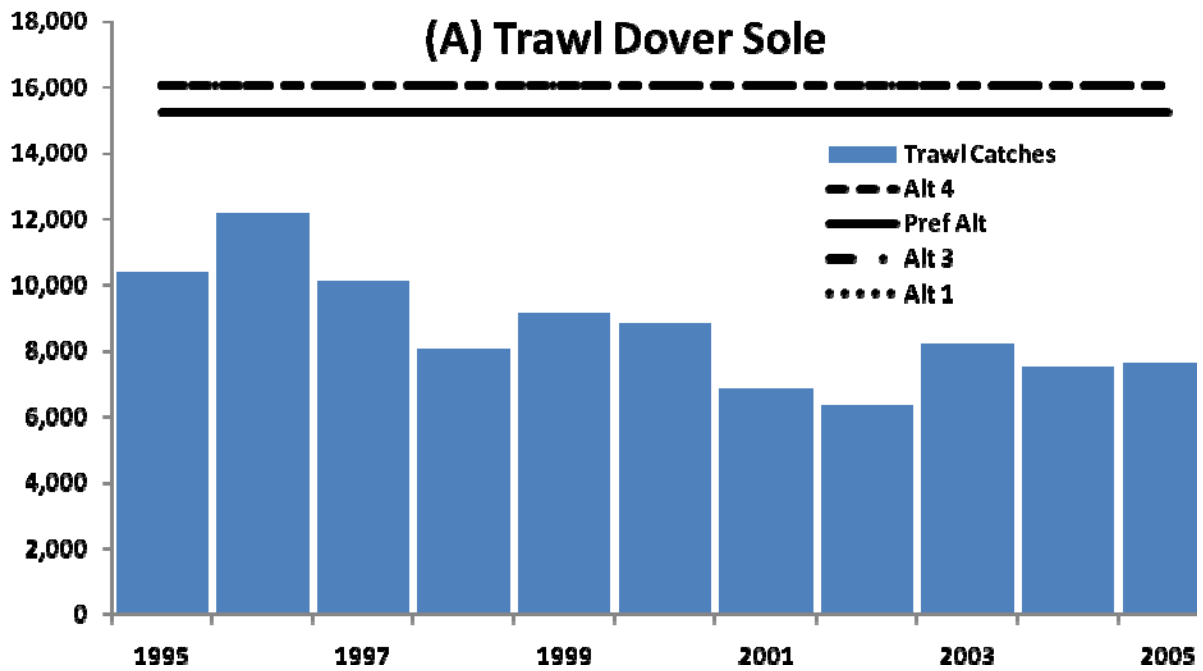


Figure 4-15. Trawl (A) and non-trawl (B) catches of Dover sole during 1995-2005 compared to the alternative allocations applied to the 2010 OY.

English Sole

Figure 4-16 depicts the trawl (A) and non-trawl (B) catches of English sole during 1995-2005 and compares these catches to the alternative allocations applied to the 2010 OY. English sole are trawl-dominant (Table 4-17) and are rarer in non-trawl catches than Dover sole. The alternatives based on the more recent time series of historical catches show 100 percent of the catch occurring in the shoreside non-whiting trawl sector. Alternative 3, which is informed with landings back to 1995, shows the shoreside non-whiting trawl sector taking 99.9 percent of the total non-treaty catch. Less than 2 mt have been taken as a maximum catch in non-trawl sectors (Table 4-19), so only a small allocation or yield set-aside is needed to accommodate what incidental bycatch of English sole might be taken in non-trawl fisheries. However, much like Dover sole, there are market limitations to higher trawl catches of English sole, and the preferred trawl allocation applied to the 2010 OY appears to accommodate higher catch levels than observed.

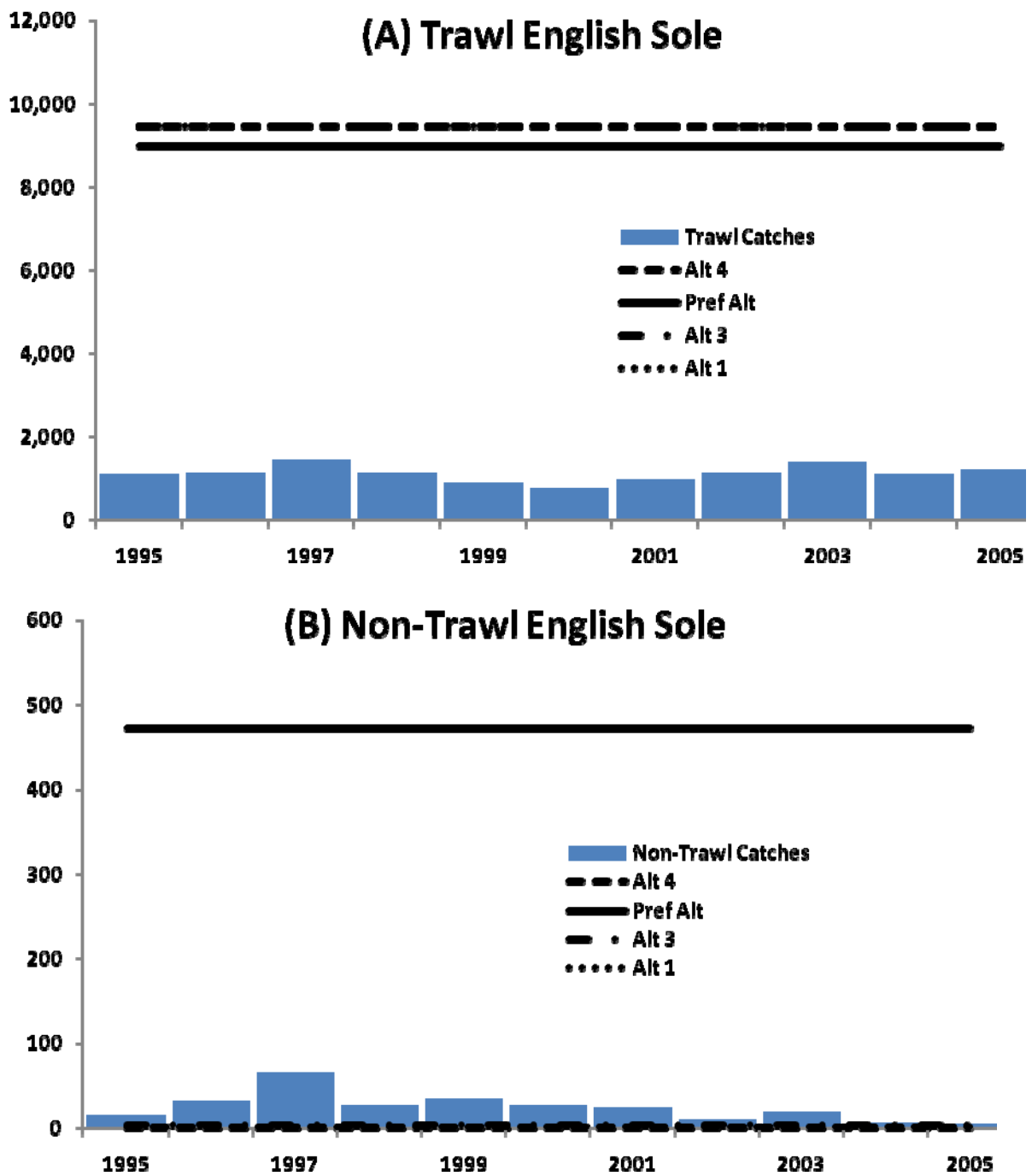


Figure 4-16. Trawl (A) and non-trawl (B) catches of English sole during 1995-2005 compared to the alternative allocations applied to the 2010 OY.

Petrale Sole

Figure 4-17 depicts the trawl (A) and non-trawl (B) catches of petrale sole during 1995-2005 and compares these catches to the alternative allocations applied to the 2010 OY. Petrale sole is another trawl-dominant flatfish species (Table 4-17) that is more readily caught in non-trawl fisheries than English sole (

Table 4-19). This is a heavily utilized stock with most of the available harvestable surplus taken in bottom trawl fisheries every year. All the alternatives, other than the preferred alternative, indicate a 99.9 to 100 percent trawl share of the petrale sole catch (Table 4-18). However, the very small allocations of petrale sole to the LE and directed open access sectors under most of the intersector allocation alternatives, other than the preferred alternative, can constrain these sectors when targeting sablefish. As they did for Dover sole and English sole, the Council is recommending a 95 percent trawl share, which is lower than observed in trawl fisheries since 1995 to enable new emerging fisheries (Table 4-10). While it appears the preferred trawl allocation would not work in 2005, that conclusion is misleading given that the petrale sole OY was exceeded that year.

A new petrale sole assessment was conducted in 2009 (Haltuch and Hicks 2009). The assessment has been recommended by the Science and Statistical Committee (SSC) and adopted by the Council. It indicates that the stock is overfished under the proxy biomass target and overfished threshold (i.e., minimum stock size threshold or MSST) used generally for groundfish. The FMP also allows a different proxy biomass target or one estimated in a well-informed assessment to achieve MSY (B_{MSY}). The FMP also states that the overfished level can be no lower than half the estimated B_{MSY} . In September, the SSC recommended a new proxy B_{MSY} target and MSST for federally managed flatfish species, including petrale sole, of $B_{25\%}$ and $B_{15\%}$, respectively. The Council requested further examination of data informing these proxy reference points, as well as the estimated target of $B_{19\%}$ from the assessment (and the associated MSST of $B_{9.5\%}$, which is half the estimated B_{MSY}). The ultimate decision on the petrale sole target biomass and MSST reference points will determine whether the stock is legally overfished. In the event the stock is declared overfished, any formal allocation is suspended, and shorter-term allocations are decided in a rebuilding plan that would seek to rebuild the stock to its target biomass as quickly as possible while avoiding disastrous socioeconomic impacts to fishing communities.

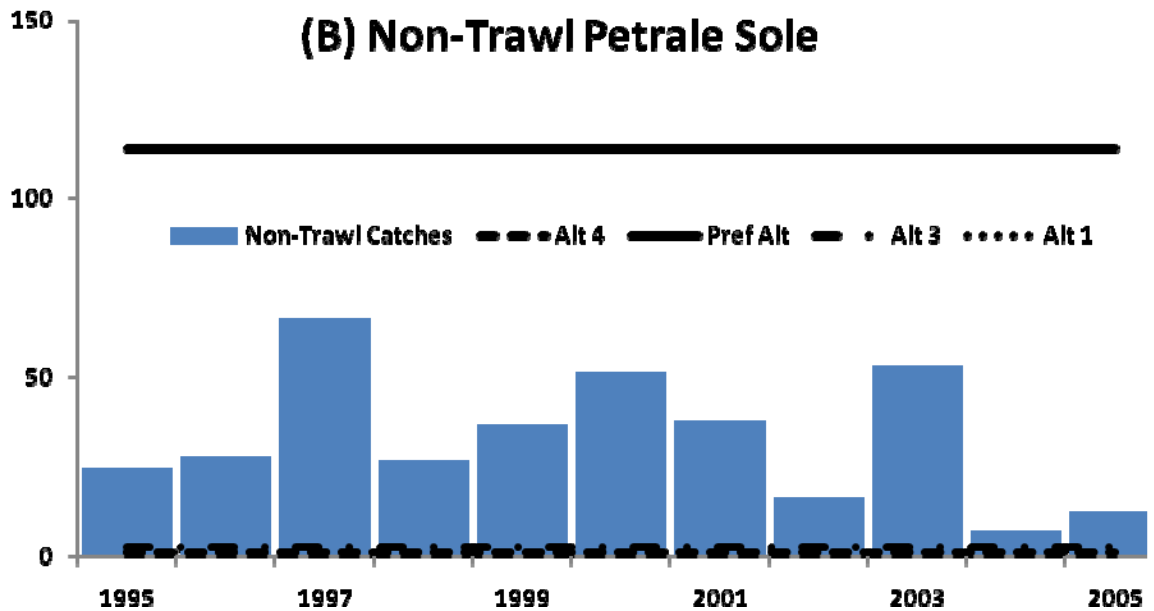
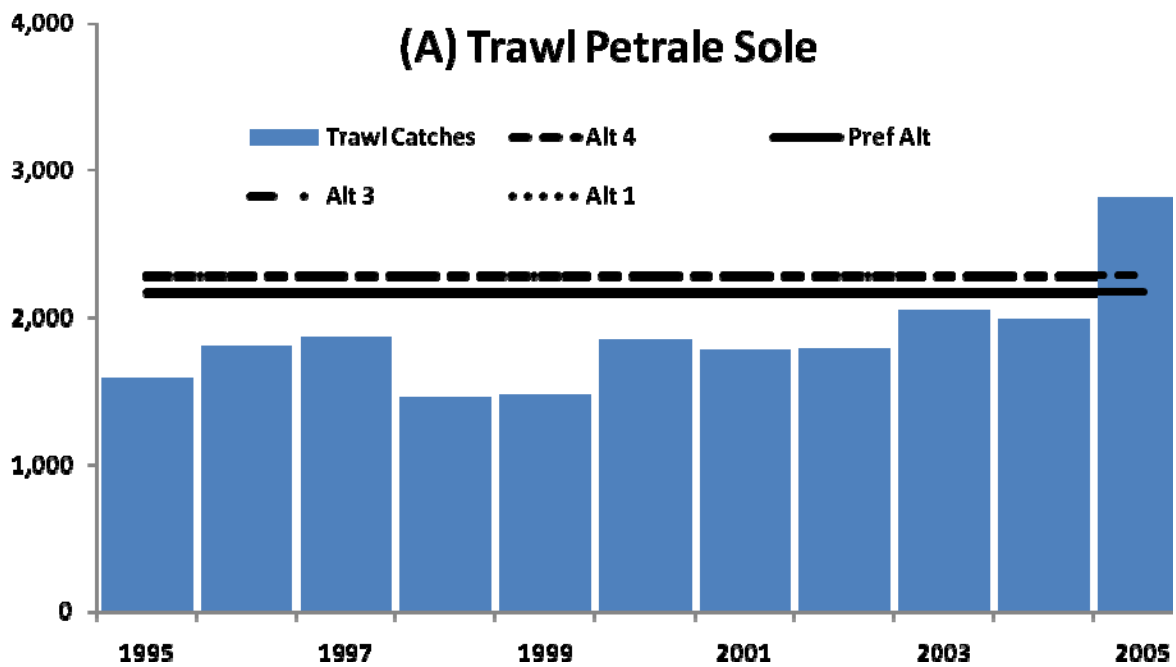


Figure 4-17. Trawl (A) and non-trawl (B) catches of petrale sole during 1995-2005 compared to the alternative allocations applied to the 2010 OY.

Arrowtooth Flounder

Figure 4-18 depicts the trawl (A) and non-trawl (B) catches of arrowtooth flounder during 1995-2005 and compares these catches to the alternative allocations applied to the 2010 OY. Arrowtooth flounder is a trawl-dominant species (Table 4-17) targeted primarily in northern waters when there is market demand, which tends to fluctuate more than for most target species. Unlike the sole species, there can

be a significant bycatch of arrowtooth flounder in non-trawl fisheries. Under the intersector allocation alternatives analyzed, arrowtooth allocation can be constraining to the LE and directed open access fixed gear sectors when targeting sablefish. The maximum amounts of arrowtooth seen in the non-trawl sector landings from 1995-2005 are almost 90 mt (Table 4-19) with a similar magnitude of discard mortality for commercial non-trawl sectors in 2006 (Table 4-21) and 2007 (Table 4-22). Therefore, 90 to 100 mt of arrowtooth should be considered as a reasonable set-aside for the non-trawl sectors. The preferred allocation more than accommodates non-trawl bycatch, with almost 500 mt allocated to non-trawl sectors in 2010 (Figure 4-18).

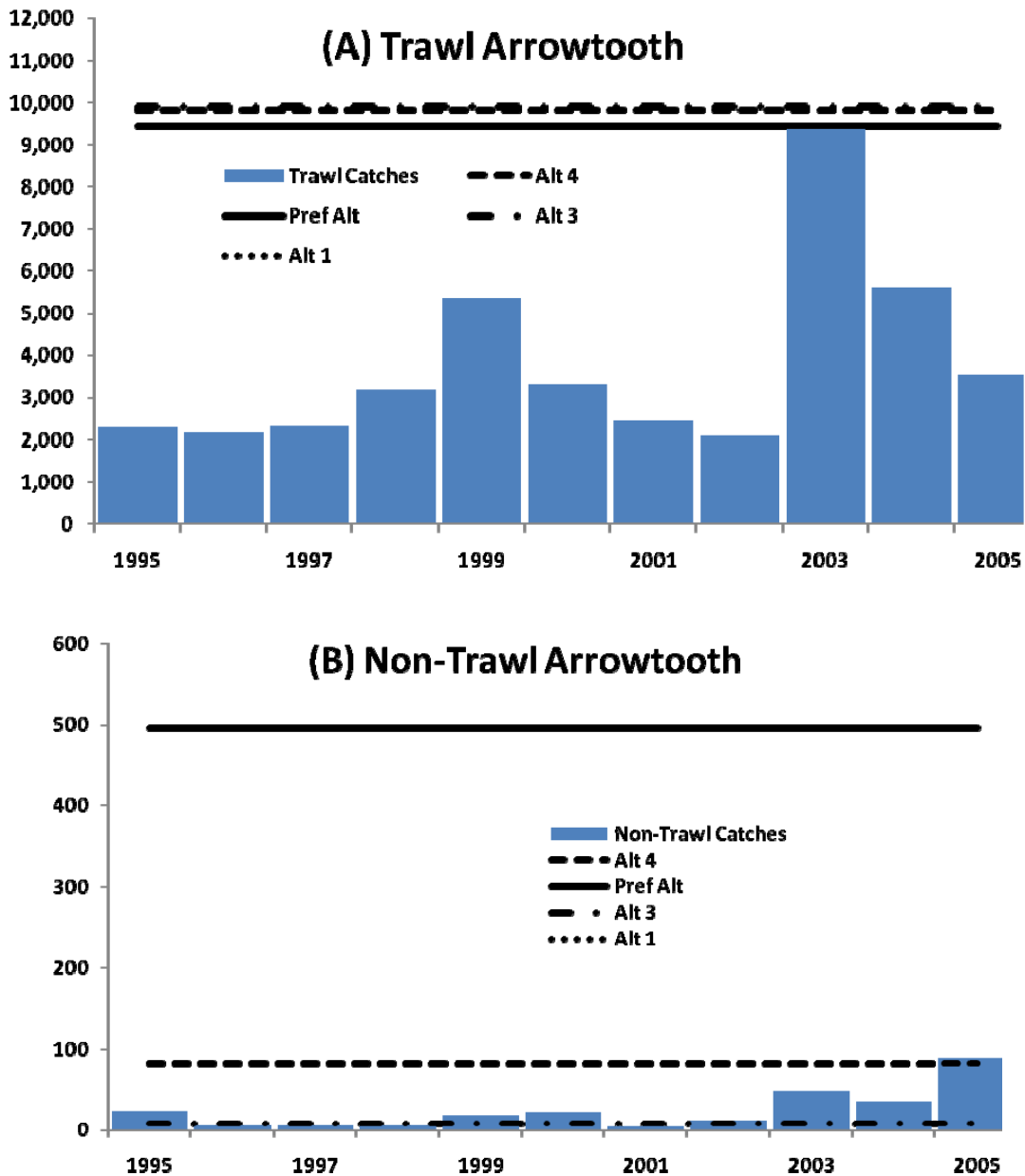


Figure 4-18. Trawl (A) and non-trawl (B) catches of arrowtooth flounder during 1995-2005 compared to the alternative allocations applied to the 2010 OY.

Starry Flounder

Figure 4-19 depicts the trawl (A) and non-trawl (B) catches of starry flounder during 1995-2005 and compares these catches to the alternative allocations applied to the 2010 OY. Starry flounder are significantly utilized in the LE and recreational sectors (Table 4-17). The preferred alternative provides a 50 percent share to the trawl sector. While the catch history of starry flounder is highly uncertain (this was the major axis of uncertainty in the 2005 assessment), the documented catches do show a relatively high catch in recreational and bottom trawl fisheries. Annual recreational catch in 1995-2005 has been as high as 380 mt and averages 41 mt (PFMC 2008). The Council was concerned that the higher trawl shares under the action alternatives may not provide enough yield for future recreational fisheries. Therefore, its recommended preferred alternative provides an equal trawl and non-trawl sector share of 50 percent of the available starry flounder harvest. It appears this allocation when applied to the 2010 OY of 1,077 mt would accommodate trawl and non-trawl sectors, notwithstanding catch uncertainty. The species is not caught in whiting trawls, and the maximum catch landed by the shoreside non-whiting trawl sector since 1995 is about 142 mt or about 16 percent of the current OY. Under trawl rationalization, the shoreside trawl catches of starry flounder will be better known, since the program will require 100 percent on-board observations of the catch. If it appears as if nearshore trawling strategies that catch starry flounder are constrained by a 50 percent allocation, the Council may want to revisit this allocation in the future.

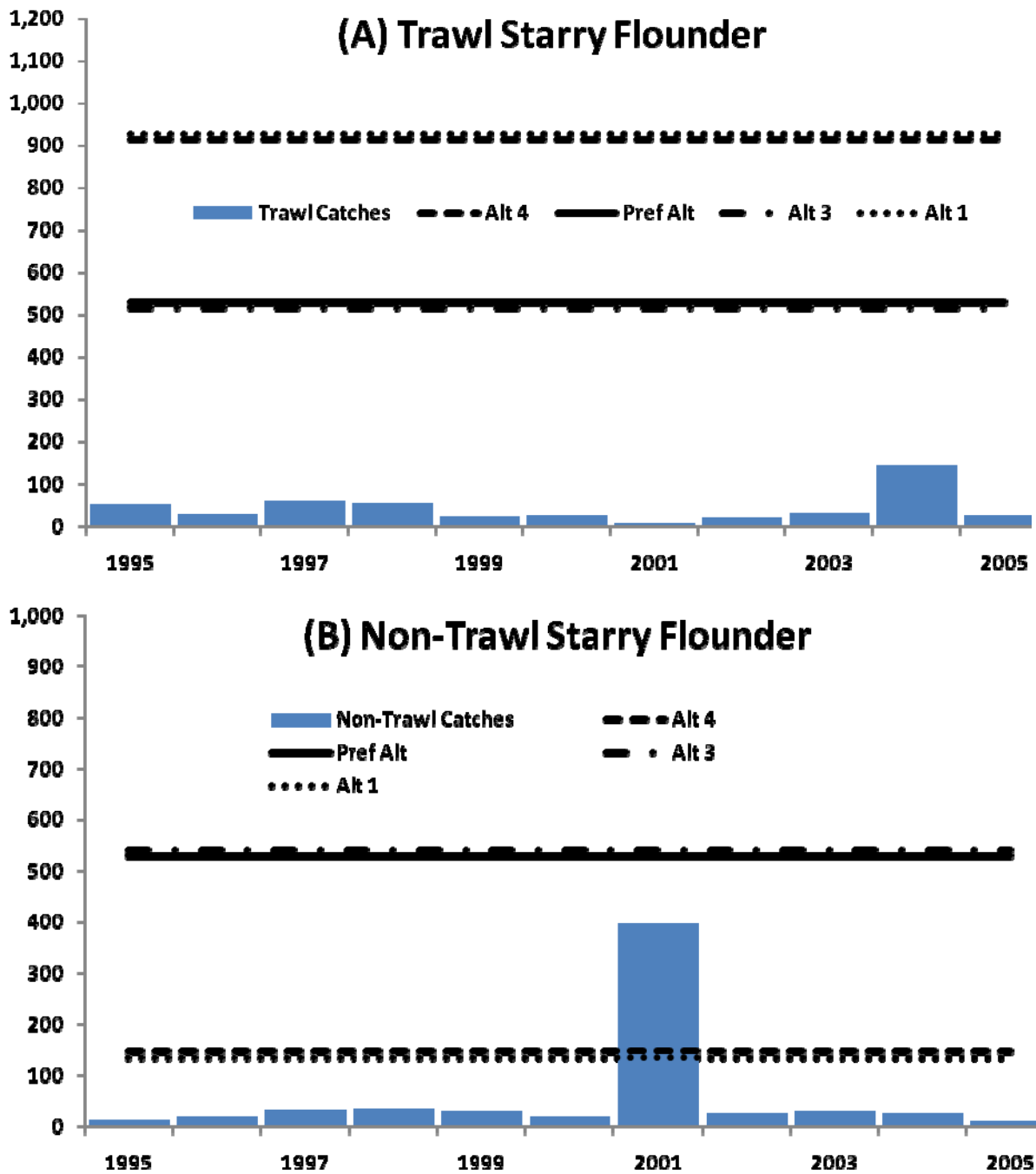


Figure 4-19. Trawl (A) and non-trawl (B) catches of starry flounder during 1995-2005 compared to the alternative allocations applied to the 2010 OY.

Other Flatfish

Figure 4-20 depicts the trawl (A) and non-trawl (B) catches of species in the Other Flatfish complex during 1995-2005 and compares these catches to the alternative allocations applied to the 2010 OY. The species in the Other Flatfish complex have been caught primarily in bottom trawls deployed by vessels in the shoreside non-whiting sector. Most of these species are trawl-dominant and are not significantly utilized by any other sector. However, Pacific sanddabs, one of the species in the Other Flatfish complex, is caught significantly in recreational fisheries, especially in waters off California. This compelled the Council to adopt a preferred allocation with a higher non-trawl share than that recommended by the GAC. The preferred alternative of 90 percent trawl and 10 percent non-trawl provides a 5 percent higher non-trawl share than the GAC-recommended alternative. The maximum combined catch of Other Flatfish species by the non-trawl sectors during 1995-2005 (almost 200 mt; Table 4-19) is less than 3 percent of the current OY of 4,884 mt for the complex. Despite the fact that the Other Flatfish complex is trawl-dominant, this preferred allocation should accommodate the needs of both the trawl and non-trawl sectors.

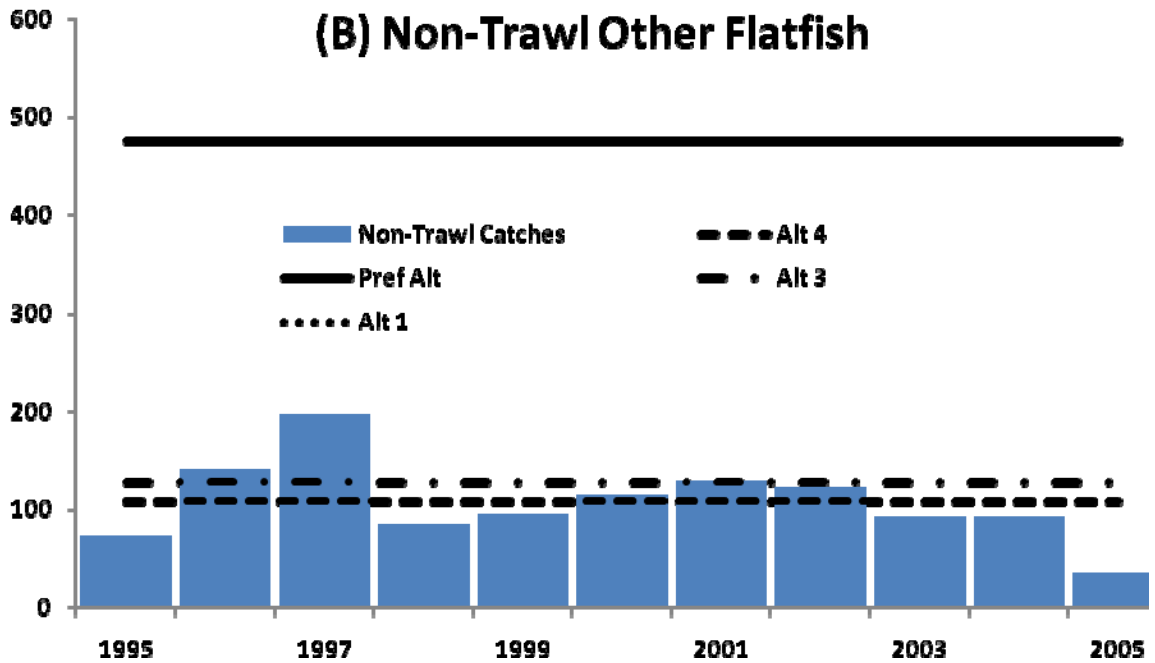
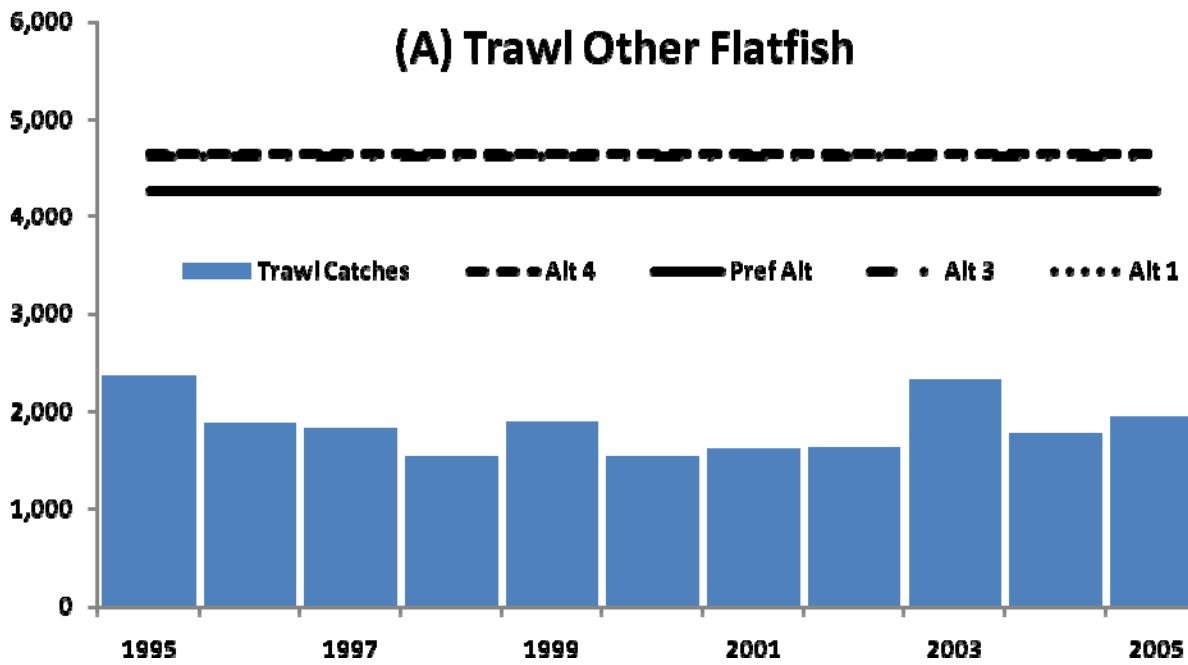


Figure 4-20. Trawl (A) and non-trawl (B) catches of species in the Other Flatfish complex during the 1995 to 2005 period compared to the alternative allocations applied to the 2010 OY.

4.4.3 *Within-Trawl Allocations*

4.4.3.1 *Decision 2: Shoreside Trawl Sector Allocations*

The alternative weighting schemes to make the initial shoreside sector allocations in order to combine the sectors and allocate QS to eligible participants are based on 1995-2005 catch percentages relative to total shoreside catches (i.e., Alternative 2) and, under Alternative 3, to the 2003-2005 sector catch percentages (Table 2-12). For most of the Amendment 21 species, the shoreside sector catch percentages differ by a negligible amount between alternatives. However, the shoreside sector catch percentages for two species, widow and yellowtail rockfish, differ significantly, depending on whether the recent time series of sector catches are used (i.e., 2003-2005; the widow rebuilding regime) or the longer time series of sector catches (i.e., 1995-2005; less influenced by the widow rebuilding regime) (Table 4-24 and Table 4-27, respectively). Within-trawl allocations of widow rockfish are analyzed and discussed in Section 4.4.3.2. Alternative 1, the No Action Alternative for shoreside trawl allocations, does not consider a formal shoreside trawl sector allocation of Amendment 21 species and would therefore not support implementation of Amendment 20 trawl rationalization. It is likely that the negligible difference in sector catch percentages for Amendment 21 species other than widow and yellowtail between Alternatives 2 and 3 would not result in a significant difference in QS allocated to any trawl permit owner. Many eligible permit holders have some catch history in both the shoreside whiting and shoreside non-whiting sectors and would gain some QS from both sector allocations. Further, the distribution of QS to all eligible permit holders attenuates any difference in the sector allocations. The Council's preferred alternative, Alternative 4, is the same as Alternative 2 for all Amendment 21 species other than widow, darkblotched, POP, and yellowtail.

Given the significant difference in shoreside whiting and shoreside non-whiting catches of yellowtail rockfish under the two states of nature (i.e., widow overfished or not, Table 4-24), a further examination of the sector catch data is warranted to explore the appropriate sector allocations for this stock. Widow rockfish is currently an overfished stock, and the widow rebuilding plan does not allow the midwater trawl targeting on widow and yellowtail rockfish that occurred prior to implementation of stringent rebuilding measures. This accounts for the significant disparity in the shoreside non-whiting trawl sector shares in recent years vs. the older year catch history.

The average catch share of yellowtail rockfish for the shoreside non-whiting trawl sector as a percent of total annual catches for both shoreside sectors combined under the "healthy" widow state of nature (i.e., average catch share during 1995-2000) was 87.7 percent (Table 4-24). This compares to an average shoreside non-whiting catch share of 49.6 percent for yellowtail rockfish during the widow rebuilding regime (i.e., 2003-2005 average catch share). This abrupt difference in sector catch shares reflects the effect of the midwater target fishery that occurred prior to widow being declared overfished and the termination of that fishery beginning in 2003. This pattern for both sectors indicates that, under widow rebuilding, the non-whiting sector needs a lesser share of yellowtail rockfish since they are not effectively targeted when the midwater widow/yellowtail fishery is prohibited. Once the widow stock is rebuilt, the rationalized non-whiting sector might be able to target yellowtail more effectively without being constrained by widow (Table 4-24). A whiting fishery unconstrained by widow rebuilding may need up to 500 mt of yellowtail to keep from being constrained by that stock. However, this scenario is far from reality given constraints imposed by canary rockfish rebuilding. The strong co-occurrence of canary and yellowtail in midwater trawl catches will likely limit access to the full shoreside trawl allocation of yellowtail even after the fishery is rationalized. However, managing the combined shoreside trawl fishery with IFQs for target species and constraining stocks such as canary rockfish should help gain better access to yellowtail rockfish than under the status quo regime.

The Council's preferred alternative for shoreside trawl sector allocations was to weight the initial sector allocations of Amendment 21 species, other than the trawl-dominant overfished species (see Section 4.4.3.2) and yellowtail rockfish, using 1995-2005 sector catch shares (Table 2-12). Using the 1995-2005 catch shares for the initial allocation to shoreside trawl sectors was the unanimous recommendation of the GAP.

The Council decided as part of its preferred alternative initially to allocate 300 mt of yellowtail rockfish to the shoreside whiting trawl sector. As explained by the maker of the motion, this allocation would split the difference between the average catches in the shoreside whiting sector during the 1995-2005 period (~362 mt) and the average catches that occurred under the widow rockfish rebuilding period (2003-2005, ~115 mt). This was close to the unanimous GAP recommendation initially to allocate 350 mt of yellowtail to the shoreside whiting sector. Either initial allocation should work effectively since, under trawl rationalization, yellowtail QS can be freely traded between vessels targeting whiting and those targeting yellowtail in the combined shoreside sector.

Table 4-24. Shoreside trawl sector catch percentages of yellowtail rockfish by year, 1995-2005.

Year	Yellowtail Rockfish Catch by Sector			
	Shoreside Whiting		Shoreside Non-whiting	
	mt	% Total shoreside sectors catch	mt	% Total shoreside sectors catch
1995	294.2	6.8%	4,006.9	93.2%
1996	482.6	10.4%	4,157.9	89.6%
1997	226.5	14.5%	1,338.7	85.5%
1998	499.7	22.8%	1,691.0	77.2%
1999	477.3	22.5%	1,641.4	77.5%
2000	190.2	6.8%	2,621.9	93.2%
2001	102.9	6.5%	1,484.1	93.5%
2002	42.5	5.8%	694.3	94.2%
2003	43.9	30.2%	101.4	69.8%
2004	127.5	41.5%	179.4	58.5%
2005	173.1	74.6%	58.9	25.4%
Average catch shares (95-05 avg)	241.9	12.9%	1,634.2	87.1%
Catch shares under healthy widow (95-00 avg)	361.8	12.3%	2,576.3	87.7%
Catch shares under widow rebuilding (03-05 avg)	114.8	50.4%	113.2	49.6%

4.4.3.2 *Decision 3: Trawl Sector Allocations of Trawl-Dominant Overfished Species*

The Council has decided to manage the LE trawl fishery as three sectors under Amendment 20 rationalization. When these rationalization measures are implemented, the two current shoreside trawl sectors (i.e., whiting and non-whiting) will be managed as one under an IFQ system, and the at-sea whiting sectors (i.e., catcher-processors and motherships) will remain closed to new entrants and managed in a system of harvesting cooperatives. To implement trawl rationalization effectively, the overall trawl allocation of Amendment 21 species has to be apportioned to the four current LE trawl sectors. Allocation options for the shoreside sectors are discussed in Section 4.4.3.1.

A direct allocation of four overfished species (i.e., darkblotched, POP, widow, and canary rockfish) has to be made to the at-sea whiting trawl sectors since these species will be managed using total catch limits under trawl rationalization. Of these four species' allocations, three are contemplated under the Amendment 21 action. These three species, darkblotched rockfish, POP, and widow rockfish, are dominant to the trawl fishery. Canary rockfish, which is significantly caught in trawl and non-trawl fisheries, will be allocated every two years in the biennial management decision-making process. The rest of the Amendment 21 species caught incidentally in the at-sea whiting fishery will have yield amounts set aside from direct sector allocations. Yield set-asides for the at-sea whiting sectors are discussed in Section 4.4.3.3.

The trawl-dominant species subject to Amendment 21 intersector allocations are darkblotched rockfish, POP, and widow rockfish. Allocated amounts of these species will be managed as sector-specific total catch limits in the at-sea fishery and by using IFQs in the shoreside fishery. Attainment of any one of these total catch limits by an at-sea whiting sector will force closure of this fishery even if the Pacific whiting quota is not yet attained.

The Council opted to consider allocations of these three trawl-dominant overfished species by dividing the trawl allocation of these species between the shoreside non-whiting trawl sector and the three whiting sectors as a first step. Further, the Council decided to condition the initial allocation of widow rockfish between trawl sectors on the rebuilding status of the stock when the Amendment 21 allocation is implemented. One allocation scheme was recommended if the stock was still in an overfished condition when trawl rationalization and Amendment 21 allocations are implemented and another allocation scheme if the stock is rebuilt. A further division of each of these three species among the three whiting sectors is recommended under the preferred alternative according to the pro rata allocation of Pacific whiting: 42 percent to the shoreside whiting sector, 34 percent to the catcher-processor sector, and 24 percent to the mothership sector. Whiting industry representatives advising the Council were in unanimous support of using the pro rata allocation of whiting to apportion the whiting sector allocations of these three species. Once the initial allocations of these three trawl-dominant overfished species are made to the four trawl sectors, and the shoreside sectors are combined under trawl rationalization, shoreside QS can be freely traded in the shoreside sector up to the accumulation limits specified under Amendment 20.

The within-trawl allocations of darkblotched rockfish, POP, and widow rockfish under the preferred alternative may have consequences for some participants in the at-sea whiting sectors. These species will be managed on a sector-specific basis in the at-sea fishery as total catch limits that could impair the ability of these sectors to achieve their Pacific whiting quotas. However, there are mechanisms such as real-time reporting of bycatch and quick redistribution of the fleets (these fleets are mobile and process their catch at sea) to avoid an early closure of their fisheries that could prevent participants from attaining one of these total catch limits. The most at-risk participants in the at-sea whiting fishery are likely those catcher vessels in the mothership sector that do not form a harvesting cooperative with a mothership and are therefore subject to the open access portion of the mothership sector. Open access

catcher vessels in the mothership sector will pool their QS of these three species and participate in a derby-style fishery. Once the pooled open access QS of Pacific whiting, darkblotched rockfish, POP, widow rockfish, or canary rockfish is attained inseason, the open access portion of the fishery is closed. This provides a strong incentive for catcher vessels in the mothership sector to form a partnership with a mothership under trawl rationalization. This arrangement was recommended by representatives of these sectors when deciding the elements of the Amendment 20 trawl rationalization program.

Completely closing the at-sea whiting sectors to intersector quota sharing could still strand unused quota for these species that could be beneficially used elsewhere. Under rebuilding, this may be less of an issue since minimizing the bycatch of these species is the overarching conservation objective. However, once these species are rebuilt, one or more trailing amendments either to reconsider within-trawl allocations or to make some allowance for intersector trading of quota for these species might be advisable to mitigate the stranding of unused quota.

Trawl Sector Allocations of Darkblotched Rockfish

The trawl sector catches of darkblotched rockfish during the 1995-2007 period are depicted in Table 4-25. Unlike widow and yellowtail rockfish sector catch shares, there is very little difference in sector catch percentages under the darkblotched rebuilding regime (i.e., 2001-2007) than in the period prior to declaring the stock overfished (i.e., 1995-2000). Therefore, unlike the preferred allocation scheme for widow rockfish (see below), a within-trawl allocation of darkblotched rockfish conditioned on whether or not the stock is rebuilt was not considered.

There is also very little difference in the sector catch shares of darkblotched in the alternatives analyzed in this EIS. Alternative 1, the No Action Alternative, does not meet the purpose and need of this action since there is currently no formal allocation of darkblotched. While there are bycatch limits by sector for darkblotched rockfish specified in regulation under the No Action Alternative, formal allocation of trawl-dominant overfished species would further support implementation of the trawl rationalization program. Alternative 2, which is informed by the average trawl sector catch shares during 1995-2005, provides a slightly higher catch share to the shoreside non-whiting sector than to the three whiting sectors relative to Alternative 3, which is informed by average sector catch shares during 2003-2005. The 2 percent difference in the whiting vs. non-whiting sectors' catch shares is negligible and translates into a slight difference in darkblotched QS allocated to eligible IFQ participants. The preferred alternative (Alternative 4) provides the lowest share to the shoreside non-whiting sector with a maximum of 91 percent of the total trawl quota allocated to that sector (compared to 96.4 and 94.2 percent under Alternatives 2 and 3, respectively). However, under trawl rationalization, the combined QS to the shoreside whiting and shoreside non-whiting sectors will be available to eligible IFQ participants up to the specified accumulation limits. Therefore, in the long term, IFQ trading should meet the needs of the combined shoreside sector. The at-sea whiting sectors have a higher potential of being constrained by darkblotched allocations given that each at-sea sector will be closed to new entrants, the sector allocations of darkblotched could limit each sector's opportunity to catch whiting, and there is no mechanism under trawl rationalization to trade QS between the at-sea and shoreside sectors. This was a compelling reason for a higher darkblotched allocation to the at-sea sectors under the preferred alternative.

The incidental catches of darkblotched rockfish by the three whiting trawl sectors since 1995 are also shown in Figure 4-21. The Council decided to allocate 9 percent or 25 mt, whichever is greater, of the total trawl allocation of darkblotched rockfish to the three whiting sectors. The distribution of the whiting trawl allocation of darkblotched to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation. This allocation scheme appears to accommodate the needs of whiting trawl sectors as demonstrated in the following scenarios.

Table 4-25. Trawl sector catch percentages of darkblotched rockfish by year, 1995-2007.

Year	Shoreside Non-whiting Trawl		Shoreside Whiting Trawl		Catcher-Processors		Motherships	
	mt	% Non-treaty trawl sectors	mt	% Non-treaty trawl sectors	mt	% Non-treaty trawl sectors	mt	% Non-treaty trawl sectors
1995	709.9	93.1%	0.5	0.1%	48.9	6.4%	3.3	0.4%
1996	721.6	98.3%	5.9	0.8%	6.2	0.8%	0.7	0.1%
1997	810.4	99.6%	0.5	0.1%	1.8	0.2%	0.9	0.1%
1998	901.8	97.3%	5.1	0.5%	6.9	0.7%	12.9	1.4%
1999	345.7	96.7%	0.6	0.2%	6.9	1.9%	4.2	1.2%
2000	239.0	95.2%	3.7	1.5%	3.8	1.5%	4.7	1.9%
2001	152.5	90.1%	4.7	2.8%	11.5	6.8%	0.6	0.3%
2002	107.0	97.2%	0.0	0.0%	2.2	2.0%	0.9	0.8%
2003	167.2	97.3%	0.3	0.2%	4.2	2.4%	0.1	0.1%
2004	224.6	96.0%	1.9	0.8%	4.4	1.9%	3.0	1.3%
2005	100.8	85.9%	5.5	4.7%	5.9	5.1%	5.1	4.3%
2006	178.5	93.1%	2.1	1.1%	6.8	3.6%	4.3	2.2%
2007	241.7	94.9%	0.9	0.4%	5.3	2.1%	6.7	2.6%
Average catch shares (95-07 avg)	377.0	96.2%	2.4	0.6%	8.8	2.3%	3.6	0.9%
Catch shares under healthy darkblotched (95-00 avg)	621.4	96.9%	2.7	0.4%	12.4	1.9%	4.4	0.7%
Catch shares under darkblotched rebuilding (01-07 avg)	167.5	93.9%	2.2	1.2%	5.8	3.2%	3.0	1.7%

If these allocations were implemented in 2010, then 95 percent of the available yield of darkblotched or ~266 mt would be allocated to trawl sectors (Table 4-18), and 25 mt of that amount would then be allocated to the whiting trawl sectors (9 percent of 266 mt = 22.7 mt). The shoreside whiting, catcher-processor, and mothership sectors would then be allocated 10.5 mt, 8.5 mt, and 6.0 mt of darkblotched rockfish, respectively, which applies the pro rata sector distribution of the Pacific whiting quota. Permit holders in the shoreside whiting sector would receive an initial allocation of their share of the 10.5 mt darkblotched allocation to their sector based on the Amendment 20 allocation formula. Their needs for darkblotched QS to access target species, including Pacific whiting, could then theoretically be met by transferring QS or QP from other permit holders in the combined shoreside trawl sector (i.e., IFQ management). The at-sea sectors would not be allowed quota transfers but would manage their respective allocations according to the sector-specific rules for the rationalized at-sea trawl sectors under Amendment 20. From Figure 4-21 it can be seen that the catcher-processor sector had an incidental catch of darkblotched greater than 8.5 mt in only one year during the darkblotched rebuilding period (2001) and the mothership sector had an incidental darkblotched catch greater than 6.0 mt in only one year during the darkblotched rebuilding period (2007). Vessels in these sectors are very mobile when fishing whiting and could move to other areas and depths to avoid attaining their respective sector total catch limits. The greatest risk of early attainment of a total catch limit would be for vessels in the open access portion of the mothership sector (i.e., those vessels not forming an annual cooperative agreement with a single mothership) since their combined QS of the sector total catch limit would be fished in a derby-style fishery. Once that smaller limit is attained, those vessels would be done fishing whiting for the year.

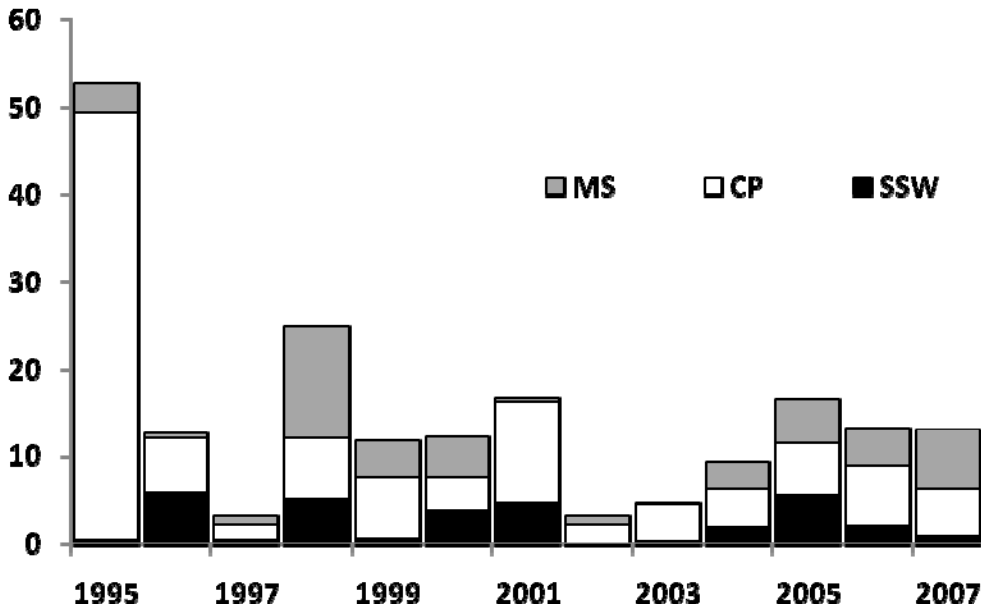


Figure 4-21. Incidental catches (mt) of darkblotched rockfish by west coast whiting trawl sectors, 1995-2008.

Once the darkblotched rockfish stock is rebuilt, the 9 percent combined whiting trawl sector allocation will undoubtedly apply to determine the individual sector shares. The 2009 darkblotched assessment estimates an MSY of 575 mt (Wallace and Hamel 2009). Notwithstanding scientific uncertainty buffers and other potential reductions of yield, there could be about 560 mt of darkblotched available for directed fisheries, of which 95 percent or 532 mt would be available for the trawl sectors. The 9 percent allocation to whiting trawl sectors would be about 48 mt, of which about 16 mt and 12 mt would be allocated to catcher-processors and motherships, respectively. These sector amounts were exceeded in the catcher-processor sector in 1995 and in the mothership sector in 1998 (Figure 4-21). Therefore, the preferred within-trawl allocation formula appears to accommodate the needs of these sectors in most years. If darkblotched bycatch for any of these sectors becomes a problem, the fleets can redistribute their efforts to avoid early closure of their fishery.

Trawl Sector Allocations of Pacific Ocean Perch

The trawl sector catches of POP during the 1995-2007 period are depicted in Table 4-26. Unlike widow and yellowtail rockfish sector catch shares, there is very little difference in sector catch percentages under the POP rebuilding regime (i.e., 2000-2007) from the period prior to declaring the stock overfished (i.e., 1995-1999). Therefore, unlike the preferred allocation scheme for widow rockfish (see below), a within-trawl allocation of POP conditioned on whether or not the stock is rebuilt was not considered.

As in the case for darkblotched rockfish, the No Action Alternative (Alternative 1) fails to meet the purpose and need of the Amendment 21 action since there is currently no formal allocation of POP. Allocation of trawl-dominant overfished species would support implementation of the trawl rationalization program. Also, as in the case for darkblotched rockfish, the POP sector catch shares differ by a little more than 2 percent between Alternatives 2 and 3. However, unlike the darkblotched case, there is a much lower allocation of POP to the shoreside non-whiting sector under the preferred

alternative (Alternative 4). A maximum share of 83 percent of the total trawl allocation of POP is allocated to the shoreside non-whiting sector under the preferred alternative, which compares to 95.0 and 97.4 percent under Alternatives 2 and 3, respectively. The higher shares of POP to the whiting sectors under the preferred alternative are needed for the same reasons described for the preferred alternative for darkblotched. POP could be a constraining species for the at-sea sectors, and there is no mechanism to reapportion the amount of POP available to the at-sea whiting sectors in season if needed to prosecute the whiting fishery.

The Council decided to allocate 17 percent or 30 mt, whichever is greater, of the total trawl allocation of POP to the whiting fisheries (at-sea and shoreside combined). The distribution of the whiting trawl allocation of POP to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation. This allocation scheme appears to accommodate the needs of whiting trawl sectors as demonstrated in the following scenarios.

If these allocations were implemented in 2010, then 95 percent of the available yield of POP or ~181 mt would be allocated to trawl sectors (Table 4-19), and 30.8 mt of that amount would then be allocated to the whiting trawl sectors (= 17 percent of 181 mt). The shoreside whiting, catcher-processor, and mothership sectors would then be allocated 12.9 mt, 10.5 mt, and 7.4 mt of POP, respectively, which applies the pro rata sector distribution of the Pacific whiting quota. Permit holders in the shoreside whiting sector would receive an initial allocation of their share of the 12.9 mt POP allocation to their sector based on the Amendment 20 allocation formula. Their needs for POP QS to access target species, including Pacific whiting, could then theoretically be met by transferring QS or QP from other permit holders in the combined shoreside trawl sector (i.e., IFQ management). The at-sea sectors would not be allowed quota transfers, but would manage their respective allocations according to the sector-specific rules for the rationalized at-sea trawl sectors under Amendment 20. Figure 4-22, indicates that the catcher-processor sector had an incidental catch of POP greater than 10.5 mt during two of the years in the modern POP rebuilding period (2001 and 2008), and the mothership sector never had an incidental POP catch greater than 7.4 mt during the POP rebuilding period. Vessels in these sectors are very mobile when fishing whiting and could move to other areas and depths to avoid attaining their respective sector total catch limits. The greatest risk of early attainment of a total catch limit would be for vessels in the open access portion of the mothership sector (i.e., those vessels not forming an annual cooperative agreement with a single mothership), since their combined QS of the sector total catch limit would be fished in a derby-style fishery. Once that smaller limit is attained, those vessels would be done fishing whiting for the year.

