GROUNDFISH HARVEST SPECIFICATIONS AND MANAGEMENT MEASURES AND AMENDMENT 24:
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Evaluation of Harvest Specifications and Management Measures For the 2015-2016 Biennial Management Period and Biennial Periods Thereafter
And
Amendment 24 to the Pacific Coast Groundfish Fishery Management Plan Establishing a Process for Determining Default Harvest Specifications

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1 Introduction

1.1 How this Document is Organized

This document provides information about, and analyses of, setting groundfish harvest specifications and establishing related management measures for 2015 and subsequent years for fisheries covered by the Pacific Coast Groundfish Fishery Management Plan (FMP), which are developed by the Pacific Fishery Management Council (Council) in collaboration with the National Marine Fisheries Service (NMFS). Groundfish harvest specifications are set every 2 years for a 2-year period. In addition to harvest specifications and management measures for the 2015-16 biennial period, this document evaluates the impacts of setting harvest specifications and management measures over the long term. These actions 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. The states manage their fisheries, including nearshore rockfish fisheries in the territorial sea, in a manner consistent with, or more restrictive than, the Groundfish FMP and Federal implementing regulations.

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 proposed action must also comply with other applicable laws, which are enumerated in Chapter 6. While this EIS provides supporting information, the procedural and analytical requirements for legal mandates other than NEPA (including findings made by NMFS) may be addressed in other documents (see Chapter 6).

The EIS is organized in the following chapters and appendices:

- Chapter 1 explains why the action is being considered for the groundfish fisheries in 2015-16 and subsequent biennial cycles, including revisions to established groundfish rebuilding plans. The purpose and need statement defines the scope of the subsequent analysis.

- Chapter 2 outlines the No Action and action alternatives that have been considered to address the defined purpose and need. The Council recommends a preferred alternative from among these alternatives, which provides the basis for establishing or revising the harvest specifications and management measure regulations governing groundfish fisheries in 2015–16. These alternatives also serve as the basis for evaluating the long-term impacts of setting harvest specifications and management measures.

- Chapter 3 describes the environmental components affected by the proposed action, which are groundfish and other marine fish, fishery sectors, fishing communities, protected species, essential fish habitat (EFH), and the marine ecosystem.

- Chapter 4 describes the direct, indirect, and cumulative effects of the proposed action, including the No Action and preferred alternatives, on the environmental components described in Chapter 3.

- Chapter 5 details how this action meets 10 National Standards set forth in the MSA (Section 301(a)) and groundfish FMP goals and objectives, as well as MSA-related scoping requirements and public meeting opportunities afforded through the Council process.

- Chapter 6 provides information on those laws and executive orders, in addition to the MSA, with which an action must be consistent. This chapter also describes in greater detail the NEPA
process for this action, including all of the steps (Notice of Intent, scoping process under NEPA, etc.) required by the Council on Environmental Quality (CEQ) and NOAA Administrative Order (NAO) 216-6.

- Chapter 7 is the bibliography.
- Appendix A, Model Documentation, documents the models and methods used to estimate potential catches (harvest impacts) under the alternatives, and related effects on personal income and employment in fishing communities.
- Appendix B, FMP Amendment Language, contains changes to the Groundfish FMP proposed by the Council as part of the proposed action.

When implemented, the 2015-16 harvest specifications and management measures will succeed those established for the 2013-2014 biennial period.

1.2 Proposed Action, Purpose and Need

1.2.1 The Proposed Action

Using the “best available scientific information,” the proposed action is to establish harvest specifications every 2 years, including the overfishing limits (OFLs), acceptable biological catches (ABCs), and annual catch limits (ACLs) for each management unit1, consistent with the policies and procedures the Council has established for these actions and the requirements of the Pacific Coast Groundfish Fishery Management Plan (Groundfish FMP); the Magnuson-Stevens Act (MSA)—particularly the 10 National Standards enumerated in §301(a) of the MSA; and other applicable law.

To evaluate environmental impacts, estimates of harvest specification values for a 10-year period (2015-24) are evaluated in Chapter 4. Because harvest specifications must be based on the best available science, and one or more new or updated stock assessments become available every 2 years, NMFS has determined that harvest specifications will be published in Federal regulations every 2 years for the subsequent 2-year period. However, the evaluation of the long-term impacts of setting harvest specifications and related management measures for the foreseeable future is intended to encompass the range of likely impacts that could occur over more than just the next biennial management period (2015-16). Section 6.6 discusses the methods that will be use to evaluate unforeseen environmental impacts in future biennial periods (2017-18 and subsequent).

Seven Pacific Coast groundfish species are currently “overfished” and managed under rebuilding plans implemented by secretarial amendment. Within the rebuilding plans, $T_{TARGET}$ is the key rebuilding parameter. $T_{TARGET}$ is the projected year by which an overfished species will be rebuilt. Any change to $T_{TARGET}$ must be demonstrated by the need to rebuild the stock in as short a time as possible, taking into account the status and biology of the stock, the needs of fishing communities, and the interaction of the stock within the marine ecosystem.

Every 2 years the Council will consider the best available scientific information (principally new or updated stock assessments) and determine whether it is necessary to adjust any of the existing harvest

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1 Management units are stocks occurring throughout the west coast EEZ (“coastwide”), geographic subdivisions of stocks in the EEZ, and geographically subdivided stock complexes composed of more than one managed species.
specifications or management measures necessary to achieve but not exceed ACLs. Adjustments to harvest specifications may involve changing the underlying harvest control rule. These adjustments must be consistent with the MSA and the Groundfish FMP.

In the absence of explicit Council action, harvest specification values based on default harvest control rules for one or more stocks may be published in Federal regulations. The Council is establishing criteria for determining these default rules through Amendment 24 to the Pacific Groundfish FMP, which is part of this proposed action. During any biennial decision-making process the Council may depart from these default values by deciding to modify the harvest control rule for one or more management unit.

1.2.2 Purpose and Need

The purpose of the proposed action is to conserve and manage Pacific Coast groundfish fishery resources to prevent overfishing, to rebuild overfished stocks, to ensure conservation, to facilitate long-term protection of essential fish habitat (EFH), and to realize the full potential of the Nation’s fishery resources (MSA §2(a)(6)). These harvest specifications are set consistent with the optimum yield (OY) harvest management framework described in Chapter 4 of the Groundfish FMP.

In addition to the above conservation objective, the use of default harvest control rules (Amendment 24) coupled with the evaluation of the long-term impacts of the action is needed to streamline the administrative and regulatory processes involved in setting specifications for the Pacific Coast groundfish fishery, while, at the same time, maintaining consistency with the MSA and other applicable law. Evaluating the environmental impacts of setting harvest specifications and apportionment of harvest levels (described in Groundfish FMP Chapter 5) and related fishery regulations (described in Groundfish FMP Section 6.2), as needed, over the long term will make the regulatory process more efficient and provide more information to stakeholders about the future status and management of fisheries. The application of default harvest control rules is expected to reduce the scope of evaluation required by NEPA in subsequent biennial cycles. The initial evaluation of the range of impacts expected over the long term will be followed up with focused evaluation when regulations are periodically adjusted. The long-term identification of harvest specifications should meet the following objectives:

- Maintain or improve the timeliness of scientific input into the decision-making process.
- Articulate and apply adaptive management principles, which are embodied in the Groundfish FMP, when evaluating the effects of periodic changes.
- Build workload assessment and priority setting into the process for identifying and recommending management measures, consistent with administrative resources and conservation objectives.
- Incorporate guidance on preparing efficient and timely NEPA reviews, including tiering of environmental documents and incorporation by reference.³
- Include decision-making procedures for setting harvest specifications that allow reasonably accurate forecasts of impacts for a period longer than 2 years. This could involve the Council adopting default procedures for setting harvest specifications (which the Council could override if circumstances warrant).
- Present information to decision-makers and the public in an effective and usable format.

2 “Harvest control rule” means the methods adopted to determine harvest specifications, based on criteria in the MSA and Groundfish FMP. Harvest specifications are the numerical values determined by applying the harvest control rule (or harvest policy) to the best available scientific information about the status and characteristics of a stock or management unit.

³ See the March 6, 2012 Memorandum from Nancy H. Sutley, Chair, Council on Environmental Quality, on this topic.
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- Ensure a transparent process where decisions and their rationale are clearly explained to the public and the public has the opportunity to provide meaningful input.
- Build an administrative record that effectively explains the rationale for the decision.

To the degree possible, periodic adjustments to these harvest specifications should involve small changes from the harvest management objectives of the previous period so as to minimize socioeconomic disruption.

1.2.3 The Action Area

Federally-managed Pacific groundfish fisheries occurring within the EEZ off the coasts of Washington, Oregon, and California (WOC) establish the geographic context for the proposed action. West coast communities engaged in these fisheries are also part of the context (see Figure 1-1). Although this is the Federal action area, the states manage the fisheries in the territorial sea to meet the goals and objectives of the Pacific Groundfish FMP.
Figure 1-1. The action area, showing major coastal communities and groundfish management areas.
1.3 Background on Issues Addressed in this EIS

1.3.1 Long-term Analysis

The adoption and adjustment of regulations for managing the groundfish fishery (including harvest specifications and management measures) is an ongoing, adaptive process. Changes in the type and intensity of environmental impacts tend not to differ substantially from one period to the next. With this view in mind, this document evaluates the impacts of the ongoing action over a longer time period than 2 years. Biennial changes to the management program that fall outside the scope of analysis of this document would then be subject to more focused analyses based on Council on Environmental Quality (CEQ) guidelines for supplementing (See 40 CFR 1502.9(c)(1)) and/or tiering from a previously prepared NEPA document (40 CFR 1502.20).