Table 4-26. Trawl sector catch percentages of Pacific ocean perch by year, 1995-2007.

Year	Shoreside Non-whiting Trawl		Shoreside Whiting Trawl		At-sea Catcher-Processors		At-sea Motherships	
	mt	% Non-treaty trawl sectors	mt	% Non-treaty trawl sectors	mt	% Non-treaty trawl sectors	mt	% Non-treaty trawl sectors
1995	824.7	92.0%	29.9	3.3%	13.4	1.5%	28.1	3.1%
1996	819.7	95.5%	32.8	3.8%	3.9	0.5%	2.1	0.2%
1997	663.0	98.5%	6.4	0.9%	2.0	0.3%	1.6	0.2%
1998	610.0	93.1%	22.3	3.4%	14.8	2.3%	8.3	1.3%
1999	520.2	97.1%	1.9	0.3%	9.4	1.8%	4.1	0.8%
2000	135.4	93.9%	0.3	0.2%	6.5	4.5%	2.1	1.4%
2001	187.3	90.4%	0.1	0.0%	19.7	9.5%	0.1	0.0%
2002	147.3	97.5%	0.2	0.1%	1.4	1.0%	2.2	1.4%
2003	143.8	96.4%	0.3	0.2%	5.0	3.4%	0.1	0.1%
2004	154.2	98.7%	1.0	0.6%	1.0	0.6%	0.1	0.1%
2005	69.9	97.0%	0.5	0.7%	0.8	1.1%	0.9	1.2%
2006	71.7	96.2%	0.1	0.1%	0.8	1.1%	1.9	2.6%
2007	125.8	82.4%	23.3	15.3%	2.9	1.9%	0.7	0.5%
Average catch shares (95-07 avg)	344.1	94.7%	9.2	2.5%	6.3	1.7%	4.0	1.1%
Catch shares under healthier POP (95-99 avg)	687.5	95.0%	18.6	2.6%	8.7	1.2%	8.9	1.2%
Catch shares under POP rebuilding (00-07 avg)	129.4	88.2%	3.2	2.2%	4.8	3.3%	1.0	0.7%

Once the POP stock is rebuilt, the 17 percent combined whiting trawl sector allocation will undoubtedly apply to determine the individual sector shares. The 2009 POP assessment estimates an MSY of 1,124 mt (Hamel 2009). Notwithstanding scientific uncertainty buffers and other potential reductions of yield, there could be about 1,110 mt of POP available for directed fisheries, of which 95 percent, or 1,055 mt, would be available for the trawl sectors. The 17 percent allocation to whiting trawl sectors would be about 179 mt, of which about 60.9 mt and 43 mt would be allocated to catcher-processors and motherships, respectively. These sector amounts have never been exceeded in either sector (Figure 4-22). Therefore, the preferred within-trawl allocation formula appears to accommodate the needs of these sectors. If POP bycatch for any of these sectors becomes a problem, the fleets can redistribute their efforts to avoid early closure of their fishery.

A total catch limit has never before been applied to the Pacific whiting sector. However, given that POP co-occur with darkblotched north of 40°10' N latitude, any efforts by whiting vessels to reduce darkblotched bycatch should also reduce POP bycatch.

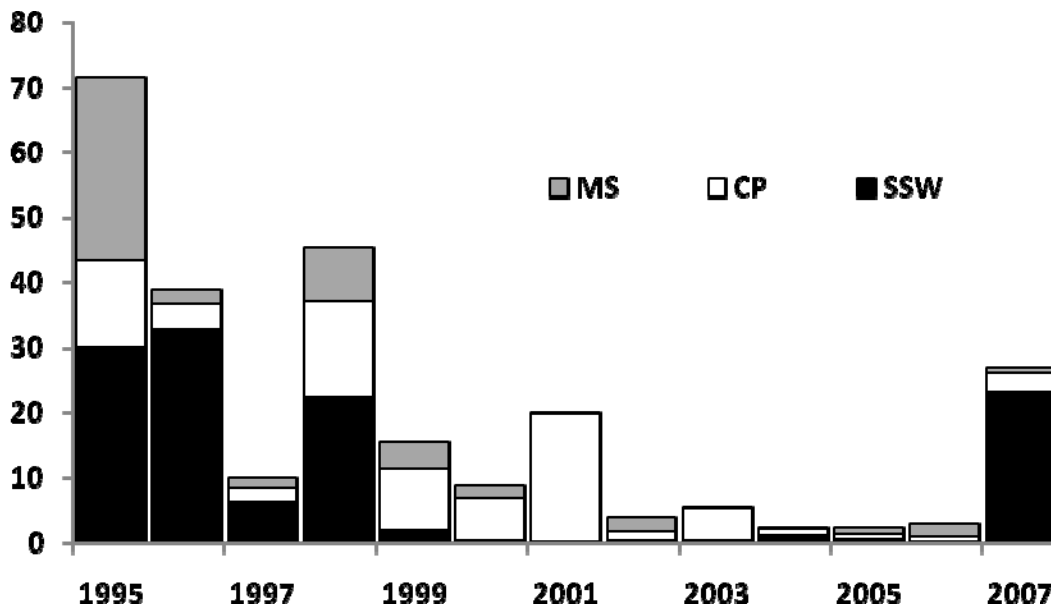


Figure 4-22. Incidental catches (mt) of Pacific ocean perch by west coast whiting trawl sectors, 1995-2008.

Trawl Sector Allocations of Widow Rockfish

The trawl sector catches of widow rockfish during the 1995-2007 period are depicted in Table 4-27. There is a significant disparity in trawl sector catches during the widow rockfish rebuilding regime (i.e., 2003-2007) than occurred during the period prior to the stock being declared overfished (i.e., 1995-2000). This is due to the elimination of a midwater trawl fishery targeting widow and yellowtail rockfish, which was phased out during 2001-02 before being eliminated in 2003. The widow/yellowtail target fishery was prosecuted by the shoreside non-whiting sector, which caught almost 91 percent of the total limited trawl catch of widow in 1995-2000 before the stock was declared overfished. During the widow rebuilding period after elimination of the target fishery (i.e., 2003-2007), the shoreside non-whiting trawl sector took only 6 percent of the total LE trawl catch of widow (Table 4-27).

Table 4-27. Trawl sector catch percentages of widow rockfish by year, 1995-2007.

Year	Shoreside Non-whiting Trawl		Shoreside Whiting Trawl		At-Sea Catcher-Processors		At Sea Motherships	
	mt	% Non-treaty trawl sectors	mt	% Non-treaty trawl sectors	mt	% Non-treaty trawl sectors	mt	% Non-treaty trawl sectors
1995	6,165.3	93.6%	236.1	3.6%	87.0	1.3%	95.3	0.0%
1996	5,403.2	87.0%	571.5	9.2%	119.9	1.9%	117.3	0.0%
1997	6,213.3	94.6%	163.3	2.5%	72.6	1.1%	122.0	0.0%
1998	3,346.7	83.9%	349.6	8.8%	120.9	3.0%	173.7	0.0%
1999	3,691.1	91.2%	194.4	4.8%	104.1	2.6%	58.1	0.0%
2000	3,718.5	92.7%	83.3	2.1%	69.8	1.7%	141.2	0.0%
2001	1,729.6	89.1%	44.3	2.3%	139.7	7.2%	27.7	0.0%
2002	254.9	64.5%	5.1	1.3%	114.8	29.0%	20.4	0.1%
2003	4.1	14.3%	12.5	43.4%	11.6	40.0%	0.7	1.4%
2004	13.8	20.4%	34.3	50.6%	8.2	12.1%	11.4	0.2%
2005	3.0	1.9%	76.8	48.5%	43.1	27.2%	35.5	0.2%
2006	6.5	3.3%	47.9	24.6%	68.0	34.9%	72.7	0.2%
2007	15.7	6.4%	81.9	33.6%	73.1	30.0%	73.0	0.1%
Average catch shares (95-07 avg)	2,351.2	88.7%	146.2	5.5%	79.4	3.0%	73.0	2.8%
Catch shares under healthy widow (95-00 avg)	4,756.4	90.8%	266.3	5.1%	95.7	1.8%	117.9	2.3%
Catch shares under widow rebuilding (03-07 avg)	8.6	6.2%	50.7	36.5%	40.8	29.4%	38.7	27.9%

This difference in the trawl sector catch percentages during the widow rebuilding regime is reflected in the alternative catch shares. Alternative 2, which is informed by the average annual sector catch shares during 1995-2005, would apportion 89.8 percent of the trawl allocation to the shoreside non-whiting fleet. This alternative is heavily influenced by the catches made during the target widow/yellowtail midwater trawl fishery. This is in stark contrast to Alternative 3, which is informed by 2003-2005 catches when widow was under rebuilding, and there was no target midwater fishery. Alternative 3 catch share would apportion only 8.2 percent of the trawl allocation to the shoreside non-whiting fishery. Preferred Alternative 4 seeks a balance between these two regimes. Under that alternative, if the stock were still overfished when the initial trawl sector allocations are made, 48 percent would be apportioned to the shoreside non-whiting fishery. If the stock were rebuilt, then 90 percent would be apportioned to the non-whiting fishery. Clearly, the preferred alternative meets the needs of the fleets by recognizing that the whiting sectors would have a greater need in a widow rebuilding regime since the stock can constrain access to whiting as it is a species with a total catch limit in those fisheries. Apportioning 10 percent of the available trawl allocation to the whiting fleets if the stock is healthy should also meet the need of the whiting fleets, since the OY is likely to be much larger (MSY is predicted to be about 3,000 mt). The No Action Alternative does not meet the purpose and need of this

action, since there is currently no formal allocation of widow rockfish. While there are bycatch limits by sector for widow rockfish specified in regulation under the No Action Alternative, formal allocation of trawl-dominant overfished species would support implementation of the trawl rationalization program. Further explanation of the rationale for the preferred alternative follows.

Widow rockfish yields under rebuilding also directly constrain the non-treaty whiting trawl fisheries. The widow rebuilding plan calls for setting aside enough yield for the non-whiting fisheries so as not to constrain their fishing opportunities in areas they can currently fish. Much of the remaining widow yield under rebuilding OYs is then specified as a bycatch cap that limits the bycatch by the non-treaty whiting sectors. As evidenced in 2007, whiting management and fleet distributions are strongly influenced by bycatch caps for widow, as well as canary and darkblotched rockfish. Therefore, the challenge under widow rebuilding is allocating the small available yields so as not to constrain the non-whiting fisheries and to minimize bycatch in the non-treaty whiting fisheries.

Given the disparity in trawl sector catch percentages, where the whiting sectors took most of the trawl catch of widow under rebuilding, and the shoreside non-whiting sector took most of the trawl catch of widow in the directed midwater fishery when the stock was healthy, the Council decided an allocation scheme conditioned on the status of the stock when Amendment 21 is implemented. The expectation when the Council decided the preferred alternatives for Amendment 21 in April 2009 from the updated widow rockfish rebuilding analysis in 2007 (He et al. 2008) was that the stock would be rebuilt in 2009. However, the new assessment done in 2009 (He et al. 2009) indicates that the stock fell just short of the rebuilding target based on less recruitment than expected. However, the conditioned allocation scheme still makes sense since the stock could be rebuilt by the time Amendment 21 is implemented.

The Council decided to allocate an initial 52 percent of the trawl allocation of widow rockfish to the whiting sectors if the stock is under rebuilding, or 10 percent of the trawl allocation or 500 mt of the trawl allocation to the whiting sectors, whichever is greater, if the stock is rebuilt. If the stock is overfished when the initial allocation is implemented, the latter allocation scheme will automatically kick in when it is declared rebuilt. The distribution of the whiting trawl allocation of widow to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation. This allocation scheme appears to accommodate the needs of whiting trawl sectors as demonstrated in the following scenarios.

If these allocations were implemented in 2010, then 91 percent of the available yield of widow or ~420 mt would be allocated to trawl sectors (Table 4-19), and 218.3 mt of that amount would then be allocated to the whiting trawl sectors (= 52 percent of 420 mt). The shoreside whiting, catcher-processor, and mothership sectors would then be allocated 91.7 mt, 74.2 mt, and 52.4 mt of widow, respectively, which applies the pro rata sector distribution of the Pacific whiting quota. Permit holders in the shoreside whiting sector would receive an initial allocation of their share of the 91.7 mt widow allocation to their sector based on the Amendment 20 allocation formula. Their needs for widow QS to access target species including Pacific whiting could theoretically then be met by transferring QS or QP from other permit holders in the combined shoreside trawl sector (i.e., IFQ management). The at-sea sectors would not be allowed quota transfers, but would manage their respective allocations according to the sector-specific rules for the rationalized at-sea trawl sectors under Amendment 20.

Figure 4-23 indicates that the catcher-processor sector had an incidental catch of widow greater than 74.2 mt in only one year during the widow rebuilding period (2002), and the mothership sector had an incidental widow catch greater than 52.4 mt in each of the last three years (2006-2008). Vessels in these sectors are very mobile when fishing whiting and could move to other areas and depths to avoid attaining their respective sector total catch limits. The greatest risk of early attainment of a total catch limit would be for vessels in the open access portion of the mothership sector (i.e., those vessels not

forming an annual cooperative agreement with a single mothership), since their combined QS of the sector total catch limit would be fished in a derby-style fishery. Once that smaller limit is attained, those vessels would be done fishing whiting for the year.

Once the widow stock is rebuilt, the 10 percent or 500 mt (whichever is greater) allocation to whiting sectors is automatically implemented. The 2009 widow assessment estimates an MSY of about 2,050 mt (He et al. 2009). Notwithstanding scientific uncertainty buffers and other potential reductions of yield, there could be about 2,000 mt of widow available for directed fisheries, of which 91 percent or 1,820 mt would be available for the trawl sectors. The allocation to whiting trawl sectors would be 500 mt, of which 170.0 mt and 120.0 mt would be allocated to catcher-processors and motherships, respectively. The catcher-processor sector has never exceeded 170 mt, while the mothership sector has exceeded 120 mt in three years (1997, 1998, and 2000) of the fourteen years in the time series and come close to this allocation in 1996 (Figure 4-23). Therefore, the preferred within-trawl allocation formula appears to accommodate the needs of the catcher-processor sector, but may prove a challenge for the mothership sector. If widow bycatch for any of these sectors becomes a problem, the fleets can redistribute their efforts to avoid early closure of their fishery. However, widow rockfish have a wide depth distribution and co-occur with Pacific whiting. Fleets can move north of the main widow distribution to waters off northern Washington if widow bycatch becomes a problem. There could be years when widow rockfish are hard to avoid, and Pacific whiting are less abundant off northern Washington. This situation could provide a difficult challenge for the at-sea sectors.

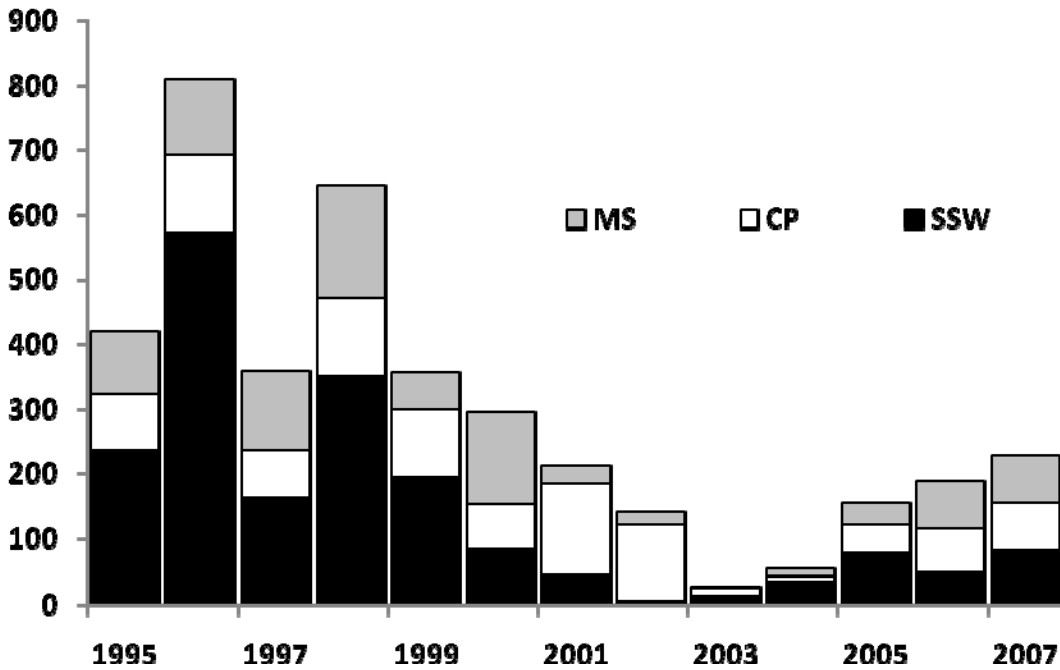


Figure 4-23. Incidental catches (mt) of widow rockfish by west coast whiting trawl sectors, 1995-2008.

4.4.3.3 *Decision 4: At-Sea Whiting Trawl Sector Set-asides*

Within-trawl-sector set-asides only apply to the at-sea whiting fishery. Therefore, this section examines information with the intention of specifying an appropriate set-aside amount¹⁰ for the at-sea fishery. The allocation process first apportions available yield between trawl and non-trawl sectors and then allocates yield among the trawl sectors. This means that the set-asides established for the at-sea fishery would come out of the trawl sector allocation.

Yield set-asides for the at-sea whiting trawl fishery are intended to accommodate the projected bycatch in these fisheries. Yield set-asides are needed for those species incidentally caught in at-sea whiting fisheries that are not managed with a bycatch limit. No management actions are associated with yield set-asides, so there is no mechanism to force the at-sea sectors to stay within the set-aside amount. Therefore, yield set-asides have to be large enough to reduce the risk of exceeding an ACL. Conversely, if set-aside amounts are too large, other fisheries that target these species will be disadvantaged since less yield would be available.

Considerably more species that are incidentally caught in the at-sea whiting fisheries are considered for yield set-asides under Amendment 21. Under the No Action Alternative, yield set-asides have only been considered in some years for widow and yellowtail rockfish. However, in recent years, there has been a widow bycatch limit specified for whiting fisheries. A bycatch limit cannot be considered a set-aside because there are automatic actions that occur if a bycatch limit is attained inseason (i.e., fishery closure), while a set-aside is merely an accounting of the expected bycatch with no automatic action associated with early attainment of the set-aside. Under the No Action Alternative (Alternative 1), the unused yield of any bycatch limits can be transferred inseason to other sectors if the at-sea sectors attain their whiting quotas prior to attaining a bycatch limit. Under the Amendment 21 action alternatives (Alternatives 2 and 3), there is no automatic action associated with early attainment of a set-aside amount. There is also no rollover mechanism of unused set-aside amounts to other sectors upon attainment of whiting quotas, which differs from the current No Action alternative.

It is anticipated that set-aside amounts will be decided during the biennial management decision-making process in the future. The Council did decide set-asides for the at-sea whiting trawl sectors in their Amendment 21 process, but they are free to change those amounts if new information comes forward in any biennial decision-making process prior to implementing trawl rationalization, or in any biennial process thereafter.

Lingcod Set-aside

The incidental catch amounts of lingcod in the at-sea sectors has historically been less than 10 mt (Figure 4-24). However, it appears that the incidental catch amount of lingcod has been increasing since the late 1990s, from less than 1 mt annually combined, to around 5 mt in 2007. This is consistent with the rebuilding of the lingcod stock. While this increasing incidental catch trajectory is certain to plateau at some time, it is not clear when that will occur, or whether it has already occurred. Therefore, the Council may wish to acknowledge a set-aside amount that is higher than some of the relatively high recent figures of approximately 5 mt.

¹⁰ A set-aside amount is assessed rather than a set-aside percentage. A set-aside percentage would assume that a sector's incidental catch varies with an OY that is specified in regulation. This presumption would be false.

Species | Lingcod - coastwide

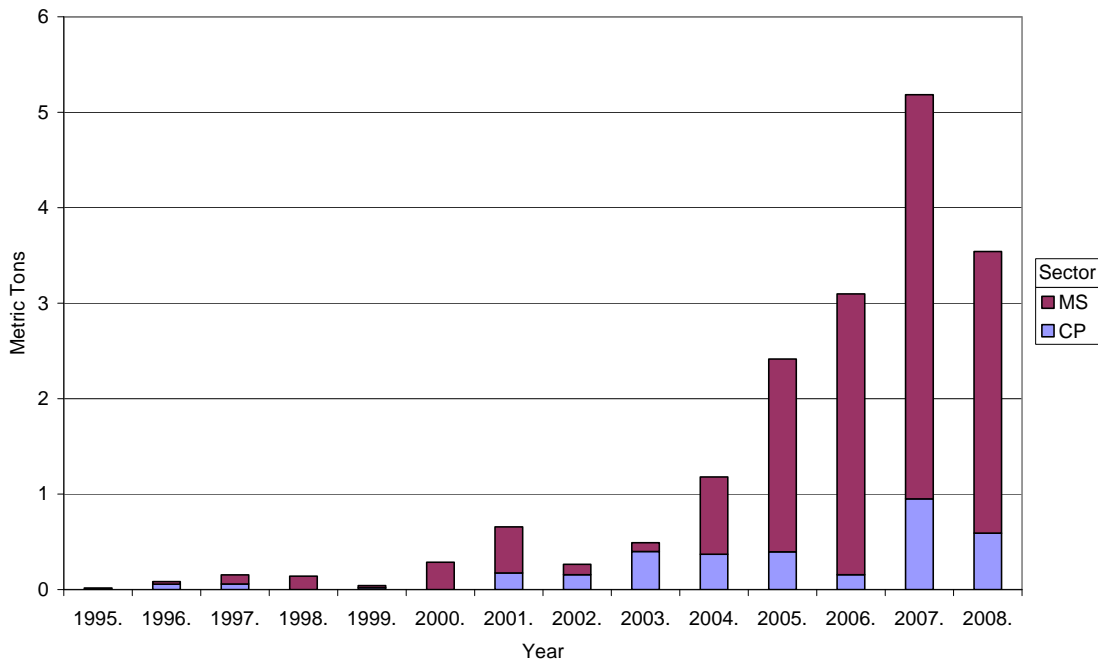


Figure 4-24. Annual lingcod bycatch (mt) by the at-sea whiting sectors, 1995-2008.

4.4.3.3.1 Pacific Cod Set-aside

The at-sea sector catch of Pacific cod has varied from less than 0.1 mt to just over 0.3 mt (Figure 4-25). The set-aside amount for Pacific cod in the at-sea fishery could be specified at a low level.

Species | Pacific Cod

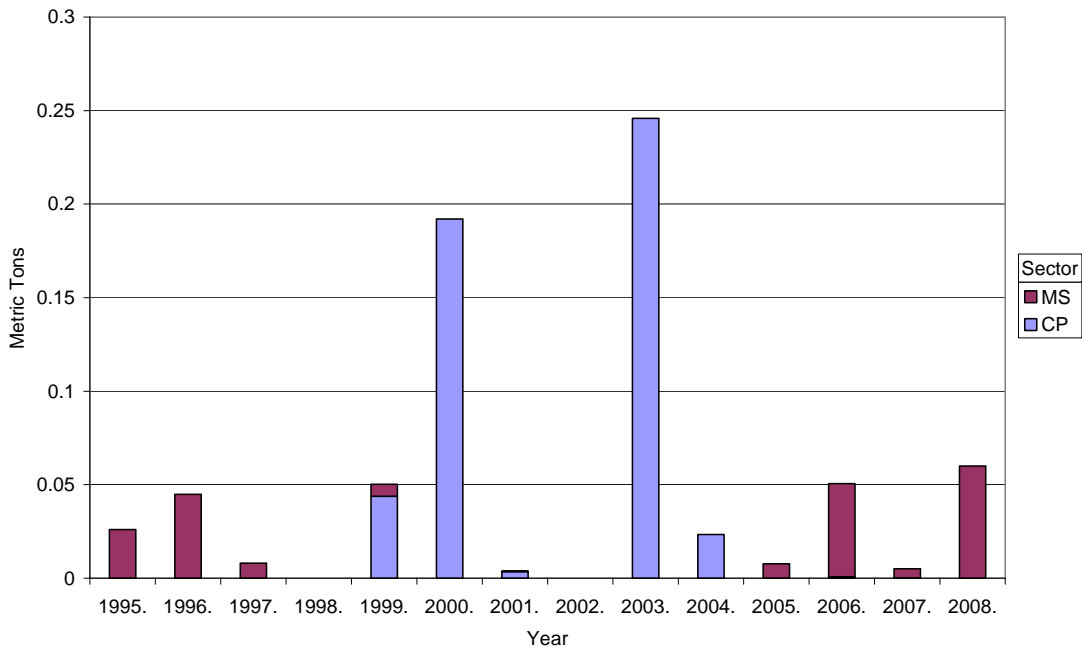


Figure 4-25. Annual Pacific cod bycatch (mt) by the at-sea whiting sectors, 1995-2008.

Sablefish Set-aside

In recent years, the largest amount of sablefish taken incidentally in at-sea activity has been just over 45 mt (Figure 4-26). This amount is substantially larger than some of the other relatively large figures, which hover in the 20 to 30 mt range. If the Council wishes to be precautionary, a set-aside of approximately 45 mt may be appropriate.

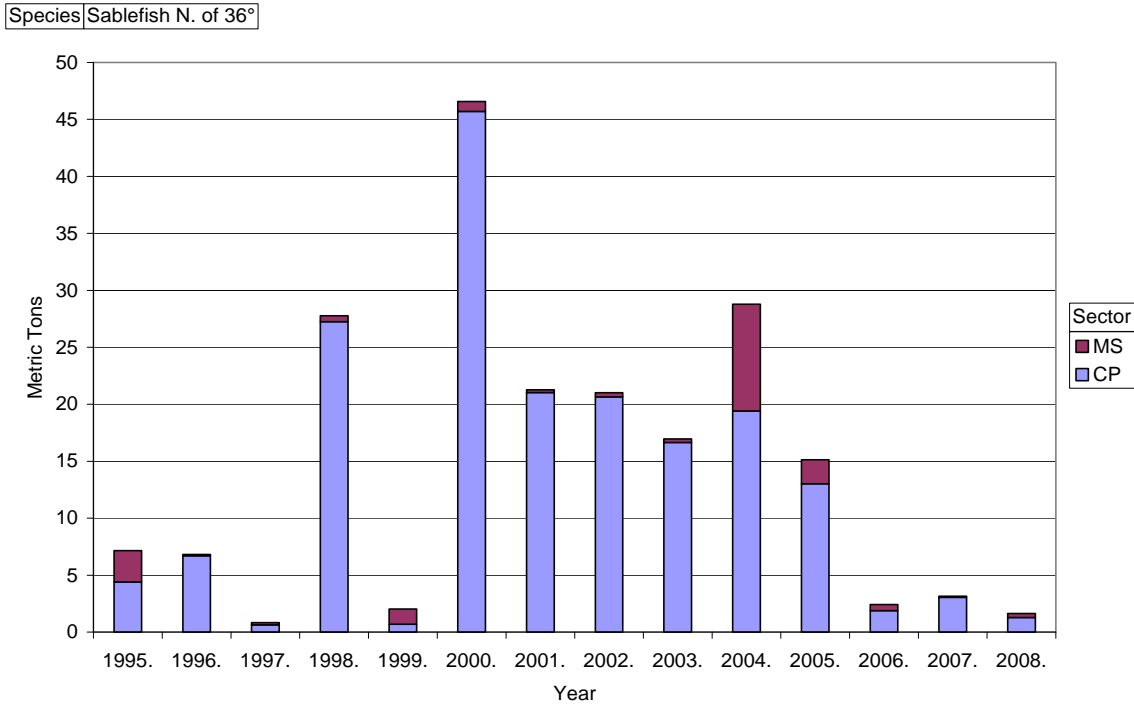


Figure 4-26. Annual sablefish bycatch (mt) by the at-sea whiting sectors, 1995-2008.

Yellowtail Set-aside

Historically the at-sea catch of yellowtail rockfish has been as high as 500 mt (Figure 4-27). However, in recent years, the catch has been approximately 100 mt or less. The relatively large catch volumes of yellowtail appear to have been associated with the fishing patterns of the fleet during the 1990s when Pacific whiting were distributed further to the north, where yellowtail rockfish are more predominant. In recent years Pacific whiting have been distributed further south during the months when the at-sea sectors are operating. Depending on the belief regarding the future distribution of fishing activity (which is influenced by oceanographic conditions, changes in fishing timing, and changes in stock distribution), an appropriate yellowtail set-aside could be as low as 100 to 150 mt or as high as 500 to 600 mt.

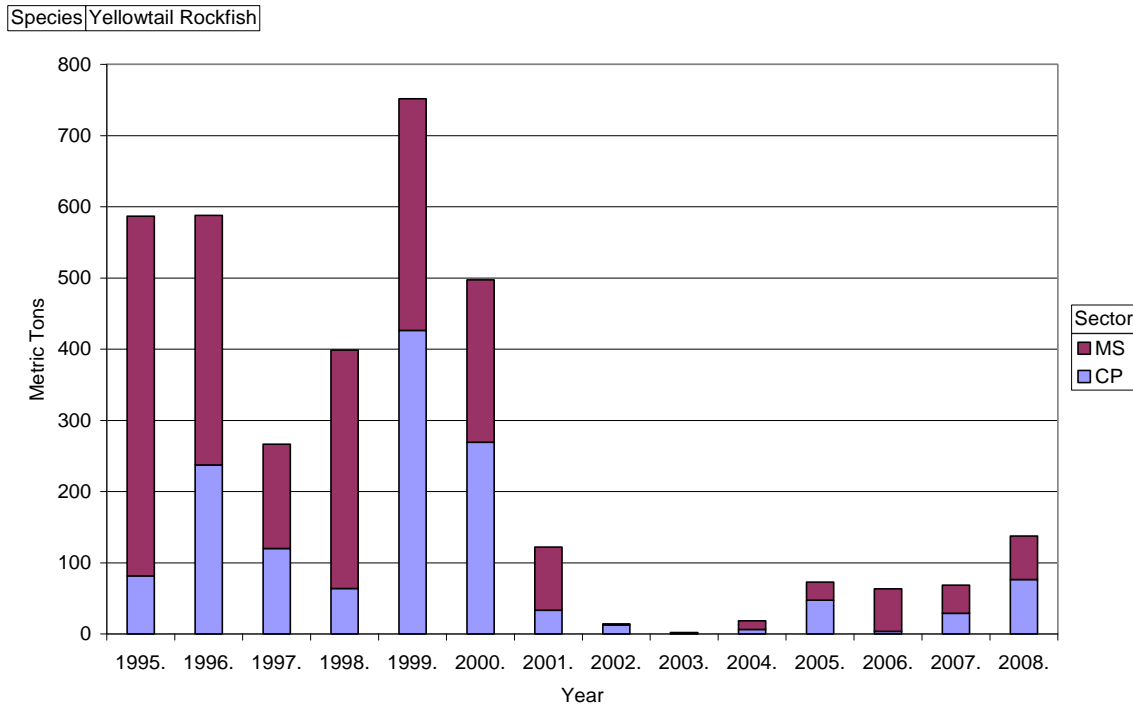


Figure 4-27. Annual yellowtail rockfish bycatch (mt) by the at-sea whiting sectors, 1995-2008.

Shortspine Set-aside (North of 34°27')

The at-sea sector catch of shortspine thornyhead has ranged from approximately zero mt to approximately 20 mt, without any clear pattern or trend associated with that incidental catch (Figure 4-28). Since the basis for a set-aside is to accommodate potential incidental catch amounts, a reasonable set-aside may be approximately 20 mt.

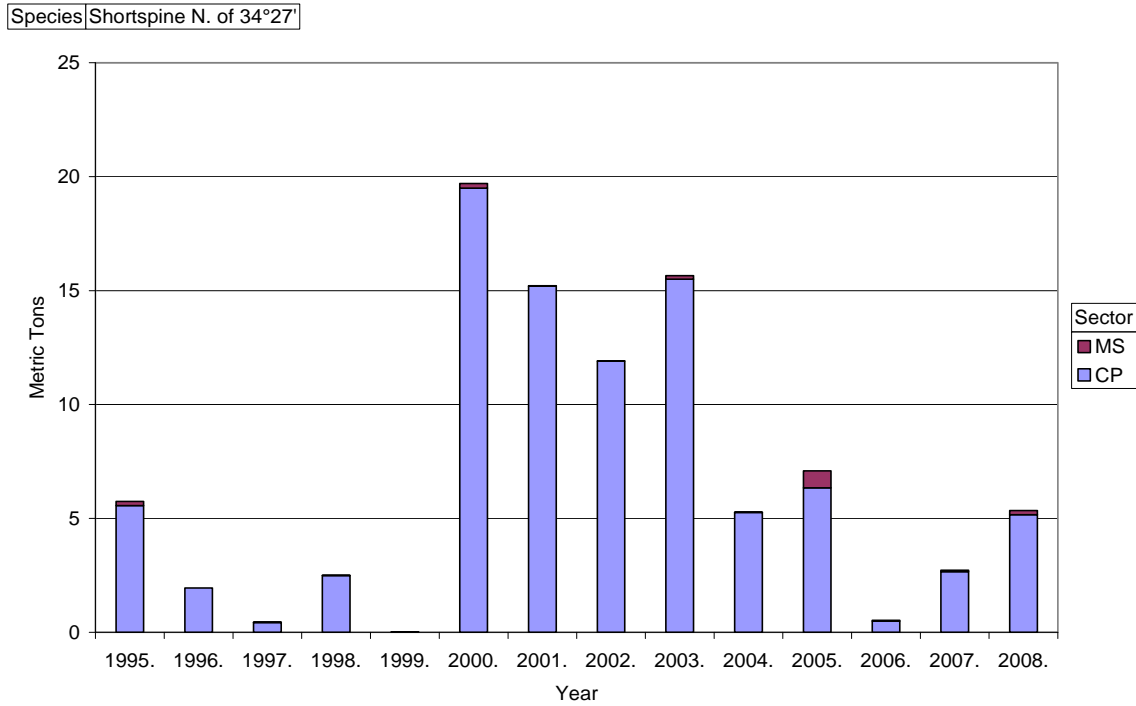


Figure 4-28. Annual shortspine thornyhead bycatch (mt) by the at-sea whiting sectors, 1995-2008.

Longspine Set-aside (North of 34°27')

The at-sea sector catch of longspine thornyhead has typically been close to zero mt. In 2008, the at-sea sector took approximately 0.5 mt (Figure 4-29). The catch of longspine appears to be low in this fishery because of the depth distribution of longspine relative to Pacific whiting. Put simply, the whiting fishery does not operate in areas where longspine are found in any great abundance. An appropriate set-aside for longspine may be 0.5 mt.

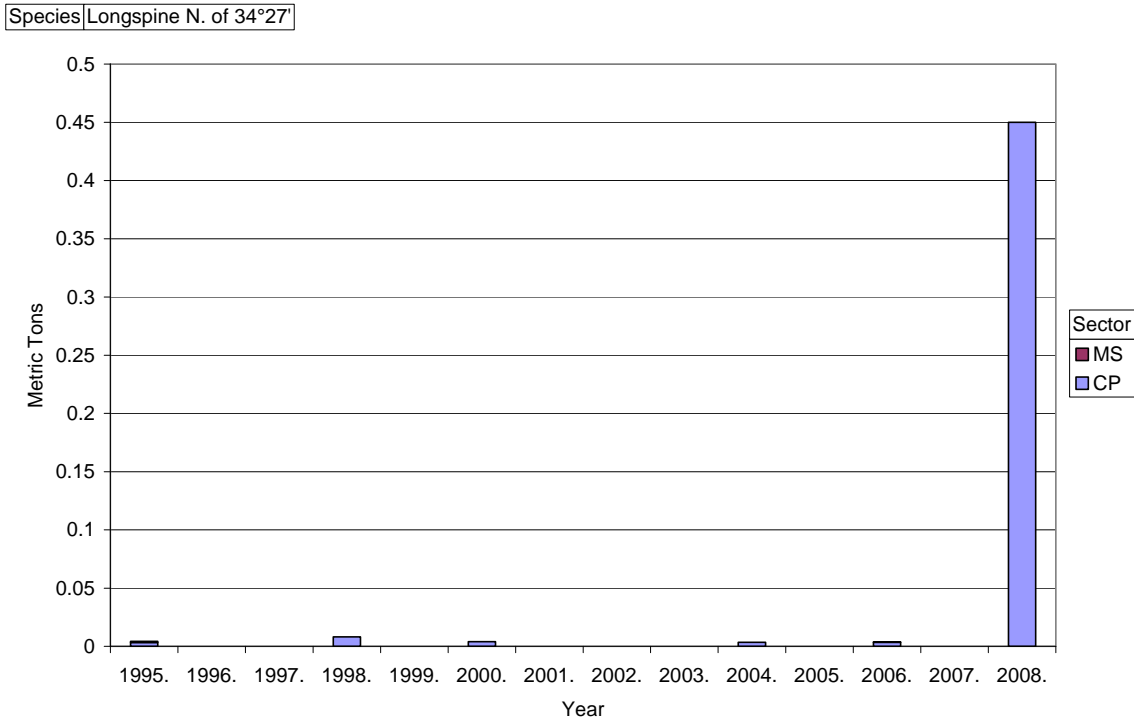


Figure 4-29. Annual longspine thornyhead bycatch (mt) by the at-sea whiting sectors, 1995-2008.

Minor Shelf Rockfish Set-aside (North of 40°10')

The at-sea sectors have typically taken less than 5 mt of shelf rockfish in any given year, but in some years have taken over 30 mt (Figure 4-30). There does not appear to be any distinct pattern to the incidental catch of shelf rockfish. A reasonable set-aside for shelf rockfish may be approximately 35 mt.

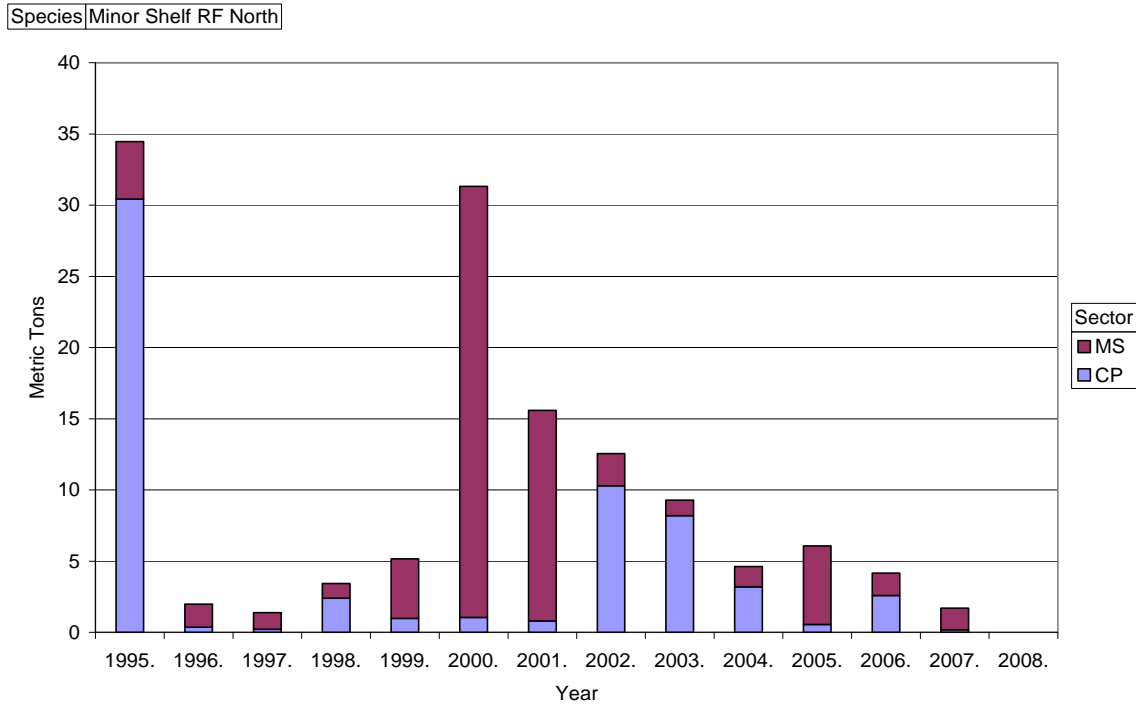


Figure 4-30. Annual bycatch (mt) of minor shelf rockfish (north of 40°10' N latitude) by the at-sea whiting sectors, 1995-2008.

Minor Slope Rockfish Set-aside (North of 40°10')

The catch of slope rockfish in the at-sea fishery has been as high as 80 mt (Figure 4-31). However, the incidental catch of slope rockfish is likely associated with the presence of a bycatch limit for other slope-oriented species. Since the Council has specified that bycatch limits will exist for darkblotched and POP, the control of these species is likely to control the catch of slope rockfish indirectly. Therefore, a set-aside amount of 80 mt may accommodate the at-sea fishery under any circumstance, but a set-aside of 50 mt may be sufficient if darkblotched rockfish and POP bycatch limits remain in place.

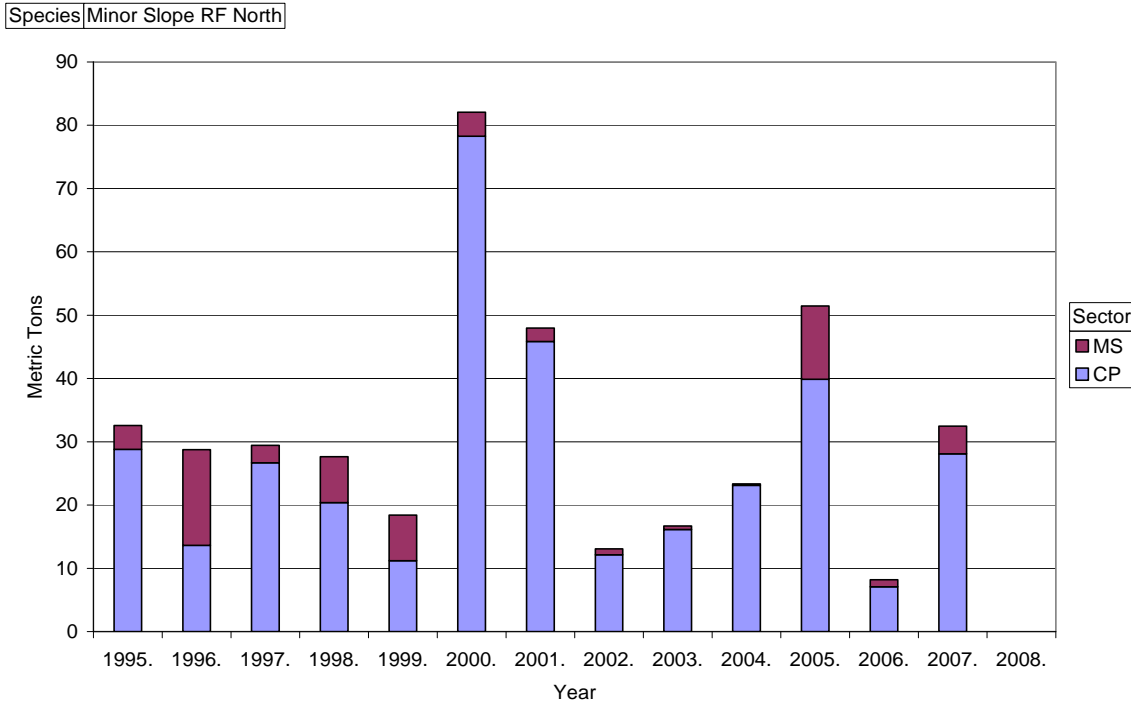


Figure 4-31. Annual bycatch (mt) of minor slope rockfish (north of 40°10' N latitude) by the at-sea whiting sectors, 1995-2008.

Dover Sole Set-aside

The at-sea catch of Dover sole is fairly minimal, with no apparent patterns or trends. A set-aside of 5 mt or less appears sufficient to cover incidental catch (Figure 4-32).

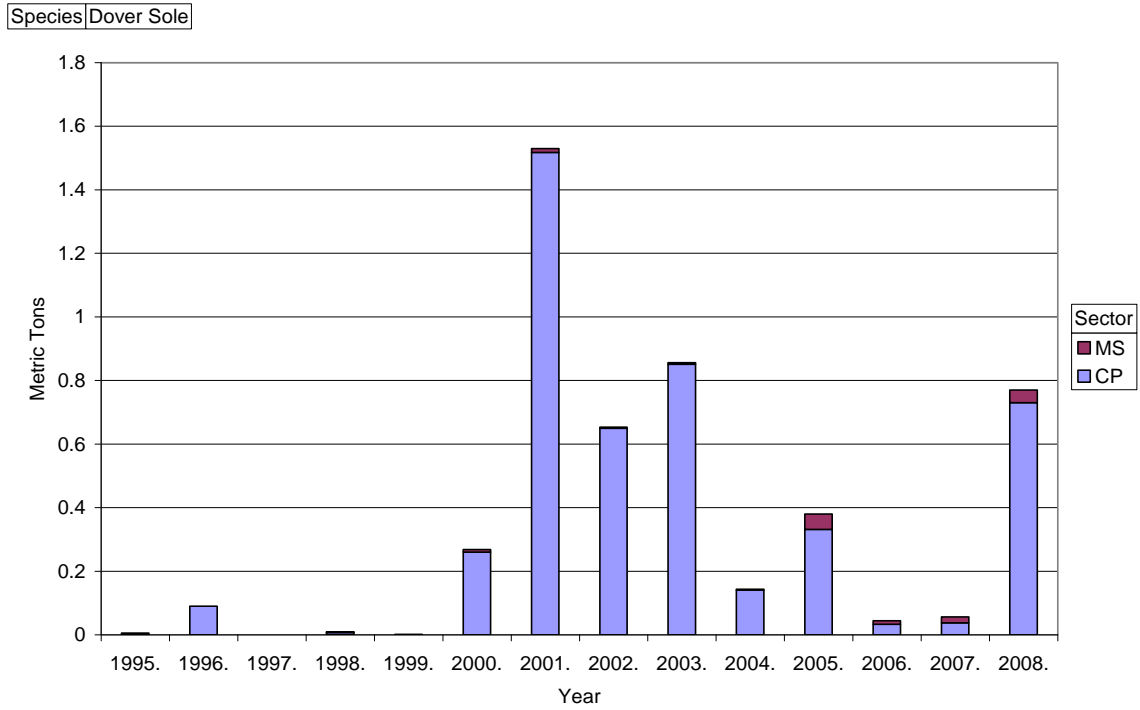


Figure 4-32. Annual bycatch (mt) of Dover sole by the at-sea whiting sectors, 1995-2008.

English Sole Set-aside

The at-sea catch of English sole is fairly minimal, with no apparent patterns or trends. A set-aside of 5 mt or less appears sufficient to cover incidental catch (Figure 4-33).

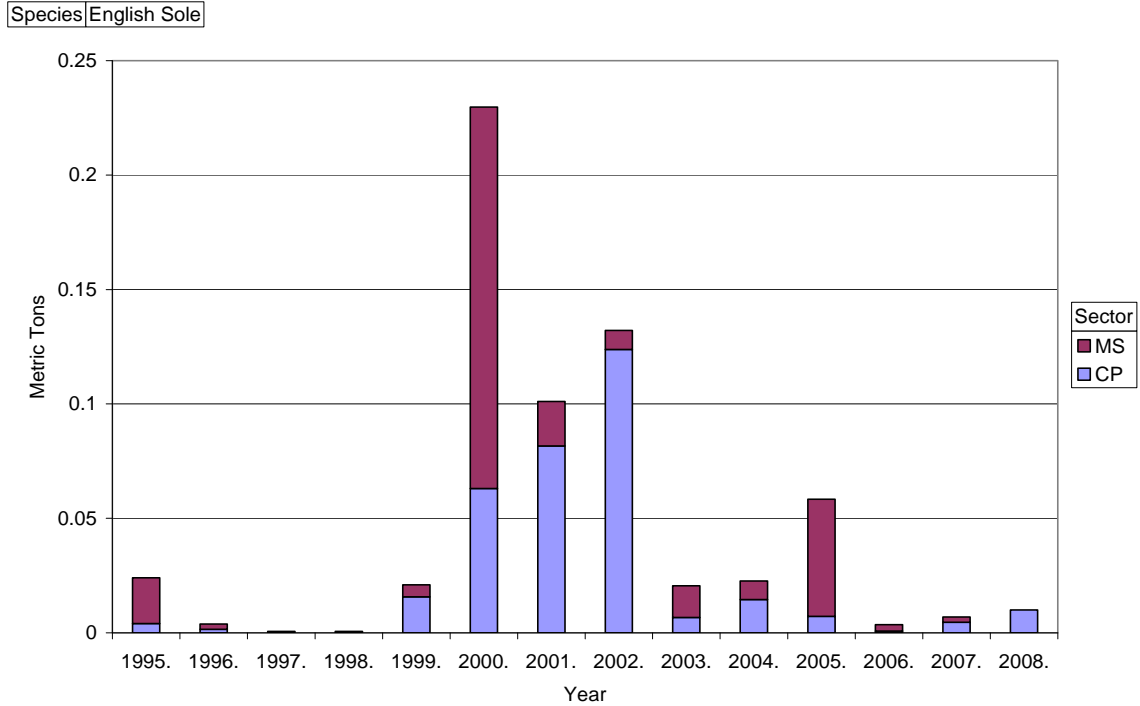


Figure 4-33. Annual bycatch (mt) of English sole by the at-sea whiting sectors, 1995-2008.

Petrale Sole Set-aside

The at-sea catch of petrale sole is fairly minimal, with no apparent patterns or trends. A set-aside of 5 mt or less appears sufficient to cover incidental catch (Figure 4-34).

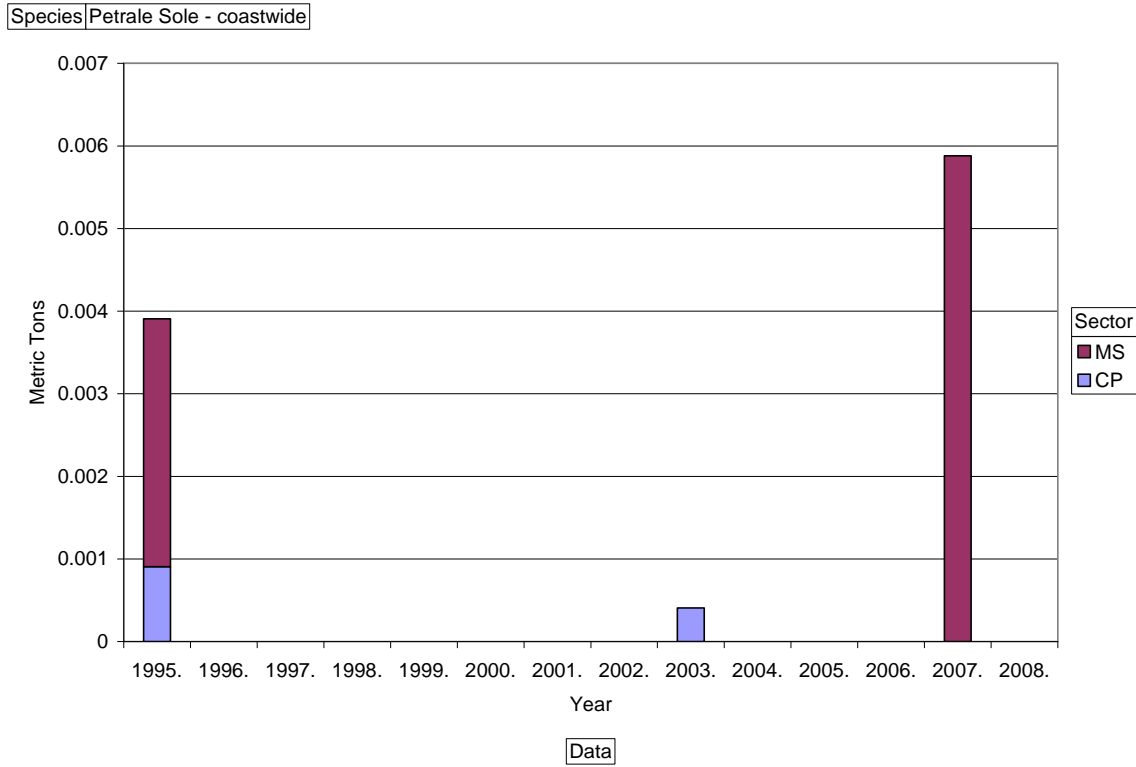


Figure 4-34. Annual bycatch (mt) of petrale sole by the at-sea whiting sectors, 1995-2008.

Arrowtooth Flounder Set-aside

The at-sea catch of arrowtooth is fairly small, though somewhat larger than for other types of flatfish species. There do not appear to be any clear patterns or trends in incidental catch. A set-aside of 10 mt or less appears sufficient to cover incidental catch (Figure 4-35).