When harvest specifications (and related management measures) are periodically adjusted NMFS will determine whether to supplement the long-term impact analysis in this EIS or prepare a tiered NEPA analysis.

1.3.2 Amendment 24 and Default Harvest Specifications

Federal regulations state “Harvest specifications include OFLs [overfishing limits], ABCs [acceptable biological catch], and the designation of OYs and ACLs [annual catch limits]. Management measures necessary to keep catch within the ACL include ACTs [annual catch target], harvest guidelines (HGs), or quotas for species that need individual management, and the allocation of fishery HGs between the trawl and nontrawl segments of the fishery, and the allocation of commercial HGs between the open access and limited entry segments of the fishery. These specifications include fish caught in state ocean waters (0 –3 nm offshore) as well as fish caught in the EEZ (3 –200 nm offshore). Harvest specifications are provided in Tables 1a through 2d of this subpart.” (50 CFR 660.65)

Current policies for setting harvest specifications as outlined in Chapter 4 of the Groundfish FMP are:

- The $F_{MSY}$ harvest rate is applied to projected exploitable biomass for determining the OFL.
- The OFL is reduced to the ABC by applying $P^*$ and sigma. The Council determines $P^*$ on a case-by-case basis for each biennial cycle. Sigma is determined by the SSC and may be periodically revised based on new scientific information.
- For healthy stocks (above the $B_{MSY}$ proxy, $B_{40\%}$ for non-flatfish or $B_{25\%}$ for flatfish), the ACL is set equal to the ABC.
- For stocks in the precautionary zone (below the $B_{MSY}$ proxy but not overfished and managed under a rebuilding plan), the ACL is determined using the 40-10 rule for non-flatfish and the 25-5 rule for flatfish.
- For overfished/rebuilding stocks (fell below the minimum stock size threshold and not yet rebuilt to $B_{MSY}$ proxy), a rebuilding plan identifies a target rebuilding year ($T_{TARGET}$) and associated harvest control rule (e.g., SPR harvest rate). Rebuilding plans may be revised in the following circumstances:
  - If new information shows that the target year in the rebuilding plan is less than the recomputed value of $T_{F=0}$ (the minimum possible rebuilding time) or greater than $T_{MAX}$ (the maximum permissible rebuilding time).
  - If new information shows the harvest control rule specified in the rebuilding plan would result in a target year later than the currently specified year (but less than $T_{MAX}$) (or put another way, the probability of rebuilding by the current target year is less than 50%).
  - If new information indicates that the rebuilding plan is likely to result in disastrous short-term consequences to fishing communities.
According to Groundfish FMP section 4.6.3.3, “the year in which the stock would be rebuilt is based on the application of stock rebuilding measures that achieve rebuilding as soon as possible, taking into account the status and biology of the stock, the needs of fishing communities, and the interaction of the overfished stock within the marine ecosystem (T\textsubscript{TARGET}).”

Amendment 24 would incorporate into the Groundfish FMP a description the process for establishing and changing default harvest control rules as part of the biennial management framework. An FMP framework that incorporates default harvest control rules could substantially reduce the workload associated with adopting new harvest specifications. These defaults are a way to characterize “no action” as the application of current harvest control rules (harvest policies) to “new science.” For any stock (or other management unit) the Council does not need to take explicit action if they want to continue the current harvest policy. In these cases the current harvest control rule (i.e., that used in the previous biennial period) is applied to the best available scientific information to determine the numerical values of the harvest specifications for each stock. However, the Council may take explicit action to depart from default harvest control rules (those from the previous biennial period with adjustments for changes in stock status), based on relevant considerations. Prior to adopting harvest specifications, the Council will announce for which stocks they intend to take explicit action.

1.3.3 New Stock Assessments including Data Moderate Assessments

This section provides a brief inventory of new stock assessments and catch reports, and describes the data moderate assessment methodology.

Table 1-1. Summary of new stock assessments and catch reports conducted in 2013 to inform management for 2015 and beyond.

<table>
<thead>
<tr>
<th>Stocks with Full Assessment</th>
<th>Stocks with Data-Moderate Assessment</th>
<th>Stocks with Update Assessment</th>
<th>Stocks with Catch Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurora Rockfish</td>
<td>Brown Rockfish</td>
<td>Bocaccio S of 40º10’ N lat.</td>
<td>Canary Rockfish</td>
</tr>
<tr>
<td>Cowcod S of 40º10’ N lat.</td>
<td>China Rockfish</td>
<td></td>
<td>Pacific Ocean Perch</td>
</tr>
<tr>
<td>Darkblotched Rockfish</td>
<td>Copper Rockfish</td>
<td></td>
<td>Yelloweye Rockfish</td>
</tr>
<tr>
<td>Longspine Thornyheads</td>
<td>English Sole</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacific Sanddabs</td>
<td>Rex Sole</td>
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<tr>
<td>Petrale Sole</td>
<td>Sharpchin Rockfish</td>
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<tr>
<td>Rougheye Rockfish</td>
<td>Stripetail Rockfish</td>
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<tr>
<td>Shortspine Thornyheads</td>
<td>Vermilion Rockfish</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yellowtail Rockfish</td>
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</tr>
</tbody>
</table>

1.3.4 Reorganization of Stock Complexes

The action will be evaluated in a separate NEPA document. The results of Council decisions on stock complex reorganization will be summarized here.

1.3.5 Rebuilding Plan Revisions [and/or new rebuilding plans]

This section summarizes any required rebuilding plan changes. Also describe any SSC recommendations related to revising rebuilding plans.
1.3.6 Changes to the Groundfish Trawl Fishery Management Program and Related Allocations

This section summarizes relevant new regulations for trawl rationalization implemented in 2013-14 or expected to be implemented in 2015-16.

1.3.7 Accountability (Management) Measures

As part of the biennial process the Council identifies those accountability (management) measures (AMs) necessary for the groundfish fishery to achieve but not exceed ACLs. The Council may identify routine management measures, meaning the Council has determined they are likely to be adjusted on an annual or more frequent basis. For a measure to be classified as routine, the Council will determine that the measure is appropriate to address the issue at hand and may require further adjustment to achieve its purpose with accuracy. Section 6.2.1 in the Groundfish FMP describes the types of measures that have been classified as routine. Since the environmental impacts of these measures were analyzed at the time of Council adoption, additional environmental impact analysis when they are subsequently adjusted may not be necessary. Most routine measures, such as trip limits, time/area closures, and gear limits, are intended to control catch so that ACLs are achieved but not exceeded. During the biennial process the Council looks first to these measures to achieve harvest objectives. However, if current routine measures are insufficient to meet this purpose, or any other conservation purpose requiring immediate attention, the Council may propose such new management measures as deemed necessary during the biennial process.

1.3.7.1 Deductions from the ACL and Allocations to Fishery Sectors

AMs include the allocation of fishing opportunity among different user groups, or sectors, in the groundfish fishery. First, deductions from the ACL (also called set-asides) are made to account for groundfish mortality for certain activities outside the regular allocation scheme. These activities are:

- Tribal fisheries pursuant to Indian treaty rights, which reserve the right for a number of Pacific Northwest Indian tribes to take fish in their usual and accustomed fishing grounds and stations (see Groundfish FMP section 6.2.5) based on amounts in the January 1, 2014, regulations supplemented by tribal requests
- Research such as the NMFS trawl survey, IPHC longline survey, and other Federal and state research based on historical catch except for rarely-caught overfished species where the amounts are set with a precautionary buffer
- Groundfish caught in fisheries not targeting groundfish (also called incidental open access set-asides) based on historical catch in these fisheries
- Catches from fishing authorized under an exempted fishing permit as recommended by the Council; EFP applications include an estimate of groundfish that will be caught as part of the activity
- Sablefish caught in recreational fisheries north of 36° N. latitude based on historical catch in these fisheries

The ACL less the set-asides is called the fishery harvest guideline (HG) or commercial HG (sablefish north of 36° N. latitude and Pacific whiting), which is the amount available for fishery-sector-specific allocations. Sector allocations include formal long-term allocations (described in Groundfish FMP section 6.3) and short-term allocations implemented for the biennial period.

Fishery managers frequently view groundfish fisheries in terms of fishery “sectors.” These sectors are defined by the permit status of participating vessels, gear type, target species, and various other factors.
The Council allocates fishing opportunity (or the amount of fish vessels in a particular sector may harvest) either as part of the biennial process or through rules that have been established in the Groundfish FMP. Fishery sectors may receive a fixed allocation of the ACL for particular management units (stocks, geographic subdivisions of stocks, and stock complexes); in other cases fishery managers may identify a catch amount as a management objective (e.g., an “HG”) or simply as an accounting mechanism to prevent ACLs from being exceeded.

The 2013-14 Groundfish Harvest Specifications FEIS describes the methods and rationale for determining set-asides and short-term allocations and is incorporated by reference. The Groundfish SAFE includes the calculations made to arrive at the fishery allocations listed here. Summary information in tabular form is presented on:

- Set asides
- Long-term allocations
- Short-term (2-year) allocations
- Unallocated stocks.

### 1.3.7.2 Overview of Routine Measures Used to Meet Harvest Objectives

The following categories of measures are currently used in commercial groundfish fisheries:

- **Limited access (or limited entry) permits** which restrict the number of vessels that may use specified gear types to catch allocated groundfish. Limited entry permits define the groundfish trawl sector (further subdivided among vessels delivering catch shoreside, catcher vessels delivering Pacific whiting to at-sea mothership processors, and at-sea Pacific whiting catcher-processors) and the limited entry fixed gear sector, which uses longline and pot gear, mainly to catch sablefish.

- **Groundfish closed areas**, principally RCAs imposed to exclude fishing vessels from areas of high overfished species bycatch. Enforcement of these closed areas is supported by requirements for vessels to participate in a vessel monitoring system (VMS) and carry a unit that transmits their position to enforcement officials.