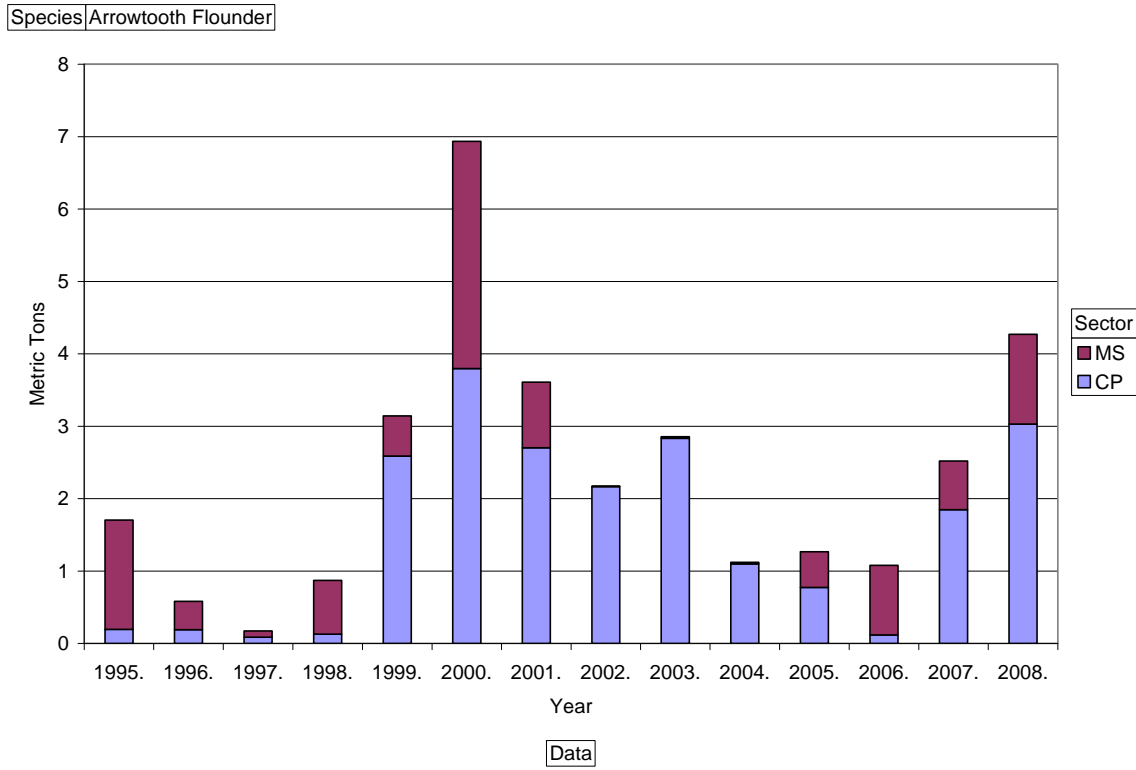


Figure 4-35. Annual bycatch (mt) of arrowtooth flounder by the at-sea whiting sectors, 1995-2008.

Other Flatfish Set-aside

The at-sea catch of Other Flatfish is fairly small in most years, but has been as high as approximately 20 mt. There do not appear to be any clear patterns or trends in incidental catch. A set-aside of 20 mt appears sufficient to cover incidental catch (Figure 4-36).

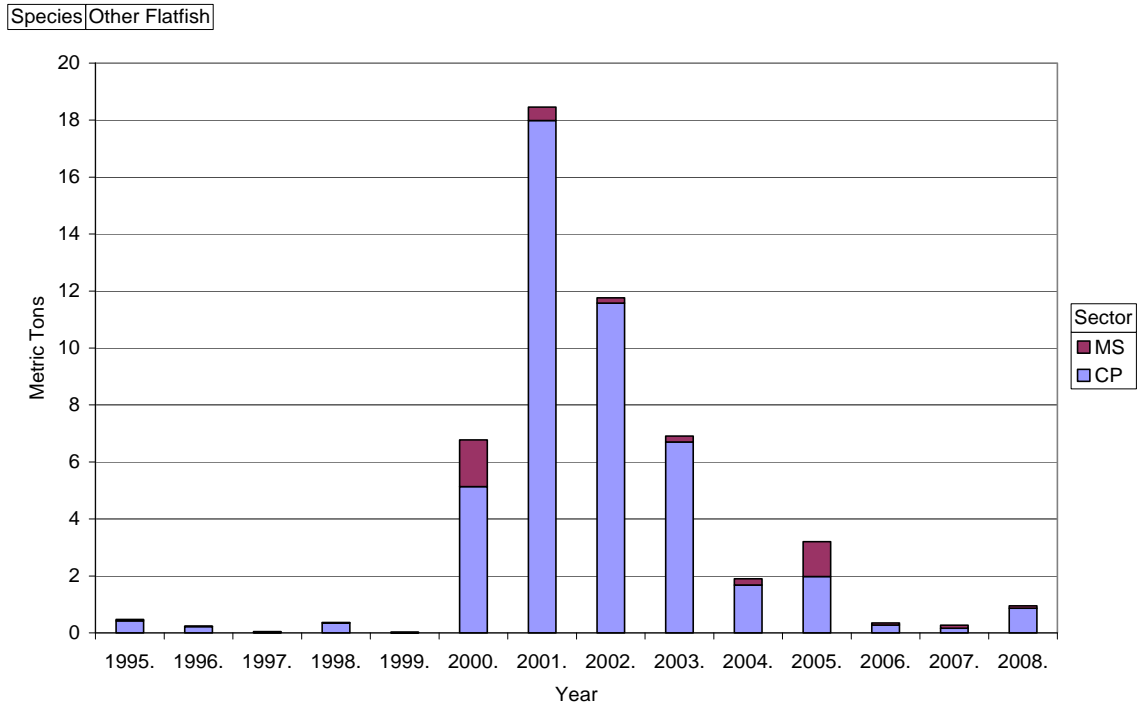


Figure 4-36. Annual bycatch (mt) of species in the Other Flatfish complex by the at-sea whiting sectors, 1995-2008.

Other Fish Set-aside

The majority of Other Fish caught in the at-sea sectors is made up of spiny dogfish. Catches of other fish in the at-sea sector have ranged from around 10 mt to just over 500 mt. A consistent pattern does not appear to exist for the catch of species in the Other Fish complex in the at-sea sector. A reasonable set-aside amount may be approximately 520 mt (Figure 4-37).

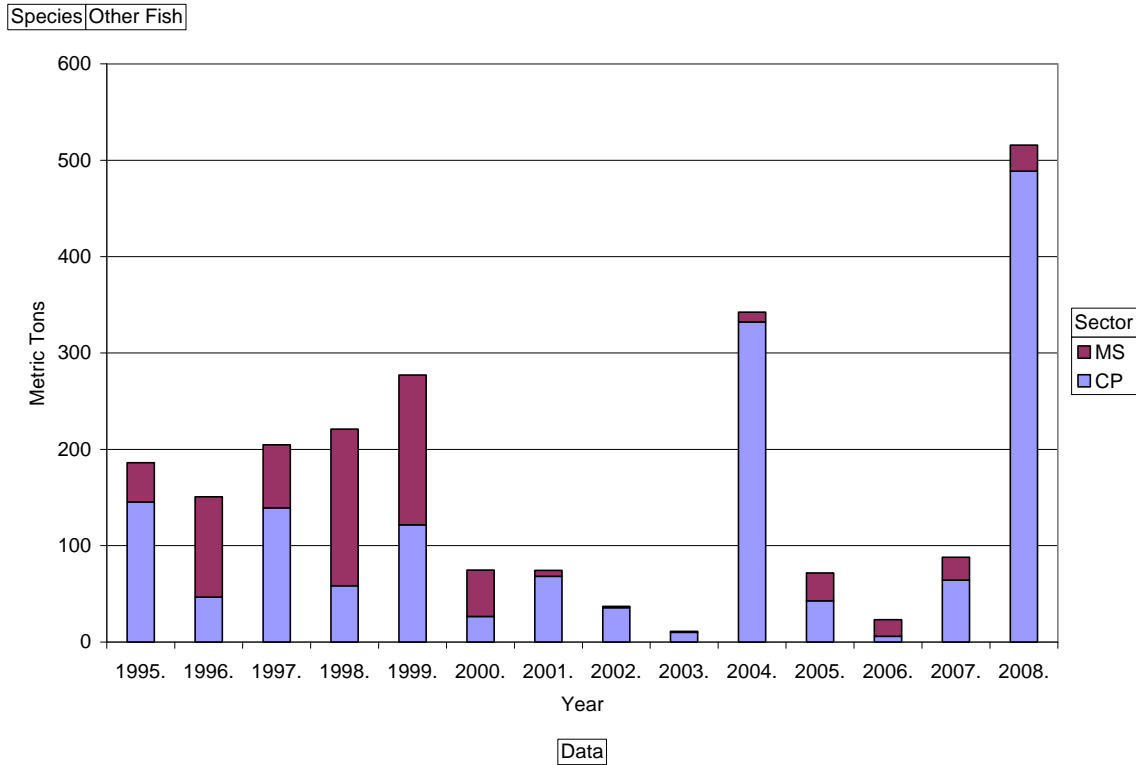


Figure 4-37. Annual bycatch (mt) of species in the Other Fish complex by the at-sea whiting sectors, 1995-2008.

Pacific Halibut Set-aside

Trawl sector set-asides for Pacific halibut include set-asides to account for catch in the shoreside trawl sector in areas south of 40°10' N latitude, as well as incidental catch in the at-sea sectors. Available information from the West Coast Groundfish Observer Program indicates that approximately 0.24 percent of the observed halibut has been taken in that area south of 40°10' N latitude from the 2003 to 2006 period. Over that period, the trawl bycatch estimate for areas north of 40°10' N latitude has ranged from 923,693 to 666,782 pounds, with estimated bycatch mortality equaling approximately 50 percent. This means that the observed halibut bycatch mortality estimate in areas to the south of 40°10' N latitude is estimated to be approximately 3.7 to 5.1 mt. When combined with the at-sea trawl sector take of Pacific halibut over the 1995 to 2008 period, an appropriate set-aside may be on the order of 10 mt for at-sea and shoreside trawl south of 40°10' N latitude combined (Figure 4-38).

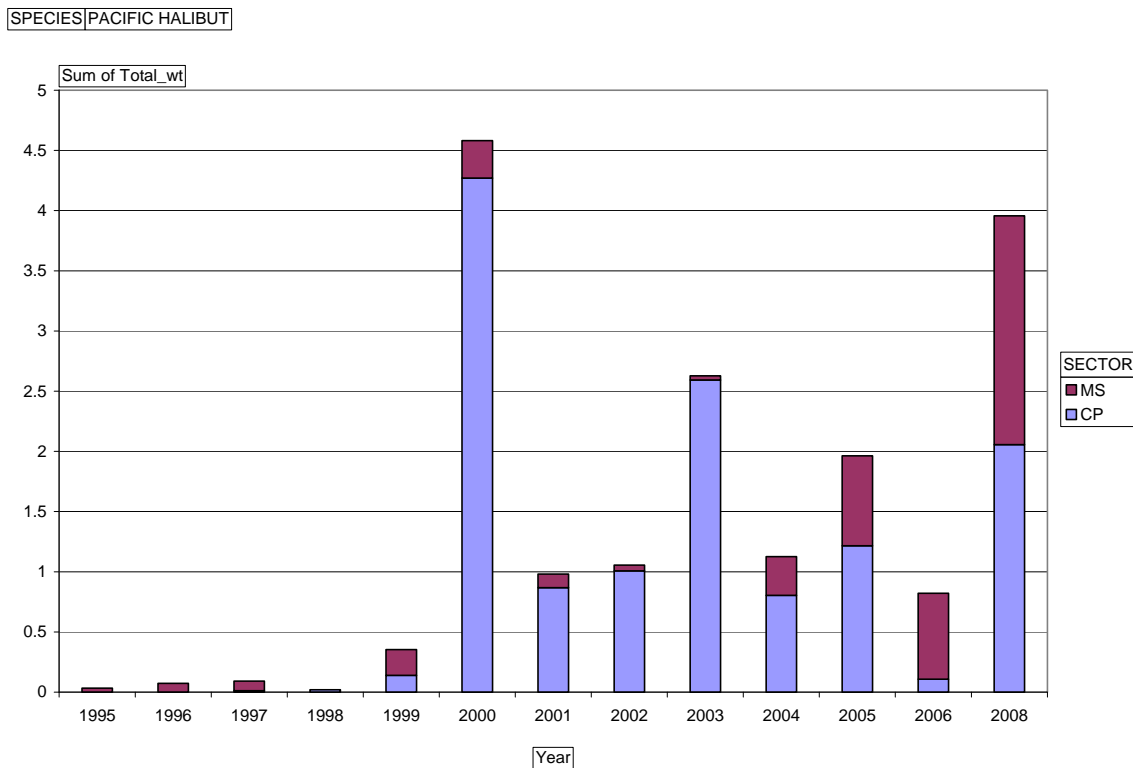


Figure 4-38. Annual bycatch (mt) of Pacific halibut by the at-sea whiting sectors, 1995-2008.

At-sea Set-aside Action Alternatives

These action alternatives are intended to set aside enough of the yield of Amendment 21 species, other groundfish species, and Pacific halibut to minimize the likelihood of constraining the at-sea whiting fisheries.

As mentioned previously, the appropriate perspective in establishing set-asides is to put aside an amount of fish that can reasonably be expected to accommodate incidental catch volumes. Using this perspective, along with the need to stay within management targets, means that the appropriate method of establishing a set-aside would be to examine annual catch data, focusing on the relatively large incidental catch volumes of set-aside species.

The approach taken to develop the action alternatives (Alternatives 2 and 3) for set-asides involves a few factors. The approach in Alternative 2 is to set aside at least 5 mt¹¹ of species in cases where incidental catch has occurred, or is likely to occur, in the at-sea fishery, except for yelloweye rockfish. The approach in Alternative 3 (Council-preferred) is to set aside at least 1 mt of species in cases where incidental catch has occurred, or is likely to occur, in the at-sea fishery, except for yelloweye rockfish. Both Alternatives 2 and 3 set aside 300 mt of yellowtail rockfish to accommodate the bycatch of this species in the at-sea whiting fishery. Both Alternatives 2 and 3 examine the relatively large years (in terms of volume) of catch for set-aside species in the at-sea fishery and round upward to the nearest 5 mt. Taking this perspective necessitates examining the catch each year in the appropriate context. This context involves examining the catch over time relative to the management structure that may have been in place during that time and determining how that compares to the management structure in place under a rationalized fishery. Other appropriate context exists as well, such as patterns that may be indicative of stock growth, variations in fishing behavior, and variations in oceanographic conditions. Some of these considerations are outlined under the itemized discussion of each species provided above.

4.4.4 **Decision 5: Pacific Halibut Trawl Total Catch Limits**

4.4.4.1 *Objectives*

The Council has identified the following objectives through the Amendment 20 trawl rationalization program relative to applying an IBQ to the west coast shoreside groundfish fishery.

1. Account for total mortalities of all halibut bycatch in the trawl fishery.
2. Prosecute a successful Trawl Rationalization Program that is not overly restricted by halibut bycatch limits.
3. Hold individual harvesters accountable for halibut bycatch.
4. Provide incentives to minimize halibut bycatch and halibut bycatch mortality.

In addition to utilizing IBQ in the shoreside whiting and non-whiting fishery, halibut would be managed through a set-aside in the at-sea whiting fishery and the groundfish fishery south of 40°10' N latitude.

4.4.4.2 *Alternatives*

Pacific halibut cannot be retained in any U.S. or Canadian trawl fisheries per the policy of the IPHC. The Council's intent on setting a total catch limit for Pacific halibut in Area 2A trawl fisheries is to limit the bycatch and progressively reduce the bycatch from these limits to provide more benefits to directed halibut fisheries. The Council does not intend to request legal retention of Pacific halibut in Area 2A trawl fisheries from the IPHC.

The Council originally specified two alternatives for capping the total catch of Pacific halibut incidentally caught in west coast groundfish trawls: Alternative 1 would apply the 2005 estimated trawl bycatch against the Area 2A CEY, and Alternative 2 would apply the 2006 estimated trawl bycatch against the Area 2A CEY (Table 2-10). These two alternatives resulted in bycatch percentages that were practically identical (14.6 and 14.7 percent). In November 2008, under the action to adopt a trawl rationalization program, the Council adopted a trawl bycatch alternative that capped the Pacific halibut bycatch amount to 10 percent of the Area 2A CEY, and this cap included the bycatch of both legal and

¹¹ A minimum of 5 mt is set aside for species where at least 1 mt has been caught, or appears likely to be caught, in the at-sea fishery. In cases where less than 1 mt is established, no set-aside is proposed, or a set-aside of less than 1 mt is proposed.

sublegal halibut. This is now Alternative 3. A fourth alternative was derived at the March 2009 Council meeting. This alternative would cap the trawl portion of the Area 2A Pacific halibut total mortality at 15 percent of the area's TCEY, but would not exceed 130,000 pounds in the first two years and would not exceed 100,000 pounds in the third year. Beyond year three, the limit could be adjusted through the biennial specifications process.

No Action Alternative

Under the No Action Alternative, catch of Pacific halibut in the groundfish trawl fishery would not be limited. Halibut bycatch is accounted for annually by the IPHC (Williams 2008) in its assessment of the halibut resource. This mortality is used to determine the remaining amount of halibut available for directed harvest in the halibut fishery for a given year. Generally, "other removals," including bycatch mortality in the trawl and fixed gear fisheries, are deducted from the TCEY to determine the fishery CEY available to the directed halibut fishery in Area 2A.

Alternatives 1 and 2

The first two alternatives for capping the total catch of Pacific halibut against the total Area 2A CEY result in nearly identical percentages: 14.6 percent and 14.7 percent of the Area 2A total CEY (Table 2-12). Applying both percentages to the 2006 TCEY shows a difference of only 1,710 pounds of halibut. This difference may be insignificant in terms of benefits to directed halibut fisheries in Area 2A and likewise insignificant in terms of an added constraint to the Area 2A groundfish trawl sector. It is anticipated that the bycatch of Pacific halibut will decrease under trawl rationalization due to reduced active capacity and fewer trips to attain quotas; however, no ramp down strategy has been included in Alternative 1 or Alternative 2.

Alternative 3

This alternative would establish a limit for legal-sized Pacific halibut bycatch mortality using an IBQ in by the trawl fishery up to 10 percent of the Area 2A CEY as set by the IPHC. It was not clear whether the Council intended to use the total CEY or the fishery CEY¹² as the basis of the trawl bycatch limit. For the purposes of analysis, Council staff have assumed that the Council intended the TCEY to be the basis of this alternative. The Council did specify that the limit would be set initially at 10 percent and may be adjusted through the biennial specifications process.

Alternative 4

Alternative 4 would establish an initial limit for total Pacific halibut bycatch mortality (legal-sized and sublegal fish) in the trawl fishery of 15 percent, but not exceeding 130,000 pounds per year for total mortality. The initial amount for the first two years of the trawl rationalization program would be calculated by taking 15 percent of the Area 2A total CEY as set by the IPHC for the previous year. For

¹² There are two constant exploitation yields (CEYs) estimated for Pacific halibut in Area 2A fisheries: a fishery CEY (FCEY), which counts all sources of fishing-related mortality in directed fisheries targeting halibut and a total CEY (TCEY), which counts nearly all sources of mortality, including trawl caught legal-sized halibut, research catch, personal use, and wastage. However, the total CEY does not include the sublegal halibut mortality from the trawl fishery. Instead, trawl sublegal mortality is accounted for in the coastwide stock assessment. Basing the total catch limit for trawl bycatch of Pacific halibut against the total CEY may be a better metric for tracking the relative abundance of halibut, while tracking the bycatch limit against the fishery CEY may be better for tracking the TAC (Gregg Williams, IPHC, personal communication). There are also annual catch limits specified by the IPHC for Area 2A fisheries, but these catch limits are specified in late January of the fishing year, which is likely too late for deciding trawl limits. Additionally, catch limits focus on directed catch limits, not prohibited bycatch limits. The CEYs are estimated in annual assessments produced by the IPHC, which are publicly available in early December of the year preceding the season to which they apply.

example, if the trawl rationalization program went into effect in 2013, the trawl halibut IBQ would be set at 15 percent of the Area 2A CEY adopted for 2012, or 130,000 pounds per year, whichever is less, for 2013 and 2014 (years 1 and 2 of the trawl rationalization program). Beginning with the third year of implementation, the maximum amount set aside for the trawl rationalization program would be reduced to a total mortality amount of 100,000 pounds per year. The total halibut bycatch mortality amount may be adjusted downward through the biennial specifications process for future years. The at-sea trawl sector and the shoreside trawl sector south of 40°10' N latitude would have halibut bycatch set-asides that would come out of the 15 percent trawl sector allocation.

Each of the alternative percentages was applied to the halibut TCEY for the past five years in Table 4-28. Looking at the 2009 row, Alternative 3 would be the most restrictive to the trawl fishery and, conversely, would provide a greater percentage to the directed halibut sectors. All of the alternatives would result in amounts lower than the actual halibut mortality in 2007, which is the most recent documented estimate.

The Preferred Alternative

The Council adopted a modified version of Alternative 4 for a total catch limit of Pacific halibut in the rationalized trawl fishery. The Council recommended that the trawl mortality limit for legal and sublegal halibut be set at 15 percent of the Area 2A constant exploitation yield for legal size halibut, not to exceed 130,000 pounds for the first four years of trawl rationalization and not to exceed 100,000 pounds starting in the fifth year. This total bycatch limit may be adjusted downward or upward through the biennial specifications and management measures process in future years. Part of the overall total catch limit is a set-aside of 10 mt of Pacific halibut to accommodate bycatch in the at-sea whiting fishery and bottom trawl bycatch south of 40°10' N latitude.

The Council decided to extend the period under the 130,000-pound limit to four years from the two years under Alternative 4 to give the trawl industry more time to learn strategies (and areas) for minimizing their Pacific halibut bycatch. Since this may become the most constraining bycatch species for the rationalized trawl fishery on the northern shelf, this extra period of adjustment before the further downward adjustment of the total catch limit to 100,000 pounds is considered for the fifth year. Additionally, allowing more flexibility for considering a new total catch limit of Pacific halibut in future processes to decide biennial management measures was considered necessary because the limit is less than the bycatch observed under the Council, and it was not clear how such a stringent limit might affect the fishery. It may turn out that the socioeconomic impacts are too great under these stringent limits, and the Council may ultimately decide to increase the total catch limit. Conversely, the trawl industry may adjust well to these lower limits, and the realized bycatch of Pacific halibut will be lower than the prescribed total limits of 130,000 or 100,000 pounds. In that case, the Council may want to adjust the future total catch limit downward from 100,000 pounds to provide more benefits to Area 2A directed halibut fisheries. In either case, the Council preferred the flexibility of deciding future total catch limits of Pacific halibut in the biennial specifications and management measures process to avoid a more lengthy and burdensome FMP amendment process for making these decisions.

Table 4-28. Alternative total catch limits in thousands of pounds net weight of Pacific halibut for the west coast limited entry trawl sector.

Year	TCEY (lb., net weight)	Assumed Mortality for LE Trawl	Actual Mortality (lb, net) by LE Trawl ¹³	No Action Alternative	Alternative 1 (14.6% of TCEY, in lbs.)	Alternative 2 (14.7% of TCEY in lbs.)	Alternative 3 (10% of TCEY in lbs.)	Preferred Alternative 4 (15% of TCEY in lbs.)
2004	2,110,000	--	260,590	No limit on bycatch; deducted from the TCEY.	308,060	310,170	211,000	316,500
2005	1,560,000	--	417,863		227,760	229,320	156,000	234,000
2006	1,710,000	--	345,648		249,660	251,370	171,000	256,500
2007	1,580,000	--	257,338		230,680	232,260	158,000	237,000
2008	940,000	345,648	--		137,240	138,180	94,000	141,000
2009	640,000	257,338	--		93,440	94,080	64,000	96,000

The halibut TCEY has gone down substantially over the past five years from more than 2 million pounds for Area 2A to more than 0.6 million pounds. All sectors have experienced a decrease in the amount of halibut available for targeted catch and bycatch. Due to this overall decrease in the availability of halibut to the directed fishery, it is important to minimize halibut bycatch in the trawl fishery and to allow increased access to the directed fishery.

4.4.4.3 Analysis of Alternatives

No Action Alternative

The No Action Alternative differs markedly from the action alternatives in that there are currently no total catch limits of Pacific halibut specified for the west coast trawl fishery. Trawl bycatch of Pacific halibut, therefore, does not limit the trawl fishery. However, if trawl bycatch of Pacific halibut increases over time, then fishery CEYs of Pacific halibut, or the amounts of Pacific halibut available to future directed halibut fisheries in Area 2A would diminish, since the trawl bycatch estimated from past fisheries is deducted from the Area 2A TCEY. Therefore, it can be concluded that the No Action Alternative is more favorable to west coast trawl fisheries, but less favorable to directed halibut fisheries in Area 2A, since the stated intent of the Amendment 21 action is to reduce trawl bycatch of Pacific halibut over time.

Alternatives 1 and 2

Alternatives 1 and 2 are similar and can essentially be analyzed together. Alternatives 1 and 2 achieve Objectives 1, 2 and 3, but not 4. A Pacific halibut bycatch limit of 14.6 or 14.7 percent of the TCEY would account for total mortalities, would not be overly restrictive, and would hold individual harvesters accountable. However, beyond the IBQ market incentive for an individual to avoid halibut, there is no other incentive to minimize halibut bycatch, such as a sector-level, ramp-down strategy. The difference between Alternative 1 and 2 in 2008 would have been 940 pounds, and would be 640 pounds in 2009. As the TCEY goes down, the difference between Alternatives 1 and 2 becomes smaller. If Alternative 1 (or 2) were applied to the TCEY in 2007, and compared to the actual mortality recorded for 2007, Alternative 1 (or 2) would fall more than 25,000 pounds short. If Alternative 1 (or 2) were compared to the assumed mortality (status quo method) projected for 2008 and 2009, the Alternative would fall short by 208,000 and 164,000 pounds, respectively.

¹³ Rates of discard mortality are derived from observer assessment of fish viability, not the 50 percent discard mortality rate.

Alternative 3

Alternative 3 would achieve Objective 3, but not Objectives 1, 2, or 4. This alternative would count only legal-sized halibut against the trawl Qs, rather than total halibut. Catches of sublegal halibut would not count against a quota. Therefore, Objective 1—account for total mortalities of all halibut caught in the trawl fishery—would be more difficult to achieve. Anecdotal information suggests that some fishers may know of specific areas that consistently produce smaller halibut. If catches of sublegal halibut were to increase, that could affect the halibut abundance in Area 2A as fish may be caught before they are able to contribute to the spawning population.

One positive aspect of this alternative is that it uses a percentage of the trawl set-aside that directly ties the trawl halibut bycatch mortality limit to halibut abundance. This is especially useful as the halibut abundance fluctuates, and what it will be for the first year of trawl rationalization is unknown. However, having an allocation amount in pounds that changes year-to-year results in unpredictability in the fishery and, absent an overall cap on the amount of halibut that may be set aside, could result in increased bycatch in years of higher abundance. We note, however, that the 10 percent is currently represented as a cap and could be adjusted downward, especially in years of higher abundance so as not to increase halibut bycatch.

Although Alternative 3 reflects halibut abundance, if Alternative 3 were applied to the TCEY in 2007 and compared to the actual mortality recorded for 2007 (Table 4-28), Alternative 3 would fall more than 99,000 pounds short. If Alternative 3 were compared to the assumed mortality (status quo method) projected for 2008 and 2009, Alternative 3 would fall short by 251,000 and 193,000 pounds, respectively.

With regard to Objective 2, the initial allocation of halibut bycatch under Alternative 3 could be too low at the outset to allow successful prosecution of the trawl rationalization program. For example, the total CEY for 2009 from the 2008 IPHC stock assessment was 640,000 pounds, which would produce a trawl bycatch quota of 64,000 pounds of legal-sized halibut bycatch mortality. Compared to an estimate of 127,677 pounds of legal-sized halibut mortality in the trawl fishery in 2007, this would represent a 50 percent reduction from recent mortality levels concurrent with the first year of trawl rationalization implementation.

Additionally, while Alternative 3 provides an incentive to avoid bycatch, it does not explicitly provide an incentive to reduce halibut bycatch mortality. Prior to 2008, the Northwest Fisheries Science Center (NWFSC) applied a 50 percent rate of mortality to halibut discards. In September 2008, the NWFSC provided the Council with a comparison of the 50 percent rate that had been applied in the past to revised estimates using rates of discard mortality derived from observer assessment of fish viability (Table 4-29). For the past four years, the observed discard mortality has been higher than the previously assumed rate, and the rate increased about 22 percent in 2007 from what it was in 2006. The Council approved the new approach and forwarded these revised estimates to the IPHC.

Table 4-29. Halibut bycatch and mortality in the Oregon and Washington limited entry bottom trawl fisheries for groundfish off the west coast, applying discard mortality rates based on the observed assessment of fish viability.

Year	Trawl Effort (hrs)	Est. Halibut Bycatch (lbs)	Est. Total Halibut Mortality (lbs)	Halibut Bycatch Mortality Rate	Est. Legal-sized Halibut Mortality	Legal-sized Divided by Total Mortality
2004	37,495	489,882	260,590	53.19%	153,804	0.5902
2005	39,377	715,752	417,863	58.38%	178,218	0.4265
2006	42,602	666,782	345,648	51.84%	158,570	0.4587
2007	41,874	350,266	257,338	73.47%	127,677	0.4961

Alternative 4 (Preferred)

Alternative 4 addresses all of the objectives. It would apply a halibut bycatch reduction program in phases to provide sufficient time to establish a baseline of trawl halibut bycatch under the new rationalization program and to enable harvesters to explore methods (e.g., adjustments to time and/or area fished, gear modifications) to reduce both halibut bycatch and bycatch mortality. Relative to Objective 1, Alternative 4 would apply to all halibut, both legal-sized and sublegal, which is especially important as the size-at-age has decreased in all management areas, including Area 2, in recent years. Therefore, the sublegal-sized fish are older than previously thought and do contribute to the spawning population.

Regarding Objective 2, Alternative 4 maintains the halibut abundance-based method for setting the initial trawl allocation by keeping it tied to a percentage of the CEY, but adds a maximum limit on the allocation amount. The initial limit is set at 130,000 pounds, which represents an approximate reduction of 50 percent from the total bycatch estimate provided by NWFSC for the most recent year (2007) as contained in Agenda Item E.1.b, Supplemental NMFS Report, September 2008. If Alternative 4 were applied to the TCEY in 2007 and compared to the actual mortality recorded for 2007 (Table 4-28), Alternative 4 would fall about 20,000 pounds short. If Alternative 4 were compared to the assumed mortality (status quo method) projected for 2008 and 2009, Alternative 3 would fall short by 204,000 and 161,000 pounds, respectively.

While not having a cap could better achieve Objective 2, this alternative may not effectively address Objective 4 without the cap. NWFSC data indicate that lower bycatch rates and lower mortality rates can be accomplished in the trawl fishery, and rates comparable to the previously assumed rate of 50 percent were achieved in 2004 and 2006. For example, the amount of halibut bycatch in 2004 is about 30 percent higher than the bycatch in 2007; however, because the mortality rate was 20 percent higher in 2007, the estimated amounts of total halibut mortality are very similar (260,590 pounds compared to 257,338 pounds). Having a maximum amount on the trawl allocation would provide an incentive for harvesters to reduce both amount of bycatch and bycatch mortality.

Reducing the maximum limit to 100,000 pounds beginning the third year of the program provides an additional incentive for harvesters to modify their fishing behavior to reduce bycatch and/or bycatch mortality. Information from the Canadian IFQ program indicates that trawl fishers can voluntarily implement measures to reduce bycatch by avoiding areas known to produce high volumes of halibut and can decrease bycatch mortality by reducing their tow time. Reducing the trawl limit would also provide more halibut to those who participate in the directed tribal, commercial, and recreational halibut fisheries.

If the total CEY from the stock assessment prior to trawl rationalization implementation reflected relatively low abundance (e.g., 640,000 pounds), this would produce an initial trawl allocation of 96,000 pounds (15 percent). While this is considerably less than what the trawl fishery has caught in previous years, it would also be applied to an exploitation yield lower than what Area 2A has experienced in the past 10 years. This helps ensure that the primary use of halibut is to provide fish for the directed tribal, commercial, and recreational fisheries. If abundance were higher, and along the lines of the amounts produced by the 2004 and 2005 assessments (e.g., > 1 million pounds), then the trawl allocation would be capped at 130,000 pounds.

Alternative 4 would allocate some halibut bycatch to the at-sea trawl sector and the shoreside trawl sector south of 40°10' N latitude (approximately Cape Mendocino) out of the 15 percent. The other alternatives did not expressly address the halibut bycatch pounds needed in the non-IFQ trawl sectors.

British Columbia Trawl IVQ Program and Halibut Bycatch

When the Canadian government rationalized its British Columbia groundfish fishery in 1996, an arbitrary cap of 1 million pounds was set for halibut bycatch mortality in that trawl fishery. Halibut bycatch mortality before rationalization was about 1.5 million pounds. The first year of the quota program, halibut bycatch mortality was reduced to about 300,000 pounds. Several factors were the decline of the cod fishery (and a decline in associated halibut bycatch), harvester avoidance behavior, and 100 percent observer coverage, combined with slower fishing practices, which allowed the observer to measure every halibut caught and released. Information from the Canadian IFQ program indicates that trawl fishers can voluntarily implement measures to reduce bycatch by avoiding areas known to produce high volumes of halibut and can reduce bycatch mortality by reducing their tow time (which prevents halibut from being crushed in the trawl cod end).

Effects of Alternatives on Directed Halibut Fishery Sectors

In general, reducing the trawl halibut bycatch limit would provide more halibut to the directed tribal, commercial, and recreational halibut fisheries. All the alternatives would limit the trawl fishery to a bycatch amount that cannot be exceeded without penalty. This is different from status quo in that the trawl sector would have a fixed trawl sector cap. A fixed cap would serve two purposes: it would create a pool of fish pounds that can be allocated out as IFQ shares, and it would help prevent any trawl sector overages from occurring or taking halibut away from other sectors. Alternative 3 is the lowest percentage limit, and it would provide a greater percentage of halibut to the directed halibut fisheries than the other alternatives. Alternative 4 would cap the trawl sector at 15 percent of the TCEY, but no higher than 130,000 pounds for the first two years and no higher than 100,000 pounds in the third year. Those poundage limits may be the most restrictive on trawlers of all the alternatives, depending on how high the TCEY is set in the first three years of the trawl rationalization program. Therefore, the trawl sector amount caps in Alternative 4 may be the most beneficial to the directed halibut fisheries.

Effects of Alternatives on Shoreside Non-whiting Trawl Sector

In general, the Council has expressed an objective to reduce halibut bycatch in the trawl fishery through intersector allocation and the biennial specifications process. Should the shoreside non-whiting trawl sector begin to be constrained by lower halibut bycatch amounts, this may push harvest to occur in areas of the coast where there is a lower halibut bycatch rate. Areas in the north off Washington have a higher halibut bycatch rate, so harvesters may move south to avoid halibut. Such movement of harvesting

effort to the south would reinforce the predicted regional shift that may occur due to trawl rationalization. Halibut bycatch is also associated with shelf and nearshore flatfish, such as petrale and arrowtooth, so there may be a decrease in the prosecution of flatfish in those areas. If there is Council intent to develop emerging fisheries, restricting trawl-caught halibut may also restrict further development of an arrowtooth trawl fishery.

The amount of halibut discarded by the trawl fishery has decreased by nearly 50 percent between 2006 and 2007, according to the 2008 report by the NWFSC titled Pacific Halibut Bycatch in IPHC Area 2A in the 2007 Groundfish Trawl Fishery (Wallace and Hastie 2009). The 2007 halibut discard rate is the lowest of the past decade. The report states that the key factor in this decrease was the reduction in trawl effort in areas shallower than 150 fm and closure of northern-most shoreward areas. If the trawl sector's halibut bycatch amount is low, trawl fishers may continue to choose to avoid fishing those areas.

4.5 Decision 6: Formal Allocations in the FMP

The Council considered how the future intersector allocation process will be decided. The Council considered an alternative to amend the FMP every time a new formal allocation is decided (status quo; Alternative 1) or to framework the allocation process in the FMP such that a formal allocation can be decided in the biennial harvest specifications and management measures decision-making process and changed through a regulatory amendment (Alternative 1). Either alternative would entail at least a three-meeting process for the Council to consider new formal allocations or reconsider existing formal allocations under the FMP's socioeconomic framework (see FMP Section 6.2.3) and under the provisions for deciding formal allocations (see FMP Section 6.3).

Alternative 1 likely sets a higher bar for reconsidering a formal allocation since the additional administrative actions necessary for the Secretary of Commerce to approve an FMP amendment create a lengthier process. This alternative may delay implementation of a formal allocation. A regulatory amendment under Alternative 2 is less burdensome, with fewer administrative processes to adopt or change an allocation. However, proper frameworking to allow such regulatory amendments does require significantly more analysis up front to understand the implications of possible future allocation decisions. Both alternatives maintain an open public process, along with environmental analyses compliant with NEPA to focus attention on possible consequences of the allocation decision. Such amendments to an allocation plan, whether they are FMP or regulatory amendments, can also be considered for a more refined spatial apportionment of a sector allocation.

The Council's preferred alternative is to maintain the process to consider only formal allocations in an FMP amendment (Alternative 1). The Council believes formal allocations decided this way will be more durable and will not be subject to reconsideration every two years in the biennial management process. Many representatives of the trawl industry recommended maintaining this process to provide more long-term stability to allow better business planning. The GAP unanimously recommended Alternative 1 as well, citing that Alternative 1 risks the stability afforded by a long-term allocation specified in the FMP.

The Council recommends under its preferred alternative maintaining the FMP provision suspending any formal allocations for a species if it is declared overfished. Determining short-term allocations for such a species under the guidance of an approved rebuilding plan is preferable to maintaining a formal allocation that might entail greater risks to the species. The GAP also recommended maintaining this provision.

Finally, under the preferred alternative, the Council recommends a formal review of all Amendment 21 allocations five years after implementation of Amendment 21. This five-year review is also a provision in the Amendment 20 preferred alternative to conduct a formal review of the trawl rationalization program five years after implementation. Since a primary objective of Amendment 21 is to support the trawl rationalization program, coincident reviews of both the program and the supporting formal trawl allocations five years after implementing both amendments is sensible.

In general, formal allocations reduce the controversy associated with more informal allocations and allow fishing businesses a longer and more stable outlook. Amendment 21 is critical for implementing Amendment 20 trawl rationalization, which will, in turn, reduce bycatch and management oversight of the largest west coast groundfish fisheries.

CHAPTER 5 CUMULATIVE EFFECTS

5.1 Introduction

This chapter first enumerates those past, present, and reasonably foreseeable future actions whose effects likely combine with the effects of the proposed action to result in a cumulative effect. Then the cumulative effects on each of the environmental components subject to the direct and indirect effects are described.

5.2 Past, Present, and Reasonably Foreseeable Future Actions

The following cumulative actions have been implemented and are expected to have continuing effects that combine with the effects of the proposed action:

Groundfish Harvest Specifications and Management Measures. The Council periodically specifies OYs, which function as intended harvest limits, for groundfish stocks and stock complexes. Management measures are then developed to constrain catches to these limits. NMFS implements the management measures through Federal regulations, effective January 1 of each year in the management cycle. From the implementation of the Groundfish FMP through 2004, OYs and related management measures were developed annually. Groundfish FMP Amendment 17 implemented a two-year, or biennial, cycle, beginning in 2005. OYs continue to be specified for each year in the two-year period. The Council may recommend changes to management measures during the management cycle, referred to as inseason actions. These adjustments are based on the receipt of new information about past catches.

The Council and NMFS employ various types of management measures for different fishery sectors. For commercial fisheries, the main type of measure is a two-month cumulative landing limit applicable to each vessel. Beginning in 2002, closed areas, referred to as Groundfish Conservation Areas, have been imposed to reduce catches of overfished groundfish. Various gear restrictions have been imposed on the groundfish LE trawl sector to prevent fishing in locations with high-relief benthic habitat to further discourage catches of those overfished species more commonly found in those areas. The Council also recommends recreational fishery management measures, which are implemented through state regulations. The main tool for limiting recreational catch is the bag limit, which specifies the number of fish of a given type an angler may possess and land on each trip.

Overfished Species Rebuilding Plans. The Council currently manages seven groundfish species under rebuilding plans because these stocks have been declared overfished pursuant to MSA Section 304(e). The Council developed a rebuilding plan for an eighth species, lingcod, and the stock has been successfully rebuilt and is no longer considered overfished. Section 304(e) directs the Secretary of Commerce to notify the appropriate Council when a stock has been determined to be overfished and requires the Council to respond by developing an FMP, FMP amendment, or proposed regulations to end overfishing and rebuild the stocks to a target level (MSY or related proxy). The Council implemented FMP Amendments 16-1, 16-2, and 16-3 to address this requirement.¹⁴ The Council's rebuilding plans establish a rebuilding target, expressed as the year in which the current stock assessment (with an associated rebuilding analysis) indicates the stock has a 50 percent chance of rebuilding to the target biomass level. The target year then determines the level of fishing mortality needed to achieve stock rebuilding within the period. This can be translated into an annual OY as part of the harvest specifications process. The rebuilding plans also describe the types of management measures being used to rebuild the stock according to established targets. As noted above, many of the current management measures applied to groundfish fisheries have a stock rebuilding objective.

Groundfish monitoring and management were historically based on monitoring and management of landings through the cumulative limits referenced above. Low landing limits or a prohibition on retention was required for overfished species, leading to relatively high levels of regulatory discard (bycatch) and frustrating stock rebuilding efforts. As a result, the management framework has moved to managing total catch by estimating and accounting for bycatch. An important tool in this regard is the West Coast Groundfish Observer Program, implemented by NMFS in 2002. This program has a target of at-sea monitoring that accord to 25 percent of total landings by weight. A statistical sampling frame allows the development of generalized bycatch rates, stratified by fishery sector, time, and area, which can be applied to monitored landings to estimate total catch. The bycatch rates are periodically revised upon receipt of new information from the observer program.

Measures to Mitigate Adverse Impacts to EFH. In 2005, the Council adopted Groundfish FMP Amendment 19, which revised the description of groundfish EFH in the FMP and supported implementation of various measures to mitigate adverse impacts to EFH from fishing. Mitigation measures included establishing a series of areas closed to bottom trawling or closed to all types of bottom-contacting gear. These measures are intended to protect sensitive habitat important to groundfish and prevent the expansion of bottom trawling into previously unexploited areas. Regulations implementing the closed areas and other mitigation measures became effective in 2006.

The following actions have not yet been implemented but are reasonably foreseeable:

Trawl Rationalization. The Council has been working on a management framework that would provide incentives for a more economically efficient groundfish LE trawl sector. The principal mechanism to achieve this end is to establish IFQs for groundfish stocks and stock complexes caught in the LE trawl sector. A system of enforced cooperatives is also being considered for catcher vessels in the whiting sector. IFQs would be fully tradable and represent a fraction of the OY for each stock or stock complex. Each year, the IFQs would be converted to QPs based on this fraction. Total catch would have to be covered by an equivalent amount of QPs. Cooperatives are also based on a system where each vessel is accountable for total catch, but their quotas (which would be based on catch history) would be pooled in

¹⁴ The Council originally addressed overfished stocks through Amendment 12, instituting an FMP framework. However, much of the content of this amendment was remanded by the Federal Court because it did not address the MSA requirement to develop an FMP, FMP amendment, or proposed regulations. The Amendment 16 series of amendments addressed this remand.

a cooperative of several vessels. Although the cooperatives would be governed by a Federal regulatory framework to enforce participation, within cooperatives, vessels could make private agreements regarding how to allocate fishing opportunity within the constraints of the overall quota assigned to the co-op. An IFQ system is expected to favor more efficient firms, which would accumulate quota through purchases from those willing to sell. Less efficient firms would have an incentive to exit the fishery through the financial gains from such sales. This would tend to result in some level of consolidation, further reducing fleet capacity to better match the most efficient (or profitable) configuration for harvesting the available resource. The program is expected to have a conservation benefit because individual vessels would be accountable for total catch; thus, there would be a higher cost for discarding fish based on the cost of the QPs expended to cover the discarded fish. Individual accountability would also provide an incentive for quota holders to ensure that everybody was sufficiently monitored to account for total catch. This would require 100 percent at-sea observer coverage under the preferred alternative, which would be partly funded by fishery participants.

The proposed Amendment 21 actions, as described in Chapter 1, are closely connected to the trawl rationalization program. Trawl rationalization will require managing the trawl sector as a whole according to specified quotas, which are subdivided and assigned to vessels according to IFQ holdings or to harvest cooperatives, based on participants' catch histories. Establishing allocations between the LE trawl sector and other groundfish fishery sectors is expected to make trawl rationalization more effective because IFQ holders and co-op members will have more certainty about the actual harvest opportunity associated with a given amount of IFQ (or assigned to a co-op). This will make long-term business decisions easier to make and support the desired outcomes of rationalization.

The Council adopted a final preferred alternative for the trawl rationalization program in June 2009. In November 2009, the Council is scheduled to consider one small refinement of its preferred Amendment 20 trawl rationalization program regarding QS allocations of some overfished species. The program is scheduled for implementation in 2011.

5.3 Cumulative Effects on Marine Ecosystems and Essential Fish Habitat

The Groundfish SAFE (PFMC 2008b) provides information on how past actions have affected west coast marine ecosystems and EFH.

The EIS supporting Groundfish FMP Amendment 19 summarizes the information that is available about the effects of fishing gear on EFH. Bottom trawl gear has the greatest adverse impact on EFH because of the mechanical properties of the gear when interacting with bottom habitat. This is a bigger problem in areas of high relief where biogenic habitat occurs that can be damaged or destroyed by gear contact. Line and pot gear contacting the bottom has less adverse impact because the overall footprint is smaller. Gear deployed only in the water column (e.g., midwater trawl, troll hook-and-line) has little or no effect on habitat.

Measures implemented through Amendment 19 are intended to protect habitats that are particularly sensitive to the adverse impacts of fishing gear. These measures include closed areas and gear restrictions that discourage fishing in these areas. Amendment 19 also designated groundfish HAPCs. These designations facilitate consultations NMFS may make with other Federal agencies on non-fishery action affecting EFH.

Available information and research on the effects of fishing on the California Current ecosystem are reviewed in the Groundfish SAFE. Although research is still inconclusive, groundfish harvest policies

do not appear to have had a substantial effect on the structure of the food web in this ecosystem. Overfishing of some higher trophic level groundfish species may have greater localized effects.

The trawl rationalization program could contribute to increased harvest opportunity by the trawl sector because harvest of healthy target species stocks would be less constrained by harvest limits imposed on them but intended to reduce incidental catch of overfished species. [The individual accountability incentives built into the program are expected to reduce bycatch of these species while more effectively constraining overall catch to rebuilding target OYs.] There is some evidence that high turnover populations, subject to high predation, exert more control over trophic dynamics than higher trophic level species, such as overfished groundfish species. Trawl rationalization could allow higher harvests of species falling into this category, such as certain flatfish species.

5.4 Cumulative Effects on Groundfish

Harvest specifications and related management measures imposed in the 1980s and early 1990s led to overexploitation and depletion of the groundfish stocks currently designated as overfished. Many of these stocks are relatively unproductive and slow to rebound to MSY levels from their current depleted state. Rebuilding plans provide a framework that constrains harvests to rebuild the stocks in the shortest time possible while taking into account the adverse socioeconomic impacts entailed in the need to restrict harvests. These requirements are expected to affect groundfish management for the near future due to the estimated long periods required to rebuild some stocks. In this regard, canary and yelloweye rockfish impose the greatest constraints because of the very low harvest limits required and their occurrence as bycatch in several fisheries. As described above, the trawl rationalization program could create an incentive structure and facilitate more comprehensive monitoring to allow bycatch reduction and effective management of the groundfish fisheries.

The direct and indirect effects of the proposed action on groundfish stocks are expected to be negligible because the overall quantity of fish that will be harvested is unaffected. Cumulative effects are therefore not expected to differ detectably from the effects anticipated from other past, present, and reasonably foreseeable future actions.

5.5 Cumulative Effects on the Socioeconomic Environment, Including Harvesters and Coastal Communities

The need to constrain groundfish harvests to address overfishing has had substantial socioeconomic impacts. The groundfish LE trawl sector has experienced a large contraction, spurred in part by a federally subsidized vessel and permit buyback program implemented in 2005. Follow-on effects have been felt in coastal communities where groundfish trawlers comprise a large portion of the local fleet. As the fleet size shrinks and ex-vessel revenues decline, income and employment in these communities is affected. Fishery-related businesses in the community may cease operations because of lost business. This can affect non-groundfish fishery sectors that also depend on the services provided by these businesses, such as providing ice and buying fish. An objective to the trawl rationalization program is to mitigate some of these effects by increasing revenues and profits within the trawl sector. However, because further fleet consolidation is expected, the resulting benefits are likely to be unevenly distributed among coastal communities. Some communities may see their groundfish trawler fleet shrink further as the remaining vessels concentrate in a few major ports. The proposed action affects groundfish fishery sectors depending on the harvest opportunity allocated to each sector.

CHAPTER 6 **CONSISTENCY WITH THE GROUND FISH FMP, MSA NATIONAL STANDARDS, AND THE GROUND FISH STRATEGIC PLAN**

6.1 FMP Goals and Objectives

The goals and objectives of the groundfish FMP provide guidance for decisions about the structure of the allocation alternatives. Those goals and objectives are as follows.

Management Goals

Goal 1 - Conservation. Prevent overfishing and rebuild overfished stocks by managing for appropriate harvest levels and prevent, to the extent practicable, any net loss of the habitat of living marine resources.

Goal 2 - Economics. Maximize the value of the groundfish resource as a whole.

Goal 3 - Utilization. Within the constraints of overfished species rebuilding requirements, achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities.

Objectives

To accomplish these management goals, a number of objectives will be considered and followed as closely as practicable:

Conservation:

- Objective 1. Maintain an information flow on the status of the fishery and the fishery resource that allows for informed management decisions as the fishery occurs.
- Objective 2. Adopt harvest specifications and management measures consistent with resource stewardship responsibilities for each groundfish species or species group. Achieve a level of harvest capacity in the fishery that is appropriate for a sustainable harvest and low discard rates and which results in a fishery that is diverse, stable, and profitable. This reduced capacity should lead to more effective management for many other fishery problems.
- Objective 3. For species or species groups that are overfished, develop a plan to rebuild the stock as required by the MSA.
- Objective 4. Where conservation problems have been identified for nongroundfish species and the best scientific information shows that the groundfish fishery has a direct impact on the ability of that species to maintain its long-term reproductive health, the Council may consider establishing management measures to control the impacts of groundfish fishing on those species. Management measures may be imposed on the groundfish fishery to reduce fishing mortality of a nongroundfish species for documented conservation reasons. The action will be designed to minimize disruption of the groundfish fishery, in so far as consistent with the goal to minimize the bycatch of nongroundfish species, and will not preclude achievement of a quota, harvest guideline, or allocation of groundfish, if any, unless such action is required by other applicable law.
- Objective 5. Describe and identify EFH, adverse impacts on EFH, and other actions to conserve and enhance EFH, and adopt management measures that minimize, to the extent practicable, adverse impacts from fishing on EFH.

Economics:

- Objective 6. Attempt to achieve the greatest possible net economic benefit to the nation from the managed fisheries.
- Objective 7. Identify those sectors of the groundfish fishery for which it is beneficial to promote year-round marketing opportunities, and establish management policies that extend those sectors' fishing and marketing opportunities as long as practicable during the fishing year.
- Objective 8. Use gear restrictions to minimize the necessity for other management measures whenever practicable. Encourage development of practicable gear restrictions intended to reduce regulatory and/or economic discards through gear research regulated by EFP.

Utilization:

- Objective 9. Develop management measures and policies that foster and encourage full utilization (harvesting and processing), in accordance with conservation goals, of the Pacific Coast groundfish resources by domestic fisheries.
- Objective 10. Recognizing the multispecies nature of the fishery, establish a concept of managing by species and gear or by groups of interrelated species.

Objective 11. Develop management programs that reduce regulation-induced discard and/or that reduce economic incentives to discard fish. Develop management measures that minimize bycatch to the extent practicable and, to the extent that bycatch cannot be avoided, minimize the mortality of such bycatch. Promote and support monitoring programs to improve estimates of total fishing-related mortality and bycatch, as well as to improve other information necessary to determine the extent to which it is practicable to reduce bycatch and bycatch mortality.

Social Factors:

Objective 12. When conservation actions are necessary to protect a stock or stock assemblage, attempt to develop management measures that will affect users equitably.

Objective 13. Minimize gear conflicts among resource users.

Objective 14. When considering alternative management measures to resolve an issue, choose the measure that best accomplishes the change with the least disruption of current domestic fishing practices, marketing procedures, and the environment.

Objective 15. Avoid unnecessary adverse impacts on small entities.

Objective 17. Consider the importance of groundfish resources to fishing communities, provide for the sustained participation of fishing communities, and minimize adverse economic impacts on fishing communities to the extent practicable.

Objective 18. Promote the safety of human life at sea.

The socioeconomic framework of the FMP in Section 6.2.3 provides the guidance for making decisions, such as the contemplated Amendment 21 actions, that affect groundfish fishing sectors and fishing communities on the west coast. The socioeconomic framework provides the following guidance for these types of decisions:

“If the Council concludes that a management action is necessary to address a social or economic issue, it will prepare a report containing the rationale in support of its conclusion. The report will include the proposed management measure, a description of other viable alternatives considered, and an analysis that addresses the following criteria: (a) how the action is expected to promote achievement of the goals and objectives of the FMP; (b) likely impacts on other management measures, other fisheries, and bycatch; (c) biological impacts; (d) economic impacts, particularly the cost to the fishing industry; (e) impacts on fishing communities; and (f) how the action is expected to accomplish at least one of the following, or any other measurable benefit to the fishery:

1. Enable a quota, HG, or allocation to be achieved.
2. Avoid exceeding a quota, HG, or allocation.
3. Extend domestic fishing and marketing opportunities as long as practicable during the fishing year, for those sectors for which the Council has established this policy.
4. Maintain stability in the fishery by continuing management measures for species that previously were managed under the points of concern mechanism.
5. Maintain or improve product volume and flow to the consumer.
6. Increase economic yield.

7. Improve product quality.
8. Reduce anticipated bycatch and bycatch mortality.
9. Reduce gear conflicts, or conflicts between competing user groups.
10. Develop fisheries for underutilized species with minimal impacts on existing domestic fisheries.
11. Increase sustainable landings.
12. Reduce fishing capacity.
13. Maintain data collection and means for verification.
14. Maintain or improve the recreational fishery.”

Further, the process for deciding formal allocations is provided in Section 6.3 of the FMP. The allocation process requires the Council to consider the following factors when intending to recommend direct allocation of the resource:

1. Present participation in and dependence on the fishery, including alternative fisheries
2. Historical fishing practices in and historical dependence on the fishery
3. The economics of the fishery
4. Any consensus harvest sharing agreement or negotiated settlement between the affected participants in the fishery
5. Potential biological yield of any species or species complex affected by the allocation
6. Consistency with the MSA national standards
7. Consistency with the goals and objectives of the FMP

Consistency of the Proposed Actions with the FMP

The proposed actions are consistent with the goals and objectives of the Groundfish FMP, which were used to derive intersector allocation alternatives and analyses of alternatives. Further, as specified in the FMP under the Socioeconomic and Allocation Frameworks, there was significant public participation in the scoping of alternatives and throughout the decision-making process. Affected parties, primarily members of the fishing industry who represented the affected groundfish sectors, were added to the GAC as advisors (the Council charged the GAC to develop intersector allocation alternatives and recommendations (see Appendix A). Consensus intersector allocation recommendations from the GAP, a group of industry representatives from all groundfish sectors who are advisory to the Council, was sought in deciding the preferred alternatives. GAP recommendations were largely incorporated in the Council’s final preferred alternatives.

Intersector allocations are consistent with the management goals (Goals 1, 2, and 3) outlined in the Groundfish FMP. The proposed actions are designed to improve conservation, economics, and utilization by setting up allocations to support the trawl rationalization program (Amendment 20). Because the intersector allocation decisions support the trawl rationalization program, the reader should also refer to consistency of the trawl rationalization program with the groundfish FMP discussed in Section 6.1 of the trawl rationalization FEIS.

Intersector allocations are consistent with the objectives within the Groundfish FMP. Intersector allocations do not directly address Conservation Objectives 1, 2, 3, and 5, but remain consistent with these objectives as implemented through the Groundfish FMP and federal regulations at 50 CFR Part 660. Intersector allocation Decision 5 is consistent with Conservation Objective 4 because it would reduce the incidental take of Pacific halibut, a non-groundfish species, by placing a total catch limit on

Pacific halibut in the trawl fishery. Pacific halibut would be managed under the trawl rationalization program with halibut IBQ for the shoreside fishery and set-asides for the at-sea fishery.

Intersector allocations are consistent with Economic Objectives 6 and 7. Intersector allocations attempt to achieve the greatest possible net economic benefit to the nation from the managed fisheries (Objective 6) by supporting the action to transition the trawl fishery to catch shares. Intersector allocations are consistent with Objective 7 by continuing to support year-round fishing and marketing opportunities and decreasing the risk of early season closures. Intersector allocations do not directly address the Economic Objective 8, but remain consistent with that objective as implemented through the Groundfish FMP and federal regulations at 50 CFR Part 660.

Intersector allocations are consistent with Utilization Objectives 9, 10, and 11. Through the trawl rationalization program, intersector allocations support increased utilization of the groundfish resource by increasing opportunities to harvest healthy groundfish species while remaining within the constraints of overfished species (Objective 9). Intersector allocations continue to recognize the multispecies nature of the fishery and manage the fishery according to gear types and according to the species and groupings listed in the ABC/OY tables from 50 CFR part 660, subpart G (Objective 10). Intersector allocations are consistent with Objective 11, minimizing bycatch, as described below in Section 6.2 under MSA National Standard 9. In addition to the proposed actions for intersector allocations supporting the trawl rationalization program, Intersector Allocation Decision 5 would also minimize the bycatch of Pacific halibut through a total catch limit.

Intersector allocations are consistent with the social factors described in Objectives 12 through 16. Intersector allocations are consistent with Objective 13 by formalizing allocations between sectors of the fishery (between trawl and nontrawl, and within trawl), reducing the conflicts between groups caused by one group closing another group early because they have exceeded the OY. Intersector allocations are consistent with Objective 12, attempt to affect users equitably; Objective 14 accomplishes the change with the least disruption; and Objective 15 avoids unnecessary adverse impacts on small entities, because the allocations generally formalize recent harvest levels in the fishery. Intersector allocations are consistent with Objective 16, minimizing adverse economic impacts on fishing communities, as described in Section 6.2 under MSA National Standard 8. Intersector allocations do not directly address Social Objective 17, but remain consistent with the objective as implemented through the Groundfish FMP and federal regulations at 50 CFR part 660.

6.2 Applicable MSA National Standards

An FMP or plan amendment and any pursuant regulations must be consistent with ten national standards contained in the MSA (§301). Because the intersector allocation decisions support the trawl rationalization program, the reader should also refer to consistency of the trawl rationalization program with the MSA National Standards discussed in Section 6.2 of the trawl rationalization EIS.

NS1 states that conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the OY from each fishery for the United States fishing industry.

The proposed actions for intersector allocations would support efforts to achieve OY and prevent overfishing. Allocating the trawl-dominant groundfish species between the trawl and nontrawl sectors and within trawl sectors provides more accountability for the sector to remain within its allocation and reduces the risk of other sectors causing premature fishery closures.

National Standard 2 states that conservation and management measures shall be based on the best scientific information available.

The analyses contained in this document constitute the best available scientific information.

National Standard 3 states that, to the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

The intersector allocations follow the management units for the groundfish fishery as described in the ABC/OY tables in 50 CFR part 660, subpart G, which are based on the delineations from stock assessments. The EIS for the 2009 Groundfish Specifications describes the management units for Pacific Coast groundfish. None of the alternatives analyzed in this document would modify those management units.

National Standard 4 states that conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishers, such allocation shall be (A) fair and equitable to all such fishers; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

Intersector allocations were developed through the Council process, which facilitates substantial participation by state representatives. Generally, state proposals are brought forward when alternatives are crafted and integrated to the degree practicable. Decisions about catch allocation between different sectors or gear groups are also part of this participatory process, and emphasis is placed on equitable division while ensuring conservation goals. None of the alternatives analyzed would discriminate against residents of different states.

According to the NS4 guidelines, an allocation scheme may promote conservation by encouraging a rational, more easily managed use of the resource, or it may promote conservation (in the sense of wise use) by optimizing the yield, in terms of size, value, market mix, price, or economic or social benefit of the product. These guidelines were at the forefront of Amendment 21 deliberations as the Council, NMFS, and advisors to the Amendment 21 process continually advocated long-term, sustainable allocations that sought to optimize future yields of Amendment 21 species, as well as economic returns from future fisheries dependent on these species.

Further, as stated in the NS4 guidelines, harvest opportunities and privileges must be allocated fairly and equitably among the commercial, recreational, and charter fishing sectors of the fishery. This was a primary objective of the Amendment 21 process. While the Council-preferred alternative under Decision 1 is higher for some species, formal allocations to the non-trawl fishery than historical indirect allocation levels, the Council decided that it was fair and equitable to provide for some increased non-trawl opportunities on these stocks. As described in Section 2.1.6, a higher non-trawl allocation for chilipepper rockfish south of 40°10' N latitude was recommended with the stated objective of trying to gain greater non-trawl access to this healthy stock off California. The Council also decided to allocate a much higher percentage of the available yield of starry flounder to non-trawl sectors (50 percent) than recommended by the GAC. The catch history of starry flounder is highly uncertain, but they are significantly caught in nearshore trawl fisheries and recreational fisheries on the west coast. The Council thought a 50:50 trawl and non-trawl sharing of the available harvest of starry flounder was the fairest allocation. The Council adopted a higher non-trawl allocation of species in the Other Flatfish

complex than recommended by the GAC (10% vs. 5%). While most of these species are dominant to the trawl fishery, there are some species, such as Pacific sanddabs, that are significantly caught in non-trawl fisheries. The Council believed a higher non-trawl share of the available harvest of Other Flatfish species would better preserve non-trawl fishing opportunities for these species.

National Standard 5 states that conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

None of the alternatives for Decisions 1 through 6 analyzed in this document was designed solely for the purpose of economic allocation. While this document does analyze allocations, the proposed actions in this EIS support the trawl rationalization program (Amendment 20) as stated in the purpose and need (Section 1.3). In addition to meeting the conservation and management needs of the fishery, the trawl rationalization program, including the associated intersector allocations, is expected to economically rationalize the groundfish trawl fishery.

National Standard 6 states that conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

Intersector Allocation Decisions 3 and 4 account for variations in fishery resources and catches. Decision 3 allows for variations in the level of overfished species allocated to the at-sea sector by using a percentage or weight, whichever is greater, and by allowing a contingency for widow rockfish depending if the species has been declared rebuilt. Decision 4 allows for variations in the level of catch by allowing the set-aside values to be changed during the biennial specifications process based on the most recent information available. In addition, any of the intersector allocations may be revisited through an Amendment to the FMP, as described in Decision 6.

National Standard 7 states that conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

Intersector allocations do not affect costs and do not cause duplication.

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

Intersector allocations are tied to the trawl rationalization program. The EIS for the trawl rationalization program evaluates the effects on fishing communities (see Chapter 4). The preferred alternative for the trawl rationalization program represents the Council's judgment of the best way to conserve and rebuild fish stocks as soon as possible while taking into account the trawl industry and coastal fishing communities. The analysis for the trawl rationalization program indicates that some side effects of rationalization may include geographic shifts in fishing effort and location of processors. To the extent that these shifts occur, some communities could experience negative impacts. The preferred alternative for the trawl rationalization program would minimize the negative impacts to the extent possible by limiting the amount of quota that can be consolidated. In addition, the preferred alternative for the trawl rationalization program includes an AMP that would be allocated an amount of harvest

privileges that could be used to mitigate any adverse impacts, including community impacts, that might result from the trawl rationalization program.

National Standard 9 states that conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

In addition to the proposed actions for intersector allocations supporting the trawl rationalization program, which is expected to minimize bycatch, Intersector Allocation Decision 5 would also minimize the bycatch of Pacific halibut through a total catch limit, which is lower than historical catch levels in the trawl fishery.

National Standard 10 states that conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

Intersector allocations do not address safety at sea.

6.3 Goals and Objectives of the Groundfish Strategic Plan

The Council adopted the Groundfish Strategic Plan, “Transition to Sustainability,” in the fall of 2000. The following are the general allocation goals and principles included in the strategic plan, which were also used as criteria for deciding intersector allocation alternatives, conducting analysis of those alternatives, and deciding on the final preferred alternative.

Strategic Plan Goal for Allocation

To distribute the harvestable surplus among competing interests in a way that resolves allocation issues on a long-term basis

General Allocation Principles

1. All fishing sectors and gear types will contribute to achieving conservation goals (no sector will be held harmless). The fair and equitable standard will be applied to all allocation decisions but is not interpreted to mean exactly proportional impacts or benefits.
2. Non-groundfish fisheries that take groundfish incidentally should receive only the minimal groundfish allocations needed to efficiently harvest their target (non-groundfish) species. To determine the amount of allocation required, identify the economic values and benefits associated with the non-groundfish species. Directed fishery harvest of some groundfish may need to be restricted to incidental levels to maintain the non-groundfish fishery. Consider gear modification in the non-groundfish fishery to minimize its incidental harvest.
3. Modify directed rockfish gears, as needed, to improve their ability to target healthy groundfish species and avoid or reduce mortality of weak groundfish species.
4. When information on total removals by gear type becomes available, consider discards in all allocations between sectors and/or gear types. Each sector will then receive adjustments for discard before allocation shares are distributed.

5. Fairly distribute community economic impacts and the benefits and costs of allocation coast-wide. Allocations should attempt to avoid concentration and assure reasonable access to nearby resources. Consider the diversity of local and regional fisheries, community dependency on marine resources and processing capacity, and infrastructure in allocation decisions.
6. Consider impacts to habitat and recovery of overfished stocks or endangered species (dependent on affected habitats) when making allocation changes.
7. Allocation decisions should consider and attempt to minimize transfer of effort into other fishery sectors, particularly for state managed fisheries (crab and shrimp).
8. Allocation decisions will:
 - a. consider the ability to meet increased administrative or management costs; and
 - b. be made if reasonably accurate in-season quota monitoring or annual catch accounting has been established or can be assured to be established and be effective.
9. As the tribes expand their participation in groundfish fisheries, allocations of certain groundfish species may have to be specified for tribal use. In such cases, the Council should ask the affected parties under *U.S. v. Washington* to convene and develop an allocation recommendation.

Area Management as Related to Allocation

10. Structure allocations considering both of the north-south geographic and nearshore, shelf, and slope distributions of species and their accessibility by various sectors and gears.
11. In addressing recreational/commercial rockfish allocation issues, use the following fishery priorities by species group: for nearshore rockfish, states may recommend a recreational preference, with any excess to be made available for commercial use; for shelf rockfish, the Council may set a recreational preference only on a species-by-species basis; and for slope rockfish, the Council has expressed a preference for commercial allocation.
12. Licenses, endorsements, or quotas established through management or capacity reduction measures may be limited to specific areas through exclusive area registrations and consideration of port landing requirements.

CHAPTER 7 CROSS-CUTTING MANDATES

7.1 Other Federal Laws

7.1.1 *Coastal Zone Management Act*

Section 307(c)(1) of the Federal Coastal Zone Management Act (CZMA) of 1972 requires that all Federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. The Council-preferred alternative would be implemented in a manner that is consistent to the maximum extent practicable with the enforceable policies of the approved coastal zone management programs of Washington, Oregon, and California. This determination has been submitted to the responsible state agencies for review under Section 307(c)(1) of the CZMA. The relationship of the groundfish FMP to the CZMA is discussed in Section 11.7.3 of the Groundfish FMP. The Groundfish FMP has been found to be consistent with the Washington, Oregon, and California coastal zone management programs. The recommended action is consistent and within the scope of the actions contemplated under the framework FMP.

Under the CZMA, each state develops its own coastal zone management program, which is then submitted for Federal approval. This has resulted in programs that vary widely from one state to the next. Establishing harvest allocations is not expected to affect any state's coastal management program.

7.1.2 *Endangered Species Act*

As described in Section 3.3.4, a variety of ESA-listed threatened and endangered species occur within the action area. These include salmon, marine mammals, turtles, and seabirds. The alternatives are not expected to alter the timing, intensity, and location of fishing activities, nor to affect interactions of the fishery with protected species. With respect to ESA-listed salmon, only Chinook are expected to interact with the fishery. NMFS manages the trawl fishery to comply with incidental take levels of Chinook set forth in ESA Section 7 consultations.

NMFS issued BOs under the ESA on August 10, 1990, November 26, 1991, August 28, 1992, September 27, 1993, May 14, 1996, and December 15, 1999. NMFS issued a supplemental BO on March, 11, 2006, pertaining to the effects of the groundfish fishery on Chinook salmon (Puget Sound, Snake River spring/summer, Snake River fall, upper Columbia River spring, lower Columbia River, upper Willamette River, Sacramento River winter, Central Valley spring, California coastal), coho

salmon (Central California coastal, southern Oregon/northern California coastal), chum salmon (Hood Canal summer, Columbia River), sockeye salmon (Snake River, Ozette Lake), and steelhead (upper, middle and lower Columbia River, Snake River Basin, upper Willamette River, central California coast, California Central Valley, south-central California, northern California, southern California). During the 2000 Pacific whiting season, the whiting fisheries exceeded the Chinook bycatch amount specified in the Pacific whiting fishery BO (December 15, 1999) incidental take statement estimate of 11,000 fish, by approximately 500 fish. In the 2001 whiting season, however, the whiting fishery's Chinook bycatch was about 7,000 fish, which approximates the long-term average. The whiting fishery again exceeded the incidental take statement level of 11,000 fish in 2005 when almost 12,000 Chinook salmon were caught. In addition, new information became available about the bycatch of salmon in the groundfish bottom trawl sector. The March 11, 2006, supplemental BO evaluated this information and proposed measures to mitigate this bycatch.

7.1.3 **Marine Mammal Protection Act**

The MMPA of 1972 is the principle Federal legislation that guides marine mammal species protection and conservation policy in the United States. Under the MMPA, NMFS is responsible for the management and conservation of 153 stocks of whales, dolphins, and porpoise, as well as seals, sea lions, and fur seals; the USFWS is responsible for walrus, sea otters, and the West Indian manatee.

Off the west coast, the Steller sea lion (*Eumetopias jubatus*) eastern stock, Guadalupe fur seal (*Arctocephalus townsendi*), and Southern sea otter (*Enhydra lutris*) California stock are listed as threatened under the ESA. The sperm whale (*Physeter macrocephalus*) Washington, Oregon, and California stock; humpback whale (*Megaptera novaeangliae*) Washington, Oregon, California and Mexico stock; blue whale (*Balaenoptera musculus*), eastern north Pacific stock; and fin whale (*Balaenoptera physalus*) Washington, Oregon, and California stock are listed as depleted under the MMPA. Any species listed as endangered or threatened under the ESA is automatically considered depleted under the MMPA.

West coast groundfish fisheries are considered Category III fisheries, indicating a remote likelihood of, or no known, serious injuries or mortalities to marine mammals, in the annual list of fisheries published in the Federal Register. Based on its Category III status, the incidental take of marine mammals in the west coast groundfish fisheries does not significantly impact marine mammal stocks. However, recent west coast fixed-gear fisheries, including sablefish pot fisheries, have demonstrated a take of humpback whales, which may result in a recategorization of these fisheries to Category II. Consultation under the MMPA would then be needed to implement Category II fisheries in the next biennium. Because the proposed action formalizes allocations similar to those that have occurred on a biennial basis in the past, the proposed action is not expected to affect the way in which groundfish fisheries interact with marine mammals.

7.1.4 **Paperwork Reduction Act**

The proposed action does not require collection-of-information subject to the Paperwork Reduction Act.

7.1.5 **Regulatory Flexibility Act**

The purpose of the RFA is to relieve small businesses, small organizations, and small governmental entities of burdensome regulations and record-keeping requirements. Major goals of the RFA are (1) to increase agency awareness and understanding of the impact of its regulations on small business, (2) to require that agencies communicate and explain their findings to the public, and (3) to encourage

agencies to use flexibility and to provide regulatory relief to small entities. The RFA emphasizes predicting impacts on small entities as a group distinct from other entities and the consideration of alternatives that may minimize the impacts, while still achieving the stated objective of the action. An IRFA is conducted unless it is determined that an action will not have a “significant economic impact on a substantial number of small entities.” The RFA requires that an IRFA include elements that are similar to those required by EO 12866 and NEPA. Therefore, the IRFA has been combined with the RIR. Section 7.3 contains preliminary draft analytical conclusions specific to the RFA and EO 12866.

7.2 Executive Orders

7.2.1 EO 12866 (Regulatory Impact Review)

EO 12866, Regulatory Planning and Review, was signed on September 30, 1993, and established guidelines for promulgating new regulations and reviewing existing regulations. The EO covers a variety of regulatory policy considerations and establishes procedural requirements for analysis of the benefits and costs of regulatory actions. Section 1 of the EO deals with the regulatory philosophy and principles that are to guide agency development of regulations. It stresses that, in deciding whether and how to regulate, agencies should assess all of the costs and benefits across all regulatory alternatives. Based on this analysis, NMFS should choose those approaches that maximize net benefits to society, unless a statute requires another regulatory approach.

The regulatory principles in EO 12866 emphasize careful identification of the problem to be addressed. The agency is to identify and assess alternatives to direct regulation, including economic incentives such as user fees or marketable permits, to encourage the desired behavior. Each agency is to assess both the costs and the benefits of the intended regulation and, recognizing that some costs and benefits are difficult to quantify, propose or adopt a regulation only after reasoned determination that the benefits of the intended regulation justify the costs. In reaching its decision, the agency must use the best reasonably obtainable information, including scientific, technical, and economic data, about the need for and consequences of the intended regulation.

The RIR and IRFA determinations are part of the combined summary analysis presented in preliminary draft form in Section 7.3 of this document.

7.2.2 EO 12898 (Environmental Justice)

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

Section 8.5 in Appendix A to the 2005-06 groundfish harvest specifications EIS describes a methodology, using 2000 U.S. Census data, to identify potential “communities of concern” because their populations have a lower income or a higher proportion of minorities than comparable communities in their region. Fishery participants make up a small proportion of the total population in these communities, and their demographic characteristics may be different from the community as a whole. However, information specific to fishery participants is not available. Furthermore, different segments of the fishery-involved population may differ demographically. For example, workers in fish

processing plants may be more often from minority populations, while deckhands may more frequently be low income in comparison to vessel owners.

Participation in decisions about the proposed action by communities that could experience disproportionately high and adverse impacts is another important principle of the EO. The Council offers a range of opportunities for participation by those affected by its actions and disseminates information to affected communities about its proposals and their effects through several channels. In addition to Council membership, which includes representatives from the fishing industries affected by Council action, the GAP, a Council advisory body, draws membership from fishing communities affected by the proposed action. While no special provisions are made for membership to include representatives from low-income and minority populations, concerns about disproportionate effects to minority and low-income populations could be voiced through this body or to the Council directly. Although Council meetings are not held in isolated coastal communities for logistical reasons, they are held in different places up and down the west coast to increase accessibility.

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

7.2.3 EO 13132 (Federalism)

EO 13132, which revoked EO 12612, an earlier federalism EO, enumerates “eight fundamental federalism principles.” The first of these principles states “Federalism is rooted in the belief that issues that are not national in scope or significance are most appropriately addressed by the level of government closest to the people.” In this spirit, the EO directs agencies to consider the implications of policies that may limit the scope of or preempt states’ legal authority. Preemptive action having such “federalism implications” is subject to a consultation process with the states; such actions should not create unfunded mandates for the states; and any final rule published must be accompanied by a “federalism summary impact statement.”

The Council process offers many opportunities for states (through their agencies, Council appointees, consultations, and meetings) to participate in the formulation of management measures. This process encourages states to institute complementary measures to manage fisheries under their jurisdiction that may affect federally managed stocks.

The proposed action does not have federalism implications subject to EO 13132.

7.2.4 EO 13175 (Consultation and Coordination with Indian Tribal Government)

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

The Secretary recognizes the sovereign status and co-manager role of Indian tribes over shared Federal and tribal fishery resources. At Section 302(b)(5), the MSA reserves a seat on the Council for a representative of an Indian tribe with federally recognized fishing rights from California, Oregon, Washington, or Idaho.

The U.S. government formally recognizes the four Washington coastal tribes (Makah, Quileute, Hoh, and Quinault) have treaty rights to fish for groundfish. In general terms, the quantification of those rights is 50 percent of the harvestable surplus of groundfish available in the tribes' usual and accustomed fishing areas (described at 50 CFR 660.324). Each of the treaty tribes has the discretion to administer its fisheries and to establish its own policies to achieve program objectives.

The allocations under consideration will not affect the way in which harvest opportunity is allocated to the tribes.

7.3 Regulatory Impact Review and Regulatory Flexibility Analysis

Note: This document addresses on a preliminary basis EO 12866 RIR and the RFA. While not required by NEPA, these analyses are required for Federal rulemaking. As NMFS initiates the rulemaking, these analyses will be updated and refined based on available information and analyses. The primary intent is to provide early consideration of all relevant economic effects of a proposed regulatory action by soliciting early public comments on the expected economic effects of the alternatives proposed. The analysis also provides a platform from which information could be obtained to address the requirements of various applicable laws (e.g., E.O. 12866 and the RFA).

Because this action formalizes recent allocations that have occurred through the biennial specifications and management measures process, this RIR and RFA incorporate by reference the RIR/RFA in Section 10.3 of the FEIS prepared for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2009-2010 Pacific Coast Groundfish Fishery (PFMC and NMFS 2009a). In addition, because this action is part of a related action, Amendment 20 to the groundfish FMP, the reader should also refer to Appendix H of the FEIS for the Rationalization of the Pacific Coast Groundfish Limited Entry Trawl Fishery (NMFS 2010).

7.3.1 Regulatory Impact Review

EO 12866, Regulatory Planning and Review, establishes the requirements for an RIR as described in Section 7.2.1. NMFS requires the preparation of an RIR for all regulatory actions of public interest. The RIR provides a comprehensive review of the changes in net economic benefits to society associated with proposed regulatory actions. The analysis also provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problems. The purpose of the analysis is to ensure that the regulatory agency systematically and comprehensively considers all available alternatives, so the public welfare can be enhanced in the most efficient and cost-effective way. The RIR addresses many of the items in the regulatory philosophy and principles of EO 12866.

The RIR analysis and an environmental analyses required by NEPA have many common elements, and they have been combined in this document. The following table shows where the elements of an RIR, as required by EO 12866, are located in the EIS. This is intended as a brief summary of key findings related to the requirements in these mandates.

Required RIR Elements	Corresponding Sections
Description of management objectives	Chapter 1
Description of the fishery	Chapter 3
Statement of the problem	Chapter 1
Description of each alternative considered in the analysis	Chapter 2
An analysis of the expected economic effects of each alternative	Chapter 4

7.3.1.1 Responses to EO 12866 Requirements for “Significant Regulatory Actions”

The RIR is designed to determine whether the proposed actions could be considered “significant regulatory actions” according to EO 12866. The EO 12866 test requirements used to assess whether or not an action would be a “significant regulatory action” and the expected outcomes of the proposed management alternative are discussed below. A regulatory program is “economically significant” if it is likely to result in the following effects:

- 1.a. Have an annual effect on the economy of \$100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities.

Response: It is unlikely that this action will have an annual affect on the economy of \$100 million or more as differences between the alternatives are no more than \$3 million. The main socioeconomic impact of Amendment 21 allocations is longer-term stability for the trawl industry. While the preferred Amendment 21 allocations do not differ significantly from status quo ad hoc allocations made biennially, there is more certainty in future trawl harvest opportunities, which enables better business planning for participants in the rationalized fishery. This is the main purpose for the Amendment 21 actions. Based on ex-vessel revenue projections, Table 4-18 shows the potential 2010 yield to trawl and non-trawl (including recreational) sectors under the Amendment 21 alternatives and the potential 2010 value of alternative trawl allocations. The potential value of alternative trawl sector allocations ranges from a low of \$54 million (Council Preferred Alternative) to a high of \$57 million (Alternative 3).

- 1.b. Present a risk to long-term productivity.

Response: The proposed action does not present a risk to long-term productivity. Productivity is expected to increase through fleet consolidation and other factors. The gains are expected to continue over the long term as a result of the Trawl Rationalization Program (Amendment 20) for which this is a supporting action.

2. Create a serious inconsistency or otherwise interfere with action taken or planned by another agency.

Response: No inconsistencies or conflicts with the activities of other agencies have been identified.

3. Materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof.

Response: §303A(e) and §304(d)(2) of the MSA provide that up to 3 percent of the ex-vessel value of fish harvested under a limited access privilege program may be assessed to recover costs of management, data collection and analysis, and enforcement activities. The assessment of such a fee is included as part of the proposed action in order to cover management costs, such as maintenance of the system of QS accounts. In 2006, the Federal government established a loan program to purchase groundfish LE trawl permits and associated vessels and retire them from the fishery to reduce capacity. This buyback program is based on both a grant to subsidize the cost and a loan program whereby remaining fishery participants pay a landings-based fee to retire the upfront cost. The proposed action will not alter this obligation, and fishery participants will continue to pay the landings fee.

4. Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this EO.

Response: The proposed action is consistent with the President's priorities as reflected in the NOAA Administrator's emphasis on the use of catch share programs in fishery management

7.3.1.2 *Social Net Benefit Analysis*

EO 12866 (RIR) addresses the regulatory philosophy and principles that guide agency development of regulations. It stresses that in deciding whether and how to regulate, agencies should assess the costs and benefits across all regulatory alternatives, and based on this analysis, choose approaches that maximize net benefits to society (unless a statute requires another regulatory approach).

The following net benefit analysis is provided in support of this requirement. Net benefit analysis takes costs and benefits into account from a national perspective. The minimum standard for a cost-benefit analysis is a qualitative listing of positive and negative impacts. From there, an attempt is made to quantify or provide indicators of the scale of the impacts and, if possible, to assign a monetary value to those changes.

Analytical Approach

Cost-benefit analysis is conducted to evaluate net social benefits attributed to taking a particular action as opposed to not taking the action. With respect to regulatory actions, changes in net benefits are measured as the difference in the present value of the discounted stream of costs and benefits that would accrue with the regulatory action compared with the stream that would have accrued without the action. The alternatives are compared with respect to how the relative differences will affect commercial and tribal fishers, buyers and processors, recreational fishers, non-consumptive users, nonusers and public sector expenditures for enforcement and monitoring.

Cost-benefit analysis conducted for public decisions, such as fishery management, generally assess net social benefits. Social costs and benefits differ from private costs and benefits in that social costs and benefits include total economic costs and benefits, while private costs and benefits measure only those effects that show up on the balance sheet of a firm or agency, or as a financial or consumption effect to the consumer. The following examples are intended to illustrate the difference between private and social costs.

Example 1: When a vessel hires crew, it incurs an accounting cost in the form of the additional wages. However, there may be little or no social cost if that individual would have otherwise been unemployed. From a social perspective, if the individual was otherwise unemployed, no productive output was forgone, so there was no opportunity cost. On the other hand, if a worker is taken away from some other

productive employment in order to work on the vessel, then the lost production from the worker's prior role is considered a cost to society, an opportunity cost.

Example 2: A wetland provides environmental benefits to a lakeside community by filtering pollutants from waste and runoff water before it reaches the lake. While these environmental benefits positively affect property values and quality of life in the community, there is not likely to be a private cost incurred for environmental services by those living in the community.

The minimum standard for a cost-benefit analysis is a qualitative listing of positive and negative impacts. From there, an attempt is made to quantify or provide indicators of the scale of the impacts and, if possible, assign a monetary value to those changes. Unfortunately, there is not enough information on west coast groundfish fisheries for a complete enumeration of net economic benefits from the fishery. However, by examining the individual elements that go into a net benefits analysis, it is possible to show qualitatively how net social benefits may be affected under different policy options. Impacts can also be compared by examining quantitative information on certain components (e.g., variable amounts of fish available for harvest over time). For some elements, it may be possible to associate a dollar value with some of the changes. However, the dollar measure most widely available is ex-vessel revenue from sales to seafood handlers and processors. While ex-vessel revenue is an important component in the calculation of producer surplus, it is only one of the elements necessary for a full determination of costs and benefits.

Factors Considered in Assessing Net Social Benefits

Social net benefit analysis uses measures of costs and benefits to all entities affected by an action in order to assess the net effect on the nation. Net benefits from groundfish fisheries consist of producer surplus and consumer surplus accrued over time. If there are no market distortions, and all goods are traded in markets, consumer surplus and producer surplus can, at least theoretically, be measured by estimating market supply and demand curves. Producer surplus can also be calculated from revenue and cost data using opportunity costs rather than accounting costs.

Benefits and costs may accrue to consumers or producers not only through their own activity, but also through changes in public expenditures. For example, government expenditure for a new program is ultimately financed by a transfer payment from consumers or producers to the government in the form of taxes. In some cases, the cost of a new government activity is not met through taxes, but rather by reprogramming existing governmental funds. For example, a new regulation requires increased enforcement effort, but agency budgets are not increased sufficiently to cover the new effort. In this instance, the opportunity cost of the new regulation may result in the loss of existing activities.

Producer Surplus

Total producer surplus is the difference between the amounts producers actually receive for providing goods and services and the economic costs producers incur to do so. Economic costs are measured by the opportunity cost of all resources, including the raw materials, physical capital, and human capital used in producing these goods and services.

In a fishery, the main capital investments are expenditures for vessels, gear, and associated fishing permits. For an individual fishing business, producer surplus is the difference between gross revenues and all costs, including payments to labor and owners of the business. At the industry or fishery level, producer surplus is the sum of net economic rent accruing to owners who control the relatively fixed factors of production (e.g., vessels, permits, fishing rights, specific knowledge, and entrepreneurial

capacity). Producer surplus in the fishing sector can increase through a reduction in unit harvesting costs (improved economic efficiency) or an increase in ex-vessel prices received.

Vessels and the Fishing Firm

Because information on the businesses that own fishing vessels is not readily available, we generally use the fishing vessel as a proxy for the fishing business. For analytical purposes, the vessel is viewed as a profit center owned by the fishing business that must cover all fishing costs, including materials and equipment, payments to captain and crew, and a return to the vessel owners.

Other Affected Producers

In addition to commercial fishing vessels, other fishery-dependent businesses that may be affected include suppliers, buyers who act as intermediaries between vessels and consumers, processors who purchase raw materials from commercial vessels to produce seafood products, and charter or party vessels that provide recreational fishing experience for paying customers, among others. A thorough accounting of net benefits would include measurement of producer surpluses accruing to these business sectors as well as to fishing vessels.

Consumer Surplus

Consumer surplus is the net value of products consumed, or the difference between what the consumers actually pay and what they would be willing to pay (i.e., the value to consumers over and above the actual purchase price). Consumer surplus can increase through a reduction in prices paid, an increase in quantities consumed, or improvement in product quality. Consumer surplus exists because, while some consumers are willing to pay more than the going price, the forces of supply and demand in competitive markets determine a single price for a good at a given time and place. Consumer surplus can, therefore, be loosely interpreted as the extra income available for spending on other items because some consumers pay less than they would be willing to pay. However, not all goods and services are exchanged in markets with market prices.

Market Consumer Goods

For goods sold in markets where a consumer price can be determined, for example seafood, available price and quantity information may be used to estimate consumer surplus. However, if, due to the availability of imports or other protein substitutes, a change in the quantity of fish available is not expected to affect prices, then a given regulatory action may have little or no impact on consumers.

Individuals pay fees to participate in recreational fishing trips on charter vessels. Price and quantity information may be used to estimate consumer surplus. However, charter trips are often purchased as part of a bundle of goods and services that include other nonfishing recreational activities. Therefore, the difficulty in estimating consumer surplus from charter fishing trips may be comparable to that described below for private recreational trips.

Non-Market Consumer Goods – Consumptive (Use Values)

For recreational fishing trips taken on private vessels, the prices and quantities associated with each transaction are very difficult to quantify. The term “private” is used to describe a recreational angler fishing from a private vessel, shore, bank, or a public pier. This term is used to distinguish private anglers from those who take part in trips on charter vessels. For the private recreational angler, the amount spent on fishing gear, licenses, and other goods and services necessary to carry out a particular

fishing trip is difficult to separate from total annual expenditures. Additionally, depending on the value an individual places on alternatives to fishing, the consumer surplus associated with a trip may far exceed actual trip expenditures.

Non-Market Goods – Nonconsumptive and Nonuse

Nonconsumptive users may experience benefits from the use or nonuse values provided by the resource. Examples of nonconsumptive use values include wildlife viewing and the derivation of secondary benefits from ecosystem services (e.g., sewage treatment services provided by wetlands). Non-users may also value resources for their own sake. Several types of non-use benefits have been identified, including the following:

- (1) Existence value is derived from knowing a fish population or ecosystem is protected without intent to harvest, observe, or otherwise derive direct benefits from the resource.
- (2) Option value refers to knowing a fish population, habitat, or ecosystem is available for use, regardless of whether the resource is actually used.
- (3) Bequeathal value refers to knowing a fish population, habitat, or ecosystem is protected for the benefit of future generations.

These benefits may accrue to individuals as a result of the preservation of healthier, more abundant fish stocks. They may be closely related and may overlap with values the general public places on wildlife and natural parks.

The very existence of coastal fishing communities may have intrinsic social value. For example, the Newport Beach, California, dory fishing fleet, founded in 1891, has been designated a historical landmark by the Newport Beach Historical Society. The city grants the dory fleet use of the public beach in return for the business and tourism generated by this unique fishery.

Comparison of the Alternatives

In support of the Trawl Rationalization Program, the main socioeconomic impact of Amendment 21 allocations is longer-term stability for the trawl industry. While the preferred Amendment 21 allocations do not differ significantly from status quo ad hoc allocations made biennially, there is more certainty in future trawl harvest opportunities, which enables better business planning for participants in the rationalized fishery. This is the main purpose for the Amendment 21 actions. Based on ex-vessel revenue projections, Table 4-18 shows the potential 2010 yield to trawl and non-trawl (including recreational) sectors under the Amendment 21 alternatives and the potential 2010 value of alternative trawl allocations. The potential value of alternative trawl sector allocations ranges from a low of \$54 million (Council Preferred Alternative) to a high of \$57 million (Alternative 3). The economic effects evaluated in the social net benefit analysis below arise from the impacts on current and future harvests. The need to constrain groundfish harvests to address overfishing has had substantial socioeconomic impacts.

The groundfish LE trawl sector has experienced a large contraction, spurred in part by a federally subsidized vessel and permit buyback program implemented in 2005. Follow-on effects have been felt in coastal communities where groundfish trawlers comprise a large portion of the local fleet. As the fleet size shrinks and ex-vessel revenues decline, income and employment in these communities are affected. Fishery-related businesses in the community may cease operations because of lost business. This can affect non-groundfish fishery sectors that also depend on the services offered by these businesses, such as providing ice and buying fish. An objective to the trawl rationalization program is to mitigate some of these effects by increasing revenues and profits within the trawl sector. However,

because further fleet consolidation is expected, the resulting benefits are likely to be unevenly distributed among coastal communities. Some communities may see their groundfish trawler fleet shrink further as the remaining vessels concentrate in a few major ports.

7.3.2 Impacts on Small Entities (Regulatory Flexibility Act)

The RFA requires government agencies to assess the effects that regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those effects. A fish-harvesting business is considered a “small” business by the Small Business Administration (SBA) if it has annual receipts that do not exceed \$4.0 million. For related fish-processing businesses, a small business is one that employs 500 or fewer persons. For wholesale businesses, a small business is one that employs not more than 100 people. For marinas and charter/party boats, a small business is one with annual receipts that do not exceed \$6.5 million.

The data available for this analysis are based on data sets that have vessel and buyer/processor identifiers. The commercial data are from the PacFIN data system, and the recreational data were provided by the states. The vessel and processor counts are based on unique vessel and buyer/processor identifiers. However, in many cases, a single firm may own more than one vessel, or a buyer/processing facility may include more than one profit center. Therefore, the counts should be considered upper bound estimates. Additionally, businesses owning vessels and/or buyers and processors may have revenue from fisheries in other geographic areas, such as Alaska, or from nonfishing activities. Therefore, it is likely that, when all operations of a firm are aggregated, some of the small entities identified here are actually larger than indicated.

7.3.2.1 Effects of Council-Preferred Alternative-Summary

Harvest specifications and related management measures imposed in the 1980s and early 1990s led to the over-exploitation and depletion of the groundfish stocks currently designated as overfished. Many of these stocks are relatively unproductive and slow to rebound to MSY levels from their current depleted state. Rebuilding plans provide a framework that constrains harvests determined to rebuild the stocks in the shortest time possible while taking into account the adverse socioeconomic impacts entailed in the need to constrain harvests. These requirements are expected to affect groundfish management for the near future due to the estimated long periods required to rebuild some stocks. In this regard, canary and yelloweye rockfish impose the greatest constraints because of the very low harvest limits required and their occurrence as bycatch in several fisheries. As described above, the trawl rationalization program could create an incentive structure and facilitate more comprehensive monitoring to allow bycatch reduction and effective management of the groundfish fisheries. While the preferred Amendment 21 allocations do not differ significantly from status quo ad hoc allocations made biennially, there is more certainty in future trawl harvest opportunities, which enables better business planning for participants in the rationalized fishery. This is the main purpose for the Amendment 21 actions. Based on ex-vessel revenue projections, Table 4-18 shows the potential 2010 yield to trawl and non-trawl (including recreational) sectors under the Amendment 21 alternatives and the potential 2010 value of alternative trawl allocations. The potential value of alternative trawl sector allocations ranges from a low of \$54 million (Council Preferred Alternative) to a high of \$57 million (Alternative 3).

7.3.2.2 Responses to the Key Elements of an Initial Regulatory Flexibility Act

In addition to an economic impact analysis, Section 603 (b) of the RFA identifies the elements that should be included in the IRFA. These are bulleted below, followed by information that addresses each element.

- *A description of the reasons why action by the agency is being considered*

The purpose and need for the proposed action are described in Section 1.3 as follows:

1. To simplify or streamline future decisions by making formal allocations of specified groundfish stocks and stock complexes. Formal allocations are fixed and do not have to be decided through every biennial process or developed indirectly through the structure of management measures.
2. To support rationalization of the LE trawl fishery (Amendment 20). Long-term, formal allocations of Amendment 21 species to the LE trawl sectors will provide more certainty to these sectors by reducing the risk that these sectors would be closed because of other non-trawl sectors exceeding their allocation. Such certainty will be especially important under the proposed IFQ and harvest cooperative systems proposed under the Amendment 20 trawl rationalization program, because it will make it easier for fishers to make long-range planning decisions based on the allocation of harvest privileges. In addition, supporting Amendment 20, which will require individual accountability of catch and bycatch, will improve overall total catch accounting of groundfish species by the group with the largest amounts of groundfish catch, the trawl sector. While allocations could be made biennially to support trawl rationalization, this would be a more difficult and controversial process than making those decisions in advance.
3. To limit the bycatch of Pacific halibut in future LE trawl fisheries. A total catch limit of Pacific halibut, with the intent of further minimization of Pacific halibut bycatch in Area 2A trawl fisheries, is consistent with the MSA mandate to minimize bycatch and will provide increased benefits to Area 2A fishers targeting Pacific halibut.

- *A succinct statement of the objectives of, and legal basis for, the proposed rule*

The objectives are contained within the purpose and need described in Section 1.3 and repeated above.

The introductory paragraph in Chapter 1 provides information on the legal basis for the proposed action (proposed rule). The proposed action must conform to the MSA, the principal legal basis for fishery management within the EEZ, which extends from 3 to 200 nautical miles from shore. In addition to addressing MSA mandates, the proposed action must be analyzed pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended. This EIS is organized so that it contains the analyses required under NEPA, the RFA, and EO 12866.

- *A description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply*

It is estimated that implementation of the Council's preferred alternative will affect about 2,600 small entities. These small entities are those that are directly regulated by the proposed rule that will be promulgated to support implementation of the Council's preferred alternative. These entities are associated with those vessels that either target groundfish or harvest groundfish as bycatch. These vessels participate in the LE portion of the fishery, the open access fishery, the charterboat fleet, and the tribal fleets.

Best estimates of the LE groundfish fleet are taken from the NMFS Northwest Region, Fisheries Permits Office. As of November 2009, there are 399 LEs including 177 endorsed for trawl (172 trawl only, 4 trawl and longline, and 1 trawl and trap-pot); 199 endorsed for longline (191 longline only, 4 longline and trap-pot, and 4 trawl and longline); 32 endorsed for trap-pot (27 trap-pot only, 4 longline and trap-

pot, and 1 trawl and trap-pot). Of the longline and trap-pot permits, 164 are sablefish-endorsed. Of these endorsements, 117 are “stacked” on 45 vessels. Eight of these permits are used or owned by catcher-processor companies associated with the whiting fishery. The remaining 395 entities are assumed to be small businesses based on a review of sector revenues and average revenues per entity. The open access or nearshore fleet, depending on the year and level of participation, is estimated to be about 1,300 to 1,600 vessels. Again, these are assumed to be “small entities.” The tribal fleet includes about 53 vessels, and the charterboat fleet includes 525 vessels that are also assumed to be “small entities.”

Of the 177 LE trawl permits, there are 142 distinct entities that own catcher vessel LE trawl permits, potentially meeting the definition of small entities. [Catcher-processors are considered large entities.] A few of the entities that own catcher vessel LEPs may qualify as large entities based on their overall operations. Mothership catcher vessels are not deemed small entities because many of them also operate in Alaska fisheries. In addition, some of these permits are owned by mothership companies or shorebased processors that are considered large entities.

According to 2006 data, there are 67 active processing entities, defined as having received greater than 1 mt of groundfish during the 2004-2006 period.

- ***A description of the projected reporting, record-keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirements of the report or record***

This proposed action does not have any reporting, record-keeping, and other compliance requirements.

However, the related action, the trawl rationalization program (Amendment 20), does have reporting, record-keeping, and other compliance requirements (Appendix H in the Amendment 20 DEIS). As part of that action, NMFS will be placing observers and/or cameras on board all catcher vessels in the shorebased sector (which combines the current shorebased whiting and nonwhiting trawl sectors). Existing requirements for motherships, mothership catcher vessels, and catcher processors will continue. Independently contracted processing plant monitors will track landings. Also, there will be a new reporting requirement related to the tracking of QSs and QPs in the shore-based fishery.

- ***An identification, to the extent practicable, of all relevant federal rules, which may duplicate, overlap, or conflict with the proposed rule***

No federal rules have been identified that duplicate, overlap, or conflict with the alternatives. Public comment is hereby solicited, identifying such rules.

- ***A description of any significant alternatives to the proposed rule that accomplish the stated objectives that would minimize any significant economic impact of the proposed rule on small entities***

There were no significant alternatives to the proposed rule that would accomplish the stated objectives to minimize any significant impacts of the proposed rule on small entities.

CHAPTER 8 LIST OF PREPARERS

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Ms. Carrie Montgomery	Proofing and editing

Other Contributors

Name	Affiliation	Participation
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Groundfish Allocation Committee

The GAC, GAC member alternates, and GAC advisors worked with the Council to develop, analyze, and recommend alternatives.

Name	Affiliation
Mr. Donald Hansen	Dana Wharf Sportfishing & Pacific Fishery Management Council Chair
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Mr. Pete Leipzig	Fisher's Marketing Association
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Ms. Heather Mann	Munro Consulting
Mr. Robert Osborn	United Anglers of Southern California
Mr. Daniel Waldeck	Pacific Whiting Conservation Cooperative

CHAPTER 9 LIST OF AGENCIES AND ORGANIZATIONS CONSULTED

The following agencies and organizations were consulted in the preparation of this document.

Governmental Agencies

National Oceanic and Atmospheric Administration
NOAA General Counsel
National Marine Fisheries Service Northwest Region
National Marine Fisheries Service Northwest Fisheries Science Center
National Marine Fisheries Service Southwest Fisheries Science Center
Northwest Indian Fisheries Commission
Pacific States Marine Fisheries Commission
California Department of Fish and Game
Oregon Department of Fish and Wildlife
Washington Department of Fish and Wildlife

Environmental Non-Governmental Organizations

Environmental Defense Foundation
Natural Resources Defense Council
Oceana
Pacific Marine Conservation Council

Fishing Associations

Coos Bay Trawlers
Fishers's Marketing Association
Midwater Trawlers Association
Oregon Trawl Commission
Pacific Coast Federation of Fishers's Associations
Pacific Whiting Conservation Cooperative
West Coast Seafood Processors Association

CHAPTER 10 RESPONSES TO COMMENTS

10.1 Introduction

Consistent with CEQ regulations and NMFS guidance, the DEIS was made available for a 45-day public comment period that ended on March 15, 2010. During that time, comments were received from the following individuals and organizations:

1. Mark A. Barnhart
2. Ecotrust
3. Food and Water Watch
4. Greenpeace
5. Mike Haggren
6. Jim G. Likes
7. Natural Resources Defense Council (NRDC)
8. Pacific Coast Federation of Fishermen's Associations (PCFFA)
9. Port Orford Ocean Resource Team (POORT)
10. U.S. Department of Interior
11. U.S. Environmental Protection Agency, Region 10

The comments and responses are organized by topic area in the following section. A comment statement summarizes what is usually a longer section of the original comment letter. Each comment is referenced so that the reader may refer back to the corresponding text of the original comment letter. The comment letters are available on the Council's website at [http://www.pcouncil.org/groundfish/fishery management plan/fmp amendment 21](http://www.pcouncil.org/groundfish/fishery%20management%20plan/fmp%20amendment%2021).

10.2 Comments on the Characterization of the Proposed Action

Comment 1: The DEIS defines the purpose and need for Amendment 21 in unreasonably narrow terms by focusing only on permanent allocations. If the purpose of Amendment 21 is to streamline the allocation process and provide more business certainty to the trawl sectors, there is a broad spectrum of methods to accomplish those goals with potentially less significant environmental repercussions than fixed, long-term allocations. The purpose and need for Amendment 21 must be stated in terms that allow for consideration of those alternatives. The comment suggests that Section 1.3, regarding the purpose and need, indicates the FMP's conservation goal isn't as important in the allocation as economics and utilization NRDC, pages 4-5.

Response: The stated purpose and need for Amendment 21 is correctly described and is based on the intent of the Council and NMFS to consider Amendment 21. Through a concerted, open, and transparent public input process, the scope of the proposed action under Amendment 21 was refined, relative to the action originally contemplated when the Amendment 21 process was initiated in June 2004. The Council established a GAC to comprehensively address the Amendment 21 alternatives, as well as the scope of the analysis. To assist in this process, the Council appointed representatives of the limited entry trawl sector, limited entry fixed gear sector, directed open access sector, shoreside processing sector, at-sea processing sector, and a conservation representative to provide their input regarding how to structure the alternatives for analysis and what considerations have to be made in the analysis, which ultimately affected the scope of the proposed action (see Appendix A in the DEIS). Through the GAC and Council processes, the scope of the proposed action was refined relative to the action originally contemplated. As an example, in October 2006, the GAC considered two options for sector assemblages: 1) a nine-sector option (LE trawl non-whiting, LE trawl motherships, LE trawl catcher-processors, LE trawl shoreside, LEFG-line gears, LEFG-pots/traps, directed open access (OA), incidental OA, recreational, and tribal) and 2) a four-sector option (LE trawl, LEFG, OA, and recreational). The tribal allocations were to be considered under a separate process. Following discussion, the GAC decided to recommend analysis of the four-sector option. Ultimately, the Council decided to refine the scope of the proposed Amendment 21 action by 1) considering only trawl and non-trawl sector allocations, with the non-trawl sector allocations aggregated for all the directed non-trawl sectors (i.e., collective allocations to limited entry fixed gear, directed OA, and recreational sectors); and 2) limiting the species subject to Amendment 21 allocations to those that are dominant to the trawl sector.

Section 1.3 discusses two goals that are *specific* to formal allocations: FMP Goal 2 – Economics – Maximize the value of the groundfish resource as a whole; and FMP Goal 3 – Utilization – Achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities. It goes on to say that any intersector allocations must also be decided within the context of FMP Goal 1 – Conservation – Prevent overfishing and rebuild overfished stocks by managing for appropriate harvest levels and prevent, to the extent practicable, any net loss of the habitat of living marine resources. The Council also considered these goals, and, either directly or indirectly, 18 objectives of the groundfish FMP that address conservation, economic, and social factors. Details on this approach are provided in Chapter 6 of this EIS.

Comment 2: A21 does not identify a policy problem to be addressed, nor does it provide alternatives that allow the choice of an approach. The alternatives presented are not alternatives but simply tweaks of the same plan. The alternatives do not allow the choice of an approach that would maximize societal benefits consistent with EO 12866. Food & Water Watch pages 2-3.

Response: None of the proposed actions under Amendment 21 had been decided prior to final action on Amendment 21 by the Council in April 2009. The species subject to Amendment 21 allocations were never formally allocated in the past with long-term sector catch sharing agreements. All allocations of these species made since the implementation of the Sustainable Fisheries Act and Amendment 11 to the Pacific Coast Groundfish FMP were short-term allocations decided in past annual or biennial specifications processes, largely as a result of trying to provide the most economic benefit from fishing opportunities to fishing communities while accomplishing rebuilding objectives.