- **Catch control tools** including IFQs in the shoreside trawl sector, co-ops and associated allocations in the at-sea whiting sectors, permit and vessel-specific sablefish allocations in the limited entry fixed gear sector (called “tier limits”), and 2-month cumulative landing limits used in all sectors for certain species and/or at certain times of the year.

Deployment of at-sea observers is another critical management, control, and surveillance (MCS) tool used in commercial groundfish fisheries. Observer coverage is implemented by NMFS through the WCGOP. The principal purpose of observers is to document fish discarded at sea (“bycatch”) so that fishery managers may reasonably account for total catch in line with ACL objectives. Beginning in 2011, both the at-sea and shoreside components of the groundfish trawl sector have complete (100 percent) observer coverage. WCGOP has a target coverage rate for non-trawl groundfish fisheries of 20 percent.

Recreational catch is principally managed by bag limits and time-area closures.

Table XX in the Groundfish SAFE describes routine management measures implemented and adjusted, 2011-2013.
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2 Alternatives

The alternatives presented here are structured around potential amendments to the Groundfish to describe how default harvest control rules and resulting harvest specifications would be used in the Council decision-making process. These alternatives also serve as the framework for evaluating both the short-term impacts of setting harvest specifications and management measures for the next biennial period (2015-16) and the long-term impacts of the biennial management process and catch-based management.

2.1 Harvest Specifications Alternatives

2.1.1 No Action – Rollover Current Harvest Specification Values Described in Federal Regulations

For all management units (including overfished species and non-overfished species) the harvest specification values (OFLs, ABCs, and ACLs) in Table 2a to Part 660, Subpart C published in the Code of Federal Regulations for 2014 would be carried forward for the next 10 years.

Management measures (including apportionments and allocations) in place in December 2014 would be rolled over. Periodically, these measures may be adjusted through full notice-and-comment rulemaking or inseason action to achieve but not exceed the rolled over 2014 ACLs.

This characterization of No Action is consistent with the guidance in February 19, 2013, Policy Directive (as revised) on NEPA Compliance for Council-Initiated Fishery Management Actions under the Magnuson-Stevens Act:

…there are two distinct interpretations of “no action” that may be utilized, depending on the nature of the proposal being evaluated. If the “no action” alternative will literally result in the sunsetting of a management measure, it may be reasonable to consider the “no action” alternative to be the fishery absent the management measure that would sunset. If, on the other hand, the underlying management will not sunset, and “no action” means that current management measures will remain in place, it is reasonable to use a continuation of the status quo, or baseline, as the “no action” rather than the hypothetical scenario of no federal management. This determination depends on the circumstances. The key is to provide a meaningful analysis of anticipated results of the proposed action relative to the status-quo fishery management regime.

Currently, the Groundfish FMP does not describe how harvest specifications would be adjusted in the absence of a Council recommendation. In the past, primarily due to delays in the rulemaking process, NMFS has resorted to briefly rolling over the previous biennial harvest specifications into the next period until new regulations become effective. While this characterization of No Action is not very realistic over the long-term, it provides a point of comparison for the action alternatives described below. The amendments to the Groundfish FMP proposed under the action alternatives described below are intended to characterize how harvest specifications would be set in the absence of explicit action by the Council and may be the basis for the No Action alternative in future NEPA evaluations of biennial harvest specifications.

The Groundfish FMP is not amended under this alternative.

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4 Section 6.2 in the Groundfish FMP describes Council and regulatory procedures for establishing and revising management measures.

5 At the request of the Council Coordinating Committee, NMFS withdrew the February 19 version of the Policy Directive and accepted edits proposed by the CCC. The quoted text reflects the revised version.
2.1.2 Alternative 1: Default Harvest Control Rules Based on Existing Rules

2.1.2.1 Methodology for Determining Default Harvest Specifications under Alternative 1

As the Council prepares for each biennial management period, the harvest control rules (or harvest policies) from the previous biennial period would be used to determine default harvest specifications for the upcoming biennium, using the most recent scientific information available on the statuses of managed stocks (principally new stock assessments and/or rebuilding analyses). These default harvest specifications will be presented to the Council, so that the Council may consider whether it wishes to revise the default harvest control rules from the prior biennial management period. Under this alternative, the Council must take explicit action to change any default harvest control rule (i.e., any harvest control rule used in the previous cycle) for use in future biennial periods. Normally, the Council would set the list of stocks for which they may consider changes to default harvest control rules at the first meeting (usually November) of the biennial decision cycle. Default harvest control rules from the previous biennial period would be applied to all other stocks without further Council deliberation. At the second meeting (usually April) during the biennial process, the Council would take final action on any potential changes harvest control rules. If a new stock assessment shows a change in stock status, the FMP’s harvest control rule for the stock’s new status would be applied as the default. Specifically:

- For a stock falling from healthy status to precautionary zone status, the precautionary reduction (40-10 or 25-5 rule) would be applied.
- Likewise, for stocks changing status from overfished/rebuilding or precautionary zone status to healthy status, the harvest control rule for healthy stocks (ACL equal to ABC) would be applied.

The default harvest control rules (those used in 2013-14) and the policy rationale for them are described in the Groundfish SAFE. The use of default harvest control rules is expected to reduce the scope and complexity of required analyses during subsequent biennial decision cycles.

Overfished species will be managed according to rebuilding plan objectives (described by the target year and harvest control rule). When objectives are forecast not to be met, the need to revise the rebuilding plan is based on SSC advice. In general, rebuilding plan objectives are determined by taking into account the need to achieve rebuilding as soon as possible, the status and biology of the stock, the needs of fishing communities, and the interaction of the overfished stock within the marine ecosystem.

Upon reviewing the default harvest specifications values, the Council may take explicit action to change the harvest control rule and resulting 2015-16 harvest specifications for any or all stocks, consistent with the framework described in Chapter 4 of the Groundfish FMP.

2.1.2.2 Default Harvest Specification Values for 2015-16 under Alternative 1

The rationale for the harvest control rules used during the 2013-14 biennial period was presented to the Council in September 2013 and incorporated into the Groundfish SAFE published in November 2013. This information is incorporated by reference and summarized here.

- Cases where the ACL is set equal to the ABC
- Cases where the precautionary reduction is applied
- Cases where a constant catch value is used
- Harvest specifications for stock complexes
- Harvest specifications for overfished species
- Harvest specifications for new stock complexes

Table XXX lists harvest specification values for the alternatives described above.
2.1.3 Alternative 2 Special Default Harvest Control Rule Methods for Newly Assessed Stocks

2.1.3.1 Methodology for Determining Default Harvest Specifications under Alternative 2

For stocks without a new stock assessment, the harvest control rules (or harvest policies) from the prior biennial period would be used to determine default harvest specifications for the upcoming biennium. For these stocks, Alternative 2 is the same as Alternative 1.

Alternative 2 differs from Alternative 1 with respect to setting harvest specifications for newly assessed stocks. For each newly assessed stock, the Council will choose the appropriate P* value (not to exceed 0.45 as specified in the FMP) to determine the ABC from a range of P*/ABC values presented to them. Based on this decision ACL values are based on stock status:

- For healthy stocks (i.e., those stocks where biomass is estimated to be above the B_{MSY} target), the ACL is set equal to the ABC.
- For precautionary zone stocks (i.e., those stocks where biomass is estimated to be below the B_{MSY} target), the precautionary reduction is applied. (See section 4.6.1 of the Groundfish FMP for a description of precautionary reduction methods.)
- For overfished stocks determined to meet their rebuilding objective, the harvest control rule in the current rebuilding plan is applied. The SSC would advise whether a calculated deviation from the objective represents a true change in status.

These procedures are used to determine default harvest specification values for newly assessed stocks except for stocks managed under a rebuilding plan where, based on SSC advice, the Council determines the rebuilding plan objective is not being met. In those cases, the Council will consider revisions to the current rebuilding plan.

As with Alternative 1, once the default values are determined, the Council may take explicit action to choose different harvest specifications for the next biennial period, beginning with 2015-16.

2.1.3.2 Default Harvest Specification Values for 2015-16 under Alternative 2

2.1.4 Elements of the Proposed Action Common to both Alternative 1 and Alternative 2

2.1.4.1 New Harvest Control Rules

This section describes any new harvest control rules adopted by the Council, and the rationale. If the changed harvest control applies to a stock with a new assessment, the procedure under Alternative 2, where a range of P*/ABC values are presented, would be invoked.

2.1.4.2 New Rebuilding Plans and Revisions to Existing Rebuilding Plans

This section describes any rebuilding plan alternatives determined necessary to adequately evaluate the proposed action. (Candidate stocks for rebuilding plan revisions are bocaccio, cowcod, and darkblotched. Candidates for an overfished declaration, requiring a new rebuilding plan, have not yet been determined.)

2.1.4.3 Management Measures Including New Measures to be Classified as Routine as Part of the Biennial Process

Management measures (including apportionments and allocations) that could be applied under any of the alternatives are described and evaluated. Periodically, these measures may be adjusted through full
notice-and-comment rulemaking or inseason action in order to achieve but not exceed ACLs. Procedural changes for Council action on management measures are described in Council Operating Procedure #9 (as revised in June 2012).
3 Affected Environment

Chapter 3 is about the past. What activities have occurred and how have they affected environmental components? This establishes the environmental baseline for describing the effects of the proposed action that will occur in the future (discussed in Chapter 4).

The baseline period for presenting historical data is 2003-2012, a 10-year period that is intended to demonstrate the range of effects that may occur in the projection period (2015-2024) used in the impact analysis. However, qualitative characterization of historical effects may assume a longer historical period.

Material from referenced documents (also see Section 6.3) will be briefly summarized (40 CFR 1502.21).

3.1 Groundfish Stock Status

In past EISs this section has been organized around the following subheadings:

- Healthy Stocks
- Precautionary Zone Stocks
- Overfished Stocks

See the introduction to Chapter 4 for the identification of key stocks based on socioeconomic importance, overfished status, vulnerability, or 2013 assessment. Information in this section may be prioritized for these key stocks.

This section would briefly summarize the following indicators, possibly in tabular format with minimal explanatory text.

- Assessment history (most recent assessment, flag if unassessed)
- Sources of error (uncertainty) in stock assessments
- Biomass estimate relative to target/limit (current status)
- Fishing mortality relative to target/limit
- Historical trends in biomass and status
- Historical attainment of OY/ACL

For newly assessed (2013) stocks:

- Changes in status
- Changes in biological parameters (e.g., steepness, B0) substantially affecting “our understanding” of characteristics such as status, productivity, distribution, etc.
- Uncertainties captured in decision tables?

This section could also contain a summary of data moderate assessment techniques and their use in management. This could be tied to any necessary amendments to the FMP with respect to the determination of harvest specifications (FMP Chapter 4). Although included in the proposed action covered by this EIS, these changes do not “individually or cumulative have a significant effect on the human environment.” Therefore, this EIS need not include a separate analysis of the effects of criteria for the use of data moderate assessments that may be incorporated into the Groundfish FMP.
Narrative summaries of stock assessment results, like those included in the 2013-14 EIS (section 3.1.1), could be included in the Groundfish SAFE. Stock assessments, STAR Panel Reports, and where relevant, rebuilding analyses, can be downloaded from the Council website and can be referenced accordingly.

3.2 California Current Ecosystem

In April 2013 the Council adopted the Pacific Coast Fishery Ecosystem Plan for the U.S. Portion of the California Current Large Marine Ecosystem (Pacific Coast FEP). This document contains a wealth of information on characteristics of the California Current large marine ecosystem where the groundfish fishery occurs and the types of impacts fisheries and other anthropogenic activities have on ecosystem dynamics and marine habitat. Information from this document is incorporated by reference and summarized below. Previous EISs prepared for biennial harvest specifications also contain information about this ecosystem and fishery effects.

3.2.1 Overview of California Current Large Marine Ecosystem and Groundfish EFH Characteristics

The following information is summarized from Pacific Coast FEP, sections 3.1 and 3.2.

The California Current Ecosystem (CCE) is composed of a major eastern boundary current, the California Current, which is dominated by strong coastal upwelling, and is characterized by fluctuations in physical conditions and productivity over multiple time scales (Parrish et al. 1981, Mann and Lazier 1996). Food webs in these types of ecosystems tend to be structured around coastal pelagic species that exhibit boom-bust cycles over decadal time scales (Bakun 1996, Checkley and Barth 2009, Fréon et al. 2009). By contrast, the top trophic levels of such ecosystems are often dominated by highly migratory species such as salmon, tuna, billfish and marine mammals, whose dynamics may be partially or wholly driven by processes in entirely different ecosystems, even different hemispheres. Ecosystems analogous to the CCE include other shelf and coastal systems, such as the currents off the western coasts of South America and Spain.

As shown in Figure 3-1 from Field et al. (2006), the CCE contains a diverse array of species, most of which make a relatively modest contribution to the energy flow within the ecosystem. Because the flow of energy is more of a “food web” than a “food chain”, the species of the CCE do not neatly divide into clearly delineated trophic levels (for example, an organism may eat a prey item and also eat items that its prey eats), except at the highest and lowest levels. Most CCE species do not occupy a single trophic level and may occupy multiple trophic levels, particularly when considering changes that occur over the course of their life as they change both their size and feeding preferences.
Groundfish occupy a range of trophic niches and habitats, but most species are considered to be at either middle or higher trophic levels. Large groundfish (e.g., cowcod, bocaccio, yelloweye and shortraker, as well as Pacific halibut, California halibut, arrowtooth flounder, Petrale sole, sablefish, lingcod, cabezon, shortspine thornyheads, skates) are almost exclusively piscivorous, feeding largely on juvenile and adult stages of other groundfish, as well as forage fishes, mesopelagic fishes, and squid. A broader range of species, including most rockfish, are ominovorous mid-trophic level predators that may be piscivorous at times but also feed on krill, gelatinous zooplankton, benthic invertebrates and other prey. Pacific hake, the most abundant groundfish in the CCE, shows strong ontogeny in food habits, since younger, smaller hake feed primarily on euphausiids and shrimps, switching to an increasing proportion of herring, anchovies and other fishes (as well as other hake) as they reach 45-55 cm length, and are almost exclusively piscivorous by 70-80 cm.
Higher trophic level predators have a potential to play a structuring role in the ecosystem, particularly over smaller spatial scales (e.g., individual reefs or habitat areas). Despite the rarity of piscivorous rockfish relative to more abundant omnivorous or planktivorous rockfish, visual surveys have shown that the piscivorous species can be relatively abundant in many isolated and presumably lightly fished rocky reef habitats (Jagielo, et al. 2003; Yoklavich, et al. 2002; Yoklavich, et al. 2000). In rocky reefs, concentrations of smaller, fast-growing rockfish are considerably lower, while reefs thought to have undergone heavier fishing pressure tend to have greater numbers of smaller, fast-growing, and early-maturing species. Similar large-scale community changes are described by Levin et al. (2006), who found broad-scale changes in CCE groundfish assemblages sampled by the triennial bottom trawl surveys on the continental shelf between 1977 and 2001. Levin et al. (2006) found declining rockfish catches, from over 60 percent of the catch in 1977 to less than 17 percent of the catch in 2001, with greater declines of larger species, while flatfish catches increased by a similar magnitude. The potential for intraguild competition or top-down forcing, in both small-scale rocky reef systems and throughout the larger ecosystem, is also supported by theoretical considerations and simulation models. For example, Baskett et al. (2006) developed a community interactions model that incorporated life history characteristics of pygmy and yelloweye rockfish to consider community dynamics within a marine reserve. Without interspecific interactions, the model predicted that larger piscivores would recover given minimal levels of dispersal and reserve size. However, when community interactions were taken into account, initial conditions like the starting abundance of the piscivores and the size of the reserve became more important with respect to the ultimate stable state, such that under some circumstances (low piscivore biomass, or high planktivore biomass) recovery could be unlikely. Such results are consistent with similar simulations of the potential consequences of community interactions in marine systems (MacCall 2002, Walters and Kitchell 2001), and speak to the importance of considering such interactions in the design, implementation and monitoring of recovery efforts for rebuilding species.

3.2.2 Effects of Managing to B_{MSY}

This section summarizes what is known about the ecological effects of managing fished populations to level below unfished biomass. This includes trophic effects (predatory/prey relationships) and stock-specific effects (genetic structure) focusing on groundfish stocks directly affected by the proposed action. This review presents available information and should include a discussion of incomplete or unavailable information per 40 CFR 1502.22.

3.2.2.1 Effects of Other Anthropogenic Activities

Information in the Pacific Coast FEP about the effects of anthropogenic activities on various ecosystem components will be summarized in this sections. Other details on the effects of anthropogenic activities can be found in the Anthropogenic Pressures section of the 2012 California Current Integrated Ecosystem Assessment (CCIEA).

- The Executive Summary of the Anthropogenic Pressures section in the 2012 CCIEA) should be used to characterize the overall status and trends of these pressures. A manuscript (author: Kelly Andrews, NWFSC should also be available that provides subsequent analyses that are not in the FEP or the 2012 CCIEA.

- The Annual State of the California Current Ecosystem Report developed by the Ecosystem Plan Development Team (EPDT) may be referenced. Many of the “Human Dimensions” indicators identified in Section 4 of this report are anthropogenic pressures from the 2012 CCIEA. As appropriate more up to date information will be incorporated into this descriptions.
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3.2.2.2 Climate Change and System Forcing

This section will draw on information from section 4.1.3 and 4.2.3 from the Pacific Coast FEP and updated information from the CCIEA.

3.3 Essential Fish Habitat

3.3.1 Overview of EFH Designations under Council FMPs

3.3.2 Characterization of Groundfish Essential Fish Habitat

Materials developed by the EFH Review Committee include updated data on the distribution of substrate, physical and biogenic habitats, modeled species occurrence, and fishing and non-fishing impacts. This information will be incorporated by reference to characterize baseline conditions.

3.3.3 Effects of Fishing on Essential Fish Habitat

As above, materials developed by the EFH Review Committee will be incorporated by reference.

3.3.4 Non-Fishing Impacts

This section incorporates and summarizes past and present adverse effects on EFH due to human activities other than fishing. Information sources include the Amendment 19 (Groundfish EFH) FEIS and materials developed by the EFHRC.

3.3.5 Measures Currently in Place to Mitigate Impacts on Essential Fish Habitat

- Marine protected areas
- EFH conservation areas
- Effects of fishery time/area closures
- Gear restrictions

3.4 Non-groundfish Species

The 2013-14 EIS provided summaries organized as follows

- Stocks Managed Under other Council FMPs:
  - Coastal Pelagic Species (CPS)
  - Highly Migratory Species (HMS)
  - Salmon
- State Managed Stocks:
  - California Halibut
  - Dungeness Crab
  - Greenlings (other than kelp greenling), Ocean Whitefish, and California Sheephead
  - Pink Shrimp
  - Sea Cucumber
  - Ridgeback and Spot Prawns
- Pacific Halibut
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- Unmanaged Species
  - Miscellaneous Non-groundfish Flatfish, Skates, and Tanner Crab

The level of detail included in the 2013-14 EIS, which discussed status and biology of non-groundfish stocks and known catch in groundfish fisheries, seems unnecessary. Non-groundfish species should be screened according to how relevant catch is in groundfish fisheries using available information from the WCGOP. If available data show no catch in groundfish fisheries or the catch is negligible relative to stock size, then the species need not be discussed. For the species included after this screening the following information will be presented:

- Catch in groundfish fisheries relative to total catch or stock biomass
- Economic importance
- How they are managed outside the Groundfish FMP
- Stock distribution and susceptibility to different gear types.