The commenter states that “what is presented for review is a predetermined course of action to lock in the lion share of groundfish quota to the trawl fishery.” Most of the species subject to Amendment 21 trawl/non-trawl allocations are trawl-dominant (sector dominance for a species is defined in the EIS as

average landings during the 1995 to 2005 period to the sector at least 90 percent of total directed non-treaty landings; see Table 4-17 in the FEIS) based on the sector catch histories used in Amendment 21 analyses. The proposed action largely limits the trawl allocation of many of the Amendment 21 species to percentages less than the historical trawl catch shares to the benefit of the non-trawl sectors. For instance, the proposed action limits the maximum trawl allocation of any Amendment 21 species to 95 percent of the directed harvest when historical trawl catch shares for many of these species have been higher than 95 percent. In the case of Dover sole and English sole, historical trawl catch shares have been 99 to 100 percent, largely due to the fact that non-trawl gears are ineffective at catching these species. However, the Council decided to provide a higher non-trawl catch share than observed historically to allow improvisation of non-trawl gears and fishing strategies and potential development of non-trawl fisheries for these species. Amendment 21 species' allocations that tend to favor non-trawl sectors (i.e., non-trawl sector allocations greater than observed in the 1995 to 2005 historical catch) include Pacific cod, Pacific ocean perch, chilipepper rockfish south of 40°10' N lat., splitnose rockfish south of 40°10' N lat., shortspine thornyhead north of 34°27' N lat., longspine thornyhead north of 34°27' N lat., darkblotched rockfish, Dover sole, English sole, petrale sole, arrowtooth flounder, starry flounder, and species in the Other Flatfish complex. All the other Amendment 21 species' allocations under the proposed action are generally favorable to non-trawl sectors in that the highest non-trawl-sector catch percentages analyzed were proposed to be allocated to the non-trawl sectors. The only exception to this is lingcod where a more favorable trawl allocation is recommended under the proposed action. As discussed on page 112 of the DEIS, the rationale for a higher trawl allocation of lingcod is that, unlike the non-trawl sectors that predominantly use hook-and-line gears to target groundfish, the trawl sectors are not as constrained by management measures designed to foster yelloweye rockfish rebuilding. This is because the mandatory use of trawls with small-diameter footropes (i.e., at least 8 inches) shoreward of the RCA effectively keeps bottom trawls out of the high relief habitats where yelloweye occur. A higher trawl allocation of lingcod would minimize stranding of harvestable yields of lingcod that would otherwise be allocated to non-trawl sectors and unavailable for harvest due to yelloweye rebuilding constraints. While the trawl representatives on the Groundfish Advisory Subpanel, the groundfish industry advisory body to the Council, preferred a higher trawl allocation than that recommended under the preferred alternative, the non-trawl representatives were in unanimous support of the preferred alternative. Clearly, they believed that the non-trawl share of lingcod under the preferred alternative would accommodate the needs of the non-trawl sectors for the near future.

The comment that there is insufficient information in the DEIS to do an appropriate RIR compliant with EO12866 (Regulatory Impact Review) is unfounded. The RIR/IRFA is tied to the regulatory process, and its inclusion in the EIS is not required, but the EIS is frequently used as a way of disseminating this information to the public. Furthermore, the contents of the DEIS overlap with many, but not all, of the required elements of the RIR/IRFA analysis. However, the RIR/IRFA analysis has specific analytical requirements, such as cost-benefit analysis, that is not required in an EIS (40 CFR 1502.23). At the time the DEIS was published, the development of implementing regulations for Amendment 21 had not proceeded to a point where the RIR/IRFA analysis could be fully developed. A complete RIR/IRFA analysis has been prepared in conjunction with the Federal rulemaking, implementing Amendments 20 and 21, and is included in the Amendment 20 FEIS "Rationalization of the Pacific Coast Groundfish Limited Entry Trawl Fishery" as Appendix H.

10.3 Comments on the Range of Alternatives

Comment 3: The Council should have considered other alternatives, such as the cap-rent-recycle model of LAPP management advocated by Food & Water Watch. Food and Water Watch, page 4.

Response: This comment is not relevant to the proposed action since the Amendment 21 action is to establish sector allocations, while the cap-rent-recycle model of LAPP management is an alternative mechanism for LAPP management related to the Amendment 20 action. The cap-rent-recycle model of the LAPP management concept was addressed in Chapter 10 of the Amendment 20 EIS “Rationalization of the Pacific Coast Groundfish Limited Entry Trawl Fishery” on page 650, and is quoted here. “This alternative would have government capture resource rents to be used for public purposes. The use of fixed-term QS that would be auctioned off periodically is one method to achieve such “rent capture.” The Council considered fixed terms and auctions but rejected this mechanism from further detailed study. In doing so, the Council considered the analysis contained in Appendix F of the Amendment 20 EIS and the critique of the analysis presented by its SSC. The Council rejected inclusion of fixed-term QS and auctions in the range of alternatives, because (1) auctioning quota at the outset of the program could make it more difficult for the groundfish trawl fleet to successfully transition to IFQ/co-op management, and (2) exclusion of auctions from the range of alternative does not imply that access privileges have been irrevocably distributed.

The Council intends to give further consideration of auctioning harvest privileges during the 5-year program review required in the program adopted by the Council.

Comment 4: The DEIS’ range of alternatives is overly narrow. The five action alternatives are virtually indistinguishable. In every alternative, the bulk of species harvest allocations for the trawl sector fall between 90-100 percent, with minor variations between alternatives. These unquestionably fail to meet NEPA’s requirement for a broad, robust range of alternatives. In order to meet NEPA’s mandate for a robust set of alternatives that takes into account all possible approaches, NMFS must analyze alternatives that significantly increase the limited entry fixed gear’s current harvest level. We suggest an alternative that shifts allocations from the trawl sector to the fixed gear sector by an absolute 25-30 percent. Fixed gear is less environmentally destructive than trawl gear, generally having substantially lower bycatch rates for most species and lesser habitat impacts. [citations to a variety of studies] NRDC pages 6-8.

Response: The range of alternatives for decision step 1, where the trawl/non-trawl allocations are considered, is reasonable and was developed in an open public process. The Council charged its GAC with the task of developing alternatives. To aid the GAC in this task, the Council appointed representatives of the limited entry trawl sector, limited entry fixed gear sector, the directed open access sector, the shoreside processing sector, the at-sea processing sector, and a conservation representative to provide input on how to structure the alternatives for analysis and what considerations have to be made in the analysis (see Appendix A in the DEIS). Further, the Council process of considering final alternatives for analysis was an open public process where input from affected stakeholders and management entities was actively solicited before GAC-recommended alternatives were considered for detailed analysis.

The final range of alternatives developed for detailed analysis is the result of the refined scope of the proposed action relative to the action originally contemplated when the Amendment 21 process was initiated in June 2004. The Council had decided to refine the scope of the proposed Amendment 21 action by 1) only considering trawl and non-trawl sector allocations with the non-trawl sector allocations aggregated for all the directed non-trawl sectors (i.e., collective allocations to limited entry fixed gear, directed open access and recreational sectors) and 2) limiting the species subject to Amendment 21 allocations to those that are dominant to the trawl sector (14 of 23 species under the proposed action – see response to comment 1.2 and Table 4-17 in the EIS) or significant species for the trawl fishery (i.e., at least 10 percent of average 1995 to 2005 landings to the sector but at least 90 percent of average landings; 8 of the 9 remaining species – see Table 4-17 in the EIS). The remaining stock subject to the proposed action is shortspine thornyhead south of 34°27’ N lat., which

was historically caught in minimal amounts by trawls and is minimally allocated to the trawl sector to allow implementation of trawl rationalization. Therefore, due to the propensity of these species in the trawl fishery, some of which are only effectively caught using trawl gear, it is expected that the trawl sector would have a relatively large take in the historical catch time series used in the analysis. Further, the historical catch data used to inform the alternatives was limited to years later than 1994 when the limited entry program was implemented, and the various sectors of the fishery were formed. The historical catch series used to inform the alternatives was truncated at 2005 since this was the last full year of reconciled final catch data by sector available when the alternatives for detailed analysis were decided. Last, the allocation framework in Section 6.3 of the FMP requires the Council to consider the following factors when deciding formal allocations: 1) present participation in and dependence on the fishery, including alternative fisheries; 2) historical fishing practices in and historical dependence on the fishery; 3) the economics of the fishery; 4) any consensus harvest sharing agreement or negotiated settlement between the affected participants in the fishery; 5) potential biological yield of any species or species complex affected by the allocation; 6) consistency with the Magnuson-Stevens Fishery Conservation and Management Act national standards; and 7) consistency with the goals and objectives of the FMP. These considerations, especially those concerning sector dependence, participation, and historical fishing practices, require a strong consideration of sector catch-based approach in deciding intersector allocations.

The commenter argues that higher fixed gear (i.e., non-trawl) allocations should have been considered to reduce bycatch and potential impacts to EFH. As explained in more detail in the response to comment 7, NMFS believes that this assertion regarding the benefit of increases in non-trawl harvest is too simplistic, but will be further explored by NMFS in the near future. Nonetheless, as stated in Section 4.2 of the DEIS, the proposed action under Amendment 21 does not provide more bottom trawl opportunity than status quo management measures and allocations. In addition, the proposed action under Amendment 20 trawl rationalization allows limited entry trawl permit holders to switch from trawl to fixed gears to fish their quotas, which, in turn, would reduce trawl impacts. It also allows nontrawl vessels to harvest the allocation to the trawl sector if they acquire a trawl permit and IFQ. The proposed action under Amendment 21 also provides higher non-trawl allocations for most of the affected species than under any of the other alternatives, including the No Action Alternative, and higher non-trawl allocations than the historical sector catch shares used to inform the intersector allocation alternatives. These facts lead to the conclusion that potential adverse impacts from trawl gear could be expected to be lower under the proposed action than under status quo management or under any of the other alternatives analyzed.

Last, the commenter uses the allocation of the sablefish stock north of 36° N lat. as an example where a higher non-trawl allocation could be well utilized and would mitigate impacts incurred from bottom trawling. That stock has been allocated between the trawl and fixed-gear sectors for many years, and that allocation is not being revised under the proposed action. In addition, see response to comment 7.

Comment 5: Decision 6, Formalizing allocations. The DEIS does not include a status quo alternative for the allocation process. Under status quo, allocation decisions are made under the biennial harvest specifications process. We suggest an alternative that would provide greater certainty to the trawl sector and all other sectors by enabling a more stable, healthy and robust fishery, using allocation as a management tool to limit bycatch of overfished species and destruction of EFH. This alternative would comprise a thorough analysis of the fishery (similar to that proposed by Alternative 2) along with impacts from gear types and the related benefits of using allocation as a management tool (by reviewing impacts resulting from a spectrum of allocations). This front-loaded analysis would allow the Council to make more informed and expeditious allocation decisions in the future. NRDC, pages 9-10.

Response: Decision step 6, whether to formalize Amendment 21 allocations in the FMP or in Federal Regulations, is a largely administrative issue. Considering or amending formal allocations, whether they are formalized in the FMP or in regulations, requires the same public process of notice and comment rulemaking. There is arguably a slightly higher administrative burden to NMFS to amend an FMP than to amend Federal Regulations, but that would not, in itself, make it more difficult to amend any formal allocation nor would it pose any burden on non-agency stakeholders to consider or recommend future modifications to formal allocations.

The commenter states that the DEIS inexplicably omits the status quo from the discussion of alternatives for decision 6. Section 2.4 in the DEIS, where the decision 6 alternatives are described, clearly states, “Alternative 1 is to maintain the status quo formal allocation process of amending the FMP to decide formal allocations.”

NMFS agrees that the volatility of sector catches of some of the overfished groundfish species is best accommodated by maintaining biennial allocations. It is for this reason that the Council decided to omit those overfished species that are significantly caught in trawl and non-trawl fisheries (specifically bocaccio, cowcod, canary rockfish, and yelloweye rockfish) from the proposed action. Only those overfished species that are predominantly caught in trawl fisheries (specifically darkblotched rockfish, Pacific ocean perch, and widow rockfish) are subject to Amendment 21 allocations. These species are most effectively caught in trawl gears and are not targeted in non-trawl fisheries. Each of these trawl-dominant overfished species’ rebuilding plans hold non-trawl fisheries harmless with rebuilding measures imposed only on trawl fisheries. The historical non-trawl catches of these species are not volatile, nor is there a particular dependence on these species by the non-trawl sectors. Therefore, NMFS does not agree that the proposed action to formalize allocations of these trawl-dominant overfished species in the FMP is a premature action when these populations are in a state of flux. The allowable harvests of these particular species under rebuilding is still decided in the biennial harvest specifications process where the objective is to develop rebuilding measures that result in the shortest rebuilding times, while considering the socioeconomic impacts to fishing communities. “Volatility” of these particular stocks, driven by scientific uncertainty of stock status and/or stock productivity, is best addressed in the biennial process of deciding harvest specifications by using the best available science, stock assessments, and rebuilding analyses, rather than by an allocation decision.

Comment 6: The DEIS fails to analyze a required no action alternative. Alternative 1, the “status quo” or no action, alternative differs from the status quo by proposing to incorporate allocations in the FMP so that changes to those allocations could only be accomplished through an amendment to the FMP. While NMFS could conceivably formalize allocations by amending the FMP, that is not its current practice. Current allocations are set during the biennial specifications and management measures process. NRDC, pages 10-11.

Response: The No Action alternative is correctly described in Section 2.1.1 of the DEIS as, “only long-term fixed allocations for Pacific whiting and sablefish north of 36° N latitude exist (see Sections 2.1.1.1 and 2.1.1.2) and all other species are not formally allocated between trawl and non-trawl.” There are also further explanations in the DEIS that short-term, ad hoc allocations are decided in the biennial specifications process when formal allocations do not exist. The analysis indicates that the resulting “no action” allocations may be best described as the resulting catch shares to trawl and non-trawl sectors in recent years, which is best described in Action Alternatives 1 and 2 which use average 2003 to 2005 sector catch shares as a basis. The analyses also indicate there are few significant differences between the alternative trawl and non-trawl catch shares across these alternatives with the preferred alternative being the most favorable to non-trawl sectors for all species other than lingcod (see response to comment 2 for a further discussion of the rationale of the proposed action). The comment may best be distilled down to whether to have formal allocations for these species under the

proposed action or to adopt the No- Action Alternative and not have formal allocations of these species. NMFS does not agree the analysis of the No Action Alternative is insufficient to make this decision.

Comment 7: The DEIS fails to identify environmental impact-based alternatives. The DEIS does not comply with NEPA’s regulations requiring NMFS to “present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public” because environmental issues applicable to each alternative are not sharply defined and compared among the alternatives. “The DEIS fails to recognize the universe of scientific studies on the effects of trawling, especially regarding its highly destructive impacts on ocean habitat.” NRDC pages 11-13.

Response: As noted in the DEIS, an allocation decision does not directly influence the overall harvest of affected species or the amount and distribution of fishing effort by gear types which might have habitat impacts. Further, the contemplated gear switching provisions under Amendment 20 will allow trawl allocations to be taken with fixed gears that the commenter asserts have less of a habitat impact than bottom trawls. It is also expected that Amendment 20 trawl rationalization will result in less trawl effort through fleet consolidation. Given that formal allocations of trawl-dominant and other important trawl target species have been judged in the scoping process to be important to support trawl rationalization, the proposed action under Amendment 21, by indirectly supporting trawl rationalization, should reduce species impacts by monitoring 100 percent of the total catch of IFQ species and reducing potential habitat impacts through rationalized fleet consolidation relative to status quo allocations and management measures.

In addition, the commenters appear to equate environmental impact only with impacts to habitat and bycatch of a limited range of species. In a report to the Council (Agenda Item F3.b, Supplemental NMFS Report, April 2009), NMFS concludes that this approach is too simple, stating that “allocation among gears may have a positive or a negative influence [on bycatch and habitat] depending on a complex array of spatial and temporal factors.” Although, in general, NMFS noted that trawl gear does have greater impacts than fixed gear for a given habitat type, if allocation changes lead to greater effort by fixed gear in currently untrawled, biogenic habitats, overall impacts to habitat may actually increase. With regard to bycatch, NMFS again noted, in general, that trawl gear tends to have greater bycatch than fixed gear, but that there certain important exceptions. In particular, fixed gear has been associated with higher encounter rates than trawl gear for sea turtles, marine mammals, and seabirds. In conclusion, while NMFS believes that using allocation to promote conservation shows promise, “it would be premature to make a long-term allocation decision” based on this factor alone. Instead, NMFS proposed further research in this area, ideally concluding in time to inform the Council and NMFS at the 5-year review of the trawl rationalization program, if it is approved.

The first stage of this research, a review of pertinent literature, has begun. NMFS has reviewed the documents to which the commenter referred. Overall, little scientific information on the comparative effects of different fishing gears currently exists.

Johnson (2002), cited by the commenters, recounts the limitations of current science on differential gear impacts. Johnson notes that the available scientific information consists mostly of single gear studies with no assessment of cumulative effects of all gears, conducted on small scales over a single habitat type, which may not be applicable over larger areas with a mosaic of habitats, and with no analysis of cumulative effects over long periods. Johnson also notes the lack of scientific information regarding impacts from longline fishing gear. Further, Johnson acknowledges the complexity of determining effects of fishing gears, dependent upon several factors, including the following: the spatial extent of fishing disturbance, the distribution of habitat types, the effects of the specific gear type along the

gradient of effort, the relative importance of fishing gear effects and natural disturbance, the role that seafloor habitats have in fish population dynamics, and natural changes/trends in communities and ecosystems.

More specifically, few studies on bycatch and habitat of the U.S. Pacific coast exist; most gear-impact research has been concentrated off the east coast of Canada and the United States and in the North Sea. To the extent that research exists for any location, it tends to focus on the negative impacts of trawling, rather than looking at the potential negative impacts of other gear types as well. The National Research Council (2002) report is perhaps the most thorough report referenced in the comment and states that bottom trawling on the Pacific coast is relatively light compared to other regions of United States. Likewise, in an unpublished report, Jenkins (2009) notes that the west coast uses small footrope trawls and selective flatfish trawls to reduce habitat impacts associated with bottom trawling while reducing rockfish bycatch.

Several reports cited by the commenters appear either to rely on literature reviews of studies not specific to the U.S. west coast, or to misrepresent studies that are specific to the west coast. For instance, in a report not focused on any area, Nellemann et al. (2008) conclude that over-harvesting and bottom trawling degrade fish habitats, threaten biodiversity, and potentially affect the ability of bottom communities to adjust to climate change. In support of this proposition, the researchers note a study by Hixon and Tissot (2007) on the effects of bottom trawling on mud seafloors of the outer continental shelf off Oregon, which observed decreased abundance of finfish and invertebrates. However, Nellemann et al. fail to acknowledge that the same study found an increased diversity of invertebrates and concluded that modest levels of trawling may increase productivity of certain genera and may be sustainable in some regions. In addition, several studies do not appear to have been published in scientific journals or to have been subjected to the rigorous peer review process that such publication would entail. Such discrepancies cast doubt on the reports' conclusions and raise questions as to whether they may be considered the "best scientific information available" as required by National Standard 2.

On balance, the science supports NMFS' position that more research is needed prior to making an allocation decision between gear types to reduce bycatch or habitat impacts. Given the spatial scales of experimental results, incomplete habitat maps, and trawl effort reporting data, it is difficult to assess the ecosystem-level effects of trawling. With a lack of credible research on gear other than trawl, it is premature to make allocation decisions between sectors based on differential impacts. NMFS agrees that this type of analysis, specifically related to west coast groundfish fisheries, is important and is moving forward with a research proposal to evaluate the differential impacts of various types of fishing gear.

Comment 8: The PMFC should have analyzed ways to allocate other than through catch history in order to favor gear types that are more selective, have less environmental impact, and also happen to employ more people and provide potential for a higher quality product that is worth more at market. Food and Water Watch, page 3.

Response: In regard to the comment about gears that have less environmental impact, please see the response to comment 7. As explained in the response to comment 4, the allocation framework in the FMP requires consideration of recent participation in the fishery, historical participation in and dependence on the resource, and the economics of the fishery, among other factors, when deciding sector allocations. Consideration of a catch-based approach is necessary, and use of a catch based approach is reasonable. However, the Council did consider factors other than straight catch history. The Council's preferred alternative, which is the proposed action, provides higher allocations for many of the affected species to non-trawl sectors. This is true even for those species such as Dover sole and

English sole where there is no current demonstrable evidence that these species can be caught in expected amounts under the proposed non-trawl allocations using non-trawl gears. The Council's rationale for this preferred alternative is to provide enough of an allocation to allow innovation by participants in non-trawl fisheries to develop non-trawl gears and strategies that could allow development of target non-trawl fisheries for these species. In other cases, where there is demonstrable evidence that non-trawl gears can potentially access the allocations under the preferred alternative (e.g., chilipepper rockfish), the Council recommended a higher non-trawl allocation than the historical sector catch shares would indicate. The Council's rationale for its preferred alternative was clearly articulated to provide equitable allocations to both trawl and non-trawl sectors. The formal allocations of these particular species were needed to effectively implement trawl rationalization. The relatively higher non-trawl allocations were proposed to allow greater access to these species by non-trawl sectors and, in cases where non-trawl gear selectivity does not effectively take the expected allocated amounts under the preferred alternative, to allow potential development of non-trawl fisheries for these species through innovative gears and techniques.

Comment 9: The choice of a fixed amount (300 mt) of Yellowtail to the shoreside whiting sector is inconsistent with the treatment of all other species where either a percentage or hybrid approach was used. There is no good rationale why the council deviates from its approach and essentially sets a precedent of guaranteeing a fixed amount of a stock. Ecotrust, page 3.

Response: The amount of the yellowtail set-aside is to the at-sea whiting fishery, not the shoreside fishery as stated by Ecotrust. Yellowtail is not a target in the whiting fishery (which generally experiences low incidental catch rates), and the 300-mt level represents an upper bound on the historical level of yellowtail catch by this sector. This initial set-aside is reconsidered every two years in the biennial harvest specifications and management measures process as more information becomes available that better informs expected bycatch. The Council's harvest specification and management process for 2011-2012 is currently being undertaken, and this set-aside will be reviewed as part of that process.

Comment 10: Rather than setting long-term, fixed ratios between the trawl and non-trawl sectors, economic theory suggests that a better way to optimizing the value of the fishery as a whole would be to let the various sectors bid for their share of the Total Allowable Catch in a periodic auction that would essentially reveal the expected profitability and market conditions of various target fisheries and provide for a mechanism to compensate the "losing" sectors for not fishing as much or at all in a given year. An alternative should have been considered that employed this mechanism. Ecotrust, page 3.

Response: This proposed alternative is outside the scope of the proposed action, which focuses on establishing long-term fixed allocations between the groundfish trawl sector and other fishery sectors catching groundfish. Please refer to response to comment 3 (above) and the reference to the Amendment 20 process for more details on this issue. Additionally, at the 5-year review stage of the groundfish trawl rationalization program, the concept of auctions will be reviewed again.

Comment 11: Commenters suggest an allocation scheme based on something other than recent historical catches, in order to provide greater opportunity for the fixed-gear fleet to mitigate negative impacts from the trawl IQ program. POORT.

Response: See response to comment 8. In addition, in Amendment 20, the Council has proposed an adaptive management program that reserves quota to be used, among other purposes, to mitigate any unforeseen adverse impacts from the IQ program and to support community stability and conservation.

Comment 12: An allocation scheme should be developed using the principles of marine spatial management to develop allocations on a smaller spatial scale. This would address problems with localized depletion and take into account groundfish life histories and fleet behavior. POORT.

Response: In general, NMFS and the Council focused on developing an allocation scheme that provides maximum flexibility to meet the objectives of the management program. For this reason, and the fact that current data do not exist to address allocations on a much smaller spatial scale, the proposed action framed allocation at a coastwide scale. This provides harvesters with greater flexibility to pursue fishing strategies, for example to minimize bycatch by avoiding areas where bycatch is higher. Without associated management measures that affect fleet distribution and impacts at finer spatial scales, it is difficult to affect or predict such changes. The appropriate process to consider finer spatial effects is in the biennial harvest specifications and management measures process. Amendment 20 contains provisions to allow further division of the quotas based on new management lines to address changes that may be implemented in the future.

10.4 Comments on the Description of the Affected Environment (Chapter 3)

Comment 13: Chapter 3 is inadequate and contains little useful information on the actual affected environment, notably the many smaller fishing communities participating in the non-trawl fisheries that would be affected by the long-term allocations to the trawl sector contemplated in this program. Ecotrust, pages 3-4.

Response: As explained in the DEIS, there is no way to predict how fleets might be redistributed or how any of the west coast fishing communities might be affected without knowing the actual allowable future harvests of the affected species or the management measures that might be implemented in future fisheries. The DEIS analysis assumes the 2010 OYs for the affected species and demonstrates how the alternatives might affect fishing opportunities given sector catches since 1995. One would have to know the future management measures that will affect future fishing opportunities at the sector level to reasonably predict income impacts at the community level. Such management measures vary according to the future allowable harvest of the most constraining overfished species that tend to affect all the groundfish sectors. At this time, those species are bocaccio south of 40°10' N lat., canary rockfish, cowcod, and yelloweye rockfish. Socioeconomic impacts on west coast fishing communities are largely driven by the future allowable harvest of these species, which constrain access to the most important healthy groundfish species that each of the fishing sectors target. Given that these allowable harvests can vary from assessment to assessment, and the sector management measures are decided based on the ratio of allowable harvests of these species as well as the target species, it is impossible to predict community effects from the proposed action. This is the reason that the Council removed the four overfished rockfish species mentioned above from the Amendment 21 action. Further, the Amendment 20 action itself will affect trawl fleet distribution and capacity far more than the proposed Amendment 21 allocations. NMFS, therefore, believes it is unreasonable to attempt to predict socioeconomic impacts at the community level from the proposed Amendment 21 action.

10.5 Comments on the Impact Analysis

Comment 14: The DEIS fails to identify or analyze probable significant environmental impacts to the marine environment, including EFH and protected species. The evaluation of the impacts of trawl gear under each alternative is cursory and the impacts are discussed en masse. The DEIS fails to recognize the universe of scientific studies on the effects of trawling, especially regarding its highly destructive impacts on ocean habitat. The DEIS's conclusion that allocation alternatives would result in divergent monetary yields for the trawl sector on the order of millions of dollars,

yet would have no impacts on the physical environment, is implausible. The conclusion that the impacts of the proposed action on EFH, the marine ecosystem, or protected species are not significant is not adequately supported. NRDC, pages 12-14.

Response: The EIS does analyze the environmental impacts of each alternative. In addition, the EFH impacts from the status quo fishery have been analyzed in Amendment 19 to the FMP.

Comment 15: The DEIS fails to evaluate the environmental and economic factors considered during the biennial harvest specifications process, which would be eliminated under the proposed allocation scheme. NRDC, pages 15-16.

Response: NMFS did consider the environmental impacts of this alternative and concluded that no environmental or economic impacts would occur.

Comment 16: The allocations will adversely affect nontrawl sectors because the benefits of stock rebuilding will accrue disproportionately to the trawl sector. Contrary to the claim in the DEIS that socioeconomic impacts are not interrelated with environmental effects, the allocation to more environmentally damaging trawl gear in preference to more benign gear has interrelated socioeconomic and environmental effects. Ecotrust, page 4.

Response: NMFS does not agree that the proposed action punished the non-trawl sectors. NMFS reiterates that non-trawl allocations for many of the Amendment 21 species are higher than the historical catch shares observed since 1995 when the sectors were first formed. NMFS does not maintain there are no socioeconomic or habitat impacts associated with the proposed action, but that such impacts cannot be quantitatively estimated. The DEIS does qualitatively address these impacts by comparing resulting allocation amounts and sector shares relative to sector catch shares since 1995. Given that the non-trawl allocations currently are generally higher for the affected species relative to the historical sector catches, NMFS concludes the potential socioeconomic and habitat impacts from future trawl activities resulting from the proposed action will likely be lower than status quo. In addition, see the response to comment 7.

Comment 17: The DEIS fails to sufficiently analyze and document potential significant cumulative effects of the alternatives. Detailed information about the impacts of trawl gear on EFH and the ecosystem resulting from allocations to this gear type is not provided. The cumulative effects related to overfished species are insufficiently analyzed. Even when considering the evaluation of impacts from trawling provided in the Amendment 20 DEIS, the two EISs provide insufficient analysis of biological impacts. These impacts will be intensified, because the allocations under Amendment 21 will make it more difficult to respond to changing environmental conditions resulting from climate change and ocean acidification. There is no consideration of reducing environmental impacts by improving or replacing trawl gear. The cumulative effects of spillover into other fisheries and gear-switching are not considered. Ecotrust, page 4-5; NRDC, pages 16-17.

Response: The EIS does analyze the environmental impacts, including cumulative impacts, of each alternative.

10.6 Comments on Applicable Law and Policy

Comment 18: The proposed action violates MSA National Standard 1, because the action will not prevent overfishing or rebuild overfished stocks in as short a time as possible, and will have adverse habitat impacts. Ecotrust, page 5-6; NRDC, page 18.

Response: Allocation of harvest opportunity by itself does not affect the level of fishing mortality, which is a determinative factor in overfishing and stock rebuilding. For the same reason, the allocation of harvest opportunity to the trawl sector does not directly affect habitat impacts. The Council has addressed conservation objectives through other actions, such as rebuilding plans for overfished species and EFH protection measures. As described in Chapter 1 of the DEIS, the proposed action is consistent with the goals and objectives of the Groundfish FMP, which include conservation. More generally, during Secretarial review, NMFS will evaluate the Council's preferred alternative in terms of compliance with National Standard 1.

Comment 19: The proposed action violates MSA National Standard 2, which requires conservation and management measures to be based upon the “best scientific information available.” The DEIS fails to consider available scientific studies affirming trawling’s negative impacts to ocean habitat and high bycatch rates. Ecotrust, page 6; NRDC, pages 18-19.

Response: Habitat and ecosystem impacts are identified as cumulative effects of the proposed action. The DEIS references other actions and analyses related to these types of impacts. The referenced material represents the best scientific information available.

Comment 20: The proposed action violates National Standard 4, which requires allocations to be fair and equitable and reasonably calculated to promote conservation. The permanent allocations established for the trawl sector disadvantage fishermen in the fixed gear sector, which has capacity and the desire to catch significantly greater amounts of the major target groundfish species. The conservation objective of National Standard 4 is also violated, because the allocation to the trawl sector will result in adverse impacts to essential fish habitat and will result in higher bycatch, compared to a higher allocation to the fixed gear sector. NRDC, pages 19-21.

Response: The allocations identified under the preferred alternative are consistent with the current distribution of fishing opportunity among groundfish sectors. Even if the fixed gear sector had the capacity and desire to catch significantly greater amounts of groundfish, which is questionable, those factors are not, in and of themselves, criteria for determining allocations. Allocations are necessary precisely because more than one group of harvesters has some level of “capacity and desire,” which engenders potential conflicts over resource access that must be resolved through allocation. As noted above, the Council has implemented a variety of measures related to conservation objectives, and this action does nothing to conflict with those measures.

Comment 21: The proposed action violates MSA National Standard 5, which states that management measures may consider efficiency but shall not have economic allocation as its sole purpose. The assumption that allocation decisions are entirely economic and do not have environmental ramifications indicates that economic allocation is the sole purpose of the action. NRDC, pages 21-22.

Response: The action is intended to meet the variety of objectives described in Chapter 1 of the DEIS. In addressing those objectives, it supports the biennial harvest specifications process and the proposed trawl rationalization program implemented under Amendment 20. The fact that the effects of the proposed action are principally economic, because allocation of harvest opportunity directly affects the distribution of economic benefits among participant groups, does not mean that the action has economic allocation as its sole purpose.

Comment 22: The proposed action violates MSA National Standard 6, which requires conservation and management measures “take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches,” because the proposed permanent allocations do not accommodate potential changes in the fishery. NRDC, page 22-23.

Response: The commenter distorts the nature of the proposed actions by constantly referring to them as permanent. Of the six actions to be taken under Amendment 21, the sixth is to establish a process for future allocations and reallocations. In addition, the Council has the option of further amending the groundfish FMP at any time and proposing necessary regulatory changes to revise allocations. Therefore, the Council retains the capacity to address variations among, and contingencies in, fisheries, fishery resources, and catches consistent with National Standard 6.

Comment 23: Permanent allocations of groundfish to the trawl sector is inconsistent with MSA National Standard 9, management measures should minimize bycatch and bycatch mortality, because trawl gear has high bycatch rates. NRDC, page 23.

Response: The proposed action has no direct effect on bycatch and bycatch mortality. The proposed action supports other actions and processes that are intended to reduce bycatch. For example, one of the purposes of Amendment 20 is to facilitate trawl rationalization, which has more effectively addressing bycatch in the trawl fishery as one of its objectives.

Comment 24: Proposed Amendment 21 conflicts with the MSA’s requirement to rebuild overfished species in a short a time as possible. Permanently allocating the vast majority of groundfish to trawl gear, which not only generally has the highest bycatch rates but is the most destructive to habitat, is not consistent with protecting these vulnerable species and rebuilding them in as short a time as possible. NRDC, pages 23-24.

Response: The Council addresses rebuilding of overfished stocks through its rebuilding plans, implemented through the biennial harvest specifications process. The proposed action does not have stock rebuilding as one of its purposes, although it may facilitate rebuilding indirectly through the other actions it supports, as discussed in the preceding responses.

Comment 25: The proposed action could violate provisions of the Administrative Procedure Act, because the DEIS does not demonstrate that NMFS has articulated a rational connection between the facts found and the choice made. NRDC, pages 24-25.

Response: NMFS complied with the procedural requirements of NEPA and believes that the DEIS provides sufficient information for decision-making.

Comment 26: The DEIS does not support its assertion that the proposed action is consistent with Groundfish FMP Goals 1 and 2 related to conservation and economic objectives. Goal 1 is not met because of the greater adverse impacts on bottom habitat from trawl fishing. With regard to Goal 2, the proposed action will not maximize the value of the groundfish resource as a whole. Ecotrust, page 6.

Response: FMP Goal 1 parallels National Standard 1, while also referencing the prevention of habitat loss. Our response above in relation to National Standard 1 is relevant to this claim. The five conservation objectives in the FMP describe the kinds of actions and processes the Council undertakes to meet FMP Goal 1. The proposed action supports groundfish harvest specifications, which are referenced in Objective 2. With respect to Goal 2, the commenter cites information in the DEIS about the higher value of live-landed rockfish in the fixed gear sector to support the claim that proposed action

will not maximize the value of the resource as a whole. However, when the current and technically feasible volumes of fish landed by various gear types are taken into account, it appears unlikely that a different allocation scheme would necessarily maximize the value of the resource.

10.7 Segmentation of a Major Federal Action in Separate EISs

Comment 27: Amendment 20 and Amendment 21 should be reconsidered as a single amendment; the action is improperly segmented in two EISs. Segmenting the proposed action obscures the overall impact of the two actions. Ecotrust, page 2; Food and Water Watch, page 2.

Response: CEQ regulations at 40 CFR 1508.25(a)(1) describe connected actions, which “are closely related and, therefore, should be discussed in the same impact statement. Actions are connected if they do the following:

- (i) Automatically trigger other actions which may require environmental impact statements.
- (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.
- (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.”

Furthermore, “Proposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement” (40 CFR 1502.4(a)).

We do not agree with commenters’ view that these actions are connected such that they should have been evaluated in one EIS. As described below, the Council made reasonable judgments about what should be analyzed separately.

Does either amendment “automatically trigger” implementation of the other amendment? Nowhere in either proposal is there a mechanism that triggers implementation of the other action.

Would it be impossible to implement either amendment if the other were not implemented (one cannot proceed without the other)? If Amendment 21 were not implemented, the trawl fishery could still be managed with IFQs and co-ops under Amendment 20. While an allocation is required to determine the conversion of quota shares to quota pounds, such allocations could be determined and implemented through the Council’s biennial groundfish harvest specification process. Although pre-established allocations such as the trawl allocation in Amendment 21 could simplify the biennial process, it is inaccurate that Amendment 20 cannot be implemented without them. Likewise, Amendment 21 can be implemented without implementing Amendment 20. If that were the case, the Council would continue to manage the groundfish trawl fishery with status quo measures (cumulative trip limits and whiting quotas/seasons). Furthermore, as mentioned previously, the biennial harvest specifications process benefits, in any event, from the allocations established in Amendment 21 because the amount of decision-making required is reduced.

Are the two actions so interdependent as to rely on each other for their justification? The rationale for Amendment 20 does not flow from the fact that allocations are established; similarly, trawl rationalization is not justified by the allocations adopted under Amendment 21. Conversely, Amendment 21 is justified independent of Amendment 20, because, as stated above, it will help to simplify the biennial harvest specifications process no matter what measures are used to manage the groundfish trawl fishery. The Council has made allocation decisions in the past that are not tied to trawl rationalization, and Amendment 21 is another step in establishing allocations under the Groundfish FMP. Groundfish FMP Section 6.3 lays out a framework for establishing allocations in reference to criteria described in Section 6.2.3 and FMP goals and objectives. The purpose and need for

Amendment 21, as described in that EIS, identify support of trawl rationalization as one of three purposes for establishing the allocation scheme, the other two being to streamline the biennial harvest specifications process and to address bycatch of Pacific halibut. These purposes are consistent with the Groundfish FMP.

Commenters assert that segmenting these two actions into separate EISs masks the adverse habitat impacts stemming from continuing to allow a large proportion of the catch to be made by trawl vessels and prevents the public from fully understanding that a large proportion of fishing opportunity will be directed to the groundfish trawl sector in the form of harvest privileges. The goal of Amendment 20 is to “[c]reate 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.” Within the context of achieving this goal, the FEIS acknowledges impacts caused by trawl gear in Section 4.20. While Amendment 20 is not focused on habitat remediation, the proposed trawl rationalization program may allow for an increase from the status quo in the use of nontrawl gear in the trawl fishery. Also, the allocations in Amendment 21 would constrain trawl harvests to a slightly lower level than status quo. Not every amendment will address every management need in the fishery simultaneously. The Council recently addressed habitat issues in Amendment 19, and it will continue to review relevant information and recommend additional management measures, if necessary and appropriate.

The Amendment 20 FEIS discloses the links between these two actions, and, in the impact analysis, Amendment 21 is considered an external action contributing to the cumulative effects of trawl rationalization. Both of these actions were developed in the same decision-making forum—the Pacific Council—allowing the public to track the development of both in a straightforward way and comment on them in the same venue. Given the common setting for the two actions, it is not the case that nontrawl groundfish fishery participants were burdened (noting their participation in the Council process through the Groundfish Advisory Subpanel, for example), nor did it “thwart public comprehension.”

10.8 Comments Not Within the Scope of the Proposed Action or Not Requiring Response

Greenpeace and the Pacific Coast Federation of Fishermen’s Associations submitted letters supporting the comments submitted by Ecotrust and Food and Water Watch, respectively. The comments from those organizations are addressed elsewhere in this chapter.

Two comments were not within the scope of the proposed action. Mr. Jim Likes submitted a comment related to solar radiation management projects. Mr. Mike Haggren voiced his opposition to rationalization of the west coast trawl fishery. However, trawl rationalization is a separate action implemented through Amendment 20. Therefore, his comment is not within the scope of this EIS. Similarly, Mr. Mark Barnhart submitted a comment related to the allocation of IFQs, which is part of the Amendment 20 proposed action, but not the Amendment 21 proposed action evaluated in the DEIS.

10.9 Comments from other Federal Agencies

According to CEQ regulations at 40 CFR 1503.2 “Federal agencies with jurisdiction by law or special expertise with respect to any environmental impact involved and agencies which are authorized to develop and enforce environmental standards shall comment on statements with their jurisdiction, expertise, or authority.” Letters were received from the U.S. Department of Interior, which had no comment on the DEIS, and the U.S. EPA.

The EPA has the following comments:

Overall we find the document to be well-organized, and the tables and graphs that are included are helpful to the reader. We do recommend, however, that an acronym list be included in the final EIS. We note that this EIS incorporates a long-term monitoring program that will disclose program results and allow for changes in management decisions in the future should the results not be what are intended. We also recognize and commend the Council for developing alternatives in collaboration with a wide variety of user and stakeholder groups, including tribal fishery scientists. We believe that the Preferred Alternatives balance the appropriate environmental, socioeconomic and management considerations. In general we support alternatives that have the least impact to the environment and the resources that rely on the environment. We encourage the Council to continue to refine its Preferred Alternatives to further minimize impacts to the extent possible in the final EIS and Record of Decision.

NMFS notes EPA's comments and will take them into consideration when implementing the proposed action.

CHAPTER 11 ACRONYMS AND GLOSSARY

Acronym	Definition
ACL	annual catch limit
AMP	Adaptive Management Program
BO	biological opinion
CEY	constant exploitation yield
CFA	Community Fishing Association
CFR	Code of Federal Regulations
Council	Pacific Fishery Management Council
CPS	coastal pelagic species
CZMA	Federal Coastal Zone Management Act
DEIS	draft environmental impact statement
EEZ	Exclusive Economic Zone
EFH	essential fish habitat
EFP	exempted fishing permit
EIS	environmental impact statement
EO	Executive Order
ESU	evolutionarily significant units
FMP	fishery management plan
F _{MSY}	the fishing mortality rate that maximizes catch biomass in the long term
GAC	Groundfish Allocation Committee
GAP	Groundfish Advisory Subpanel
GMT	Groundfish Management Team

Acronym	Definition
HAPC	habitat areas of particular concern
IBQ	individual bycatch quota
IFQ	individual fishing quota
IPHC	International Pacific Halibut Commission
IRFA	initial regulatory flexibility analysis
LE	limited entry
LEP	limited entry permits
MMPA	Marine Mammal Protection Act
MRFSS	Marine Recreational Fisheries Statistical Survey
MSA	Magnuson-Stevens Fishery Conservation and Management Act
mt	metric ton
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration – the parent agency of National Marine Fisheries Service
NRDC	Natural Resources Defense Council
NS1	National Standard 1
OA	open access
OFL	overfishing level
OY	optimum yield
PacFIN	Pacific Coast Fisheries Information Network. Provides commercial fishery information for Washington, Oregon, and California. Maintained by the Pacific States Marine Fisheries Commission.
PBR	potential biological removal
PCFFA	Pacific Coast Federation of Fishermen's Associations
PMCC	Pacific Marine Conservation Council
POORT	Port Orford Ocean Resource Team
POP	Pacific ocean perch – a rockfish species that was declared overfished in 1999
QP	quota pound
QS	quota share
OSHUA	Optimum Species Harvesting Unified Allocation
RCA	Rockfish Conservation Area
RecFIN	Recreational Fishery Information Network
RFA	Regulatory Flexibility Analysis, or Regulatory Flexibility Act
RIR	Regulatory Impact Review

Acronym	Definition
SAFE	stock assessment and fishery evaluation
SSC	Science and Statistical Committee
TAC	total allowable catch
TCEY	total constant exploitation yield
TIQC	Trawl Individual Quota Committee
USFWS	U.S. Fish and Wildlife Service – a representative of USFWS is a nonvoting member of the Council

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APPENDIX A MINUTES OF THE GROUND FISH ALLOCATION COMMITTEE: EXCERPTS PERTAINING TO DEVELOPMENT OF INTERSECTOR ALLOCATION ALTERNATIVES

THURSDAY, JANUARY 27, 2005 - 8:30 A.M.

Members Present:

Mr. Phil Anderson, Washington Department of Fish and Wildlife
Dr. Steve Freese, National Marine Fisheries Service Northwest Region
Mr. Don Hansen, Dana Wharf Sportfishing, Pacific Fishery Management Council Chairman
Dr. Patty Burke, Oregon Department of Fish and Wildlife
Ms. Marija Vojkovich, California Department of Fish and Game

Advisors Present:

Ms. Eileen Cooney, National Oceanic and Atmospheric Administration Northwest Regional Counsel
Ms. Kathy Fosmark, GAP, Open Access Representative
Mr. Pete Leipzig, Fishers's Marketing Association, Limited Entry Trawl Representative
Ms. Michele Longo-Eder, Limited Entry Fixed Gear Representative
Mr. Rod Moore, West Coast Seafood Processors Association, GAP Chair, Processor/Buyer Representative
Mr. Bob Osborn, United Anglers of Southern California, Recreational Representative

Others Present:

Mr. Steve Bodnar, Coos Bay Trawlers Association, Bandon Submarine Cable Committee
Mr. Mark Cedergreen, Westport Charterboat Association, Pacific Fishery Management Council
Dr. Elizabeth Clarke, National Marine Fisheries Service Northwest Fisheries Science Center
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT
Ms. Michele Culver, Washington Department of Fish and Wildlife, Chair, GMT
Dr. Kit Dahl, Pacific Fishery Management Council, Staff

Mr. John DeVore, Pacific Fishery Management Council, Staff
Mr. Chris Dorsett, The Ocean Conservancy
Mr. Kenyon Hensel, GAP
Mr. Peter Huhtula, Pacific Marine Conservation Council
Mr. Bill James, Kaizer, Oregon
Mr. Steve Joner, Makah Fisheries Management
Ms. Gway Kirchner, Oregon Department of Fish and Wildlife
Ms. Dorothy Lowman, Environmental Defense
Dr. Don McIsaac, Executive Director, Pacific Fishery Management Council
Mr. Dale Myer, Arctic Storm, Inc., GAP
Mr. Brad Pettinger, Oregon Trawl Commission
Mr. Mark Saelens, Oregon Department of Fish and Wildlife
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. Dan Waldeck, Pacific Whiting Conservation Cooperative
Dr. Ed Waters, Pacific Fishery Management Council, Staff
Mr. Dan Wolford, Coastside Fishing Club

E. Consideration of Intersector Allocations

1. The Needs for Intersector Allocations
2. How Should the Advisors to the Allocation Committee Conduct Their Work?
3. Should Council Staff Initiate Development of an Intersector Allocation Environmental Impact Statement?
4. Which Species and Areas Are Intersector Allocations Needed to Support a TIQ Program?
5. Which Species and Areas Are Intersector Allocations Needed to Support Other Management Aspects (Non-TIQ)?
6. In What Order Should Intersector Allocations Be Resolved?

Mr. Anderson said part of this decision is to recommend whether there is a need for Intersector Allocation. If the answer is no, is it necessary to continue this agenda? There was a deliberative decision that allocation decisions would be undertaken by the Allocation Committee. We need to simultaneously initiate the TIQ and Intersector Allocation processes. He believes an intersector allocation process is needed regardless of whether the TIQ initiative is forwarded or not. This will benefit the biennial specifications decision-making process. This will be helpful to the Council in the long term. Mr. Leipzig agrees given the contentious nature of biennial allocation decisions. This will add stability to the Council process. The TIQ process is also important. The intersector allocation decision-making process is needed to make progress in the TIQ process. However, the TIQ process also requires allocation of trawl target species. The GMT bycatch scorecard only addresses overfished species. Ms. Longo-Eder agreed with the need for an intersector allocation. Members of the LE fixed gear fleet were polled and agree this intersector allocation process is needed for stability. For instance, thornyheads are a major trawl target; however, this is an important target for the non-sablefish-endorsed LE fixed gear fleet. The fleet believes this Committee is the key body for making these allocation decisions. She also presented a request that the current trawl/fixed gear sablefish allocation be revisited as part of this process. Mr. Osborn said recreational fishers strongly support intersector allocation, but questioned whether a fixed allocation would contribute to stability of the management system. He believes strong harvest control rules are needed to achieve stability. Dr. McIsaac asked Mr. Osborn if he was opposed to long-term allocations for the recreational fishery. Mr. Osborn said no. He wants to examine allocation guidelines and processes, but not necessarily end up with long-term hard allocations. He said fishery rationalization also has to occur between sectors with available mechanisms to deal with such issues as increasing demand for fish

and cultural change such that these risks are not merely transferred from one sector to another. He wants to examine allocation guidelines, but not necessarily long-term allocations. Mr. Moore partially disagreed and stated intersector allocation is the key to stability. The whiting allocation process was contentious, but it brought stability to that sector. Fishers and processors are better able to develop business plans with a hard allocation. Mr. Hensel was concerned with intersector allocations. He believes hard allocations create a loss of flexibility to a management system in flux. New stock assessments can change the balance, and allocation may need to be changed. Mr. Cedergreen agreed that we need to maintain flexibility given the changes in stock status and to weather the effect of court decisions in a litigious atmosphere. Dr. McIsaac concluded from the discussion the Committee agrees with the need to proceed with an intersector allocation process. The Committee agreed. Mr. Joner remarked the tribes may in the future seek more formal allocations for other groundfish species (there is already a hard tribal allocation for whiting and sablefish). Such tribal allocation decisions involve intertribal negotiations and biological constraints such as stock structure and regional distribution. Mr. Anderson said he has been thinking about tribal allocation issues and how to proceed on that front. There are some species where there are specific tribal allocations. Other species have become more prevalent in tribal fisheries, and we need to keep this in mind. The tribal fishery has grown a lot in the last five years which changes the fishery allocation landscape. This creates the impetus for more regional OYs than the current practice of specifying coastwide OYs for many of the FMP species. Dr. McIsaac said it would be helpful to identify the sectors and species that should be considered in an intersector allocation process. Mr. Moore was not sure the sectors identified yesterday during the Amendment 18 discussion for consideration of total catch limits of overfished species would be the same for intersector allocation of more traditional target species. Mr. Anderson said, as we discuss all the fishery sectors, the species which require an intersector allocation decision should fall out. We will find some species do not need to be allocated and others will, but perhaps not across all sectors. Mr. Leipzig agreed and pointed out some species are caught only in trawl fisheries while others are caught across many or all sectors. Ms. Longo-Eder said we should focus on landings for many years, not just 2002 landings (the handout identified 2002 landings by sector) given the annual variability in fisheries. Ms. Vojkovich recommended we keep in mind that trawl gear may not be the most desirable way to harvest some species that have been trawl targets. Mr. Saelens agreed and recommended we take a forward look and try to reach a common vision on how we want the fishery to look like in the future. It would be wrong to perpetuate all elements of the current management regime. He stated that attention has to be given to the degree to which groups might be able to change gears over time. Dr. Freese recommended we look forward five years. Looking too far forward will complicate the process and analyses. Mr. Anderson said another way to proceed is to look at annual trawl trip limits and the acceptable biological catch (ABC)/OY table as a place to start. The first step for advancing the TIQ initiative would be to focus on the species assemblages and allocations we currently have. We could go down the trawl trip limit table to determine the species we need to focus on to do intersector allocation. Mr. Leipzig said we also need to look at the fishery itself.

Mr. Anderson said the first sector cut for allocation is LE trawl, LE fixed gear, open access, and recreational. The Committee proceeded to develop Table 1 (appended to this report) of groundfish FMP species caught by these sectors. An “X” in the cell denotes a species considered for allocation to a particular sector. An “X” in the Incidental column signifies the need to allocate some yield for that species to accommodate incidental bycatch in sectors not already noted.

Mr. Anderson stated the next order of business is to decide which species need to be allocated to the LE trawl sector in order to develop a TIQ program. Mr. Moore said any species with trawl landings probably need IQs. Mr. Leipzig pointed out that some species, such as English sole, are probably not taken by non-trawl sectors. Ms. Culver asked if there are species that could be managed with trip limits rather than IQs. Mr. Leipzig said yes, but is that the right approach? The decision on which species get IQs has not yet been made. Ms. Vojkovich remarked the table contains the longest list of species considered for allocation. Mr. Leipzig said we need to pick some time periods to generate tables depicting catch history

by sector. Dr. Freese recommended looking at a limited set of years. Mr. Moore said the 2000-2004 period includes years with and without RCAs during management under the Sustainable Fisheries Act. Ms. Culver recommended inclusion of years prior to 1999 when trawl targeting of rockfish was allowed. She thought the early- to mid-1990s would be an important period to capture the changing management structure with respect to incentives and disincentives to retain certain species. Ms. Longo-Eder recommended three periods be looked at using period averages: 1990-1995, 1996-2000, and 2001-2004. Dr. Freese recommended against using period averages and instead suggested taking annual “snapshots” of the fishery every five years (i.e., 1990, 1995, 2000, and 2004). Ms. Vojkovich pointed out there was a problem with missing RecFIN data in 1990. Mr. Anderson said there was a similar problem with 1999 recreational fishery data. After some discussion, the Committee agreed the years to look at should be 1988, 1994, 1998, and 2004.

The Committee briefly discussed how advisors to the Committee should conduct their work. Ms. Vojkovich hoped the advisors could help flesh out some of the issues that will be deliberated prior to future Committee meetings. This would help committee members be more prepared to discuss ideas the advisors would be presenting. Ms. Fosmark recommended an outreach program be developed given the fragmentation of the open access sector. Mr. Moore asked if the advisors should meet independently from the Allocation Committee. Ms. Vojkovich said not necessarily. Mr. Leipzig remarked that each advisor has constituents. The advisors can take issues back to them and get their feedback. The Committee agreed that was their expectation.