3.5 Protected Species

This section will primarily incorporate information and findings from the Biological Opinion for the Pacific Coast Groundfish Fishery. In particular, key metrics such as the incidental take statement (ITS) and any standards set for reinitiation of the Endangered Species Act (ES) section 7 consultation will be discussed. The following categories of protected species have been included in previous harvest specifications EISs:

- ESA-listed salmon and steelhead
- Green sturgeon
- Eulachon
- Marine mammals
- Seabirds
- Sea turtles

The descriptive information in the following section is taken from the 2013-14 Harvest Specifications FEIS to exemplify brief summaries of the status of protected species. These descriptions will be updated with material from the most December 7, 2012, NMFS Biological Opinion on the Continued Operation of the Pacific Coast Groundfish Fishery (PCTS #NWR-2012-876) and the November 21, 2012, USFWS Biological Opinion on the Continued Operation of the Pacific Coast Groundfish Fishery (Reference Number 01EOFW00-2012-F-0086).

The West Coast Groundfish Observer Program (WCGOP) manages fisheries observer data and estimates bycatch of protected species in commercial fisheries. The bycatch ratios can be found in Jannot, et al. (2011) for marine mammals, seabirds, and sea turtles; and in Al-Humaidhi, et al. (2011) for green sturgeon and eulachon. Pacific salmon bycatch and impacts models can be found in the groundfish Amendment 20 EIS, and Bellman et al. (2011).

3.5.1 Pacific Salmon

Oceanic conditions in particular affect migration patterns spatially and temporally, as does prey availability and other factors. For Chinook, NMFS completed a supplemental biological opinion (NMFS 2006), which establishes take limits of 11,000 Chinook salmon in the whiting fishery and 9,000 in the
nonwhiting groundfish bottom trawl fishery. For other salmonid species, incidental take limits have not yet been established. This opinion remains in effect.

Pacific salmon, during the adult (ocean) phase of their lifecycle, occur throughout the US EEZ, from southern California northward to Canadian and Alaskan marine waters. Although seasonally more abundant in nearshore areas, this varies among stocks.

3.5.2 Green sturgeon

The Southern distinct population segment (DPS) of the North American green sturgeon (*Acipenser medirostris*) was listed as threatened in April, 2006, with Critical Habitat designated October 9, 2009. Documented interactions with the California halibut trawl fishery provide background for a qualitative assessment of the potential impacts to green sturgeon. However, quantitative modeling or bycatch estimates have not yet been developed. Al-Humaidhi et al. (2011) contains bycatch estimates for green sturgeon interactions with the groundfish fishery, and NWFSC (2011) contains detailed information on biology, range, fishery impacts, habitat, and trophic effects.

NMFS has issued a biological opinion for the Pacific groundfish fishery. This biological opinion concludes that there may be up to 330 take interactions with green sturgeon, and mostly likely less than 19 lethal takes, because most are released alive.

3.5.3 Eulachon

The Southern DPS of Eulachon (*Thaleichthys pacificus*), or Columbia River smelt, was listed as threatened under the ESA in 2010 (75 FR 13012). A status review (NMFS 2010) describes the most likely threats to eulachon recovery, allowing for a qualitative assessment of the potential significance of impacts to eulachon from the US West Coast commercial groundfish fishery. The status review identified many potential threats, including climate change, bycatch, dredging, shoreline construction, and others. NMFS initiated consultation for eulachon in early 2012, and issued a Biological Opinion in February. The biological opinion concluded that the fishery is not likely to jeopardize the continued existence of the species (NMFS 2012).

Eulachon are incidentally caught in groundfish trawl fisheries and in the at-sea hake fishery as well. In both fisheries, the bycatch rates are described in terms of total number of individuals (21 in 2010). Table 3-xx depicts bycatch of eulachon in groundfish fisheries. NWFSC (2011) contains detailed information on eulachon biology, range, fishery impacts, habitat, and trophic effects. Although scientific estimates of spawning stock biomass (SSB) in US waters are unavailable, the Fraser River (Canada) stock seems to be experiencing a downward trend (NWFSC 2011). Bycatch of eulachon in the groundfish bottom trawl fishery is extremely small, measured in the number of individuals, and the fishery is not likely to have a discernible impact on eulachon.

3.5.4 Marine mammals

The WCGOP documents fishery interactions with marine mammals. Several species are protected under the ESA and the MMPA. In the 2011-12 Groundfish Harvest Specifications EIS, a qualitative approach was used to assess the significance of the impacts to marine mammal populations, based on reported interactions and, when available, the Potential Biological Removal (PBR) established for a species. Recently, the NWFSC issued a risk assessment (NWFSC 2011) that summarizes biological, trophic, habitat, and bycatch information.
NMFS prepared a Biological Opinion in 1990 that concluded the groundfish fisheries are not likely to jeopardize the continued existence of listed marine mammals. The effects of the harvest limit alternatives on endangered and threatened marine mammal species are difficult to quantify, but recent WCGOP data (Heery, et al. 2010) provide some ability to make inferences about potential relative impacts of various management scenarios. Jannot et al. (2011) contains more detailed information on fishery interactions.

Groundfish fishery management measures that displace fishing effort may have impacts to marine mammals. In particular, species more prevalent in nearshore waters are more likely to be impacted by a shift of fishing effort shoreward of the RCA. Species more likely to be encountered offshore are commensurately more likely to be impacted by displaced fishing pressure resulting from seaward RCA shifts. Table 3-xx lists protected species by their distribution relative to the RCAs.

Although some interactions are expected, the NMFS biological opinion (NMFS 2012) concludes that the 2012 Pacific groundfish fishery is not likely to jeopardize the continued existence of the humpback whale or Steller sea lion populations. NMFS (2012) further concludes that the Pacific Coast groundfish fishery is not likely to adversely affect sei whales, North Pacific right whales, blue whales, fin whales, sperm whales, southern resident killer whales, Guadalupe fur seals.

### 3.5.5 Seabirds

Seabird species with documented interactions with the US West Coast commercial groundfish fishery represent a diverse suite of life histories, migration patterns, and reproductive strategies. Three distinct spatial/temporal seasons have been identified for the West Coast: the Upwelling, Oceanic, and Davidson Current seasons (Ford et al. 2004). Distribution of seabird species also varies latitudinally. These seasons coincide with winter (January-April), summer (May-August) and fall (September-December).

Based on information available for the December 2005 EFH FEIS (NMFS 2005, section 4.6.2), seabird interactions in the West Coast groundfish fishery were described as “rare and infrequent.” NMFS recently initiated consultation with USFWS on listed seabirds. In addition, NWFSC (2011) contains detailed information on seabird biology, habitat, life history, and bycatch information.

There were two recent fishery interactions with short tailed albatross, including a take that occurred in the LE sablefish fishery. [Describe seabird mitigation actions].

A risk assessment recently completed by NMFS (2012) evaluates impacts to several protected species, including marine mammals, seabirds, sea turtles, and selected fish. A US Fish and Wildlife Service ESA consultation was initiated recently, although a biological option is still pending.

### 3.5.6 Sea turtles

The WCGOP reported one documented interaction with a leatherback sea turtle, in 2008. The rarity of documented interactions precludes meaningful analysis of bycatch estimates.

Based on information available for the December 2005 EFH FEIS (NMFS 2005, section 4.6.4), west coast groundfish trawl and longline fisheries could adversely affect sea turtles; however, the relative effects of fisheries occurring under the Groundfish FMP on sea turtles are difficult to assess. Species specific discussions are available in the EFH FEIS (section 4.6.4). There is very little information available to estimate total mortalities of sea turtles, with the exception of the drift gillnet fishery, which is not a part of the Groundfish FMP; therefore, the effects of the harvest limit alternatives on endangered and threatened sea turtle species are unknown. NMFS prepared a Biological Opinion in 1990 that
concluded fisheries conducted under the Groundfish FMP are not likely to jeopardize the continued existence of listed sea turtles.

Groundfish fishery management measures may have adverse effects on sea turtles if fishing effort intensifies in areas where sea turtles congregate. However, the effects of management measures on effort displacement are not predictable and the effects of the alternatives are unknown. To date, sea turtle interactions with groundfish fisheries have been rare and infrequent. Therefore, it is unlikely that modest spatial shifts in fishing effort would result in any additional fishery interactions with sea turtles.

The NMFS biological opinion (NMFS 2012) concludes that while the 2012 Pacific groundfish fishery may result in sea turtle interactions, it will not appreciably reduce the survival or recovery of leatherback turtles.

3.6 Socioeconomic Environment

Detailed tables of catch, ex-vessel revenue by species and fishery sector will be incorporated in a Groundfish SAFE document to be produced in conjunction with the biennial harvest specifications process. These tables will provide source material to summarize the status of fisheries and fishing communities.

3.6.1 Groundfish Fishery Sectors

3.6.1.1 Commercial Fisheries

- At-sea whiting
- Shoreside IFQ fishery
- Non-nearshore fixed gear fishery
- Nearshore fixed gear fishery
- Other fisheries catching groundfish

Factors affecting profitability

- Costs
- Ex-vessel prices

3.6.1.2 Tribal Groundfish Fisheries

Section 5.2.7 of the 2008 SAFE document, sections 2.2.1.1 and 7.2.6 of the 2009-2010 Groundfish Harvest Specifications FEIS, and section 3.15 of the Amendment 20 FEIS describe tribal fisheries. Section 6.2.5 in the Groundfish FMP describes the special status of these fisheries. Several Pacific Northwest Indian tribes have treaty rights to fish for groundfish in their usual and accustomed fishing grounds. The Federal government has accommodated these fisheries through a regulatory process described at 50 CFR 660.50.