The Committee then continued discussing the species and areas for allocations needed to support a TIQ program. Mr. Anderson agreed on the need to look forward when making allocation decisions. We need to determine how we want to shape the fishery. Therefore, using catch histories and the structure of past fisheries are important considerations, but we do not need to perpetuate past problems. For instance, trawl gear may be the most efficient way to harvest many of our flatfish species like petrale sole, but, in his opinion, not the best way to harvest nearshore species. This is the kind of perspective he recommends this Committee should have. Allocation for obvious trawl target species can probably be decided in the next step. There will likely be a need to allocate overfished species to accommodate incidental take. Dr. Burke thought this was an encouraging perspective. She is concerned with the current management system and the unbalanced incentives/disincentives inherent in how allocation decisions have been made in the annual/biennial specifications decision-making process. Mr. Leipzig also urged a certain amount of flexibility be maintained in how we decide allocation in the future. He envisions sliding scale and percentage mechanisms to structure future allocations. Ms. Longo-Eder suggested there should be MSA and Strategic Plan concepts and goals in front of the Committee for how to decide future allocations. Is the goal bycatch reduction or fishery stability? We need to understand our MSA and Strategic Plan goals. Mr. Dorsett recommended habitat impacts also be on the forefront of Committee members’ minds.

Ms. Vojkovich asked about the expected time frame for making allocation decisions. Mr. Seger said it depends on what is driving the process. Developing a TIQ program requires allocations, but Amendment 18 requires consideration of allocation issues if hard caps are to be used for bycatch reduction. A TIQ program could be implemented by 2008 or 2009. Ms. Vojkovich asked if we need to make intersector allocation decisions as part of the 2007-2008 management decision-making process. Mr. DeVore said the formal process of developing an intersector allocation EIS will take too long to be implemented by 2007, but progress can be made in the interim. He recommended that allocations made for the 2007-2008 management cycle should accommodate or be consistent with the longer-term processes of intersector allocation and development of a TIQ program to the extent practicable. Dr. Burke encouraged the use of sustainable, incentive-based management measures for the 2007-2008 management cycle.

The Committee then discussed the species and areas for allocations needed to support other management aspects (non-TIQ). Ms. Fosmark said open access fishers who direct their efforts on groundfish are

concerned with the lack of permitting in their sector. They feel they are losing control of their fishery. Ms. Vojkovich agreed and said this is a priority with the State of California. The nearshore fisheries within the state's jurisdiction are LE now. The lack of a federal permitting system for open access has severely hampered fishery rationalization. Mr. Moore remarked that the Amendment 18 discussion covered part of this agenda item. He asked if there are interactions between the recreational and open access fisheries in California that ought to be looked at by this committee. Mr. Osborn said hard allocations may make those types of issues more difficult. Ms. Vojkovich asked if communities could buy IQ. There are some California ports that are losing income by the change in fishery management in the last five years. A TIQ program could further erode their economic base. Ms. Cooney said this is possible and there are some community IQs in Alaska. Mr. Anderson said the California recreational species need allocations, especially for the overfished species. However, not all species caught in recreational fisheries need to be allocated to that sector. For example, sablefish, widow rockfish, and other shelf rockfish species may simply need a set-aside to accommodate incidental bycatch. Ms. Vojkovich said the future needs of fisheries are uncertain, so she was reluctant to conclude that certain fisheries do not need an allocation of certain species. Mr. Anderson said the Committee should consider a five-year future time frame, not an indefinite future.

F. Elements of an Allocation Decision

1. Frequency (Biennial, Limited Duration, Until Changed, Other)
2. Structure (Percentages, Sliding Scales, Tables, Rules for Suspension)
3. Criteria

Mr. Leipzig recommended a more permanent allocation for the trawl fishery (i.e., allocation maintained until changed) would provide stability for the industry. He thought a percentage of the total yield would be a reasonable way to go in structuring allocation of target species. A sliding scale makes sense for many of the overfished species. By sliding scale, he means that, as biomass changes, the allocation percentage changes according to the needs of the affected fishing sectors. This sliding scale would probably need to be specific to each species. Ms. Vojkovich asked for some examples of sliding scale allocation formulae for the next Committee meeting. Mr. DeVore explained the tribal whiting allocation formula uses a sliding scale structure. Mr. Seger added that allocation guidelines could be used to resolve some of the allocation issues while preserving some of the flexibility of the current biennial allocation system. Ms. Vojkovich remarked long-term allocations vs. biennial allocations are in conflict in terms of the stated goals (stability vs. flexibility). She likes the idea of allocation decisions lasting for two to three biennial management cycles. Mr. Moore said imposing a five-year checkpoint on the allocation decision may be a good compromise. Mr. Leipzig said allocations of the trawl-dominant species could be of longer duration than for the other species. This is another example of how to reach a compromise relative to the goals of stability and flexibility. Ms. Longo-Eder also stated there was general agreement in the LE fixed gear fleet that they want the ability to buy trawl QS and use it in their fishery. The TIQ process could allocate a portion of their overall quota for the LE fixed gear fleet. Dr. Freese said five years seems to be a consensus recommendation as a checkpoint for some allocated species. This is also the checkpoint for evaluating the strategic plan.

Summary of Recommendations from the January 2005 GAC Meeting

Consideration of Intersector Allocations

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

Elements of an Allocation Decision

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

Interactions Between Limited Entry Trawl and Open Access

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

Effects of Overages or Underages in One Sector on Other Sectors

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

TUESDAY, MAY 3, 2005

Members Present:

Mr. Donald Hansen, Dana Wharf Sport Fishing, Pacific Fishery Management Council Chairman
Dr. Stephen Freese, Northwest Region National Marine Fisheries Service
Mr. Phil Anderson, Washington Department of Fish and Wildlife
Dr. Patty Burke, Oregon Department of Fish and Wildlife
Ms. Marija Vojkovich, California Department of Fish and Game

Advisors Present:

Ms. Mariam McCall, National Oceanic and Atmospheric Administration General Counsel
Mr. Rod Moore, West Coast Seafood Processors Association, Processor Representative
Mr. Pete Leipzig, Fishers's Marketing Association, Limited Entry Trawl Representative
Ms. Michele Longo Eder, Limited Entry Fixed Gear Representative
Ms. Kathy Fosmark, Open Access Representative
Mr. Bob Osborn, Recreational Representative

Others Present:

Mr. Steve Jone, Makah Tribe
Mr. Brian Culver, Washington Department of Fish and Wildlife
Ms. Michele Culver, Washington Department of Fish and Wildlife
Mr. Mark Saelens, Oregon Department of Fish and Wildlife
Mr. Peter Huhtula, Pacific Marine Conservation Council
Mr. Steve Bodnar, Coos Bay Trawlers Association
Mr. Chris Dorsett, The Ocean Conservancy
Ms. Dorothy Lowman, Consultant- Environmental Defense
Mr. Dan Waldeck, Pacific Whiting Conservation Cooperative
Mr. Dayna Matthews, National Marine Fisheries Service Office of Law Enforcement
Ms. Kate Quigley, Northwest Region National Marine Fisheries Service
Ms. Yvonne de Reynier, Northwest Region National Marine Fisheries Service
Mr. Mark Cedergreen, Westport Charterboat Association
Mr. Allen Chan, Government Accounting Office
Ms. Susan Malone, Government Accounting Office
Mr. Richard Carroll, Ocean Gold Seafoods
Dr. Kit Dahl, Pacific Fishery Management Council staff
Dr. Don McIsaac, Pacific Fishery Management Council Executive Director
Dr. Ed Waters, Pacific Fishery Management Council staff
Mr. Jim Seger, Pacific Fishery Management Council staff
Mr. John DeVore, Pacific Fishery Management Council staff

D. Review of Historical Landings by Sector

Dr. Waters reviewed the historical landings by sector for the years 1988, 1994, 1998, and 2002. There was a glitch in the 2004 landings data that could not be resolved in time for the meeting so those data were not displayed. The sectors depicted in these tables were: shoreside LE trawl (whiting and non-whiting sectors combined), whiting catcher-processors, whiting motherships, LE fixed gear- line gears, LE fixed gear- pot/trap gears, open access- directed groundfish, open access- incidental groundfish, shoreside tribal, at-sea tribal (whiting-directed), and recreational. It was noted that there was not enough

time prior to the meeting to analyze catch data at the fish ticket level to stratify the shoreside LE trawl catches into the whiting-directed and non-whiting sectors. The criterion used to stratify open access catches into directed groundfish and incidental groundfish sectors was if >5 percent of annual ex-vessel revenues on a per vessel basis came from groundfish, those catches were assigned to the directed groundfish sector of the open access fishery. Otherwise, open access catches were assigned to the incidental groundfish sector. It was also noted that one would want to add the catches for shoreside tribal and at-sea tribal to determine total tribal groundfish catches, which is the sector aggregation the Committee originally recommended for management. The left-hand column of the dataset denoted (with a “#” symbol) a species or species’ complex where no one sector had 90 percent or more of total reported landings and deliveries and the total landings for all sectors was at least 1 mt. The Committee was told these species or species’ groups should be considered candidates for intersector allocation according to the criterion used.

Ms. Longo Eder requested a future display of landings by sector as a percentage of the total. She also thought the 1998 landings of sablefish in the LE fixed gear- pot/trap gears sector were low at 58.3 mt. Mr. Joner remarked the total landings estimated for 1998 seemed correct and recalled the OY set in 1998 was low due to the more pessimistic sablefish stock assessment conducted in 1997. Ms. Vojkovich remarked the limited market sampling of landings in southern California (south of Pt. Conception) confounds our understanding of species composition in those fisheries. The Committee agreed with Ms. Longo Eder’s data request and added their desire to see footnotes describing major events affect the management regime in future versions of these landings tables. This will help provide the context for some of the catch history depicted in these tables.

E. Intersector Allocation Options

Mr. DeVore provided a more in-depth overview of this agenda item and reviewed the minutes of the last Committee meeting in January. The Committee had discussed in conceptual terms the duration and frequency of future allocation decisions and the potential structure of species’ allocation formulae in January. Of the three primary objectives of the intersector allocation process (Amendment 18 bycatch reduction, biennial management decision-making, and development of a TIQ program), a more permanent allocation is desirable for developing the TIQ program since it would provide stability for the industry. It was thought allocations of trawl-dominant (or any sector-dominant) species or species’ complexes could occur using a fixed percentage of OY, while allocations for more constraining species, such as those overfished species managed under rebuilding plans, could be managed using a sliding scale formula. A sliding scale allocation structure would vary the sector allocation percentages according to changes in biomass or OY. This allocation structure is inherently more flexible and responsive to the needs of the fishery. The Committee had also discussed a five-year review of future allocation decisions and the desire to consider intersector allocation decisions with a view of how the fishery should be shaped five years from now.

Mr. Moore asked for which species a sliding scale allocation formula might apply? Species already declared overfished? Species recently found to be overfished? Mr. DeVore said those species that constrain fishing opportunities for multiple sectors should be considered for such an allocation structure. Some overfished species such as POP may not be the binding constraint and are dominant in one sector. An allocation of POP using a straight percentage of the OY may make the most sense. But a species such as canary rockfish might be a good candidate for a sliding scale allocation formula since it is a binding constraint for many sectors. As the canary rockfish OY varies, a different percentage of the OY might be considered for setting sector total catch limits to allow an economically optimal mix of fishing opportunities.

Ms. Vojkovich asked if there exists a document that portrays what OYs are needed to prosecute certain fisheries. Mr. DeVore said the annual/biennial specifications EISs may be the best documents to find analyses of West Coast fisheries interactions. Mr. Leipzig said the IQ concept makes it unnecessary to completely anticipate the mix of species caught in prosecuting a certain fishery. Tradable quotas provide an economic strategy for reducing/minimizing bycatch.

Ms. Vojkovich said she would like to see the current geographic distribution of the West Coast trawl fleet. Mr. DeVore stated the 2005-2006 specifications EIS shows trawl landings by West Coast port. However, the best analysis of trawl fleet distribution would probably come from trawl logbooks since the areas (ports) where landings are made do not necessarily reflect the areas where fishing occurred. This is an analysis that could be assigned to the GMT.

Mr. Anderson said he has been thinking about the inherent, yet confounding values of flexibility vs. stability in the intersector allocation decision-making process. The timeline is important in deciding what the allocation framework should be. Since the long term is much less certain than the short term, he recommends we design allocations to last for 2-3 biennial management cycles with a determination of desirable fishing strategies for that period. Mr. Osborn agreed and stated new data may emerge that would affect an allocation decision. The lack of economic data makes it difficult to plan beyond the next few management cycles. Mr. Leipzig asked what criteria would trigger a reallocation. It was thought a new understanding of a critical stock's status or a better understanding of a sector's bycatch might trigger reconsideration of an allocation.

The Committee discussed other elements of intersector allocation. Ms. Fosmark thought the open access fishery should be more thoroughly analyzed. She wanted to see open access landings and revenues by gear type to better understand the economic needs of that sector. Ms. Longo Eder recommended allocating some future yields or set asides for experimental or emerging fisheries. As an example, she said the fixed gear fleet has recently experimented with flatfish traps. Mr. Leipzig thought the Committee should assume the existing RCAs will remain in place for the next 2 or 3 management cycles. Mr. Dorsett recommended the Committee focus on creating incentives in an allocation scheme to minimize bycatch. Any intersector allocation analysis should pay attention to the bycatch taken by various gear types and include a rationale for this bycatch. He thought any allocation scheme should also consider the habitat impacts of that fishing strategy.

Mr. DeVore recommended the Committee consider intersector allocation requirements for developing the TIQ program and develop alternatives for trawl/non-trawl allocations. Mr. Anderson raised the question of the timeframe (i.e., duration) of this allocation and thought 2-3 management cycles might be appropriate for this allocation as well. Mr. Moore thought of two alternatives for the duration of a trawl/non-trawl allocation: 1) allocation decisions sunset after a set time, or 2) Council reviews an allocation decision at the end of a biennial management period, but the allocation endures in lieu of a review. Mr. Anderson preferred the second option with criteria set for what would trigger a review. Mr. DeVore thought alternatives analyzing strawman scenarios that mix and match different species' OYs might be informative. For instance, analyze fishing opportunities by sector when one target or constraining species has a relatively high OY and another one has a low OY. Different strategically decided scenarios might effectively tease out the types of fishery interactions the Committee and Council would need to understand to make these allocation decisions.

Mr. Moore thought the Committee could identify the trawl-dominant species and easily structure allocation alternatives for those species. He identified longspine thornyheads, shortbelly rockfish, arrowtooth flounder, Dover sole, English sole, petrale sole, and Pacific cod as species in our FMP that are not overfished and dominant to the trawl sector. He recognized the tribal fishery does harvest some of these species, but thought allocation could be more easily reconciled for these species than for others.

Ms. Longo Eder said some of these species are caught by fixed gears in some years and questioned whether they were truly dominant to the trawl sector. She was not ready to agree some of these species shouldn't have a non-trawl allocation beyond an incidental set-aside. Ms. Vojkovich stated constraining species' allocations will determine what can be caught. Such allocations will also provide the incentives for reducing bycatch and creating cleaner fishing strategies. She recommended a sensitivity analysis of a species like canary rockfish with a range of trawl/non-trawl allocations. Mr. Moore said the issue is how much of a target species can be caught given the allowable harvest (i.e., sector total catch limit) of weak stocks. Allocation of weak stocks will establish the values of IQs. Mr. Leipzig mentioned IQs for only the trawl target species is one of the alternatives in the TIQ program. Allocating trawl target species is essential for developing the TIQ program. Mr. Moore said allocating the trawl-dominant species first will make the other allocation decisions easier. He recommended the first step should be deciding the set-asides of these trawl-dominant species to accommodate incidental catches in other sectors. Mr. Anderson agreed and said the initial allocation of trawl-dominant species will provide the incentive to reduce bycatch.

Ms. Vojkovich asked about set-asides for research and experimental fisheries. Mr. Anderson thought, as a starting point, analyze an 80 percent allocation of these seven trawl-dominant species to the trawl sector and a 20 percent allocation to accommodate incidental catch, research, and experimental fisheries. Mr. Moore said another alternative would be to range the percent of OY allocated for these incidental catch purposes (i.e., 2 percent, 5 percent, 10 percent, etc.) and allocate the remaining yield to the trawl sector. Ms. Longo Eder said arrowtooth flounder, Dover sole, and petrale sole were caught by line gears in the past (e.g., 10 percent of the 1998 petrale sole catch was by LE line gears). Don't assume these are just incidental catches.

Mr. Moore recommended the analysis assume the management regime won't change dramatically in the next six years. It is unlikely that we will have the same management regime we did in 1998. Mr. Leipzig said he would agree to any alternative that would get this analysis started. Why not structure alternatives for analysis that would allocate the lowest proportion of any species' OY observed in the last ten years for the trawl sector? Mr. Moore recommended the alternative should analyze the lowest proportion for all sectors in that time frame. Perhaps the analysis should assume a 10 percent set-aside for incidental catches. Ms. Vojkovich said such an analysis won't capture the growth of the recreational fishery. Mr. Leipzig remarked the inflated MRFSS estimates are problematic in the analysis. Mr. Osborn liked the approach of analyzing yield buffers as well.

Ms. de Reynier recommended an alternative approach for structuring alternatives for analysis. Be mindful of fishing philosophies and the tenets of the Council Groundfish Strategic Plan. She also thought the Committee should consider different allocations for nearshore, shelf, and slope species, since there is a different array of fishing sectors targeting these assemblages. Mr. Moore agreed and remarked the Council has tended to design nearshore fishing opportunities for the recreational sector and slope fishing opportunities for commercial sectors.

Ms. Vojkovich returned to the topic of allocating the trawl-dominant species as an alternative for analysis. She thought the alternative could be structured as outlined by Mr. Moore, but the other species could be allocated 50 percent to the trawl sector. Mr. Leipzig said this will not be realistic for some species since the trawl fishery has traditionally taken more than 50 percent of the harvestable yield of some species and taken a very small proportion, if any, of other species such as nearshore rockfish. Ms. Longo Eder asked if we need another allocation option for the seven trawl-dominant species discussed earlier. Mr. DeVore said a reasonable range of allocation options could be structured by analyzing the maximum and minimum proportions of the annual harvest for each sector within the last ten years. Mr. Anderson said a range of allocation options for the seven trawl dominant species could be determined by analyzing ± 10 percent of the lowest trawl harvest percentage within the last ten years. Mr. Leipzig thought analyzing

that range of options, coupled with the high and low harvest percentages by sector, would be informative. He recommended the Committee also consider some “set-aside” options. Mr. DeVore said harvest trends of some key indicator species and complexes by sector in the last ten years would also inform folks of how the fishery has changed. Ms. Vojkovich wanted these data extracts aggregated to the list of species and complexes we currently manage with OYs. She also wanted a display of all the open access/LE allocations currently used in the management regime. Ms. de Reynier said the specifications table from the Federal Register notice of annual/biennial regulations would be helpful to the Committee because it depicts the hard sector allocations by species and complexes. Mr. DeVore asked what sectors the Committee wanted to see in these data extracts. They agreed the catch data should be stratified to the ten sectors discussed at the last meeting, but the annual catch proportions by sector should be in terms of percentage of non-tribal catch. This was because of the legal opinion that it would be harder for the Council to impose sector catch limits on the tribal fishery.

Mr. DeVore asked if there were additional data requests or analyses the Committee would like to see. He also asked about the timing of these requests. Ms. Longo Eder requested economic analyses and made the point some fisheries have a higher value than others. Ms. McCall said economic analyses are part of any NEPA analysis of alternatives. Mr. Leipzig said recreational catches also have a value that is not currently captured. Ms. Fosmark requested a Marine Protected Areas/ Marine Life Protection Act timeline as part of the background material for the analysis. Mr. Moore said the alternatives should be developed at the next meeting after looking at these data runs and analyses. The Committee agreed. Dr. Burke asked for a summary or footnotes in these data tables denoting state management constraints. Mr. Anderson requested a regional stratification of catch data for those species with regional OYs. He also wanted to shape the management system such that discards are converted to landed catch. In that spirit, he wanted an analysis of the amount of yield necessary to accommodate some retention of prohibited catch (e.g., compare the yields needed to go from no retention to a 1-fish bag limit).

Mr. Osborn noted that the California process for allocating the nearshore rockfish species was very difficult. Ms. Vojkovich said CDFG currently uses these allocations to structure recreational harvest guidelines geographically within the state. Two sets of data were used because the commercial live fish fishery has recently become more important.

Mr. DeVore reviewed the data/analysis requests. (These data extracts and analyses are outlined in “Summary of Allocation Committee Recommendations” appended to this document.)

Ms. Vojkovich wondered if we need to include discard rates for commercial fisheries. Mr. DeVore made the point that we currently manage with discard rates determined through the Observer Program for some sectors, assumed discard rates for other sectors, and reported discards in the recreational sector. There has been a mix of assumed and deterministic discard rates used to manage fisheries in the last ten years. It was also noted that commercial discard rates were assumed prior to the implementation of the Observer Program. The Committee debated the need for discard estimates for developing intersector allocation alternatives. They agreed that the most comparable catch data for developing intersector allocation alternatives is landings given the variable estimates of discards by sector. Therefore, they refined their requests to only include landed catch data. Ms. Vojkovich further requested footnotes in these data tables indicating when a precautionary reduction of an OY was implemented.

F. Scoping For Intersector Allocation Analyses

The Committee discussed the next steps in the intersector allocation process. Mr. DeVore said the requested analyses cannot be completed prior to the June Council meeting. He thought he, and perhaps other staff, could work on these analyses during the summer or fall. Dr. Freese said he would like to see these tables in the Groundfish SAFE document. He thought these tables would be more useful than the

current tables in the SAFE document. Mr. DeVore said he was concerned with the current plan to update the SAFE since some of the historical commercial and recreational catch data differs from more recent data extracts. He agreed with Dr. Freese that production of the SAFE document should be delayed until this next data run is completed. This plan will lead to less confusion regarding historical catches.

Mr. DeVore asked if the Committee members would like to reconvene this summer or fall. He explained the GMT will meet later this month and he can ask them what time they might have to help with these analyses. Mr. Seger asked when scoping for the intersector allocation process should commence. Mr. DeVore recommended a delay in the scoping process until preliminary intersector allocation alternatives are developed. This will give the public some information they can react to and is a better way to engage in constructive scoping of alternatives. Dr. Burke asked when staff can have the data runs and analyses prepared. She noted the importance of having these data complete prior to the next Committee meeting. Ms. Vojkovich asked about the Amendment 18 timeline. Mr. DeVore agreed the next Committee meeting will be more constructive if the analyses are complete. He stated the Amendment 18 work plan calls for implementation of some sector total catch limits at the start of the 2007-2008 management period. He added that if the next Committee meeting occurred after the November Council meeting, when a range of 2007-2008 harvest specifications and management measures is decided, the Committee could begin work in allocating available harvest by sector, thus accomplishing initial Amendment 18 and 2007-2008 management objectives. The Committee agreed and tentatively scheduled the next Committee meeting for November 14-15.

Mr. Seger explained the importance of providing Committee TIQ recommendations at the June Council meeting. Mr. DeVore said he would prepare Committee minutes for this meeting, distribute draft minutes to Committee members for their review and edit, and incorporate the minutes in the June briefing book under the TIQ agenda item. He reminded Committee members of the May 25 briefing book deadline. The Committee agreed with this plan.

Summary of Allocation Committee Recommendations

Intersector Allocation

- Committee members requested the following data runs and analyses prior to developing preliminary intersector allocation alternatives:
 - Provide annual catch data for 10 management sectors during 1995-2004.
 - Footnote key management events affecting sector catches in these data extracts.
 - Stratify species/catch data by the species and complexes currently managed with OYs.
 - Provide the proportion of non-tribal catches by sector by year during 1995-2004.
 - Summarize maximum and minimum catch proportions for each sector during 1995-2004.
 - Identify ± 10 percent of the lowest trawl catch proportions during 1995-2004.
 - Identify all open access/LE allocations in the current management regime.
 - Regionally stratify catches by state or region for fisheries with regional OYs/harvest guidelines.
 - Provide an MPA/MLPA timeline of events.
 - Provide the specifications table from the recent FR notice of biennial regulations.
 - Provide landed catch trends for key species and complexes important for intersector allocation.
- Scoping for an intersector allocation EIS should be delayed until preliminary alternatives are developed at the next Committee meeting.

MONDAY, NOVEMBER 14, 2005 - 1 P.M.

Members Present:

Dr. Donald McIsaac, Executive Director Pacific Fishery Management Council, Acting Chair
Mr. Phil Anderson, Washington Department of Fish and Wildlife
Dr. Patty Burke, Oregon Department of Fish and Wildlife
Ms. Susan Ashcraft, California Department of Fish and Game (designee for Ms. Marija Vojkovich)
Mr. Frank Lockhart, National Marine Fisheries Service Northwest Regional Office

Advisors Present:

Ms. Eileen Cooney, National Oceanic and Atmospheric Administration General Counsel
Ms. Michele Longo-Eder, Limited Entry Fixed Gear Representative
Mr. Brad Pettinger, Limited Entry Non-Whiting Representative (designee for Mr. Pete Leipzig)
Mr. Dale Myer, Limited Entry Whiting Trawl Representative
Ms. Heather Mann, Processor Representative
Mr. Bob Osborn, Recreational Representative

Others Present:

Mr. Mark Cedergreen, Westport Charter Association, Council member
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Mr. Dan Waldeck, Executive Director Pacific Whiting Conservation Cooperative
Mr. Steve Bodnar, Coos Bay Trawlers Association
Mr. Dave Jincks, Midwater Trawlers Cooperative
Mr. Robert Jones, Northwest Indian Fisheries Commission, GMT member
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member
Ms. Michele Culver, Washington Department of Fish and Wildlife, GMT member
Mr. Alan Hightower, Washington Trawler
Ms. Gway Kirchner, Oregon Department of Fish and Wildlife, GMT member
Mr. Dayna Mathews, National Oceanic and Atmospheric Administration Office of Law Enforcement
Ms. Yvonne de Reynier, National Marine Fisheries Service Northwest Regional Office
Dr. Ed Waters, PFMC Consultant
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff

B. Intersector Allocation Options

1. Review of Historical Landings by Sector

Dr. Ed Waters reviewed the data and analyses indicating how groundfish landings analyses were structured and the source of these data (see "Notes" in Guide to Data Handouts). These data summaries were annually stratified for the years 1995-2004.

Dr. Waters reviewed a table on page 5 of the Guide packet, which depicted total non-tribal landings assigned to non-tribal fishery sectors. He was asked to distinguish the difference between assigned and non-assigned landings. In many cases the fishing sector was not identified in the PacFIN or RecFIN

databases. These data were categorized as non-assigned landings. Therefore, when reviewing landings by sector for intersector allocation, it was decided to depict landings assigned to sectors. Page 6 of the Guide packet depicts landings not assigned to fishing sectors. Page 7 of the Guide packet depicts the percent of non-tribal landings not assigned to a non-tribal fishing sector. In many cases, especially in the older data, the percent of non-assigned landings were quite high. Mr. Anderson asked if these data were representative of how the data is stratified in the other packets (packets A-E) and Dr. Waters said yes. Each packet structures the same data using other criteria.

Dr. Waters then reviewed packet A, which depicts landings in mt by year and sector. Each table is year-specific and stratified by 11 sectors (tribal landings were stratified by shoreside and at-sea landings). Mr. Waldeck thought the yelloweye landings estimate in the whiting catcher-processor sector in 2000 of 4.1 mt was too high.

Packet B presents the same data as in packet A, but in terms of percent of total non-tribal landings that were assigned to a sector. Mr. Seger reviewed packet C. Packet C provides minimum, maximum and average percentages of landings by sector. Each table is sector-specific. Packet D depicts the maximum, minimum, and average landings in mt by sector during 1995-2004. Packet E depicts landings by subregion by year for directed open access and recreational sectors. Mr. Anderson raised the concern that the recreational landings data by subregion seemed fraught with errors. He cited canary catch in 1995-97 and yelloweye landings in 1999 and 2000. As all these tables were reviewed, the Committee members wanted to double-check PacFIN and RecFIN estimates to verify or correct these data. Mr. DeVore will be the clearinghouse of data problems to be further reviewed and resolved by the Committee at a subsequent meeting. Mr. Pettinger recommended further analysis to assign unassigned landings to a particular sector. This will involve more stringent analysis using fish tickets and other data sources. The Committee was advised they should first consider which data they will ultimately want to use for intersector allocation decision-making before going through this step. However, rectifying historical data mistakes is beneficial for other uses beyond this process. Dr. Waters explained that as you review older data, there was less sorting and rockfish, for example, were landed as part of a larger complex than used in current management.

In recent years, the at-sea data from NorPAC are total catch estimates, while shoreside landings are landed catch. Recreational data uses A (landings) + B1 (dead discards) data from RecFIN. In some cases, there were no B1 estimates for recent Oregon and Washington catches. In those cases, Dr. Waters used preliminary estimates provided by the GMT at their May 2005 meeting. Mr. Culver said it appears some of the Washington estimates are MRFSS estimates not direct estimates from the Washington Ocean Sampling Program (OSP). The RecFIN Technical Committee has agreed to use estimates from the Washington OSP program. He will work with Dr. Waters to provide the correct estimates. Mr. Myer asked about the shoreside whiting estimates- are these all landed catch? Mr. Seger said yes and explained that the shoreside whiting landings were under full retention regulations under the EFP (in place since 1994).

Dr. McIsaac proposed that all these historical data have problems of one sort or another and the Committee should decide how to use these data. Outliers exist (i.e., the aberrantly high recreational lingcod catch in 2003) and should be noted by the Committee during the course of their deliberations.

2. Review of Historical Harvest Specifications

Mr. DeVore and Dr. Waters reviewed the "Guide" packet tables depicting harvest guidelines (HGs) and OYs by year. It was noted that harvest targets were called HGs prior to 1998 and OYs thereafter. Also, HGs/OYs were landed catch targets prior to 2002 and total catch targets thereafter.

3. Review of Established Allocations
 - a. Long-term Allocations in the FMP
 - b. Short-term Allocations for 2005-2006

John DeVore

4. Proposed Options for Within-Trawl Allocations

Mr. Seger reviewed the proposed within-trawl allocations recommended by the TIQC. The proposal would be to use the same base period of catch history to divide shares among shoreside whiting, shoreside non-whiting, whiting- catcher/processors, and whiting- motherships. This formulaic approach would apply to all groundfish species (except whiting) which are ultimately decided to be allocated to LE trawl under a TIQ program. Alternative base periods recommended by the TIQC: 1994-2003, 1998-2003, 1999-2004 (IFQ for processors).

5. Intersector Allocation Alternatives for Analysis

Mr. Anderson thought the next steps should be to decide which species need to be allocated and then which sectors this should be allocated. He asked about trawl-dominant species and Mr. DeVore explained the Committee identified seven trawl-dominant species: longspine thornyheads, shortbelly rockfish, Dover sole, English sole, petrale sole, arrowtooth flounder, and Pacific cod. The allocation alternatives for these species may be determined by using the maximum or minimum percent of landings relative to total non-tribal landings in 1995-2004.

TUESDAY, NOVEMBER 15, 2005

B. Intersector Allocation Options (continued)

5. Intersector Allocation Alternatives for Analysis

The Committee requested a correction of the erroneous Washington recreational catch estimates. Mr. Culver pointed out that Washington did not estimate discard mortality in their recreational fishery prior to 2002. It may be useful to apply assumed discard rates to the historical landings using current data.

The Committee also debated the need for a more regional stratification of LE and open access commercial landings. This may come out in the analysis after preliminary alternatives are decided.

One concept presented would be to start with the trawl-dominant species and using the minimum percent of landings by sector with specified percent thresholds to develop alternatives for analysis. The concept was further developed to use a minimum 90 percent of total non-tribal landings in the trawl sector and excluding overfished species as an alternative for analysis. These species would be characterized as trawl-dominant species. Fourteen species were identified from the table on page 10 of 10 in packet C using those criteria. Including sanddabs and Other Flatfish in the trawl-dominant category was also discussed. These species would be allocated to the LE trawl sector at a minimum of 90 percent. The analysis would also focus on the incidental catch needs in other sectors.

Another alternative is to use the table on page 6 of 6 in packet D depicting average percent of total non-tribal landings during 1995-2004 by sector to develop an alternative for analysis.

Preliminary alternatives for analysis:

Use the allocation guidelines in the groundfish strategic plan as a guide in the analysis.

- status quo
- manage the trawl-dominant species for LE trawl sectors with a minimum allocation of 90 percent of the OY to the LE trawl sector. Use the 1995-2004 minimum percent estimates as an index for determining the species (page 10 of 10 in packet C). Include the maximum incidental catch to non-trawl sectors in the analysis and ramp up the trawl allocation from 90 percent accordingly. Trawl-dominant species (excluding overfished species) include: include Pacific cod, Pacific whiting, splitnose rockfish (Monterey and Conception), shortbelly rockfish, longspine thornyheads (north of Pt. Conception), yellowtail rockfish (Eureka and north), redstripe rockfish, sharpchin rockfish (north), splitnose rockfish (north of Monterey), yellowmouth rockfish, bank rockfish, sharpchin rockfish (south), Dover sole, English sole, petrale sole, arrowtooth flounder, and Other Flatfish. Remaining Rockfish north complex has to be a focus in the analysis. Does it make sense to allocate species within the complex with sector allocations? The initial analysis should assume status quo management at the complex and also address the allocation needs at the individual species level within the complex. As part of the analysis, focus on percent of landings across years when determining incidental catch needs for non-trawl sectors. Intent is to set aside enough incidental catch to protect non-trawl sectors.

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

Members Present:

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

Advisors Present:

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

Others Present:

Mr. Mark Cedergreen, Westport Charter Association, Council member
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Mr. Dale Myer, Arctic Storm Inc., Council member
Mr. Bob Alverson, Fishing Vessel Owner's Association
Mr. Steve Bodnar, Coos Bay Trawlers Association and Bandon Submarine Cable Committee
Mr. Brad Pettinger, Oregon Trawl Commission
Mr. Kenyon Hensel, GAP member
Mr. Peter Huhtula, Pacific Marine Conservation Council
Ms. Megan Mackey, Pacific Marine Conservation Council
Mr. Bill James, California nearshore commercial fisher
Mr. Richard Carroll, Ocean Gold Seafoods
Mr. Craig Cross, Aleutian Spray Fisheries
Mr. Robert Jones, Northwest Indian Fisheries Commission, GMT member
Dr. Patty Burke, Oregon Department of Fish and Wildlife
Ms. Michele Culver, Washington Department of Fish and Wildlife, GMT member
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member
Ms. Gway Kirchner, Oregon Department of Fish and Wildlife
Mr. Bill Herber, Oregon Department of Fish and Wildlife
Ms. Kelly Ames, Oregon Department of Fish and Wildlife, GMT member
Mr. Mark Saelens, Oregon Department of Fish and Wildlife, GMT member
Ms. Susan Ashcraft, California Department of Fish and Game, GMT member
Ms. Vicki Nomura, National Oceanic and Atmospheric Administration Office of Law Enforcement
Dr. Ed Waters, Pacific Fishery Management Council Consultant
Dr. Donald McIsaac, Executive Director Pacific Fishery Management Council
Ms. Laura Bozzi, Pacific Fishery Management Council Staff
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff

B. Review of Past Intersector Allocation Actions

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

C. Review of Historical Catches by Fishing Sector

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

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

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

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

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

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

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

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

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

D. Develop Intersector Allocation Alternatives for Analysis

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

1. Key Questions for Framing Alternatives

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

- a. Should Sablefish Allocations Be Revisited?
- b. Should Pacific Whiting Allocations Be Revisited?
- c. Should Nearshore Species' Allocation Decisions Be Deferred to the States?

- d. Should Flatfish Species, Other Than Pacific Sanddabs and Starry Flounder, Be Allocated Primarily to the Trawl Sector?
 - e. Should There Be Set-Asides Allocated to Buffer Against Sector Catch Overages?
 - f. Should the Intersector Allocation Process Be A Multi-Stage One Starting With a Trawl/Non-Trawl Allocation Decision?
2. Consider Trawl/Non-Trawl Allocations
 3. Consider Set-Asides for Tribal, Research, and Incidental Non-Groundfish Fisheries
 4. Consider Commercial Non-Trawl/Recreational Allocations

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

The committee then discussed whether to consider allocations of nearshore groundfish species. Mr. DeVore explained the current management process has the Council deciding federal OYs for nearshore species and complexes. However, after catch sharing of black rockfish between California and Oregon is decided in the Council process, California and Oregon nearshore FMPs and management processes allocate commercial and recreational opportunities. Furthermore, nearshore commercial fisheries in California and Oregon are essentially LE in that opportunities are controlled through state permits. Washington policy is not to allow nearshore commercial fisheries in state waters; therefore, nearshore allocation issues are moot in Washington. Ms. Vojkovich said that the California nearshore FMP calls for the state to seek delegation of management authority for nearshore species in the Council process.

However, the state is no longer pursuing this initiative so strongly due to a lack of resources. Nevertheless, CDFG still wants to use the California Fish and Game Commission process to allocate nearshore species between recreational and commercial sectors and therefore supports continuance of status management of nearshore species. Mr. Anderson and Mr. Melcher also supported status quo nearshore species management for Washington and Oregon as well. Ms. Cooney asked how status quo management might affect development of a TIQ program and used black rockfish management as an example. Committee members said if status quo management was ultimately decided for black rockfish and other nearshore species, then the Council would still need a set-aside yield of those species to account for incidental bycatch in other sectors not directly managed under a state FMP. **The Committee decided to continue status quo management of nearshore groundfish species and not pursue a federal allocation scheme for these species in the intersector allocation process.**

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

The Committee then discussed the question of whether to consider set-asides to buffer against sector catch overages. Ms. Ashcraft shared the GMT perspective to consider set-asides to accommodate the incidental catch for overfished species only. There is a need to protect sector overages within the trawl sectors and between trawl and non-trawl sectors to keep one sector's overage from pre-empting fishing opportunities for other sectors. Currently, there is uncertainty in sector bycatch rates for overfished species. There will continue to be uncertainty in bycatch projections for these species caught in the LE trawl fishery once a TIQ program is implemented because the mandate of 100 percent observer coverage may cause changes in fishing behavior. Therefore, for the first few years of a TIQ program, if it is implemented, there may be a need for a bycatch buffer of overfished species within the trawl sectors. Mr. Leipzig said that reasoning made sense but recommended against a fixed percentage for all the overfished species. Some thought this mechanism presumed an allocation of overfished species is made. Ms. Ashcraft stated there are a number of ways to manage overfished species. The GMT wasn't necessarily proposing an overfished species' allocation or set-aside, but that allocations or management measures could be designed to take less than the OY for overfished species. Mr. Anderson was not particularly in favor of a buffer or set-aside for overfished species, but preferred managing for the uncertainty in bycatch through precautionary management. Mr. Melcher said he was not prepared to make a decision today on this issue. Mr. Lockhart asked if the decision today was whether to determine how overfished species' management is analyzed in this EIS. He did not want to make that decision today, but wanted to see these concepts explored in the EIS. Ms. Ashcraft stated the goal with managing overfished species is to maintain management flexibility, particularly at the beginning of a newly-implemented TIQ program. Ms. Mann said the flexibility appears to be on the side of management, not with the fishers. There are

already too many buffers and precautions in the current management regime. She asked whether buffers would come off an overfished species' OY or ABC and Mr. DeVore explained the FMP and Council rebuilding plans mandate management of total mortality to the OY. Given that, Ms. Mann thought the concept of managing overfished species using buffers could lead to a race for fish. Ms. Cooney explained management under an IQ system is inherently different since species are parsed out with formal allocations. Current management is more flexible in that unused yield to accommodate incidental bycatch of overfished species can be used to cover fishery needs inseason. She recommended against implementing an IQ system with specified buffers for all species. Instead, use a buffer system for some species and some sectors if necessary. Mr. Leipzig said he thought buffers were used as a protection against one sector's catch overages from pre-empting another sector's fishing opportunities. This isn't an IQ issue. Ms. Longo-Eder suggested the intersector allocation EIS explore buffer management concepts for overfished species only. Some sectors may need such a system for managing take of overfished species and others may not. Mr. Hensel expressed his sector's (open access) concern that, under an IQ system, there is a danger of fishing right up to or over a sector cap on an overfished species, which could cause closure in a non-IQ fishery managed using a buffer. Mr. Moore recommended sector allocations not be dependent on buffers. Ms. Culver said the GMT has recommended including the use of a buffer in an alternative for analysis. Currently, answers are not available for all these questions and therefore buffer management has to be further explored in an EIS analysis. Ms. Cooney said, in the current management regime, many healthy species are managed to their acceptable biological catch (ABC; i.e., the OY=ABC). The Committee may want to consider managing with buffers for these species as well. Mr. Myer said the North Pacific Fishery Management Council has established reserves for species managed in Alaska fisheries. In many cases, these reserves are localized and specified for a certain time period. They are released back to the fishery at a specified time period if they are not used. Mr. Pettinger argued that under an IQ system, personal accountability of bycatch and the market will result in responsible bycatch management. Mr. Lockhart said we want to design a management system that avoids one sector's overage affecting another sector's fishing opportunity. A buffer could be a tool to protect against this. He thought the tool should be applied to managing overfished species only. Dr. McIsaac summarized the discussion by stating there should be a mechanism explored in the EIS analysis for creating a buffer on a species by species basis, if necessary, and that this mechanism should be limited to managing overfished species only. That is, there should be no hard allocation of a buffer made at this point. For many overfished species, there are few fish to work with and parsing out this small yield by vessel in an IQ program creates a strong possibility for overages. Mr. Anderson said intersector interactions are different under an IQ program than under the current management regime. **The Committee agreed buffer management has to be further explored in the intersector allocation EIS analysis.**

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

Ms. Mann asked whether there would be different EISs for these different stages in the intersector allocation process. Mr. Leipzig asked if this would also involve separate FMP amendments. The answer was not necessarily, but depending on the timing of these decision steps, separate NEPA analyses could be tiered off the first EIS. Dr. McIsaac had a different view; his perspective being that this was a decisional separation on a shorter term. He contemplates one EIS and FMP amendment for the entire intersector allocation process. Mr. Anderson was also not confident that allocations to other sectors wouldn't come into play when deciding trawl allocations. Ms. Longo-Eder remarked that open access and tribal allocations have come off the top of the OY for some species before deciding LE allocations. Mr. Leipzig suggested aggregating sector allocations to four non-treaty sectors: LE trawl, LE fixed gear,

open access, and recreational. At a minimum, this process has to identify those species that should be considered in a within-trawl allocation analysis contemplated in the TIQ EIS. Ms. Longo-Eder agreed with Mr. Leipzig's comments. Mr. Anderson suggested the intersector allocation alternatives could be structured such that data and analyses are aggregated to the four sectors Mr. Leipzig recommended, with one alternative breaking down the allocation analysis into the sector components. Within these alternatives, analyze the maximum, minimum, and average shares of trawl landings in the 1995-2004 period. He is also interested in analysis of an alternative that does not allocate overfished species. Mr. Leipzig said the Council already removed the TIQ option that did not allocate overfished species within the trawl sector. (However, the Council did decide if an overfished species allocation is made to the trawl sector and a TIQ program is implemented, then TIQ shares will be decided for that species.) Ms. Cooney reminded the Committee of its past decision to consider a sliding scale allocation framework for overfished species. Mr. Anderson asked, given the idea to review allocations every five years, do we really need a more complicated sliding scale allocation framework. Dr. McIsaac requested a clarification on the maximum, minimum, and average trawl sharing alternatives and whether there was an implicit assumption that the other sectors' percentages would be proportionally modified according to how trawl shares are structured. The Committee said yes. Mr. Ghio said the alternatives need to consider a finer regional stratification than currently exists. Ms. Longo-Eder said she didn't support any alternative starting with any sector's maximum percentage. There was some general thought to structure alternatives such that a range of species options that are allocated in this process be ranged as follows: species of trawl importance, all species, all but overfished species, and just overfished species. Mr. Anderson suggested using 2004 catch data to build a base relationship in the analysis and then build a broader range from there. Using data as old as 1995 in the analysis may not make sense since the 1995 fishery does not address current management challenges. Ms. Ashcraft noted the GMT has used annual catch averages weighting recent years more heavily than older years in some analyses. In 2004, management actions were affected by sector catches. Mr. Anderson said the analysis should use the most recent year available in the data (2004) and try to understand whether using sector catch shares from that year is appropriate or not; and if not, explain in the analysis why not. Ms. Ashcraft also stated the currently available data in Tables 1-4 presents a mix of landed catch and total catch by sector. That is, with full retention requirements in the whiting fishery, it is total catch, while the other commercial sector catches are all landed catch without a discard mortality estimate provided. The recreational catch data available in these tables are also total catch. She recommended using 2003-2005 data in the analysis where discard estimates are available for all sectors. Mr. Anderson agreed with that recommendation. Mr. DeVore recommended Committee members review the draft scoping document tonight and consider the other elements/issues in that document before revisiting how to structure alternatives for analysis tomorrow. With that, Mr. Hansen adjourned the meeting for the day.

THURSDAY, OCTOBER 19, 2006

Members Present:

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

Advisors Present:

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

Others Present:

Mr. Mark Cedergreen, Westport Charter Association, Council member
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Mr. Dale Myer, Arctic Storm Inc., Council member
Mr. Kent Craford, West Coast Seafood Processors Association
Mr. Bob Alverson, Fishing Vessel Owner's Association
Mr. Steve Bodnar, Coos Bay Trawlers Association and Bandon Submarine Cable Committee
Mr. Brad Pettinger, Oregon Trawl Commission
Mr. Kenyon Hensel, GAP member
Mr. Peter Huhtula, Pacific Marine Conservation Council
Mr. Bill James, California nearshore commercial fisher
Mr. Richard Carroll, Ocean Gold Seafoods
Mr. Robert Jones, Northwest Indian Fisheries Commission, GMT member
Dr. Patty Burke, Oregon Department of Fish and Wildlife
Ms. Michele Culver, Washington Department of Fish and Wildlife, GMT member
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member
Ms. Gway Kirchner, Oregon Department of Fish and Wildlife
Ms. Kelly Ames, Oregon Department of Fish and Wildlife, GMT member
Mr. Mark Saelens, Oregon Department of Fish and Wildlife, GMT member
Ms. Susan Ashcraft, California Department of Fish and Game, GMT member
Ms. Vicki Nomura, National Oceanic and Atmospheric Administration Office of Law Enforcement
Dr. Ed Waters, Pacific Fishery Management Council Consultant
Dr. Donald McIsaac, Executive Director Pacific Fishery Management Council
Ms. Laura Bozzi, Pacific Fishery Management Council Staff
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff

D. Develop Intersector Allocation Alternatives for Analysis (continued)

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

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

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

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

Species with Allocations

The first "species assemblage" considered for an alternative was species important to the TIQ program. This would be a mix of trawl-dominant species and the primary target species for the LE trawl program. There was discussion on how to treat any species not allocated to the LE trawl sector. Would they be treated like a prohibited species and, if so, what would happen if they are caught? There was collective agreement that allocating QS under a TIQ program for such species that are rarely caught did not make sense. Ms. Vojkovich suggested using the list of trawl-dominant species, but Mr. Leipzig said there are other species that may be important to a TIQ program that are not trawl-dominant. Mr. Seger said the GMT has discussed how to treat such species in a TIQ program.

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

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

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

Sectors

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

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

Variation in Allocation Percentages

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

Mr. Leipzig suggested deleting option 1 (2004 sector percentages) since it was not much different than option 2 (2003-04 sector percentages). He also recommended deleting options 5 and 6 (trawl and non-trawl best case percentages) since they are too extreme. He asked if option 4 (2007-08 allocations) meant the annual specifications shares in the EIS and therefore would be a mix of formal allocations (i.e., for sablefish and whiting) and projected impacts and Mr. DeVore confirmed that. Ms. Vojkovich proposed deleting option 4 and remarked she always had a problem with using the bycatch scorecard for allocation purposes. Ms. Mann expressed concern that option 2 (2003-04 sector percentages) did not capture the significant shifts in sector percentages that have occurred. Mr. Anderson proposed retaining option 4

(2007-08 allocations) because it reflects the most recent Council decisions and the current status of the resource. Mr. Melcher agreed and remarked the Council went through months of discussions to determine 2007-08 management measures, which can also be considered de facto “allocation” decisions. Mr. Jacobs supported analyzing options 2, 3, and 4. Mr. Leipzig cautioned the Committee about using option 4 since the “allocations” are estimated results of impact projection models. Ms. Longo-Eder was opposed to analyzing options that only use historical landings as a basis for allocation. If the TIQ program is not implemented with a gear-switching strategy in place, then she is concerned that discard issues will not be adequately considered. She proposed an option that relates bycatch by gear type. In that option, allocation to gear types that are more selective (i.e., less bycatch) would be favored. Mr. DeVore stated that bycatch rates over time are also a product of the regulations (i.e., there would be less discard with higher trip limits). Mr. Lockhart said he understood the concept, but was not sure how to structure alternatives to analyze this. He thought, as long as the analysis explored discard/bycatch effects by gear type, then a particular “bycatch reduction” alternative does not need to be decided right now. Mr. Anderson noted the Groundfish Strategic Plan has an objective to reward sectors/fisheries that are more selective. He proposed analyzing one option using a total catch time series and another option using a landed catch time series to investigate discard effects. Ms. Longo-Eder agreed. Ms. Vojkovich asked how one would develop an allocation scheme that provides an incentive to switch to more selective gears. Mr. Lockhart recommended adding language to the effect that the “Council intends to fully consider the role of bycatch in making its decisions”. Mr. Bodnar suggested the concept of revisiting the allocation decision after a TIQ program is implemented in order to give the trawl sector time to reduce discards through a market-based TIQ system. Mr. Anderson questioned the utility of analyzing option 3 (1995-2004 sector percentages). Sector shares in the earlier years of that time series are not meaningful now since that was an entirely different management regime. Mr. Lockhart remarked there are some constituents that believe the older management regime was better. Keeping these earlier years in the analysis allows for discussions about this. Mr. Anderson proposed analyzing option 4 (2007-08 allocations) for overfished species only. He was also supportive of an alternative that rewards bycatch reduction. Ms. Vojkovich and Mr. Melcher were in agreement with Mr. Lockhart on the recommendation to analyze an alternative with the longer catch history time series (i.e., option 3). Mr. Melcher said he was supportive of a bycatch reduction alternative, but was uncertain how to craft such an alternative. There was discussion of modifying option 3 (1995-2004 sector percentages) to only display a time series of landed catches for all sectors. Ms. Longo-Eder proposed adding 2005 catch data to options 2 and 3. Mr. DeVore said that discard mortality estimates for 2005 fisheries are not yet available, but are anticipated in time for the analysis. The Committee agreed to add 2005 catch data to those two options. Ms. Mann was opposed to using the bycatch scorecard for allocations since it punishes sectors that have worked hard to reduce bycatch.

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

Returning to how to structure a “bycatch reduction” alternative, Mr. DeVore recommended modifying Alternative 1 (2003-05 sector percentages) by analyzing sector shares using a total catch time series (option 2A) and also analyzing sector shares using a landed catch time series (option 2B). Comparing and contrasting the two results should expose the effect of differential bycatch/discard rates by sector. Mr. Jacobs noted that different sectors are observed at-sea at different rates resulting in less certainty in the discard estimate for some sectors. He assumed that would be part of the analysis and Mr. DeVore confirmed that it would be.

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

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

Hypothetical Alternatives

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

Briefing Book Requests

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

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

List of Potential Intersector Allocation Alternative Features

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

Species w/ Allocations

SQ	Sablefish, whiting, state alloc for NS spp.
1	SQ + trawl IQ spp. (trawl-dominant spp, DTS, + other important spp)
2	SQ + all other spp.
3	SQ + just overfished spp.
4	SQ + all but overfished spp.
5	SQ + spp. important to comm sectors
6	SQ + spp. important to both comm & rec sectors

Sectors

1	9* as in Table 1
2	4 (LE twl, LEFG, OA, Rec)*

Variation in Alloc. Percentage

SQ	Fixed in FMP for sablefish and whiting; State-specified for NS spp.; Determined ea. cycle for all other spp.
1	2004 sector total impact percentages
2a	2003-05 avg. sector total catch impact percentages
2b	2003-05 avg. sector landed catch impact percentages
3	1995-2005 avg. sector percentages (normalize by annual %s)
4	2007-08 total impact allocations
5	Trawl best case percentages
6	Non-trawl best case percentages
7	Bycatch strategic allocation?

Geographic Stratification

SQ	As in Table 1 (regions depicted as used in status quo management of OYs)
1	Ohio To Explain

Set-Asides

1	*Tribal Catches, Research, EFPs, Incidental OA
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Preliminary Intersector Allocation Alternatives Recommended by the Groundfish Allocation Committee in October 2006.