Management and Regulation

Under treaty arrangements, tribes manage fisheries prosecuted by their members. Their management is coordinated through the Council process so catches can be accounted for when developing management measures. West coast treaty tribes in Washington State have formal allocations for sablefish, black
rockfish, and Pacific whiting. For other species without formal allocations, the tribes propose trip limits to the Council, which the Council tries to accommodate while ensuring that catch limits are not exceeded. Whether formally allocated or not, tribal catches are accounted through set-asides, which are amounts taken “off the top” of the overall catch limit.

**Landings and Revenue**

Because tribes have sovereign rights to manage their fisheries, the tribal sectors do not have an equivalent regulatory dimension like the commercial sectors discussed above. These sectors have been identified more for data presentation purposes, although they do relate to target strategy.

The Makah tribe participates in whiting fisheries with both a mothership and shorebased component. On average, the treaty fisheries have accounted for 12 percent of total whiting landings and at-sea deliveries since 2005, generating an average of about $4 million (inflation-adjusted) per year.

The Tribal nonwhiting sector is defined by groundfish landings other than whiting and thus includes a variety of gear types. Hook-and-line gear represents by far the largest portion of average annual revenue for the 2003-2012 period at xx percent, followed by bottom trawl, accounting for xx percent. In terms of species composition characterized in terms of revenue from groundfish, sablefish accounts for xx percent during the 2003-2012 period, followed by rockfish at xx percent. This is similar to the commercial nonwhiting sectors (especially fixed gear) where sablefish is usually the most important component of nonwhiting revenues.

While all four coastal tribes have longline fleets, only Makah currently has a trawl fleet. Note that, beginning in 2008, the tribes have been using their own Treaty Online Catch Accounting System (TOCAS) database to record fish ticket landings. Since 1999, Pacific whiting have comprised the vast bulk of tribal landings. It is also worth noting that overall groundfish landings and revenue have been reduced in recent years due to increasing restrictions designed to rebuild overfished rockfish. The Makah Tribe’s trawl fleet has reduced from 10 vessels to 5 active (8 eligible) vessels due in part to reduced markets. Buyers in Neah Bay have reduced the number of trucks taking fish to processors since the area shoreward of the RCA north of Cape Alava closed to limited entry trawl went into place.

### 3.6.1.3 Recreational Fisheries

Section 7.1.3 of the 2009-2010 Groundfish Harvest Specifications FEIS describes west coast recreational fisheries. Recreational fisheries are an important part of fishery-related economic activity.

The Groundfish SAFE document will show recreational angler trips (combining both charter and private) by region and the percent of those trips that were targeted for bottomfish or groundfish. This information will be summarized here and used to characterize historical and regional trends in participation.

### 3.7 Fishing Communities

The proposed Groundfish SAFE will contain summary descriptive statistics of landings by IOPAC port group. (See Table 9 in NOAA Technical Memorandum NMFS-NWFSC-111 for ports included in these port groups. The IOPAC Input-Output Model for Pacific Coast Fisheries is used to evaluate personal income impacts of proposed management measures.) Figure 3-2 shows these port groups. The 14 port groups used in IOPAC are grouped under 10 regions for the descriptive summary in this section:

- Washington State:
  - Puget Sound
2. The Washington Coast
   
   - Oregon:
     3. Astoria and Tillamook (including any landings at other Columbia River ports in Oregon)
     4. Newport
     5. Coos Bay and Brookings
   
   - California\(^6\):
     6. Crescent City and Eureka (North Coast)
     7. Fort Bragg and Bodega Bay (North-Central Coast)
     8. San Francisco (North-Central Coast)
     9. Santa Cruz, Monterey, and Morro Bay (South-Central Coast)
     10. Santa Barbara, Los Angeles, and San Diego (South Coast)

These port groups and regions are also used to organize the evaluation of impacts to fishing communities in Chapter 4.

The 2006-2007 Harvest Specifications FEIS and 2011-201 Harvest Specifications FEIS included a community vulnerability index based on commercial and recreational ex-vessel revenue and selected community demographic statistics. The NWFSC has also been assessing community vulnerability. An updated community vulnerability analysis could be prepared for this EIS based on the recent available fisheries and demographic data. Summary results would be included in this section. The purpose of the vulnerability index is to identify communities that may be disproportionately affected by adverse impacts.

\(^6\) These California regions are intended to approximately correlate with state reporting regions for recreational fisheries.
Figure 3-2. IOPac port group areas.
4 Impacts of the Alternatives

This chapter looks at the future. If the proposed action is implemented (action alternatives) how will conditions be different than if it is not implemented (no action)? As discussed below, if impacts to an environmental component cannot be forecast, they can be evaluated qualitatively in comparison to baseline conditions described in Chapter 3.

Generally, the ability to predict trends in environmental components that are not the object of the proposed action (non-groundfish, marine ecosystem, and protected species) is limited. The evaluation of long-term impacts to these components is based on the supposition that changes in the magnitude and spatio-temporal patterns of the groundfish fishery exceeding what occurred during the baseline period are unlikely. Therefore, characterizing these historical effects can approximate impacts during the projection period. Available information on potential sources of change is presented and discussed to qualify characterizations based on historical conditions.

4.1 Effects of Setting Harvest Specifications and Related Management Measures on Groundfish Species

4.1.1 Forward Projection of Stock Trends

The analysis uses 10-year projections of stock biomass for all assessed stocks and resulting harvest specifications, where available, to evaluate long-term biological (and socioeconomic) impacts. For unassessed stocks and stock complexes containing unassessed species baseline (2003-2012) harvest specifications will be applied for forward projections. Detailed economic analyses are done only for the key target and incidentally caught stocks that significantly affect the fishery and the fishery-dependent communities on the west coast. Table 4-1 shows the key stocks that will be the focus of the impact analysis. The choice of key stocks is based on the following criteria:

- **Socioeconomic:** Comprised more than 10% of ex-vessel revenue in one or more commercial fishery sectors, or attracted a substantial portion of recreational fishing effort, during the baseline period
- **Overfished:** Currently overfished stocks
- **Vulnerable:** Vulnerability score $\geq 2.0$ (rated as high or major concern in the most recent productivity and susceptibility analysis, see section 4.1.1.2 of the 2013-14 harvest specifications FEIS)
- **Newly assessed:** Stocks assessed in 2013 not falling under one of the other criteria

Various factors that could affect actual stock biomass trends and prompt changes in these projected harvest specifications are discussed. Scientific uncertainty could cause mis-specification of harvest levels resulting in stock conservation objective not being met. The methodology used to determine the precautionary reduction from the OFL to the ABC is intended to address such sources of uncertainty. The estimate of uncertainty (sigma) and the risk tolerance for overfishing ($P^*$) can be used to evaluate the range of impacts of mis-specification. Unpredicted and unaccounted for environmental variability is another source of uncertainty about actual biomass trends during the projection period.

To approximate these uncertainties, stock assessment decision tables for key stocks are used for the forward projections, where available. These decision tables are matrices of alternate states of nature and management strategies showing catch, depletion (spawning biomass relative to unfished spawning biomass), SPR relative to the OFL, and a quantity estimate of spawning biomass. The decision table projections in existing stock assessments have been updated to include estimates of the ACL based on the
default harvest control rules (2013-14 harvest control rules) and, as necessary to extend the projection period to 2024. Figure 4-1 graphs the catch projections for three management scenarios from the most recent sablefish assessment decision table while Figure 4-2 graphs projected depletion levels under three states of nature from the decision table. The assessment describes these state of nature scenarios as follows: “Low and high columns are based on the 12th and 87.5th percentiles of the distribution [labeled less likely] about the maximum likelihood estimates [labeled more likely] for: depletion, relative SPR (in reverse order to match depletion; i.e., larger values implying greater relative fishing intensity are reported first) and spawning biomass from the base-case model.” The minimum stock size threshold (MSST) for determining overfished status and $B_{MSY}$, the management target, are also shown for comparison.

![Figure 4-1. Example of projected catch (mt) under three management alternatives from the decision table in the 2011 sablefish assessment.](image-url)
Figure 4-2. Example of projected depletion under three states of nature scenarios and the 40-10 harvest control rule from the decision table in the 2011 sablefish assessment. MSST is the threshold for considering a stock overfished and $B_{MSY}$ is the management target.

For key stocks, assessment authors are requested to provide forward projections through 2024 based on default (2013-14) harvest control rules. The following outputs will be available:

- Status indicators (e.g., depletion) for the projection period
- Estimated ACLs and OFLs for the projection period
- Catch streams assuming ACL removals or recent year average catches for each year.

In addition, projections will be made for the No Action alternative, i.e. constant catch at the 2014 ACL level.
### Table 4-1. Key stocks for impact analysis.

<table>
<thead>
<tr>
<th>Stock / Stock Complex</th>
<th>Source of Forward Projection</th>
<th>Basis for Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrowtooth flounder</td>
<td></td>
<td>Socioeconomic</td>
</tr>
<tr>
<td>Aurora rockfish</td>
<td>2013 assessment</td>
<td>2013 assessment</td>
</tr>
<tr>
<td>Black rockfish</td>
<td>2007 OR/CA assessment</td>
<td>Socioeconomic</td>
</tr>
<tr>
<td>Bocaccio (S of 40°10' N lat.)</td>
<td>2013 assessment / rebuilding analysis</td>
<td>Overfished (2013 update assessment)</td>
</tr>
<tr>
<td>Brown Rockfish</td>
<td>2013 data moderate assessment</td>
<td>2013 data moderate assessment</td>
</tr>
<tr>
<td>Cabezon</td>
<td>2009 assessment (CA/OR)</td>
<td>Socioeconomic</td>
</tr>
<tr>
<td>Canary rockfish</td>
<td>2013 catch report / rebuilding analysis</td>
<td>Overfished (2013 catch report)</td>
</tr>
<tr>
<td>China Rockfish</td>
<td>2013 data moderate assessment</td>
<td>2013 data moderate assessment</td>
</tr>
<tr>
<td>Copper Rockfish</td>
<td>2013 data moderate assessment</td>
<td>2013 data moderate assessment</td>
</tr>
<tr>
<td>Cowcod (S of 40°10' N lat.)</td>
<td>2013 assessment / rebuilding analysis</td>
<td>Overfished / 2013 assessment</td>
</tr>
<tr>
<td>Darkblotched rockfish</td>
<td>2013 assessment / rebuilding analysis</td>
<td>Overfished / 2013 assessment</td>
</tr>
<tr>
<td>Dover sole</td>
<td>2011 assessment</td>
<td>Socioeconomic</td>
</tr>
<tr>
<td>English sole</td>
<td>2013 data moderate assessment</td>
<td>Socioeconomic (2013 data moderate assessment)</td>
</tr>
<tr>
<td>Lingcod</td>
<td>2009 assessment</td>
<td>Socioeconomic</td>
</tr>
<tr>
<td>Longspine thornyhead</td>
<td>2013 assessment</td>
<td>2013 assessment</td>
</tr>
<tr>
<td>Pacific ocean perch (N of 40°10' N lat.)</td>
<td>2013 catch report / rebuilding analysis</td>
<td>Overfished (2013 catch report)</td>
</tr>
<tr>
<td>Petrale sole</td>
<td>2013 assessment / rebuilding analysis</td>
<td>Socioeconomic / Overfished / 2013 assessment</td>
</tr>
<tr>
<td>Rex Sole</td>
<td>2013 data moderate assessment</td>
<td>2013 data moderate assessment</td>
</tr>
<tr>
<td>Rougheye rockfish (N of 40°10' N lat.)</td>
<td>2013 assessment</td>
<td>2013 assessment</td>
</tr>
<tr>
<td>Sablefish</td>
<td>2011 assessment</td>
<td>Socioeconomic</td>
</tr>
<tr>
<td>Sharpchin Rockfish</td>
<td>2013 data moderate assessment</td>
<td>2013 data moderate assessment</td>
</tr>
<tr>
<td>Shortspine thornyhead</td>
<td>2013 assessment</td>
<td>Socioeconomic (2013 data moderate assessment)</td>
</tr>
<tr>
<td>Striptail Rockfish</td>
<td>2013 data moderate assessment</td>
<td>2013 data moderate assessment</td>
</tr>
<tr>
<td>Vermilion Rockfish</td>
<td>2013 data moderate assessment</td>
<td>2013 data moderate assessment</td>
</tr>
<tr>
<td>Widow rockfish</td>
<td>2011 assessment</td>
<td>Vulnerability score of 2.05</td>
</tr>
<tr>
<td>Yelloweye rockfish</td>
<td>2013 catch report / rebuilding analysis</td>
<td>Overfished (2013 catch report)</td>
</tr>
<tr>
<td>Yellowtail Rockfish (N of 40°10' N lat.)</td>
<td>2013 data moderate assessment</td>
<td>2013 data moderate assessment</td>
</tr>
</tbody>
</table>

#### 4.1.2 Long-term Effects of Setting Harvest Specifications

The long-term impact analysis will address the following questions, either on a stock-specific basis (for key stocks) or in a more general assessment for cases where the difference in impacts among stocks cannot be identified.

- What is the stock biomass trend for overfished species? How likely is it they will maintain a stable trajectory to the rebuilding target?
- How likely is it that overfishing will occur?
  - $P^*$ represents risk tolerance, or the probability that overfishing will occur due to misspecification of the OFL
Draft Annotated Outline

- How likely is it that stocks will become overfished? What are the main reasons a stock could become overfished? Which stocks exhibit a higher risk? Lower risk? Use the results of productivity and susceptibility assessment of stocks to overfishing. Will this analysis be re-done in 2013-14? Should the results be put in the SAFE document with conclusions provided here?
- What are the major sources of uncertainty in stock assessments that could lead to mis-specification errors?
- What are the sources of management error (e.g., catch monitoring error; lag times in reporting)?
- What are the effects on stock structure and productivity of managing to B_{MSY}? (Incorporate information from FEP)

In addition to the effect on stock status, these factors would also—through the management response—affect fishing opportunity and thus the socioeconomic impacts of the proposed action. Section 4.6 describes these impacts.

4.1.2.1 Management Responses Based on New Information

This section contains a brief overview of the management system. In using these projections in the analysis it must be acknowledged that the Council will adaptively manage the fishery to prevent stock biomass from dropping below the B_{MSY} and rebuild stocks below this biomass target proxy (whether in the precautionary zone or managed under a rebuilding plan). To do so, they may recommend changes to harvest control rules. To the degree possible, the factors that could prompt a change in harvest specifications are discussed. Foremost, perhaps due to mis-specification, new information reveals a change in stock status requiring a management response. Competing policy objectives, such as the need to address the needs of fishing communities, could also result in changes in harvest control rules.

4.1.2.2 No action

Under No Action, 2014 harvest specification values are held constant for the 10-year projection period. Catch of key stocks is estimated based on historical attainment of ACLs/OYs during the baseline period. These catch projections are compared to forward projections of catch and stock status in the stock assessment decision tables. Cases where overfishing would occur (based on stock assessment projections) under these specifications are identified. The socioeconomic impact analysis will identify cases where under-harvest would occur relative to catch projections under the default harvest control rule.

4.1.2.3 Alternative 1

The evaluation will focus on the application of default harvest control rules, which are 2013-2014 HCRs. If the Council decides to depart from 2013-14 HCRs for one or more stocks the rationale is discussed below in section 4.1.3.3. Forward projections for key stocks under new HCRs will be presented and evaluated. The list of questions above will be used for this evaluation.

4.1.2.4 Alternative 2

Alternative 2 uses the same default HCRs for stocks without a new stock assessment. For newly assessed stocks (2013), the Council will consider alternative P* values to determine “default” HCRs. These are not truly “default” in the sense of ‘in the absence of explicit action.’ Therefore, the type of necessary evaluation needs to be determined for these cases. Since the Council would only be choosing P* star values, it would make sense that the impact analysis focus on this. A range of P* values could be identified (e.g., 0.45, 0.40, 0.35, 0.30) as a basis for the analysis. These alternative values would be applied to the 2013 assessments to derive 10-year ABC projections and related harvests.
Consider how to handle stock complexes as reorganized in terms of long-term impacts.

**4.1.3 Actions in 2015-16 Harvest Specifications Affecting Long-term Stock Status**

**4.1.3.1 New Rebuilding Plans and Revisions to Existing Plans**

If new rebuilding plans or revisions are required, it will be necessary to determine the type of analysis and how it is integrated into this analytical structure. In previous EISs “integrated alternatives” or “strategic rebuilding alternatives” were included to support analysis of alternative rebuilding plan objectives (target year and related harvest control rule).

**4.1.3.2 Reorganization of Stock Complexes**

Most unassessed species are managed as part of several stock complexes. National Standard 1 Guidelines define a stock complex as “a group of stocks that are sufficiently similar in geographic distribution, life history, and vulnerabilities to the fishery such that the impact of management actions on the stocks is similar” (50 CFR 600.310(d)(8)). In the 2015-16 decision-making cycle the Council is considering reorganizing these stock complexes consistent with this definition. The impact analysis in this document focuses on those species that received a vulnerability score equal to or greater than 2.0, which is described as either a major or high concern.

We are assuming a separate NEPA analysis will be prepared for the reorganization of stock complexes decision (see Agenda Item D.3.a, Attachment 1, April 2013, for preliminary analysis). This section would summarize the results of that NEPA document. The harvest specifications for new complexes will be reported in Chapter 2.

**4.1.3.3 Adoption of New Harvest Control Rules**

The Council may adopt HCRs different from the 2013-14 HCRs (the “default” HCRs) for one or more stocks to be applied to determine harvest specifications for the 2015-16 biennium. The rationale for these changes is discussed and evaluated in this section.

**4.1.4 Long-term Effects of Management Measures Related to Harvest Specifications**

It is not possible or necessary to evaluate every possible adjustment in routine management measures (e.g., changes to RCA configuration with boundaries previously published in regulations, trip limit adjustments, bag and sub-bag limits). Many or most changes in routine measures result in impacts of the same type and intensity. Furthermore, differences in the impacts of different management measure configurations are too small to identify or predict. NEPA doesn’t require that every impact be anticipated. Instead, this analysis will look at categories of management measures (e.g., trip limits, time/area closures, gear restrictions, and bag and boat limits in recreational fisheries) as applied to particular fisheries (e.g., shoreside IFQ, nearshore fixed gear, state recreational). The evaluation will be based on the following questions:

- What is the objective of the measure (e.g., for catch control measures, catch of which species)?

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7 Scoping shall “identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review…” (40 CFR 1501.7(3), but include “a brief presentation of why they will not have a significant effect”). Every possible impact need not be discussed but only those “that are ‘likely’ (or ‘foreseeable’ or ‘reasonably foreseeable’)” such that “a person of ordinary prudence would take it into account in reaching a decision” (Wilderness Watch v. U.S. Forest Service, 143 F Supp.2d 1186 1209 (D. Mont. 2000)).
• How do adjustments to the measure affect impacts (e.g., lowering a limit reduces fishing mortality)?
• What other biological impacts may occur outside of the objective (e.g., area-specific reduction in adverse impacts to EFH, other indirect effects based on changes in fishing effort by gear type)?