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

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

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

THURSDAY, MAY 17, 2007

Members Present:

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

Advisors Present:

Ms. Mariam McCall, National Oceanic and Atmospheric Administration General Counsel
Mr. Bob Alverson, Limited Entry Fixed Gear Representative
Mr. Pete Leipzig, Limited Entry Non-Whiting Trawl Representative
Mr. Dan Waldeck, Limited Entry Whiting Trawl Representative
Mr. Tom Ghio, Open Access Representative
Ms. Heather Mann, Processor Representative
Mr. Bob Osborn, Recreational Representative
Dr. Steve Barrager, Conservation Representative

Others Present:

Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff
Mr. Merrick Burden, NMFS Northwest Region, GMT member
Mr. Shems Jud, Environmental Defense
Ms. Dorothy Lowman, Environmental Defense
Ms. Laura Pagano, Natural Resources Defense Council
Mr. William Daspit
Mr. Mike Okoniewski, Pacific Seafood
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Mr. Marion Larkin, Washington trawler, GAP member
Mr. Joanna Grebel, California Department of Fish and Game, GMT member
Mr. Peter Huhtula, Pacific Marine Conservation Council
Mr. Michael Taylor, Cascade Economics LLC, PFMC Consultant
Mr. Dayna Matthews, NOAA Office of Law Enforcement, Northwest Division
Mr. Kent Craford, West Coast Seafood Processors' Association
Mr. David Jincks, Midwater Trawlers Cooperative
Mr. Steve Bodnar, Coos Bay Trawlers Association
Ms. Michele Culver, Washington Department of Fish and Wildlife
Mr. Brian Culver, Washington Department of Fish and Wildlife, GMT member
Ms. Gway Kirchner, Oregon Department of Fish and Wildlife
Mr. Mark Saelens, Oregon Department of Fish and Wildlife, GMT member
Dr. Ed Waters, Pacific Fishery Management Council Consultant
Ms. Laura Bozzi, Pacific Fishery Management Council Staff
Mr. Craig Urness, Pacific Seafood Group
Mr. Dale Myer, Arctic Storm Inc., Council member
Mr. Bruce Buckmaster, Ilwaco Fish Company
Mr. Joe Bersch, Supreme Alaska Seafoods
Mr. Steve Joner, Makah Tribe
Mr. Mark Cedergreen, Council member
Dr. Kit Dahl, Pacific Fishery Management Council Staff

Ms. Lucia Morici, member of the public

Process for Deciding Intersector Allocations

The GAC discussed how to structure the intersector allocation process in order to implement the program by January 2009 (to align with the start of the 2009-2010 management biennium and to support implementation of the trawl rationalization program). Staff indicated that the more contentious and complicated the allocations, the less likely that the January 2009 date would be achieved. Allocation decisions that may be particularly difficult are those for some overfished species and for species that are important to both commercial and recreational sectors. In particular, canary rockfish, cowcod, bocaccio, and yelloweye rockfish were flagged as species whose allocation could cause delay in the process. The GAC considered these concerns about potential delays. Some proposed that the difficulties associated with some of allocations were more related to workload and analysis, rather than the potential that the process would be stalled by the Council decision-making. In addition, the GAC discussed the overlap between the intersector allocation process and the biennial specifications process. Addressing workload concerns for NMFS' review and implementation of these programs, it was noted that the simpler the decisions made, the better able the Agency would be in completing its legal review and analysis in time to meet the set deadlines.

Given this discussion, the GAC considered the most near-term need for an allocation, which is to support the trawl rationalization program under development. Focusing on the trawl allocation first could allow the Council to exclude some of the controversy associated with other sectors until a later point, so that the January 2009 deadline could be met. Therefore, the GAC recommends that:

The process should start with deciding a trawl allocation of groundfish species and complexes.

The GAC intends to recommend at a later point a list of species to be included in the trawl allocation. The Council had at one point during the trawl rationalization process made decisions regarding which species would be classified as "trawl dominant." However, GAC members supported compiling a more comprehensive list that would include any species that would be caught by the trawl fishery, and not only the trawl dominant species. It was further noted that a more expansive species list would assure industry that the allocations are set and so give them greater comfort in supporting the trawl rationalization program.

Decision Process for Allocating Among Trawl Sectors

The GAC considered whether the allocation among trawl sectors should be handled under the trawl rationalization EIS or the intersector allocation EIS. Staff recommended that it be included as part of the intersector allocation EIS, explaining a perspective that this would result in more efficient, less complex analytical documents. The GAC concurred and recommended that:

Allocation among trawl sectors would be decided at the same time as the overall trawl allocation.

Intersector Action Alternatives

Looking at the data provided, the GAC remarked about the dramatic differences between the alternatives using total catch (i.e., landings + discards) and the alternatives using landed catch (respectively, Alternatives 1 and 5; and Alternatives 2, 3, 6 and 7). The landed catch alternatives, however, still contain discards in the recreational fishery (A + B1, or landed catch plus discard mortality). To improve the consistency across sectors, the GAC requested:

Remove the discard mortality component from the recreational catch data informing alternatives 2, 3, 6, and 7 (the alternatives using landings histories as an analytical basis);

The GAC was concerned about the gaps in the data to construct Alternatives 1 and 5. Though the decision made by the Council is based on an amalgam of many factors in addition to catch history, having strong supporting information is important for making a defensible decision. Therefore, the GAC tasked staff to:

Request 2003-05 discard mortality estimates from the NWFSC to fill the data gaps in the total catch alternatives (Alternatives 1 and 5).

The GAC then considered Alternatives 4 and 8, which use 2007-08 catch projections as an analytical basis. These were intended to use projections documented in the 2007-08 Harvest Specifications and Management Measures EIS. However, the available projections are primarily for overfished species, and some for primary target species in the trawl fishery and recreational fishery. New models would have to be developed to make similar projections for other sectors. The GAC considered using Alternative 4 for overfished species, and then using another alternative for the other species. Some considered this to create a mismatch in the allocation. The GAC deliberated over whether there was a value in analyzing Alternatives 4 and 8. These alternatives demonstrate the effect of regulations on constraining access to target species, however under a rationalized system there will be new regulations with a different suite of constraints. The GAC concluded that these alternatives would not be helpful to Council decision-making, though having current data on the projected catch of overfished species would be useful for comparison against the alternatives. Therefore,

Remove alternatives 4 and 8 (the alternatives using 2007-08 catch projections as an analytical basis), but provide the most recent GMT scorecard of projected 2007 overfished species' catch in November when the Council is slated to decide a preferred alternative.

Catch Overage Risk Management

Significant uncertainty in current catch monitoring systems; the need to protect fishing sectors from premature closures due to catch overages in other sectors; and consideration of a carryover provision in the trawl rationalization program suggest the need to consider novel mechanisms to manage the risk of catch overages. Such mechanisms are proposed in an issue paper developed by Council staff (“Managing yields in a groundfish management regime of IFQs, intersector allocations, and stringent rebuilding requirements”), which also was presented to the Council in April. The GAC directed staff to incorporate analysis of these new mechanisms – multi-year OYs and carryover provisions, sideboards, buffers, and bycatch caps – into the intersector allocation EIS.

Allocating Overfished Species

The GAC acknowledged that it is difficult to discuss Intersector Allocation (IA) without also thinking about trawl rationalization. The IA and trawl rationalization processes would have to be reconciled.

In the trawl individual fishing quota (IFQ) alternative, there is an option for surplus individual quota pounds (or a deficit of QP) to carryover to the next year. The GAC was reminded of a staff paper regarding the overage/underage provision in the trawl IFQ alternative. The trawl sector would get a percentage of the total allocation for a species in a given year, and that sector allocation is further divided into QS which could then be traded amongst the players in that sector. The rules for the QP carryover mechanism would be spelled out in the IFQ alternative. There is no provision for the sector level rollover or buffers that would be needed to accommodate the individual vessel carryover without violating harvest caps, and the IA could potentially provide for that. The GAC wanted to keep the overage/underage concept alive for now and should provide more direction at the November Council meeting.

Without the Intersector Allocation process, there is no way to divide the available OY for each of the fisheries. It seems that the IA could be simplified, and still allow the Council to accomplish their goals. The big threat of going over the OY is outside of the trawl sector, and managers cannot act quickly enough inseason to protect from the risk of non-trawl sector catch overages. If the Council is worried about another sector exceeding their allocation, then specifying a buffer for the sector from their allocation would be logical. The Council may wish to implement a multi-year OY, rather than a single-year OY, and put sector restrictions on individual sector allocations.

The GAC discussed the possibility of not making a long-term allocation of non trawl-dominant overfished species (i.e., bocaccio, canary rockfish, cowcod, and yelloweye rockfish). There are an infinite number of possible allocations and management regimes dependent on the relative harvestable surpluses of these species. Therefore, non trawl-dominant overfished species should be allocated using short-term (2-year) allocations developed as part of the biennial specifications process. Such an allocation framework would be more flexible and more manageable for species that tend to constrain fishing opportunities for trawl and non-trawl sectors. Longer-term allocations for the trawl-dominant species (i.e., darkblotched rockfish, POP, and widow rockfish) can be more readily considered since it is easier to understand the implications of alternative allocation schemes.

***Recommendation:** Move forward with analysis of modified alternatives 1, 2 and 3, which contemplate long-term allocations for the non-overfished species (except Pacific whiting, sablefish, and nearshore species) and the trawl-dominant overfished species (POP, darkblotched rockfish, and widow rockfish). Remove the non-trawl-dominant overfished species from the analysis.*

Open Access Allocations

The GAC acknowledged that it should provide guidance to the working group for this issue. Understanding the future needs of the non-trawl sectors would be helpful in developing this guidance. Having this information would not change decisions to be made at the November Council meeting, but down the line it will inform decisions. Alternative 2 considers a split in the allocation to the sectors, and the GAC may need additional information to assess that alternative, although there is some information readily available. If Alternative 2 is not selected by the Council, there will be less need to have more refined information on open access. A more detailed discussion by the GAC would help guide the working group, but that GAC discussion can be deferred.

Discussion deferred to a later GAC meeting.

IFQs: Halibut Intersector Allocation (A-4)

[Note: This discussion took place during the trawl rationalization portion of the GAC meeting.]

The International Pacific Halibut Commission is proposing a new stock assessment that would dramatically reduce how much Pacific halibut is allocated to Area 2A off of Washington and Oregon. The trawl portion of the halibut catch comes off the top of the area's total halibut quota, and thus limits other halibut fishing opportunities. A mechanism to allocate halibut to the trawl fishery might help save some halibut for the other sectors.

The GAC discussed the means by which an allocation of halibut to accommodate expected trawl bycatch might be established. It was stated in the GAC meeting that the Intersector Allocation process is the appropriate venue for discussing the halibut allocation to the trawl sector, but there should be further Council discussion in November. Halibut is not on the list of species currently being considered in the current IA process.

Recommendation: *Determine the appropriate forum for addressing an allocation of halibut bycatch for the trawl sector. Consider the Council agenda.*

THURSDAY and FRIDAY, FEBRUARY 21-22, 2008

Committee Members Present:

Mr. Donald Hansen, Dana Wharf Sport Fishing, Pacific Fishery Management Council Chairman
Dr. David Hanson, Pacific States Marine Fisheries Commission
Mr. Steve Williams, Oregon Department of Fish and Wildlife Representative
Ms. Michele Culver, Washington Department of Fish and Wildlife Representative
Ms. Marija Vojkovich, California Department of Fish and Game Representative
Mr. Frank Lockhart, National Marine Fisheries Service (NMFS) Northwest Regional Office, NMFS Representative

Non-voting Advisors Present:

Mr. Pete Leipzig, Limited Entry Trawl Representative
Ms. Heather Mann, Shoreside Processor Representative
Mr. Shems Jud, Conservation Representative
Mr. Robert Osborn, Recreational Representative
Ms. Michele Longo-Eder, Limited Entry Fixed Gear Representative
Mr. Tom Ghio, Open Access Representative
Mr. Dan Waldeck, At-sea Processor Representative
Ms. Eileen Cooney, National Oceanic and Atmospheric Administration (NOAA) General Counsel

Others Present:

Mr. Dale Myer, Arctic Storm Inc., Council member
Mr. Rod Moore, West Coast Seafood Processors Association, Council member
Dr. Donald McIsaac, Pacific Fishery Management Council Executive Director
Dr. Steve Freese, National Marine Fisheries Service Northwest Regional Office
Mr. Corey Niles, Washington Department of Fish and Wildlife, GMT member
Ms. Joanna Grebel, California Department of Fish and Game, GMT member
Mr. Robert Jones, Northwest Indian Fisheries Commission, GMT member
Mr. Merrick Burden, Pacific Fishery Management Council Staff
Mr. Jim Seger, Pacific Fishery Management Council Staff
Mr. John DeVore, Pacific Fishery Management Council Staff
Ms. Heather Brandon, Pacific Fishery Management Council Staff
Dr. Ed Waters, Pacific Fishery Management Council Consultant
Ms. Kelly Ames, Oregon Department of Fish and Wildlife, GMT member
Mr. Marion Larkin, Washington Trawl, GAP member
Mr. Dayna Mathews, NOAA, Office for Law Enforcement
Ms. Laura Pagano, Natural Resources Defense Council
Mr. Steve Bodnar, Coos Bay Trawlers Association and Bandon Submarine Cable Committee
Mr. David Jincks, Midwater Trawlers Cooperative
Ms. Becky Blanchard, University of Florida
Mr. Dave Colpo, Pacific States Marine Fisheries Commission
Mr. Peter Huhtala, Pacific Marine Conservation Council
Mr. William Daspit
Ms. Lucia Morici
Mr. Bob Eder, limited entry fixed gear fisher

GAC Recommendations to the Council on Intersector Allocation

The GAC developed the following Intersector Allocation (ISA) recommendations for Council consideration:

- In general, the GAC recommended the lower trawl catch percentage relative to the 2003-05 total catch percentages (Alternative 1) and the 1995-05 landed catch percentages (Alternative 3). The preliminary GAC-preferred trawl allocations are shown in Table 1 below.
- Lingcod are currently managed under a coastwide ABC and OY; however, the last stock assessment (2007) indicated differences in the status of the coastwide stock north and south of 43° N latitude. For management purposes, the GAC considered using the Oregon/California border (42° N latitude); however, given that current regulations are applied north and south of 40°10' N latitude, the GAC recommends further analysis of lingcod allocations that contemplate a split at 40°10' N latitude. The GAC also recommends reconsidering the lingcod allocation south of 40°10' N latitude in the future, if a new assessment indicates a healthier southern stock.
- Analyze a 15 percent set-aside for Dover sole, petrale, and English sole to provide for potential future development of non-trawl harvest methods for these stocks.
- Recommend removing treaty set asides, set asides for EFPs, and projected scientific research catches off the top prior to applying intersector allocations.
- Analyze an additional long-term set-aside ranging from 0 to 15 percent for all ISA species (except Dover, petrale, and English sole, where a 15 percent set aside was recommended). The set-aside percent may vary by species and could be zero for some species, could be taken by non-trawl gears, and is intended to aid developing fisheries.
- In order to provide flexibility in the trawl rationalization process, the GAC recommends the Council select the sectors under Alternative 1, which contemplates long-term allocations for four trawl sectors, and all other non-treaty, non-trawl sectors would be combined in the analysis. If the Council ultimately decides to manage three trawl sectors once trawl rationalization is implemented, the allocations for the shoreside whiting and shoreside non-whiting sectors can be combined.
- Implement new intersector allocations in synchrony with trawl rationalization measures. ISA implementation is not recommended for 2009.
- Decide intersector allocations in a subsequent two-meeting process, where a preliminary preferred decision is made in April 2008 and a final preferred decision is made at a later meeting. Allow Council staff to recommend a timeframe after April 2008 for the final preferred alternative decision.

Table 1. Preliminary preferred trawl allocations recommended by the Groundfish Allocation Committee in February 2008.

Stock or Complex	GAC Preliminary Preferred Trawl Allocations		
	All Non-Treaty Trawl Sectors	Buffer a/	Rationale
Lingcod - coastwide			
N. of 42° (OR & WA)	40.0%		Recommendation is less firm than for other species; Explore a 40°10' split; Reconsider alloc. % if new assessment indicates a healthier southern stock
S. of 42° (CA)	5.0%		
Pacific Cod	98.0%		Equals the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Sablefish (Coastwide)			
N. of 36° (Monterey north)			
S. of 36° (Conception area)	42.0%		Equals the ave. 1995-05 landed catch % (< ave. 2003-05 total catch %); Note: actual ave. 1995-05 landed catch % = 47.7%
PACIFIC OCEAN PERCH	99.0%		Rounds to the ave. 1995-05 landed catch % (< ave. 2003-05 total catch %)
Shortbelly Rockfish	No alloc.		No allocation needed since incidental catch in all fisheries combined is a small fraction of the OY
WIDOW ROCKFISH	91.0%		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Chilipepper Rockfish	80.0%		Rounds to the ave. 1995-05 landed catch % (< ave. 2003-05 total catch %)
Splitnose Rockfish	97.0%		Rounds to the ave. 1995-05 landed catch % (< ave. 2003-05 total catch %)
Yellowtail Rockfish	88.0%		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Shortspine Thornyhead - coastwide			
N. of 34°27'	98.0%		Rounds to the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %
S. of 34°27'	58.0%		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Longspine Thornyhead - coastwide			
N. of 34°27'	99.0%		Rounds to the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %
S. of 34°27'	5.0%		A higher trawl allocation % is recommended than in the alternatives since this stock is under-utilized
DARKBLOTCHED	98.7%		Equals the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Minor Slope Rockfish North	81.0%		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Minor Slope Rockfish South	63.0%		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Dover Sole	100.0%	15%	Rounds to the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %; 15% set-aside to accommodate developing fixed gear fisheries
English Sole	100.0%	15%	Rounds to the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %; 15% set-aside to accommodate developing fixed gear fisheries
Petrale Sole (coastwide)	100.0%	15%	Rounds to the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %; 15% set-aside to accommodate developing fixed gear fisheries
Arrowtooth Flounder	99.0%		Rounds to the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Starry Flounder	87.0%		Slightly less than the ave. 2003-05 total catch % (< ave. 1995-05 landed catch %)
Other Flatfish	97.0%		Rounds to the ave. 1995-05 landed catch % (< ave. 2003-05 total catch %)
Spiny Dogfish	70.0%		Slightly less than the ave. 2003-05 total catch % and the ave. 1995-05 landed catch %

a/ The GAC recommends consideration for buffers of 0-15% for all intersector allocation species to manage the risk of exceeding OYs and to accommodate new fisheries. The GAC recommends a 15% buffer for petrale sole, Dover sole, and English sole.

The GAC identified the following issues regarding Intersector Allocation:

- Treaty allocations, primarily for Pacific cod and lingcod, may change significantly and may alter the ISA alternatives. Analyses should set aside 400 mt of Pacific cod and 250 mt of lingcod for treaty fisheries. The Council should be aware that there may be increasing treaty set-asides for other species.
- Analysis of long-term allocation does not contain revenue and bycatch assumptions relating to the future paradigm of trawl rationalization. The assumption that bycatch amounts will decrease in the trawl fishery after rationalization is implemented is not an assumption that is made in the ISA analysis, but is a point of discussion in the ISA EA.
- The method or formula for analyzing and determining intersector and within-trawl allocations do not need to be the same.
- An underlying assumption of the ISA analysis and discussion is that the amount of fish available for allocation to directed non-treaty sectors is the yield after deductions from the OY are made to accommodate treaty fisheries, research catches, EFPs, and incidental open access catches. Another underlying assumption of the ISA analysis and discussion is that the Council's vision for the future structure of the fishery shall be made clearer, equity between sectors will be addressed, and the goals and objectives in the strategic plan and the FMP will be incorporated.
- The GAC indicated the need for more information in the EA regarding the following issues: 1) the percent of the OY taken by each sector by year; 2) an analysis and/or discussion of how trip limits may have prevented trawlers from taking their sablefish allocation; and 3) a table depicting annual OYs for each species, what amount was actually attained, and which sectors took which portion of the total catch in each year.
- More detail is needed in the EA regarding constraints to individual trawl sectors to better examine within-trawl allocations. For example, one trawl sector might need a few more tons of a certain species, while another trawl sector might not need all that was allocated. An allocation that does not constrain the trawl fishery overall may be a constraint to any given trawl sector.
- The GAC discussion about the need for buffers in the ISA process helped to clarify that the term is not referring to a "buffer" within an ACL (i.e., setting an OY less than the ABC to lessen the risk of overfishing a stock). Buffers in the ISA process are intended to protect sectors from being impacted by catch overages in other sectors. Even with a buffer, the OY could still be exceeded by any sector's catch overage and the Council would then need to react with inseason adjustments to one or more sectors' fishing opportunities. The Council should consider a mechanism for allocating the buffer yield back to affected sectors. Buffers may be more important for species that are more fully utilized (i.e., species OYs that are more consistently attained or approached every year). In order to better consider recommended buffer amounts, the yields set aside for research catches, incidental open access catches, and EFPs would be better informed with a more complete historical record of these catches. Additionally, stocks targeted in new, emerging fisheries could be one use for buffers.
- Better documentation of historical catches of Pacific halibut in directed Area 2A fisheries and trawl bycatch estimates against annual estimates of constant exploitation yield would facilitate deciding trawl total catch limits for Pacific halibut. However, this is a lower priority for Council staff than the previous information requests. It is not the intent of the GAC to reopen discussion of the Pacific halibut catch sharing plan.

GROUND FISH ALLOCATION COMMITTEE REPORT FROM JANUARY 2009 REGARDING INTERSECTOR ALLOCATION: AMENDMENT 21

The GAC met in Portland, Oregon on January 27-29, 2009 to discuss Amendment 21 - Intersector Allocation, and other issues. The following GAC recommendations with accompanying rationale for considering intersector allocations are presented to the Council.

1. The GAC recommends the Council adopt a new alternative that proportionally increases the non-trawl percentage under intersector allocation (ISA) Alternative 1 by 10 percent for the following species: lingcod (coastwide), Pacific cod, sablefish (north and south), widow rockfish, chilipepper rockfish, yellowtail rockfish, shortspine thornyhead (north and south), minor slope rockfish (north and south), and starry flounder.
2. The GAC recommends the Council adopt the original GAC-recommended trawl/non-trawl allocations, except all trawl allocations ≥ 95 percent would be set at 95 percent (Table 2).
3. The GAC recommends the Council dismiss ISA alternatives concerning Pacific halibut bycatch limits since this was decided in November 2008 under the trawl rationalization decision.
4. The GAC recommends the Council decide buffers for management uncertainty in the FMP amendment process concerning new NS1 guidelines.
5. For within-trawl allocations, the GAC recommends the Council set the at-sea sectors' set-asides large enough to not constrain these fisheries given the interannual variation in sector catches. The GAC recommends the Council establish a 5 mt minimum set-aside for any incidentally-caught species in the at-sea fisheries and all set-asides should be rounded up to the nearest 5 mt.
6. The GAC recommends removing spiny dogfish from the list of ISA species.
7. The GAC recommends the Council select within-trawl subsector allocation schemes for the shoreside trawl sector in April pending further analysis and discussion.

Rationale

GAC Recommendation 1:

The rationale for analyzing a new ISA alternative that proportionally increases the non-trawl allocation percentages for some ISA species was presented by NMFS in a hand-out as follows. The alternatives in the ISA analysis are based on historical catch percentages by sector. However, it was suggested by the NMFS representative to the GAC that there could be other ways to approach sector allocations. The current fishery is the result of years of declining catches, including declaration of a fishery disaster in 2001. In addition, the presence of overfished species has forced restructuring of the fishery to avoid harvesting these species, resulting in further changes to fishing patterns. The Amendment 21 ISA action is an attempt to allocate the groundfish stocks among the various sectors to reduce the risk that the activities of one sector will affect or be affected by the others. The initial strategy under discussion by the Council has been to look at recent harvest splits among the sectors and then lock in these harvest percentages, with some alteration of strict historical patterns on a case-by-case basis. However, the current harvest percentages are the result of several years of perturbations and, if the ISA were to have been done in the 1980s, an allocation based strictly on historical catches would likely have been different. If we were to do nothing, the fishery would be free to rearrange itself among the sectors as overfished species rebuild themselves and communities recover. In addition, the Council has received public testimony stating that that an allocation directed more toward fixed gear could be more "environmentally friendly" and could help support more fishing communities. However, the impact of allocating quota to sectors based on other than historical methods has not been fully analyzed. In

particular, an analysis could explore the impacts of allocating more than a historical proportion of quota to a sector on habitat, bycatch, overfished species, fishing communities, and endangered species.

GAC Recommendation 2:

In evaluating the historical catch by sector to determine the trawl and non-trawl allocations, knowing the OY for each of the species for each of the years would be required to know whether that sector was constrained or not. Another consideration for this decision is accommodating the potential for new emergent fisheries. Specifying a maximum trawl allocation of 95 percent for the most trawl-dominant species and leaving a 5 percent allocation for non-trawl fisheries allows expansion of non-trawl fisheries and/or developing fisheries that could take these species with non-trawl gear. Standardizing this allocation limit allows comparison with alternatives with higher trawl allocations or alternatives that specify a buffer to achieve the same goal.

GAC Recommendation 3:

The GAC recommended dismissing further analysis of Pacific halibut total catch limits in the rationalized trawl fishery since a 10 percent limit relative to the total Area 2A CEY was decided as part of the Council's November 2008 trawl rationalization decision. [Staff note: since the January GAC meeting, the Council has decided to analyze a new preliminary preferred alternative for a Pacific halibut total catch limit. Given this decision and Council direction at the March 2009 meeting, all halibut total catch limit alternatives will be analyzed and presented under the ISA agenda item in April.]

GAC Recommendation 4:

Given the mandates in the re-authorized MSA and the new NS1 guidelines, the GAC recommends a consideration of buffers to address management uncertainty in a separate amendment process. This amendment process is contemplated for all species in the FMP and not just the ISA species and is therefore a more logical process for considering buffers. [Staff note: this was recommended to the GAC by staff. The preliminary DEIS that will support the Council's ISA decisions in April will consign buffer management options of 0-25 percent to the "eliminated from further detailed analysis" category given this more reasoned amendment process for such considerations.]

GAC Recommendation 5:

The set-aside recommendation to accommodate bycatch by the at-sea whiting sectors addresses the interannual variability of bycatch amounts observed in the fishery and the lack of precision in projecting these amounts. The GAC also recognized the value of the whiting fishery comes from attaining whiting quotas and not in the bycatch. If bycatch limits are specified as caps rather than set-asides, which are less flexibly managed than set-asides, future whiting fisheries are more likely to be constrained, which reduces the overall benefit to the fishery and the nation.

GAC Recommendation 6:

Spiny dogfish was initially on the list of species subject to intersector allocation. However, in September 2008, the Council decided not to do a stock assessment of spiny dogfish. Therefore, without a species-specific ACL for spiny dogfish that would be derived from an assessment, there is no basis for allocating harvest shares in the trawl rationalization program. The issue is further complicated in that spiny dogfish are currently managed in the Other Fish complex and there is no historical catch basis for understanding the stock's contribution to the complex. It is therefore recommended that Other Fish allocations remain short term as decided in the biennial specifications and management measures process.

GAC Recommendation 7:

In order to allocate among the trawl sectors, there must first be a one-time reconciliation between the shoreside whiting and shoreside non-whiting initial sector allocations. To calculate an individual's

allocation, one would have to determine the bycatch QS allocation in the shoreside whiting fishery and the QS allocation in non-whiting trawl efforts. To bring the two QS allocations together under one harvester and to manage a single shoreside trawl sector under an IFQ system, the two QS allocations need to be weighted relative to each other. Equal weighting would not appropriately match the species mix to the vessel's fishing strategy, and therefore, for the analysis to move forward, staff would need to know which years to use for the weighting in each shoreside sector. The split between shoreside whiting and shoreside non-whiting would serve as the weighting percentage. Shoreside sectors would be treated as two different sectors in order to make the initial allocation, and thereafter there would be no distinction between QS issued for shoreside whiting and non-whiting.

Table 2. Limited entry trawl and non-trawl allocations recommended by the Groundfish Allocation Committee in January 2009.

Stock or Complex	All Non-Treaty LE Trawl Sectors	All Non-Treaty Non-Trawl Sectors
Lingcod – coastwide	45.0%	55.0%
Pacific Cod	95.0%	5.0%
Sablefish N. of 36° a/	52.5%	47.5%
Sablefish S. of 36°	42.0%	58.0%
PACIFIC OCEAN PERCH	95.0%	5.0%
WIDOW	91.0%	9.0%
Chilipepper S. of 40°10'	80.0%	20.0%
Splitnose S. of 40°10'	95.0%	5.0%
Yellowtail N. of 40°10'	88.0%	12.0%
Shortspine N. of 34°27'	95.0%	5.0%
Shortspine S. of 34°27'	58.0%	42.0%
Longspine N. of 34°27'	95.0%	5.0%
Longspine S. of 34°27'	5.0%	95.0%
DARKBLOTCHED	95.0%	5.0%
Minor Slope RF North	81.0%	19.0%
Minor Slope RF South	63.0%	37.0%
Dover Sole	95.0%	5.0%
English Sole	95.0%	5.0%
Petrals Sole – coastwide	95.0%	5.0%
Arrowtooth Flounder	95.0%	5.0%
Starry Flounder	87.0%	13.0%
Other Flatfish	95.0%	5.0%

a/ The GAC is not recommending a modification of the status quo allocation of sablefish N. of 36°. The LE trawl percentage is status quo but re-calculated as a percent of the total non-treaty available yield (90.6 % (the LE allocation) × 58% (the LE trawl allocation of the total LE amount)).

APPENDIX B STAFF DRAFT GROUND FISH FISHERY MANAGEMENT PLAN AMENDATORY LANGUAGE FOR AMENDMENT 21

The Council has not yet formally adopted this language. This is the staff interpretation of how the Pacific Coast Groundfish FMP language would be modified based on the Council motion for Amendment 21.

Under Amendment 21, the Pacific Fishery Management Council (Council) decided that all formal, long-term allocations need to be in the Pacific Coast Groundfish FMP, which would require an FMP amendment to change in the future (see Section 2.4 in this FEIS). Section 6.3 of the FMP describes the allocation framework, which was followed in deciding the formal allocations under Amendment 21. Two FMP stocks, Pacific whiting and sablefish north of 36° N latitude have been formally allocated prior to Amendment 21. While these allocations have been implemented in federal regulations, they are not included in the FMP. Because of the Council's Amendment 21 decision to specify formal allocations in the FMP, two sections in Chapter 11 are recommended to be added to the FMP that describe the pre-existing allocations as follows. Actual section numbers are not provided in this recommendation since it is anticipated that Chapter 11 will also be amended by implementation of Amendment 20.

11. insert section number Sector Allocations of Sablefish North of 36° N Latitude

Fixed allocations of sablefish are based on the OY specified for the area north of 36° N latitude (to the U.S./Canada border). Sablefish allocations north of 36° N latitude are determined by first deducting the tribal share from the OY specified for north of 36° N latitude, then deducting the estimated total mortality of sablefish in research and non-groundfish fisheries (these deductions are decided in the biennial process for specifying harvest specifications and management measures based on the best available information at the time of the decision), then dividing the remaining yield (non-tribal share) between open access and LE fisheries, with the LE share divided between the trawl and fixed gear (longline and fishpot) sectors. The proportions of each of these divisions are indicated in Figure 11-1. The LE fixed gear share is then generally divided by allocating 85 percent to the primary fishery for LE

fixed gear vessels with sablefish endorsements and allocating 15 percent for the daily-trip-limit fishery, for such vessels with and without sablefish endorsements.

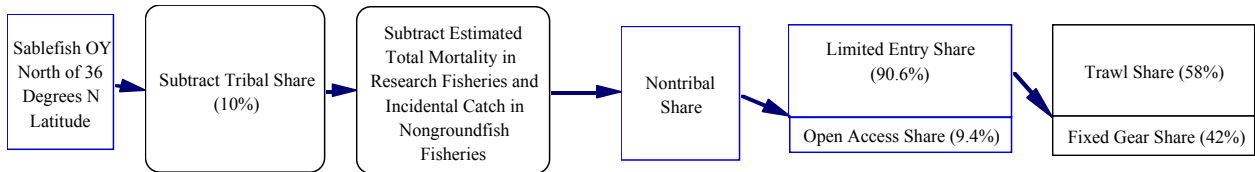


Figure 11-1. Fixed intersector allocations of sablefish north of 36° N latitude.

11. [insert section number] Sector allocations of Pacific Whiting

Projected total mortalities of Pacific whiting in recreational, research, and non-whiting fisheries are first set aside (these deductions are decided in the annual process for specifying Pacific whiting harvest specifications and management measures based on the best available information at the time of the decision), then a yield amount is set-aside to accommodate tribal whiting fisheries. In some years, the whiting set-aside may be increased to accommodate other programs, such as EFPs. The nontribal commercial share of whiting is allocated to LE whiting trawl sectors as follows: 42 percent for the shoreside whiting sector, 24 percent for the at-sea mothership whiting sector, and 34 percent for the at-sea catcher-processor whiting sector. No more than 5 percent of the shoreside whiting sector’s allocation may be taken and retained south of 42° N latitude prior to the start of the shore-based whiting season north of 42° N latitude (in waters off Oregon and Washington).

Pursuant to the Council’s preferred alternative under Amendment 21, the following amendatory language is recommended for FMP chapter 11:

11. [insert section number] Limited Entry Trawl Allocations for Amendment 21 Species

Formal allocations of species covered under Amendment 21 support Amendment 20 trawl rationalization measures. Annual OYs are established for these species the same as for other groundfish species. The OYs are then reduced by deducting the estimated total mortality of these species in research, tribal, and non-groundfish fisheries, and the bycatch limits specified in adopted EFPs. The remainder of the OYs is then allocated according to the percentages in Table 11-1. The trawl percentage is for the non-treaty trawl fishery managed under Amendment 21. The non-treaty, non-trawl percentage is for the LE fixed gear fishery, the open access fishery, and the recreational fishery.

Trawl/Nontrawl Allocations

Table 11-1. Allocation percentages for limited entry trawl and non-trawl sectors specified for FMP groundfish stocks and stock complexes under Amendment 21 (most percentages based on 2003-2005).

Stock or Complex	All Non-Treaty LE Trawl Sectors	All Non-Treaty Non-Trawl Sectors
Lingcod	45.0%	55.0%
Pacific Cod	95.0%	5.0%
Sablefish S. of 36° N latitude	42.0%	58.0%
PACIFIC OCEAN PERCH	95.0%	5.0%
WIDOW	91.0%	9.0%
Chilipepper S. of 40°10' N latitude	75.0%	25.0%
Splitnose S. of 40°10' N latitude	95.0%	5.0%
Yellowtail N. of 40°10' N latitude	88.0%	12.0%
Shortspine N. of 34°27' N latitude	95.0%	5.0%
Shortspine S. of 34°27' N latitude	50 mt	Remaining Yield
Longspine N. of 34°27' N latitude	95.0%	5.0%
DARKBLOTCHED	95.0%	5.0%
Minor Slope RF North of 40°10' N latitude	81.0%	19.0%
Minor Slope RF South of 40°10' N latitude	63.0%	37.0%
Dover Sole	95.0%	5.0%
English Sole	95.0%	5.0%
Petrale Sole	95.0%	5.0%
Arrowtooth Flounder	95.0%	5.0%
Starry Flounder	50.0%	50.0%
Other Flatfish	90.0%	10.0%

Shoreside Trawl Allocations for Initial Issuance

Under Amendment 20 trawl rationalization, the two existing LE trawl sectors delivering groundfish to shoreside processing plants (i.e., shoreside whiting and shoreside non-whiting) are managed as one sector under a system of IFQs. However, before QSs can be allocated to eligible LE trawl permit holders, an initial one-time allocation was made to the two shoreside sectors. All species subject to formal allocation, including sablefish north of 36° N latitude and excluding the three trawl-dominant overfished species (i.e., darkblotched rockfish, POP, and widow rockfish) and yellowtail rockfish are allocated to the shoreside whiting and shoreside non-whiting sectors based on 1995-2005 sector catch percentages (Table 11-2). An initial allocation of 300 mt of yellowtail rockfish was made to the shoreside whiting sector prior to allocation of Amendment 20 QSs. The estimated fishing mortality of Amendment 21 species in the at-sea whiting fishery (i.e., total catch by catcher-processors and vessels delivering whiting to motherships) other than the three trawl-dominant overfished species is set aside from the LE trawl allocations specified in Table 11-1 prior to making the initial shoreside trawl sector allocations. While set-aside amounts for the at-sea whiting fishery (mothership and catcher/processor sectors) were preliminarily decided under Amendment 21, the actual set-aside amounts will be based on the best available information on bycatch by these sectors in the biennial harvest specifications and management measures decision process.

Table 11-2. Shoreside trawl sector catch percentages during the 1995 to 2005 period used to apportion the initial allocation of Amendment 21 species to LE trawl sectors delivering groundfish to shoreside processing plants (i.e., shoreside whiting and shoreside non-whiting).

Stock or Complex	1995-2005 Sector Catch Percentage	
	Non-whiting	Whiting
Lingcod	99.70%	0.30%
Pacific Cod	99.90%	0.10%
Pacific Whiting	0.10%	99.90%
Sablefish N. of 36° N latitude	98.20%	1.80%
Sablefish S. of 36° N latitude	100.00%	0.00%
Chilipepper S. of 40°10' N latitude	100.00%	0.00%
Splitnose S. of 40°10' N latitude	100.00%	0.00%
Shortspine N. of 34°27' N latitude	99.90%	0.10%
Shortspine S. of 34°27' N latitude	100.00%	0.00%
Longspine N. of 34°27' N latitude	100.00%	0.00%
Minor Slope RF North of 40°10' N latitude	98.60%	1.40%
Dover Sole	100.00%	0.00%
English Sole	99.90%	0.10%
Petrals Sole	100.00%	0.00%
Arrowtooth Flounder	100.00%	0.00%
Starry Flounder	100.00%	0.00%
Other Flatfish	99.90%	0.10%

Allocation of Trawl Dominant Overfished Species

Under Amendment 20, the at-sea whiting sectors (i.e., catcher-processors and motherships) are managed in a system of sector-specific harvest cooperatives. Each at-sea whiting sector will manage its bycatch of canary rockfish, darkblotched rockfish, POP, and widow rockfish using sector-specific total catch limits. An initial allocation of these four species has to be made to the four existing LE trawl sectors before initial allocation of Qs under Amendment 20. Initial sector allocation of canary rockfish would be decided in the biennial harvest specification and management measures process immediately preceding implementation of Amendments 20 and 21. The initial sector allocation of the trawl-dominant overfished species under Amendment 21 is as follows:

Darkblotched Rockfish

Allocate 9 percent or 25 mt, whichever is greater, of the total LE trawl allocation of darkblotched rockfish to the whiting fisheries (at-sea and shoreside combined). The distribution of the whiting trawl allocation of darkblotched to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation.

Pacific Ocean Perch

Allocate 17 percent or 30 mt, whichever is greater, of the total LE trawl allocation of POP to the whiting fisheries (at-sea and shoreside combined). The distribution of the whiting trawl allocation of POP to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation.

Widow Rockfish

Initially allocate 52 percent of the total LE trawl allocation of widow rockfish to the whiting sectors if the stock is under rebuilding or 10 percent of the total LE trawl allocation or 500 mt of the trawl allocation to the whiting sectors, whichever is greater, if the stock is rebuilt. If the stock is overfished when the initial allocation is implemented, the latter allocation scheme automatically kicks in when it is declared rebuilt. The distribution of the whiting trawl allocation of widow to individual whiting sectors will be done pro rata relative to the sectors' whiting allocation.

Allocation of Pacific Halibut

Pacific halibut is a prohibited species in the west coast LE trawl fishery. Under Amendment 20, Pacific halibut bycatch in the shoreside trawl fishery north of 40°10' N latitude is managed using a system of IBQs. Under Amendment 21, an allocation of Pacific halibut was decided as follows:

The trawl mortality limit for legal and sublegal Pacific halibut will be set at 15 percent of the Area 2A (i.e., waters off California, Oregon, and Washington) constant exploitation yield for legal size halibut, not to exceed 130,000 pounds for the first four years of trawl rationalization and not to exceed 100,000 pounds starting in the fifth year. This total bycatch limit may be adjusted downward or upward through the biennial specifications and management measures process. Part of the overall total catch limit is a set-aside of 10 mt of Pacific halibut to accommodate bycatch in the at-sea whiting fishery and bottom trawl bycatch south of 40°10' N latitude. The set-aside amount of Pacific halibut to accommodate the incidental catch in the trawl fishery south of 40°10' N latitude and in the at-sea whiting fishery may be adjusted in the biennial specifications and management measures process in future years as better information becomes available.

Under Amendment 21, it was decided that any formal allocations be specified in the FMP. Future consideration for a reallocation of FMP species subject to a formal allocation will require an FMP amendment. The provision to temporarily suspend the LE, open access allocation if a species is declared overfished (see Section 4.6.1(5) of the FMP) is maintained under Amendment 21.

All intersector allocations will be formally reviewed along with the formal review of the trawl rationalization program five years after implementation of Amendments 20 and 21.

[Amendment 21]

APPENDIX C AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THIS STATEMENT WERE SENT

The Council makes both the DEIS and FEIS available on its website, so anyone with computer access may download an electronic copy. Electronic copies on CD-ROM and paper copies are made available upon request. The Council distributes a notice of availability for the DEIS and FEIS through its electronic mailing list, which includes state and Federal agencies, tribes, and individuals. Copies of the FEIS are sent to anyone who comments on the DEIS. In addition, NMFS distributes copies of the DEIS to the following agencies:

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Washington, D.C. 20520
(1 hardcopy & 11 CDs)

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(1 CD)

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Director, Office of Marine Conservation
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RECORD OF DECISION
for the
FINAL ENVIRONMENTAL IMPACT STATEMENT
on
ALLOCATION OF HARVEST OPPORTUNITY BETWEEN SECTORS OF THE PACIFIC
COAST GROUND FISH FISHERY

National Marine Fisheries Service
Northwest Region

1 INTRODUCTION

The Final Environmental Impact Statement (FEIS) on allocation of harvest opportunity between sectors of the Pacific Coast groundfish fishery provides background information and analyzes possible environmental impacts resulting from the proposed actions and alternatives. The Pacific Fishery Management Council (Council) proposes changes to its *Pacific Coast Groundfish Fishery Management Plan* (FMP) to rationalize Federal management of the Pacific Coast groundfish trawl fishery through Amendment 21. The proposed actions are presented below:

1. To make long-term, formal allocations of Amendment 21 species to the combined limited entry (LE) trawl sectors
2. To determine a weighting scheme for an initial shoreside trawl sector allocation to the shoreside whiting and shoreside non-whiting sectors of all Amendment 21 species other than darkblotched rockfish, Pacific ocean perch, and widow rockfish, as well as sablefish north of 36° N latitude
3. To apportion the limited entry (LE) trawl allocation of darkblotched rockfish, Pacific ocean perch, and widow rockfish to the four current trawl sectors (shoreside non-whiting, shoreside whiting, at-sea whiting mothership, and at-sea whiting catcher/processor)
4. To consider yield set-asides to accommodate the projected bycatch of all Amendment 21 species other than darkblotched rockfish, Pacific ocean perch, and widow rockfish by the two at-sea whiting trawl sectors (motherships and catcher/processors)
5. To determine a total catch limit of Pacific halibut in Area 2A trawl fisheries to limit the future bycatch of this prohibited trawl species
6. To determine a process for deciding future formal allocations or reallocations of FMP species

The lead agency for the FEIS is the National Marine Fisheries Service, Northwest Region (NMFS Northwest Region). The FEIS was prepared to address regulatory requirements of NMFS, pursuant to National Environmental Policy Act (NEPA), the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Regulatory Flexibility Act, and Executive Order (EO) 12866. The proposed actions require regulatory approval from NMFS prior to implementation.

FMP Amendment 21 concerns formal, long-term allocations of a select subset of federally managed west coast groundfish species to the LE trawl sectors. These allocations are needed to support the Amendment 20 trawl rationalization program. To that end, they are to be implemented concurrent with Amendment 20. Specifically, the purposes of the proposed Amendment 21 actions are as follows:

1. To simplify or streamline future decisions by making formal allocations of specified groundfish stocks and stock complexes. Formal allocations are fixed and do not have to be decided through every biennial process or developed indirectly through the structure of management measures.
2. To support rationalization of the LE trawl fishery (Amendment 20). Long-term, formal allocations of Amendment 21 species to the LE trawl sectors will provide more certainty to these sectors by reducing the risk that they would be closed because of other non-trawl sectors exceeding their allocation. Such certainty will be especially important under the proposed individual fishing quota (IFQ) and harvest cooperative systems proposed under the Amendment 20 trawl rationalization program, because it will make it easier for fishers to make long-range planning decisions based on the allocation of harvest privileges. In addition, supporting Amendment 20, which will require individual accountability of catch and bycatch, will improve overall total catch accounting of groundfish species by the group with the largest groundfish catch, the trawl sector. While allocations could be made biennially to support trawl rationalization, this would be a more difficult and controversial process than making those decisions in advance.
3. To limit the bycatch of Pacific halibut in future LE trawl fisheries. A total catch limit of Pacific halibut, with the intent of further minimization of Pacific halibut bycatch in Area 2A trawl fisheries, is consistent with the MSA mandate to minimize bycatch and will provide increased benefits to Area 2A fishers targeting Pacific halibut.

2 DECISION TO BE MADE

This Record of Decision (ROD) documents the decision made by the NMFS Northwest Region to select the preferred alternatives identified in the *Allocation of Harvest Opportunity Between Sectors of the Pacific Coast Groundfish Fishery Final Environmental Impact Statement*. This ROD is issued pursuant to the NEPA, the Council on Environmental Quality (CEQ) NEPA regulations at 40 CFR Parts 1500-1508, and NOAA NEPA environmental review procedures in NOAA Administrative Order (NAO) 216-6 Section 6.03 (a) Environmental Review Procedures for Fishery Management Plan actions. This decision is based upon the analyses included within the FEIS issued June 25, 2010 (75 FR 4684, June 25, 2010).

3 PROPOSED ACTIONS AND ALTERNATIVES

The following is a summary of the alternatives analyzed in the FEIS. Six decisions are considered in the FEIS. The decisions correspond to the six proposed actions listed above. Each decision has its own set of alternatives that were analyzed in the FEIS. NMFS and the Council identified a range of reasonable alternatives with the potential to meet the purpose and need for each of the proposed actions. Alternatives that did not meet the purpose and need, were not feasible, were economically impractical, or were otherwise not prudent were eliminated from detailed consideration (see FEIS Section 2.5). The alternatives for each of the six proposed actions (decisions) are described below. Each of the first five allocation decisions is informed by the intersector alternatives described below and is treated separately in the following sections. Two alternative processes for deciding future formal allocations (i.e., Decision 6), including reallocations of Amendment 21 species, are described in Section 3.3.5.

3.1 Alternatives for Decision 1: Limited Entry Trawl and Non-trawl Allocation Alternatives

Decision 1 corresponds to proposed action 1. The basic elements decided for the intersector allocation alternatives analyzed in the FEIS are the groundfish FMP species to be considered, the fishing sectors to which these allocations would apply, the analytical basis for the decision (i.e., historical catch periods by sector), and any yield set-asides (i.e., buffers) to be assumed for analysis (Table 1). Alternatives analyzed in the FEIS used the landings and discard mortality estimates by directed groundfish sectors found in the Council's 2008 Stock Assessment and Fishery Evaluation (SAFE) Volume 1 document (PFMC 2008b). Landings data were extracted from the Pacific Fishery Information Network (PacFIN) in November 2006. Recreational landings and discard mortalities were extracted from the Recreational Fishery Information Network (RecFIN) in September 2006 and were updated by the states in October 2006. Discard mortality estimates by species or species complex and sector were provided by the NMFS Northwest Fisheries Science Center.

The following species were considered for long-term allocations:

- lingcod
- Pacific cod
- sablefish south of 36° N latitude
- Pacific ocean perch
- widow rockfish
- chilipepper rockfish
- splitnose rockfish
- yellowtail rockfish north of 40°10' N latitude
- shortspine thornyhead (north and south of 34°27' N latitude)
- longspine thornyhead north of 34°27' N latitude
- darkblotched rockfish
- minor slope rockfish (north and south of 40°10' N latitude)
- Dover sole
- English sole
- petrale sole
- arrowtooth flounder
- starry flounder
- other flatfish

Not all groundfish species listed in the FMP were included in this list for several reasons. Refer to section 2.1 of the FEIS for details.

The action alternatives include yield buffer options designed to safeguard against sector catch overages that might exceed prescribed optimum yields (OYs) or to accommodate new emerging fisheries. The Council explicitly discussed the former objective of buffering against OY overage when specifying the buffer options for analysis. This objective recognizes the catch monitoring uncertainty inherent in estimating catch, especially in recreational fisheries, and arises from the recent experience of unexpected catch overages that exceeded some sectors' harvest guidelines. New National Standard 1 (NS1) guidelines that accommodate conservation mandates in the reauthorized MSA of 2006 were finalized in January 2009. The Council is developing a separate FMP amendment to bring the FMP into compliance with the new NS1 guidelines. The Council recommended consideration of buffers under this new amendment (Amendment 23) rather than under this Amendment 21 action.

Table 1. Intersector allocation alternatives for limited entry trawl and non-trawl sector allocations.

Feature	No Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Preferred Alternative
Species with allocations ¹	Status quo allocations of sablefish (north of 36° N latitude), Pacific whiting, and all nearshore species allocated by the states	Status quo plus all other species (including Conception area sablefish) except bocaccio, canary, cowcod, yelloweye, minor shelf rockfish, and species in the Other Flatfish complex	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1, with the addition of longspine thornyhead south of 34°27' N latitude to the list of exceptions
Sectors with allocations ²	Nontribal whiting among three whiting LE trawl sectors; sablefish among LE trawl, LE fixed gear, and open access. (See FEIS Section 2.1.1)	Four LE trawl sectors plus all other sectors combined	Four LE trawl sectors, LE fixed gear, directed open access, recreational	Same as Alternative 1,	Same as Alternative 1,	Same as Alternative 1, 2003 to 2005 sector total catch percentages, except a 95% LE trawl cap

Table 1. Intersector allocation alternatives for limited entry trawl and non-trawl sector allocations (continued).

Feature	No Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Preferred Alternative
<p>Variation in allocation percentages (analytical basis for an allocation scheme)</p>	<p>Sablefish and whiting codified in regulation. Some LE and open access allocations in regulation through biennial specs process. Tribal whiting sliding scale. (See FEIS Section 2.1.1)</p>	<p>2003 to 2005 sector total catch percentages</p>	<p>2003 to 2005 sector total catch percentages</p>	<p>1995 to 2005 sector landed catch percentages</p>	<p>2003 to 2005 sector total catch percentages with 10% higher non-trawl allocation relative to Alt. 1 for select species</p>	<p>2003-2005 sector total catch percentages, except a 95% LE trawl cap and a higher non-trawl allocations for chilipepper rockfish, starry flounder, shortspine thornyhead south of 34°27' N lat, and species in the Other Flatfish complex</p>
<p>Set-asides</p>	<p>Set-asides will be determined for projected research catches, EFPs, and incidental open access catches, and yield buffers of 5%, 15%, and 25%.</p>					<p>Set-asides determined for projected research catches, exempted fishing permits (EFPs), and incidental open access catches, as well as for incidental bycatch for most species in the at-sea whiting fishery</p>

¹ Under any alternative, there may be different allocation schemes decided for overfished versus non-overfished groundfish species.

² Tribal allocations may be considered in a separate government-to-government process (see October 2006 Groundfish Allocation Committee (GAC) minutes in Appendix A for details). Projected tribal catches by species will be deducted from available yields in the analysis of intersector allocation alternatives.

3.1.1 The No Action Alternative for Trawl and Non-trawl Allocation

Under the No Action Alternative (status quo), long-term fixed allocations would continue for Pacific whiting and sablefish north of 36° N latitude; all other species would not be formally allocated between the trawl and non-trawl sectors (see FEIS Section 2.1.1 for details). Pacific whiting allocations are codified in regulation at 50 CFR 660.323. Projected total mortalities of Pacific whiting in recreational, research, and non-groundfish fisheries are first set aside, then a yield amount is set aside to accommodate tribal whiting fisheries. Whiting is then allocated to the tribal fisheries. The remaining portion of the harvest is allocated to the nontribal commercial whiting fishery as follows: 42 percent for the shoreside whiting sector, 24 percent for the at-sea mothership whiting sector, and 34 percent for the at-sea catcher-processor whiting sector. Sablefish allocations north of 36° N latitude are codified in regulation at 50 CFR 660.322. Sablefish allocations north of 36° N latitude are determined by first deducting the tribal share from the OY specified for north of 36° N latitude, then deducting the estimated total mortality of sablefish in research and non-groundfish fisheries, then dividing the remaining yield (nontribal share) between open access (9.4 percent) and LE fisheries (90.6 percent), with the LE share divided between the trawl (58 percent) and fixed gear (42 percent) (longline and fishpot) sectors. The LE fixed gear allocation is then further subdivided between permits with and without sablefish endorsements.

FMP Amendment 6, which established the commercial non-treaty LE system, also established allocation procedures for any species to be newly allocated between commercial open access (including directed and incidental open access) and LE sectors based on catch history for the license limitation allocation period (July 11, 1984, through August 1, 1988). The FMP also suspends such allocations for overfished species. In current practice, the LE and open access allocations are rarely met due to constraints imposed by management measures designed to rebuild overfished species. Allocating the available harvest of groundfish species and species complexes occurs in the Council process of deciding biennial harvest specifications and management measures; as such, they can be considered short-term allocations. In addition, the Council sets aside some yield for non-groundfish fisheries, tribal fisheries, EFPs, projected research catch, and a buffer against unexpected catch overages in any sector of the groundfish fishery. Set-asides are not quotas or harvest guidelines. If inseason information indicates that a sector will exceed its set-aside, inseason action to prevent that occurrence is not necessarily required. In some cases, allocations and/or set-asides are designated for only a few of these uses. In other cases, all of the uses will have an allocation/set-aside, and the total will be lower than the OY. When total allocations and set-asides are lower than the OY, a residual yield is generally available to any fishery that may need it during the year. For some species, geographic allocations are also specified as harvest guidelines (e.g., state-specific recreational harvest guidelines for canary, black, and yelloweye rockfish). Intersector allocation decisions for nearshore groundfish species and complexes are currently deferred to the states of Washington, Oregon, and California, where policies and nearshore groundfish FMPs (in Oregon and California) guide those decisions.

3.1.2 Intersector Allocation Alternative 1: Recent Total Catch Percentages by Combined Trawl Sectors and Combined Non-treaty Non-trawl Sectors

As shown in Table 1, Alternative 1 would differ from the No Action Alternative by specifying long-term allocations for all species listed above, with the exceptions of bocaccio, canary rockfish, cowcod, yelloweye rockfish, and minor shelf rockfish, and species in the Other Flatfish complex. For each species, allocations would be made to the four non-treaty LE trawl sectors combined and to the combined non-trawl sectors. The basis for the allocation percentages would be the 2003 to 2005 average total catch (landings plus discard mortalities). The allocations for individual species are shown in FEIS Section 2.1.2. Set-asides would include yield buffer options of 5 percent, 15 percent, or 25 percent.

3.1.3 Intersector Allocation Alternative 2: Recent Total Catch Percentages by All Trawl Sectors and All Non-trawl Sectors

Intersector Allocation Alternative 2 would be identical to Intersector Allocation Alternative 1 with one exception. Recent year total catch percentages relative to the total non-treaty catch of groundfish species subject to intersector allocation would be displayed for each directed groundfish sector (FEIS Section 2.1.3).

3.1.4 Intersector Allocation Alternative 3: Historical Landed Catch Percentages by All Trawl Sectors and Combined Non-trawl Sectors

Intersector Allocation Alternative 3 would apply the 1995 to 2005 average landed catch percentages to each of the four LE trawl sectors plus all the non-treaty, non-trawl, directed groundfish sectors combined relative to the total non-treaty catch of groundfish species subject to intersector allocation (FEIS Section 2.1.4). This retrospective look at sector catch percentages would be more indicative of catch sharing under a management regime much less constrained by the need to rebuild overfished species. Consequently, many target species could be harvested close to the annual limits specified for each sector or for the fishery in its entirety. However, without the availability of Council data, total catch impacts would not be as well known despite the fact that regulatory discards would likely be lower than under the current management regime.

3.1.5 Intersector Allocation Alternative 4: Higher Non-trawl Allocations

Intersector Allocation Alternative 4 would be identical to Alternative 1 in terms of allocated species, sectors with allocations, and yield buffer options. This alternative would, however, proportionally increase the non-trawl percentage under Alternative 1 by 10 percent for the following species: lingcod (coastwide), Pacific cod, sablefish (north and south), widow rockfish, chilipepper rockfish, yellowtail rockfish, shortspine thornyhead (north and south), minor slope rockfish (north and south), and starry flounder (FEIS Section 2.1.5).

3.1.6 Intersector Allocation Preferred Alternative

Similar to the other action alternatives, the preferred alternative would establish intersector allocations for all non-treaty LE trawl sectors and non-trawl sectors. Allocations for some stocks or stock complexes would differ from those based on the 2003 to 2005 average total catch percentages, as follows:

- The non-trawl allocation for chilipepper rockfish south of 40°10' N latitude would be higher.
- Fifty metric tons (mt) of the southern shortspine thornyhead yield would be allocated to the LE trawl sector, with the remaining yield allocated to the non-trawl fisheries, where shortspine thornyhead are a major target species.
- Longspine thornyhead south of 34°27' N latitude would not be allocated to the trawl fishery.
- Fifty percent of the available yield of starry flounder would be allocated to non-trawl sectors.
- Ten percent of the Other Flatfish complex would be allocated to non-trawl sectors.

Under the preferred alternative, annual OYs would be established for all Amendment 21 species, the same as for other groundfish species. The OYs would then be reduced by deducting the estimated total mortality of these species in research, tribal, and non-groundfish fisheries and the bycatch limits specified in adopted EFPs. The remainder of the OY would then be allocated according to the percentages in Table 2. The trawl percentage is for the non-treaty trawl fishery managed under Amendment 21. The

non-treaty, non-trawl percentage is for the LE fixed gear fishery, the open access fishery, and the recreational fishery.

Table 2. Allocation percentages for limited entry trawl and non-trawl sectors specified for FMP groundfish stocks and stock complexes.

Stock or Complex	All Non-Treaty LE Trawl Sectors	All Non-Treaty Non-Trawl Sectors
Lingcod – coastwide	45.0%	55.0%
Pacific Cod	95.0%	5.0%
Sablefish N. of 36° a/	52.5%	47.5%
Sablefish S. of 36°	42.0%	58.0%
PACIFIC OCEAN PERCH	95.0%	5.0%
WIDOW	91.0%	9.0%
Chilipepper south of 40°10' N	75.0%	25.0%
Splitnose south of 40°10' N	95.0%	5.0%
Yellowtail north of 40°10' N	88.0%	12.0%
Shortspine north of 34°27' N	95.0%	5.0%
Shortspine south of 34°27' N	50 mt	Remaining Yield
Longspine north of 34°27' N	95.0%	5.0%
Longspine south of 34°27' N	No Allocation	
DARKBLOTCHED	95.0%	5.0%
Minor Slope Rockfish North	81.0%	19.0%
Minor Slope Rockfish South	63.0%	37.0%
Dover Sole	95.0%	5.0%
English Sole	95.0%	5.0%
Petrals Sole – coastwide	95.0%	5.0%
Arrowtooth Flounder	95.0%	5.0%
Starry Flounder	50.0%	50.0%
Other Flatfish	90.0%	10.0%

a/ The Council is not recommending a modification of the status quo allocation of sablefish N of 36° N latitude. The LE trawl percentage is status quo, but it is recalculated as a percentage of the total non-treaty available yield (90.6% [the LE allocation] × 58% [the LE trawl allocation of the total LE amount]).

BOLD CAPS indicate overfished species.

3.2 Within-Trawl Sector Allocations

Effective implementation of the Amendment 20 trawl rationalization measures requires allocations to each of the four current trawl sectors: shoreside non-whiting, shoreside whiting, and the two at-sea whiting sectors (catcher-processor and mothership). These within-trawl allocations are addressed by proposed actions 2, 3, and 4, above, which correspond with decisions 2, 3, and 4. Under the action alternatives for each decision, an initial allocation of species to be managed using IFQs would be made to the shoreside trawl sectors, and set-aside amounts would have to be specified for the at-sea whiting sectors. Those species subject to Amendment 21 allocation would also be considered for within-trawl allocation and treated as initial sector allocations for the shoreside trawl sectors and set-asides for the at-sea whiting sectors. Additionally, under the Amendment 20 trawl rationalization program, four bycatch species in the at-sea whiting fishery will be managed with sector-specific total catch limits. An allocation of canary rockfish, darkblotched rockfish, Pacific ocean perch, and widow rockfish to the two at-sea whiting sectors is, therefore, required.

In the trawl rationalization program, several species/sector combinations are not scheduled to be managed using IFQs or bycatch limits. For these sector/species combinations, set-asides are necessary, and allocations are not necessarily appropriate. The perspective taken to establish a set-aside is different from the perspective taken for establishing allocations. Since set-asides are not accompanied with a firm and direct management tool, the appropriate amount of fish attributed to a set-aside is best examined as an amount that can reasonably accommodate the incidental amount of fish that a sector could take. This differs from an allocation where a firm catch level is established as a direct target, and that target may be lower than historic catch amounts.

The species that would be treated with an initial allocation to the shoreside trawl sectors and the species set-asides are outlined in Table 3. This table is based on the Council's motion on trawl rationalization, which identified the species for which each sector would have IFQ or bycatch limits. In the table, unshaded cells indicate species/sector combinations for which allocations are necessary. Shaded cells indicate species/sector combinations that require a set-aside. In cases where each trawl sector has a shaded cell, no decision on set-asides or allocations is necessary. In other words, set-asides are necessary if a) an allocation is made to the trawl sector, and b) one or more of the trawl subsectors does not have IFQ or bycatch limits. Any of the species requiring a trawl allocation not yet allocated to trawl sectors under this Amendment 21 process will be allocated in the biennial harvest specifications and management measures process.

Table 3. The trawl allocation process by species and species complex.

Allocation Process	Stock or Complex	Shoreside		Mothership	Catcher-Processor
		Non-Whiting	Whiting		
Sector allocations decided through intersector allocation process	Lingcod				
	Pacific Cod				
	Pacific Whiting (U.S.)		a/	a/	a/
	Sablefish N. of 36°				
	Sablefish S. of 36°		NA	NA	NA
	PACIFIC OCEAN PERCH				
	WIDOW				
	Chilipepper S. of 40°10'		NA	NA	NA
	Splitnose S. of 40°10'		NA	NA	NA
	Yellowtail N. of 40°10'				
	Shortspine Thornyhead N. of 34°27'				
	Shortspine Thornyhead S. of 34°27'		NA	NA	NA
	Longspine Thornyhead N. of 34°27'				
	Longspine Thornyhead S. of 34°27'	NA	NA	NA	NA
	DARKBLOTCHED				
	Minor Slope Rockfish North				
	Minor Slope Rockfish South			NA	NA
	Dover Sole				
	English Sole				
	Petrale Sole – coastwide				
Arrowtooth Flounder					
Starry Flounder					
Other Flatfish					
Sector allocations decided through biennial specifications and management measures process	CANARY ROCKFISH				
	BOCACCI				
	COWCOD				
	YELLOWEYE				
	Black Rockfish (WA)				
	Black Rockfish (OR & CA)				
	Minor Nearshore Rockfish N.				
	Minor Nearshore Rockfish S.				
	Minor Shelf Rockfish N.				
	Minor Shelf Rockfish S.				
	California Scorpionfish				
Cabazon (off CA only)					
Other Fish					
Longnose Skate					

a/ Allocations fixed in the FMP; however, an initial allocation must be made for the two shoreside sectors before quota shares are allocated.

Key:

	set-aside/no allocation necessary
	allocation necessary

NA = no allocation necessary to the sector.

There are three steps for deciding within-trawl allocations (Table 4). The alternatives for each decision step are described in the following sections.

Table 4. Decision steps for deciding within-trawl allocations.

Decision Step	Trawl Sectors Affected ¹	Species Affected	Section Describing the Alternatives
2	SSW, SNW	All Amendment 21 species other than darkblotched, Pacific ocean perch, and widow	3.2.1
3	SSW, SNW, CP, MS	Darkblotched, Pacific ocean perch, and widow	3.2.2
4	CP, MS	All Amendment 21 species other than darkblotched, Pacific ocean perch, and widow	3.2.3

¹ SSW = shoreside whiting, SNW = shoreside non-whiting, CP = catcher-processors, and MS = motherships.

3.2.1 Decision 2: Shoreside Trawl Sector Allocations

Decision 2 corresponds to proposed actions 2 and 3 in Section 1. Under Amendment 20 trawl rationalization, the two existing LE trawl sectors delivering groundfish to shoreside processing plants (i.e., shoreside whiting and shoreside non-whiting) will be managed as one sector under a system of IFQs. However, before quota shares (Qs) can be allocated to eligible LE trawl permit holders, an initial one-time allocation has to be made to the two shoreside sectors.

The action alternatives for Decision 2 contemplate formal within-trawl sector allocations to the two shoreside trawl sectors (i.e., shoreside whiting and shoreside non-whiting) for all Amendment 21 species that are not formally allocated to the other two trawl sectors (i.e., the at-sea whiting fleets: catcher-processors and motherships). A four-trawl-sector allocation is not needed for these species because the bycatch by the at-sea whiting trawl sectors is addressed through set-asides under proposed action 4. Formal allocations of Amendment 21 species contemplated for all four trawl sectors would apply only to the trawl-dominant overfished species (i.e., darkblotched, Pacific ocean perch, and widow).

3.2.1.1 Alternative 1 (No Action)

The No Action Alternative (Alternative 1) would mean that no temporary within-trawl allocation would occur between the non-whiting and whiting shoreside trawl sectors. However, informal set-asides for bycatch limit species (widow rockfish, darkblotched rockfish, and canary rockfish) and set-asides have been historically used for widow and yellowtail. With the implementation of the Amendment 20 trawl rationalization program, the No Action Alternative (Alternative 1) is not a viable option. Within-trawl allocations are necessary for the shoreside fleet given the Council's decision to handle shoreside nonwhiting and whiting Qs differently (i.e., the nonwhiting QS is divided as 90 percent to permit holders and 10 percent to adaptive management; the whiting QS is divided as 80 percent to permit holders and 20 percent to shoreside processors).

3.2.1.2 Alternative 2

Under Alternative 2, formal within-trawl sector allocations would be made to the two shoreside trawl sectors (i.e., shoreside whiting and shoreside non-whiting) for all Amendment 21 species that are not formally allocated to the other two trawl sectors (i.e., the at-sea whiting fleets: catcher-processors and motherships). For the shoreside non-whiting sector, 90 percent of the allocation would be to the permits and 10 percent would be to an adaptive management program (AMP). Non-overfished species QSs would be allocated based on permit catch history for each individual species, and QSs would include an equal allocation component from the catch histories of retired trawl permits from the buy-back program. QSs for overfished species allocated to permits would be allocated using each individual permit's logbooks, fleet bycatch rates, and target species QS allocations. For the shoreside whiting sector, QSs for all species other than whiting would be allocated to qualifying permits and processors in proportion to each entity's whiting QS allocation. Either of these methods would result in QS allocations that total 100 percent for each sector. The initial allocations of QSs to each sector would then have to be adjusted so that they total 100 percent when the two sectors are combined. This would be done using the results from the intersector allocation process.

Figure 3-1 illustrates how the initial darkblotched QS allocations for two permits would be calculated based on the separate sector allocation rules and then adjusted using the allocation results from the intersector allocation process. Permit A, for a shoreside non-whiting participant, is initially allocated 1 percent of the shoreside non-whiting sector darkblotched rockfish QS. Permit B, for a shoreside whiting participant, is initially allocated 1 percent of the whiting sector allocation of darkblotched rockfish QS. These QS allocations are then multiplied by the results from the intersector allocation process to determine the amount of combined shoreside sector darkblotched QS each permit will receive. If 98 percent of the initial allocation goes to the shoreside non-whiting sector, then Permit A will end up with 0.98 percent of the combined sector's darkblotched QS, and Permit B will end up with 0.02 percent of that QS.

It has been the Council's intent to allocate QSs among participants based on need. The initial sector allocation should also be based on need. To allocate QSs to accomplish this objective, historical catch percentages would be used to weight allocations (Table 5). The alternative weighting schemes to make the initial shoreside sector allocations to combine the sectors and allocate QSs to eligible participants would be based on 1995 to 2005 catch percentages relative to total shoreside catches. This period was less influenced by the conservative management regime under rebuilding plans. A weighting scheme based on the anticipated needs of each sector would likely reduce the amount of QS transfers in the initial years of the IFQ program relative to an equal weighting scheme or some other mechanism for deciding the initial sector allocation.

3.2.1.3 Alternative 3

Similar to Alternative 2, Alternative 3 would establish formal within-trawl sector allocations to the two shoreside trawl sectors for all Amendment 21 species that are not formally allocated to the other two trawl sectors. Under this alternative, however, the alternative weighting schemes would be based on the sector catch percentages from 2003 through 2005, when groundfish management was heavily influenced by rebuilding plans.

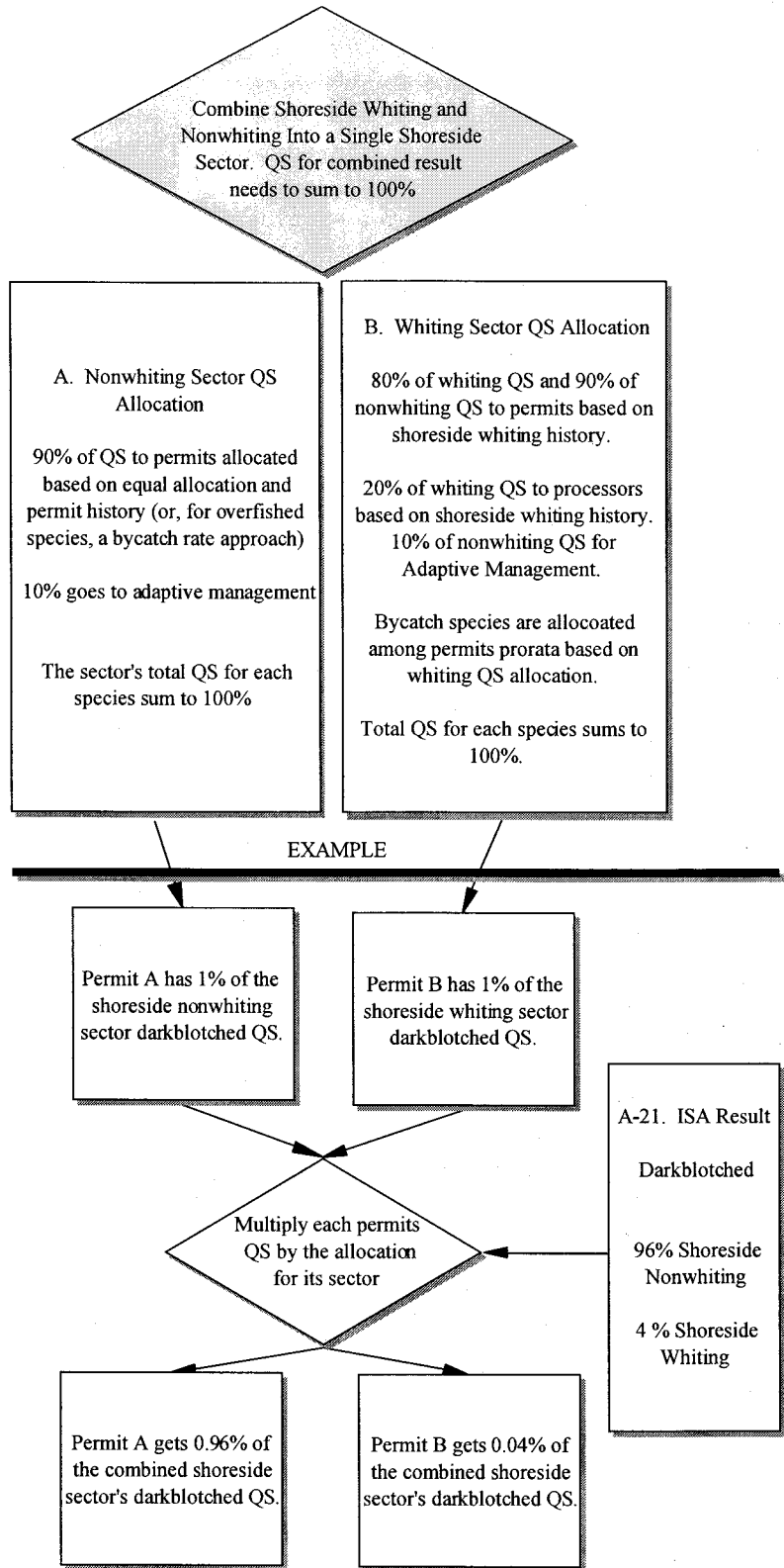


Figure 3-1. Flow diagram showing how allocations to the shoreside trawl sectors affect the distribution of QS to eligible participants in a combined shoreside sector under trawl rationalization.

Table 5. Allocation of Amendment 21 species to the shoreside trawl sectors, by alternative

Stocks and Stock Complexes	Shoreside Trawl Sectors						
	Alternative 1: No Action	Alternative 2: 1995 to 2005 Sector Catch Percentage		Alternative 3: 2003 to 2005 Sector Catch Percentage		Alternative 4: Council-preferred Sector Catch Percentage	
		Non-whiting	Whiting	Non-whiting	Whiting	Non-whiting	Whiting
Lingcod – coastwide		99.7%	0.3%	98.1%	1.9%	99.7%	0.3%
Pacific Cod		99.9%	0.1%	99.9%	0.1%	99.9%	0.1%
Pacific Whiting – coastwide		0.1%	99.9%	2.8%	97.2%	0.1%	99.9%
Sablefish N. of 36°		98.2%	1.8%	97.6%	2.4%	98.2%	1.8%
Sablefish S. of 36°		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
PACIFIC OCEAN PERCH	No formal allocation of these species occurs between the non-whiting and whiting shoreside trawl sectors. Informal set-asides for bycatch limit species and set-asides historically have been used for widow and yellowtail.	97.8%	2.2%	99.5%	0.5%	Remaining	17% or 30 mt, whichever is greater, to SS + at-sea whiting^{a/}
WIDOW		94.5%	5.5%	16.5%	83.5%	Remaining	If under rebuilding, 52% to SS + at-sea. If stock rebuilt, 10% or 500 mt, whichever is greater, to SS + at-sea.^{a/}
Chilipepper S. of 40°10'		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Splitnose S. of 40°10'		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Yellowtail N. of 40°10'		87.0%	13.0%	49.6%	50.4%	Remaining	300 mt
Shortspine N. of 34°27'		99.9%	0.1%	99.9%	0.1%	99.9%	0.1%
Shortspine S. of 34°27'		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Longspine N. of 34°27'		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
Longspine S. of 34°27'		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
DARKBLOTCHED		99.3%	0.7%	98.5%	1.5%	Remaining	9% or 25 mt, whichever is greater, to SS + at-sea whiting^{a/}
Minor Slope Rockfish North	98.6%	1.4%	98.7%	1.3%	98.6%	1.4%	
Dover Sole	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	
English Sole	99.9%	0.1%	100.0%	0.0%	99.9%	0.1%	
Petrale Sole – coastwide	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	
Arrowtooth Flounder	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	
Starry Flounder	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	
Other Flatfish	99.9%	0.1%	100.0%	0.0%	99.9%	0.1%	

a/ This comes from Decision 3 in Section 1. SS = shoreside.

The appropriate intersector allocation formula or weighting scheme may depend on where the stock is projected to be at the time of initial allocation. Using a widow rockfish example, if the stock is not rebuilt, the appropriate shoreside whiting sector allocation may be about 83.5 percent (i.e., the 2003 to

2005 percentage) to appropriately provide the needed access to whiting. If widow is rebuilt, however, an allocation of 5.5 percent (i.e., the 1995 to 2005 percentage [Alternative 2]) may be more appropriate (Table 5). If the stock becomes rebuilt after the QS allocation is made, the market might be relied on to reallocate to those vessels that would target widow. Alternatively, a provision in the trawl rationalization program allows for reallocation of QSs after a stock is rebuilt; however, it has not been determined how that reallocation would be achieved. The two stocks whose distribution between the shoreside whiting and non-whiting participants would be most affected by rebuilding are widow rockfish and yellowtail rockfish, a healthy stock with harvest access that has been constrained by widow rockfish rebuilding measures.

3.2.1.4 Alternative 4 (Preferred Alternative)

Under Alternative 4, the Council would use the shoreside sector catch percentages from 1995 through 2005 as the weighting scheme for the initial allocation to the two shoreside trawl sectors for all Amendment 21 species other than the trawl-dominant overfished species (see FEIS Section 2.2.2) and yellowtail rockfish. The Council would allocate 300 mt of yellowtail rockfish to the shoreside whiting sector. Under this alternative, the shoreside non-whiting sector would receive the remaining yield of yellowtail rockfish available to the LE trawl sectors, minus any set-aside amount of yellowtail rockfish for the at-sea whiting sectors decided in the future. The Council's initial set-aside of yellowtail rockfish to accommodate bycatch by the at-sea whiting sectors would be 300 mt (see FEIS Section 2.2.3).

3.2.2 Decision 3: Trawl Sector Allocations of Trawl-Dominant Overfished Species

Decision 3 corresponds to proposed action 3 in Section 1; it is also linked to the preferred alternative in Decision 2 (Table 4). Under Amendment 20, the at-sea whiting sectors (i.e., catcher-processors and motherships) will be managed in a system of sector-specific harvest cooperatives. Each at-sea whiting sector will manage its bycatch of canary rockfish, darkblotched rockfish, Pacific ocean perch, and widow rockfish using sector-specific total catch limits. An initial sector allocation of these four species must be made to the four existing LE trawl sectors before initial allocation of QSs for the shoreside trawl fishery and catch history assignments for the at-sea mothership fishery under Amendment 20. A four-trawl-sector allocation is needed for these species because the bycatch will be managed directly by using IFQs in the rationalized shoreside trawl sector and total catch limits in rationalized at-sea whiting sectors. Initial sector allocation of canary rockfish will be decided in the biennial harvest specification and management measures process immediately preceding implementation of Amendments 20 and 21.

The Council addressed within-trawl sector allocations of the three trawl-dominant overfished species by considering how to meet the needs of the shoreside non-whiting sector and the three whiting sectors as a first step. The at-sea whiting sectors need a specific allocation of darkblotched rockfish, Pacific ocean perch, and widow rockfish because the bycatch of these Amendment 21 species will be managed using total catch limits.

Catch percentages from 1995 through 2005 and 2003 through 2005 were used as the basis for establishing allocations because Decision 3 is linked with Decision 2, which uses these periods. However, these species' catch percentages change depending on when they were declared overfished and when management measures were adjusted for rebuilding. Under rebuilding, the percentages for widow rockfish change the most for these three species. Darkblotched rockfish and Pacific ocean perch changed little between rebuilding and pre-rebuilding.

3.2.2.1 Alternative 1 (No Action)

The No Action Alternative (Alternative 1) would have no formal allocation between the non-whiting and whiting (shoreside and at-sea) trawl sectors. Bycatch limits by sector in the whiting (shoreside and at-sea) fisheries would be implemented through the biennial specifications and management measures. Bycatch limits for the whiting (shoreside and at-sea) fishery would continue to be based on a weighted average approach and may be established, adjusted, and used inseason to close a sector or sectors of the whiting fishery to achieve the rebuilding of an overfished or depleted stock. These limits may be adjusted inseason or may have new species added to the list of those with bycatch limits. Bycatch limits would be apportioned among the shoreside and at-sea whiting sectors.

3.2.2.2 Alternative 2

Under Alternative 2, bycatch limits would be established for darkblotched rockfish, Pacific ocean perch, and widow rockfish to the four current trawl sectors. The allocations would be based on the trawl sector catch percentages and weight (in mt) of trawl-dominant overfished species from 1995 through 2005 (Table 6).

3.2.2.3 Alternative 3

As with Alternative 2, Alternative 3 would establish bycatch limits. The basis for the allocations, however, would be the trawl sector catch percentages from 2003 through 2005.

Table 6. Summary of alternatives for initial allocation of total trawl catches of trawl-dominant overfished species caught by the whiting (shoreside and at-sea) and non-whiting sectors.

Stock	Four Trawl Sectors						
	Alternative 1: No Action	Alternative 2: 1995 through 2005 Sector Catch Percentage		Alternative 3: 2003 through 2005 Sector Catch Percentage		Alternative 4: Preferred Alternative	
		Non-whiting	Whiting	Non-whiting	Whiting	Non-whiting	Whiting
Darkblotched	No formal allocation will occur between the non-whiting and whiting trawl sectors. Bycatch limits by sector will be implemented through biennial specifications for darkblotched and widow (not Pacific ocean perch) in whiting fisheries.	96.4% (407 mt)	3.6% (15 mt)	94.2% (164 mt)	5.8% (10 mt)	Remaining	9% or 25 mt, whichever is greater.
Pacific ocean perch		95.0% (389 mt)	5.0% (20 mt)	97.4% (123 mt)	2.6% (3 mt)	Remaining	17% or 30 mt, whichever is greater.
Widow		89.8% (2,777 mt)	10.2% (315 mt)	8.2% (7 mt)	91.8% (78 mt)	Remaining	If under rebuilding, 52%. If stock rebuilt, 10% or 500 mt, whichever is greater.

3.2.2.4 Alternative 4 (Preferred Alternative)

Under the preferred alternative, the initial sector allocation of the trawl-dominant Amendment 21 overfished species under would be as follows:

Darkblotched Rockfish

Allocate 9 percent or 25 mt, whichever is greater, of the total LE trawl allocation of darkblotched rockfish to the whiting fisheries (at-sea and shoreside combined).

Pacific Ocean Perch

Allocate 17 percent or 30 mt, whichever is greater, of the total LE trawl allocation of Pacific ocean perch to the whiting fisheries (at-sea and shoreside combined).

Widow Rockfish

Initially allocate 52 percent of the total LE trawl allocation of widow rockfish to the whiting sectors if the stock is under rebuilding or 10 percent of the total LE trawl allocation or 500 mt of the trawl allocation to the whiting sectors, whichever is greater, if the stock is rebuilt. If the stock is overfished when the initial allocation is implemented, the latter allocation scheme would automatically apply when the stock is declared rebuilt.

For all three stocks, the distribution of the whiting trawl allocation to individual whiting sectors would be pro-rated relative to the sectors' whiting allocations.

3.2.3 Decision 4: At-sea Whiting Trawl Sector Set-asides

Decision 4 corresponds to proposed action 4 in Section 1. Yield set-asides are not formal allocations; rather, they are projections of incidental catch by a sector. As such, yield set-asides are subject to change as better information regarding incidental catch amounts becomes available. Yield set-asides are intended to best account for all sources of fishing-related mortality to improve management of harvest specifications (i.e., to achieve the objective of not exceeding OYs). While there is no inseason management of the sectors to stay within a projected set-aside amount, trip limits and amounts of fish available to other sectors are adjusted based on the amounts remaining after set-asides are deducted. Therefore, set-asides are a type of informal allocation similar to research set-asides.

3.2.3.1 Alternative 1 (No Action)

The No Action Alternative (Alternative 1) has no set-asides for the at-sea whiting fishery. Historically, there have been some set-asides for yellowtail and widow rockfish to accommodate catches in the at-sea whiting fishery. Once those fisheries were completed, the set-asides rolled back into the LE trawl amounts available to the entire fishery.

3.2.3.2 Alternative 2

Alternative 2 reflects the GAC recommendation that enough yield be set aside for the remaining Amendment 21 species (other than darkblotched rockfish, Pacific ocean perch, and widow rockfish) so that these sectors would not be constrained, given the inter-annual variation in sector catches. Under Amendment 21, the rationalized at-sea sectors of the whiting fishery would be managed as closed sectors in a system of harvest cooperatives. Most of the species subject to intersector allocations under Amendment 21 are caught incidentally in the at-sea fishery. Pacific whiting are formally allocated to these sectors in the FMP. This alternative would include a minimum set-aside of 5 mt for any

incidentally caught species in the at-sea fisheries, with all set-asides rounded up to the nearest 5 mt. This would increase the minimum set-aside from 1 mt to 5 mt for Pacific cod, longspine thornyheads north of 34°27' N. latitude, English sole, Petrale sole, starry flounder, and longnose skate (Table 7). Yelloweye rockfish would remain at 0 mt. Alternative 2 would also set aside 500 mt of yellowtail rockfish.

3.2.3.3 Alternative 3 (Preferred Alternative)

The preferred alternative (Alternative 3) for set-asides to the at-sea whiting sectors is found in Table 7. The set-aside for yellowtail rockfish under Alternative 3 would be 300 mt, which differs from the set-aside of 500 mt under Alternative 2. In addition, the preferred alternative would set aside 1 mt of the following species: Pacific cod, longspine thornyheads north of 34°27' N. latitude, English sole, Petrale sole, starry flounder, and longnose skate. Yelloweye rockfish would remain at 0 mt.

The projected incidental bycatch amounts in the at-sea whiting fishery for Amendment 21 species that are not formally allocated (Table 7) will likely change in the future as better information becomes available. Therefore, the set-aside decision is not enduring; it could change before trawl rationalization and Amendment 21 allocations are implemented.

If the trawl rationalization program, Amendment 21, is implemented, the distinction between Alternative 1 (No Action) and the action alternatives becomes clearer. Under trawl rationalization, these at-sea whiting set-asides in Alternative 2 and 3 become informal allocations to the at-sea fishery in that these amounts would not be made available to the shoreside fishery once the at-sea fishery was completed. However, as mentioned above, set-asides are necessary for the at-sea fishery under the trawl rationalization program to accommodate the incidental catch in the at-sea fishery without exceeding the OYs. This action would be revisited during every biennial management cycle based on the best available information at the time.

Table 7. Alternatives for yield set-asides to accommodate the bycatch in future at-sea whiting fisheries under trawl rationalization.

Allocation Process	Stock or Stock Complex	Alternative 1: No Action	Alternative 2: GAC-recommended	Alternative 3: Council-preferred at-sea Set-aside (mt) ^{a/}
Sector allocations decided through the intersector allocation process	Lingcod	No set-asides occur for the at-sea whiting fishery. Historically, there have been set-asides for yellowtail and widow rockfish to accommodate catches in the at-sea whiting fishery. Once those fisheries were completed, the set-asides rolled back in to the LE trawl amounts available to the entire fishery.	6	6
	Pacific Cod		5	1
	Pacific Whiting (U.S.)		NA	NA
	Sablefish N. of 36°		50	50
	Sablefish S. of 36°		NA	NA
	PACIFIC OCEAN PERCH		Formal Allocation	Formal Allocation
	WIDOW ROCKFISH		Formal Allocation	Formal Allocation
	Chilipepper S. of 40°10'		NA	NA
	Splitnose S. of 40°10'		NA	NA
	Yellowtail N. of 40°10'		500	300
	Shortspine Thornyhead N. of 34°27'		20	20
	Shortspine Thornyhead S. of 34°27'		NA	NA
	Longspine Thornyhead N. of 34°27'		5	1
	Longspine Thornyhead S. of 34°27'		NA	NA
	DARKBLOTCHED		Formal Allocation	Formal Allocation
	Minor Slope Rockfish N.		55	55
	Minor Slope Rockfish S.		NA	NA
	Dover Sole		5	5
	English Sole		5	1
	Petrals Sole – coastwide		5	1
Arrowtooth Flounder	10	10		
Starry Flounder	5	1		
Other Flatfish	20	20		
Pacific Halibut	10	5		
Sector allocations decided through the biennial specifications and management measures process	CANARY ROCKFISH	Formal Allocation	Formal Allocation	
	BOCACCI	NA	NA	
	COWCOD	NA	NA	
	YELLOWEYE	0	0	
	Black Rockfish	NA	NA	
	Blue Rockfish (CA)	NA	NA	
	Minor Nearshore Rockfish N.	NA	NA	
	Minor Nearshore Rockfish S.	NA	NA	
	Minor Shelf Rockfish N.	35	35	
	Minor Shelf Rockfish S.	NA	NA	
	California Scorpionfish	NA	NA	
	Cabezon (off CA only)	NA	NA	
	Other Fish	520	520	
	Longnose Skate	5	1	

a/ The Pacific halibut set-aside is 10 mt, with 5 mt for the at-sea sector and 5 mt for the shoreside trawl sector south of 40°10' N latitude

b/ The Council clarified at its March 2010 meeting that Alternative 2 should have been labeled as the Council's preferred alternative, but that the yellowtail set-aside should be 300mt. Table 7 in the FEIS erroneously labeled Alternative 3 as the Council's preferred alternative.

3.3 Alternatives for Decision 5: Pacific Halibut Total Catch Limit Alternatives

Decision 5 corresponds to proposed action 5 in Section 1. Pacific halibut is a prohibited species in the west coast LE trawl fishery. Under Amendment 20, Pacific halibut bycatch in the shoreside trawl fishery north of 40°10' N latitude will be managed using a system of individual bycatch quotas (IBQs).

In November 2007, the Council decided to allocate a percentage of the total constant exploitation yield (TCEY) of Pacific halibut in Area 2A (i.e., all waters off Washington, Oregon, and California) to the LE trawl sector based on the 2005 and 2006 estimated bycatch mortalities, the most recent information available at the time of analysis. Pacific halibut fisheries in the Northeast Pacific and Bering Sea are managed by the International Pacific Halibut Commission (IPHC). A long-standing policy of the IPHC has been to prohibit retention of Pacific halibut in trawl fisheries. Retention of Pacific halibut would continue to be prohibited for the trawl fishery under all alternatives, including the No Action Alternative. The Council's intent in this allocation is not to recommend a different policy to the IPHC, but to adopt a total catch limit of Pacific halibut in the west coast LE trawl fishery. The Council also expressed the intent to further reduce trawl bycatch of Pacific halibut in future fisheries to provide more yield for directed Area 2A halibut fisheries.

Alternative Pacific halibut total catch limits analyzed in the FEIS are provided in Table 8. Each total catch limit alternative would be applied to the Area 2A TCEY decided annually by the IPHC. The action alternatives differ by the percentage of the TCEY allocated to the west coast trawl fishery.

Table 8. Alternative total catch limits in thousands of pounds net weight of Pacific halibut for the west coast limited entry trawl sector.

Year	TCEY (lb., net weight)	Assumed Mortality for LE Trawl	Actual Mortality (lb, net) by LE Trawl ¹	No Action Alternative	Alternative 1 (14.6% of TCEY, in lbs.)	Alternative 2 (14.7% of TCEY in lbs.)	Alternative 3 (10% of TCEY in lbs.)	Alternative 4 (15% of TCEY in lbs.)
2004	2,110,000	--	260,590	No limit on bycatch; deducted from the TCEY.	308,060	310,170	211,000	316,500
2005	1,560,000	--	417,863		227,760	229,320	156,000	234,000
2006	1,710,000	--	345,648		249,660	251,370	171,000	256,500
2007	1,580,000	--	257,338		230,680	232,260	158,000	237,000
2008	940,000	345,648	--		137,240	138,180	94,000	141,000
2009	640,000	257,338	--		93,440	94,080	64,000	96,000

3.3.1 No Action Alternative

Under the No Action Alternative, catch of Pacific halibut in the groundfish trawl fishery would not be limited. Halibut bycatch is accounted for annually by the IPHC (Williams 2008) in its assessment of the halibut resource. This mortality is used to determine the remaining amount of halibut available for directed harvest in the halibut fishery for a given year. Generally, other removals, including bycatch mortality in the trawl and fixed gear fisheries, are deducted from the TCEY to determine the fishery CEY available to the directed halibut fishery in Area 2A. Currently, halibut bycatch in the Area 2A groundfish trawl fishery is estimated from information collected by at-sea observers. Bycatch rates (pounds per hour) are derived from the observer data and applied to commercial fishery effort from logbooks (Wallace and Methot 2001). The most recent estimates are available in a report from Wallace and Hastie (2009).

¹ Rates of discard mortality are derived from observer assessment of fish viability, not the 50 percent discard mortality rate.

In Area 2A, NMFS observers have also been collecting release condition data on bottom trawlers for several years. These data have been used to estimate mortality since 2007.

3.3.2 Alternatives 1 and 2

Unlike the No Action Alternative, the action alternatives would set the amount of halibut bycatch permitted in the groundfish trawl fishery. The first two action alternatives for initial total catch limits of Pacific halibut originally specified by the Council for analysis were to use the trawl bycatch mortalities of legal-sized (i.e., at least 32 inches [81 centimeters] in length) Pacific halibut in 2005 and 2006 as a percent of the Area 2A TCEYs. These two alternatives differ very little (14.6 and 14.7 percent).

3.3.3 Alternative 3

Alternative 3 would establish a limit for legal-sized Pacific halibut bycatch mortality using an IBQ of up to 10 percent of the Area 2A TCEY. This limit may be adjusted through the biennial specifications process.

3.3.4 Alternative 4

Alternative 4 would apply a halibut trawl bycatch reduction program in phases to provide enough time to establish a baseline of trawl halibut bycatch. Phased application would also enable harvesters to explore methods (e.g., adjustments to time and/or area fished, gear modifications) to reduce halibut bycatch and bycatch mortality.

This alternative would establish a limit for total Pacific halibut bycatch mortality (legal-size and sublegal fish) through the use of an IBQ in the trawl fishery. The initial amount for the first two years of the trawl rationalization program would be calculated by taking 15 percent of the Area 2A TCEY as set by the IPHC for the previous year, not to exceed 130,000 pounds per year for total mortality. For example, if the trawl rationalization program went into effect in 2013, the trawl halibut IBQ would be set at 15 percent of the Area 2A TCEY adopted for 2012 or 130,000 pounds per year, whichever is less, for 2013 and 2014 (years 1 and 2 of the program²).

Beginning with the third year of implementation, the maximum amount set aside for the trawl rationalization program would be reduced to 100,000 pounds per year for total mortality. This amount may be adjusted downward through the biennial specifications process for future years.

3.3.5 Preferred Alternative

The preferred alternative for a total catch limit of Pacific halibut in Area 2A trawl fisheries is a modified version of Alternative 4. This alternative was preferred relative to the other action alternatives that called for smaller total catch limits of Pacific halibut for the LE trawl sectors and a more immediate decrease in this limit over time. The Council recommended that the trawl mortality limit for legal and sublegal halibut be set at 15 percent of the Area 2A constant exploitation yield for legal size halibut, not to exceed 130,000 pounds for the first four years of trawl rationalization and not to exceed 100,000 pounds starting in the fifth year. This total bycatch limit may be adjusted downward or upward through the biennial specifications and management measures process in future years. Part of the overall total catch limit is a

² The 130,000 pound figure represents an approximate reduction of 50 percent from the total bycatch estimate provided by the Northwest Fisheries Science Center for the most recent year (2007) as contained in Agenda Item E.1.b, Supplemental NMFS Report, September 2008.

set-aside of 10 mt of Pacific halibut, divided into 5 mt to accommodate bycatch in the at-sea whiting fishery and 5 mt to accommodate shoreside trawl bycatch south of 40°10' N latitude. This set-aside would come out of the trawl sector allocation.

3.4 Alternatives for Decision 6: Formal Allocations in the FMP

Decision 6 corresponds to proposed action 6 in Section 1. NMFS considered two alternatives for formal allocations of groundfish species and reallocation of Amendment 21 species. These are the No Action Alternative and Alternative 2, which would establish a frameworking process. Included in this action is consideration for a formal future review of Amendment 21 actions after implementation.

3.4.1 No Action Alternative (Preferred Alternative)

Alternative 1, which is NMFS' preferred alternative, would maintain the status quo formal allocation process of amending the FMP to decide formal allocations. Future consideration for a reallocation of FMP species subject to a formal allocation would require an FMP amendment. The provision to suspend the LE, open-access allocation temporarily if a species is declared overfished would be maintained under Amendment 21. All intersector allocations would be formally reviewed, along with the formal review of the trawl rationalization program five years after implementation of Amendments 20 and 21.

3.4.2 Alternative 2: Frameworking

Alternative 2 would frame the allocation process in the FMP under Amendment 21 such that a formal allocation could be decided in the biennial management process and made in an amendment to federal regulations. Such changes would still require the same public process in the Council venue, resulting in at least three Council meetings. A regulatory amendment would also require a NEPA analysis, notice, and comment rulemaking. Therefore, the process for a regulatory amendment would not differ from an FMP amendment. However, an FMP amendment would also require additional administrative process by NMFS and the Department of Commerce to be implemented, potentially delaying implementation.

4 ENVIRONMENTALLY PREFERABLE ALTERNATIVE

NMFS must, by regulation, specify "the alternative or alternatives which were considered to be environmentally preferable" in the ROD (40 CFR 1505.29b). The environmentally preferred alternative generally means the alternative that causes the least damage to the biological and physical environment. It also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.

Some conclusions can be drawn regarding the environmentally preferred alternative by reviewing the information contained in Table 1 and Table 2 of this document.

For the species subject to the Amendment 21 Intersector Allocation process, all alternatives besides the "no action" alternative are environmentally preferred because they promote and support the transition to catch shares envisioned under FMP Amendment 20. The catch share program, as identified in the FEIS "Rationalization of Pacific Coast Groundfish Limited Entry Trawl Fishery" and the Record of Decision

for Amendment 20, contain significant conservation measures designed to promote the rebuilding of overfished species under a fishery that is subject to 100% monitoring requirements.

In addition, some commenters on the draft EIS contend that the use of non-trawl gear has less environmental impact than trawl gear. NMFS believes the evidence for this contention is inconclusive and that further research is necessary to determine the relative impacts of different gears that may be used to harvest Amendment 21 species. Accordingly, studies are planned to be conducted in the future to evaluate the differential environmental effects of various gear on bottom habitat in West Coast groundfish fisheries so as to provide more definitive conclusions on habitat impacts. To the extent that non-trawl gear may have a lesser environmental impact, however, that the proposed action limits the trawl allocation of some Amendment 21 species to a lower percentage than the historical trawl harvest would tend to support the determination of all alternatives other than the no-action alternative as being environmentally preferable. For instance, the proposed action limits the maximum trawl allocation of any Amendment 21 species to 95% of the directed harvest when historical trawl harvests for some of these species have been higher than 95%.

Yield buffers are also reflected in alternatives 1-4 of Table 1. Yield buffer options of 5%, 15%, and 25% were considered under action alternatives 1 through 4, and were designed to buffer against sector catch overages that might risk exceeding prescribed OYs or to accommodate new emerging fisheries. The yield buffers would provide additional support for a determination that alternatives 1-4 are environmentally preferable; however, the Council recommended consideration of yield buffers under the Amendment 23 process rather than under this Amendment 21 action and thus are not considered in this decision.

For bycatch of Pacific halibut, the preferred alternative (Modified Alternative 4) contemplates a stricter total catch limit of Pacific halibut than that which has been observed in the trawl fishery to date. This reduction was developed in conjunction with individual accountability measures of IBQ adopted under Amendment 20. This action will reduce trawl bycatch of Pacific halibut and provide greater fishing opportunities for Pacific halibut by Area 2A directed halibut fisheries.

5 RATIONALE FOR SELECTION OF THE PREFERRED ALTERNATIVES

This section describes NMFS' rationale in choosing the preferred alternatives.

5.1 Decision 1: Limited Entry Trawl and Non-trawl Allocation

NMFS agrees with the Council-preferred alternative and the rationale behind that alternative as described in Section 2.1.6 of the FEIS. NMFS has determined that the more recent catch period from 2003 to 2005 should form the basis for deciding sector allocations because discards during this period were better informed, and current management strategies, such as specification of Rockfish Conservation Areas (RCAs), are more likely in the near future when these allocations will likely be implemented.

5.2 Decision 2: Shoreside Trawl Sector Allocations

Within-trawl allocations are necessary for the shoreside fleet given the Council's decision to handle shoreside nonwhiting and whiting QS differently (i.e., 90 percent of nonwhiting QS to permit holders and 10 percent to adaptive management; 80 percent of whiting QS to permit holders and 20 percent to shoreside processors). The Council's intent for Decision 2 was to allocate QS among participants based on need. Many eligible permit holders have some catch history in both the shoreside whiting and shoreside non-whiting sectors, and would gain some QS from both sector allocations. Further, the trading of QS (after the first 2 years of the trawl rationalization program) and QP will mitigate some affects of initial allocation.

For most of the Amendment 21 species, the shoreside sector catch percentages differ by a negligible amount between alternatives. However, the shoreside sector catch percentages for two species, widow and yellowtail rockfish, differ significantly, depending on whether the recent time series of sector catches are used (i.e., 2003-2005; during the widow rebuilding regime) or the longer time series of sector catches (i.e., 1995-2005; less influenced by the widow rebuilding regime). NMFS agrees with the Council's preferred alternative (Alternative 4), which uses the shoreside sector catch percentages during the 1995-2005 period to develop the weighting scheme for the initial allocation to the two shoreside trawl sectors for all Amendment 21 species other than the trawl-dominant overfished species (Decision 3) and yellowtail rockfish. NMFS supports this alternative because it is intended to allocate harvest of Amendment 21 species based on historical participation during a time when these species were available for targeting.

5.3 Decision 3: Trawl Sector Allocations of Trawl-dominant Overfished Species

NMFS agrees with the Council-preferred alternative with regards to the trawl sector allocation schemes for darkblotched rockfish, Pacific ocean perch, and widow rockfish. These allocations of trawl-dominant overfished species appear to accommodate the needs of whiting trawl sectors. The analyses of scenarios in FEIS Section 4.4.3.1 demonstrate this expectation.

5.4 Decision 4: At-sea Whiting Trawl Sector Set-asides

It has been NMFS' and the Council's intent to allocate QS of bycatch species among participants based on need for harvest of the individuals' target species. The initial sector allocation should also be based on need, establishing set-asides to put aside an amount of fish that can reasonably be expected to accommodate incidental catch volumes. The appropriate method of establishing a set-aside would be to examine annual catch data, focusing on the relatively large incidental catch volumes of set-aside species. To accomplish this, historical catch percentages can be used to weight allocations. These action alternatives are intended to set aside enough of the yield of Amendment 21 species, other groundfish species, and Pacific halibut to minimize the likelihood of constraining the at-sea whiting fisheries. NMFS and the Council adopted a set-aside of 300 mt for yellowtail rockfish as a compromise value between average catches in the shoreside sector during the 1995 to 2005 period and average catches that occurred under a healthy widow rockfish period (1995 to 2000).

5.5 Decision 5: Total Catch Limit for Pacific Halibut

The preferred alternative (Modified Alternative 4) contemplates a stricter total catch limit of Pacific halibut to control trawl bycatch than observed in that fishery to date. This action will provide greater fishing opportunities for Pacific halibut by Area 2A directed halibut fisheries. Further, the ability to

consider any changes to the trawl total catch limit of Pacific halibut, either increased or decreased limit amounts, in future biennial management processes is recommended under the preferred alternative to provide management flexibility to adapt this program to accommodate the needs of all sectors, including the trawl sectors.

5.6 Decision 6: Formal Allocations in the FMP

NMFS and the Council elected to make or revise formal allocations in an FMP amendment (No Action Alternative 1). Deciding a formal allocation through an FMP amendment therefore imposes a higher procedural standard for considering a change to the fishery. NMFS and the Council believe formal allocations decided this way will be more durable and will not be subject to reconsideration every two years in the biennial management process. Many representatives of the trawl industry recommended this process to provide more long-term stability to allow better business planning.

NMFS and the Council also decided to maintain the FMP provision to temporarily suspend any formal allocations for a species if it is declared overfished. Shorter-term ad hoc allocations would then be decided in an approved rebuilding plan or in the biennial management process while the stock is still being managed under a rebuilding plan. Determining short-term allocations for such a species under the guidance of an approved rebuilding plan is preferable to maintaining a formal allocation that might entail greater risks to the species.

NMFS and the Council also decided to schedule a formal review of all Amendment 21 allocations five years after its implementation. This five-year review is also a provision in the Amendment 20 preferred alternative to conduct a formal review of the trawl rationalization program five years after its implementation. Both amendments are scheduled for simultaneous implementation. Since a primary objective of Amendment 21 is to support the trawl rationalization program, coincident reviews of both the program and the supporting formal trawl allocations five years after implementing both amendments are sensible.

In general, formal allocations reduce the controversy associated with frequent short-term allocations and allow fishing businesses a longer and more stable outlook. Amendment 21 supports implementation of Amendment 20 trawl rationalization, which will, in turn, reduce bycatch and management oversight of the largest west coast groundfish fisheries.

6 COMMENTS RECEIVED ON THE DEIS AND FEIS

Consistent with CEQ regulations and NMFS guidance, the DEIS was made available for a 45-day public comment period that ended on March 15, 2010. During the public comment period for the DEIS, NMFS and the Council received 11 public comments that analyze the impacts of Amendment 21 on the allocation of harvest opportunities between sectors. Some comments supported the program, while others were critical of some aspects. NMFS received one additional public comment on the FEIS during the 30 day cooling off period that concluded on July 26. The comment on the FEIS related to and expanded upon a comment which had previously been submitted on the DEIS, which NMFS responded to in the response to comments section of the FEIS.

7 MITIGATION MEASURES AND MONITORING

An FEIS must discuss “means to mitigate the adverse environmental impacts” stemming from the proposed action (40 CFR 1502.16(h)), even if the adverse impacts are not by themselves significant. The FEIS did not specifically discuss mitigation measures because the proposed action is primarily intended to maintain historical harvest distribution of effort amongst sectors. The fishery overall is well monitored, and this proposed action includes a five year review to mitigate against any potential adverse environmental impacts.

8 SUMMARY FINDINGS

Through the FEIS and the documentation in this ROD, NMFS has considered the objectives of the proposed actions and has analyzed a reasonable range of alternatives that adequately address the objectives of the proposed actions. NMFS has also considered public and agency comment received during the FEIS review period. In balancing the projected effects of the various alternatives presented in the FEIS and the public interest, NMFS has decided to implement the preferred alternative.

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8/9/10
Date