The analysis will also discuss in general terms the relationship between stock-specific ACLs and adjustments to management measures.

• What are the stock-specific ACL thresholds that are likely to trigger substantially more restrictive management measures? Is this non-linear, is there a breakpoint?
• What types of new management measures would be triggered in response to an ACL reduction?

4.1.4.1 At-sea Whiting Fisheries

Routine Measures

Routine management measures are those that the Council determines are likely to be adjusted on an annual or more frequent basis. The Council classifies measures as routine when proposing new management measures to be implemented through the rulemaking process under the APA. Adjustments to routine measures may be made through abbreviated rulemaking processes. This subsection (and those for fisheries sectors as listed below) will provide a generalized evaluation of the effects of routine measures and their adjustment within the adaptive management paradigm.

New Measures

New management measures have not been implemented yet and may be classified as routine by the Council. Obviously, what measures may be implemented are unknown, but a general assessment of reasonably foreseeable (likely) new measures may be identified. The evaluation will focus on those measures related to harvest specifications, i.e., to achieving but not exceeding, ACLs. The questions listed above would form the basis of these fishery-specific evaluations.

4.1.4.2 Shoreside IFQ (Whiting Trawl, Nonwhiting Trawl, Nonwhiting Non-trawl)

Routine Measures

New Measures

4.1.4.3 Non-nearshore Fixed Gear

Routine Measures

New Measures
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4.1.4.4 Nearshore Fixed Gear

Routine Measures

New Measures

4.1.4.5 Other Directed Open Access Fisheries and Fisheries Catching Groundfish Incidentally

Routine Measures

New Measures

4.1.4.6 Recreational Fisheries

Washington

Routine Measures

New Measures

Oregon

Routine Measures

New Measures

California

Routine Measures

New Measures

4.2 California Current Marine Ecosystem

4.2.1 Long-term Effects

Chapter 3 (baseline description) provides information for the above assessment of effects that may be different (in either type or intensity) in the future. The evaluation in this section is organized similarly:

- Effects of managing fisheries to $B_{MSY}$
- Effects of other anthropogenic activities
- Climate change and system forcing
An overall question to frame the analysis is whether future harvest specifications and related management measures will result in effects substantially different than what has been documented in the past (baseline period, 2003-2012, or longer). Based on consultation with subject matter experts metrics and thresholds may be identified to specify what is considered a “substantially different effect.”

The analysis will take into account factors that may be different in the future such as:

- Council use of integrated ecosystem assessment products in decision-making for the biennial process
- Is trawl rationalization allowing increased harvest of groundfish species (e.g., yellowtail rockfish)? What are potential trophic effects of that increased harvest?
- What are the potential trophic effects of fewer vessels participating in trawl fishery due to trawl rationalization (e.g., a lower overall number of trawl hours)?
- How would changes in fishing effort affect greenhouse gas emissions?
- Will mammals or seabirds see improved opportunities to achieve their optimum population levels, and if so, how might that affect trophic interactions within the CCE?
- How will meso-scale climate change (warm/cool phases) and global warming interact with managing fisheries to BMSY? (King et al. 2011 provide an excellent overview of potential climate change impacts in California Current. ICES J. Mar. Sci. (2011) 68 (6): 1199-1216.)

4.2.2 Short-term (2015-16) Effects

Groundfish fishery removals in 2015-16 are expected to result in effects consistent with the types of long-term effects discussed above. The 2013-14 Harvest Specifications FEIS concluded that the proposed action (harvest specifications and management measures for the previous biennial period) is “unlikely to have a discernible impact on the [CCE] and other oceanographic and climate functioning” (page 379). (This statement should be interpreted in terms of a relatively recent historical baseline, because over the long term managing stocks to BMSY has had discernible impacts on the CCE.) Because fishery removals and related patterns of fishing in 2015-16 are not expected to differ substantially from the 2013-14 period, the same conclusion may be reached with respect to short-term (2015-16) impacts of the proposed action on ecosystem and habitat. However, evaluating short-term impacts in isolation risks creating a “shifting baseline” where incremental effects are not acknowledged. Short-term effects need to be contextualized in terms of long-term and cumulative effects.

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4.3 Essential Fish Habitat

4.3.1 Long-term Effects

Groundfish EFH is primarily benthic and the effects of fishing relate to the distribution of fishing effort and the type of fishing gear used. The following factors are likely to cause changes in the distribution and intensity of adverse effects:

- Increased gear switching in the shoreside IFQ fishery
- Fleet consolidation in the shoreside IFQ fishery
- Change in the configuration of fishery time/area closures (RCAs, etc.) affecting EFH
- Changes in the distribution of fishing effort, if possible to forecast. (For example, fishery effort data from 2011-2012, the first two years of the shoreside IFQ fishery, may show a shift to offshore areas; the effect may be less overlap with nearshore overfished rockfish species, potentially reducing impacts on nearshore habitat and species.)

No projections are available to evaluate changes in the distribution and intensity of fishing effort; potential changes from baseline conditions will be assessed qualitatively.¹⁰

Nonfishing impacts are not a direct/indirect effect of the proposed action and are evaluated as a cumulative impact (section 4.7).

4.3.2 Short-term (2015-16) Effects

Groundfish fishery removals in 2015-16 are expected to result in effects consistent with the types of long-term effects discussed above.

4.4 Non-groundfish Species

4.4.1 Long-term Effects

Will future harvest specifications and related management measures result in effects substantially different than what has been documented in the past (baseline period, 2003-2012, or longer)? What factors may be different in the future that would affect non-groundfish? Based on consultation with subject matter experts metrics and thresholds may be identified to specify what is considered a “substantially different effect.”

What other factors will affect non-groundfish stocks in a synergistic or cumulative way? E.g., non-groundfish fisheries.

According to the 2013-14 Groundfish Harvest Specifications FEIS:

¹⁰ If the future distribution of fishing effort is expected to differ substantially from earlier years (because of trawl rationalization implementation for example), simple approaches can be used to qualitatively translate changes in fishing effort into impacts on habitat. Kaplan et al. 2012 used qualitative scoring of impacts per gear and habitat, provided through the 2005 EFH process, to calculate a metric of habitat integrity for various scenarios of fishing effort and closed areas. This work could be revisited, with revised information from the more recent EFH work, and recent fishing effort data. (See Kaplan, I.C., Horne, P.J., Levin, P.S. 2012. Screening California Current Fishery Management Scenarios Using the Atlantis End-to-End Ecosystem Model. Progress in Oceanography 102: 5-18.)
The nature of impacts to non-groundfish species will vary depending on the nature of the fishery and the life history behavior of the particular species or population. Changes will likely result in changes to bycatch and other interactions with protected species. However, the impacts will not be uniform across the spectrum of species, due to the variability in the behavior and susceptibility to various fishing practices of each species.

Catch control measures proposed under the alternatives (IFQ, trip limits, and RCAs) are only for groundfish species and therefore would have no direct impacts on non-groundfish species. The measures may indirectly affect non-groundfish species if they induce changes in the magnitude of fishing effort and its spatial and temporal distribution. In addition, gear switching in the shoreside IFQ fishery could result in the mix of non-groundfish species caught. However, it is not possible to predict changes in these metrics due to the proposed action… (page 381)

4.4.2 Short-term (2015-16) Effects

Non-groundfish fishery removals in 2015-16 are expected to result in effects consistent with the types of long-term effects discussed above.

4.5 Protected Species

4.5.1 Long-term Effects

Will future harvest specifications and related management measures result in effects substantially different than what has been documented in the past (baseline period, 2003-2012, or longer)? What factors may be different in the future that would affect protected species? Based on consultation with subject matter experts metrics and thresholds may be identified to specify what is considered a “substantially different effect.”

What other factors will affect protected species in a synergistic or cumulative way?

From 2013-14 EIS:

Although the incidental take of Chinook salmon cannot be predicted, it is likely to be within the range of incidental take experienced in the recent past. With regard to variable impacts to Pacific salmon resulting from the Alternatives considered, it is unlikely that any management scenarios under the Alternatives would have a negative impact on Pacific salmon. The exception may be in cases where fishing pressure is displaced shoreward during seasons when Pacific salmon are more prevalent.

4.5.2 Short-term (2015-16) Effects

Takes (as defined in the ESA and MMPA) of protected species by groundfish fisheries in 2015-16 are expected to result in effects consistent with the types of long-term effects discussed above.

4.6 Socioeconomic Consequences

4.6.1 Long-term Effects

Analysis of long-term socio-economic impacts is based on 10-year catch projections derived from stock assessments for key stocks. Estimated landings for other stocks or stock complexes are based on average baseline values (values based on the CVs could be used to bracket averages).
A basic approach would apply historical patterns of landings to project landings by fishery sector and port group. This would assume these patterns will be static over the projection period. Comparison to the baseline period would only be meaningful in terms of changes in projected landings. Alternatively, temporal trends over the baseline period could be explored. The likelihood of any identified trends persisting in future would be evaluated qualitatively. Figure 4-3 shows the results of evaluating trends in landings from the nonwhiting trawl sector (and accounting for gear switching in the IFQ fishery) by IOPAC port group. The table identifies years when groundfish landings were more than one standard deviation above the 10-year historical mean, the correlation coefficient (R-squared) highlighting values above 0.5, the slope of the trend line (indicating a positive or negative change) and each port group’s share of the sector’s landings for the entire baseline period. Similar plots will be developed for other commercial fishery sectors and commercially important groundfish species. These data can be used to identify possible historical trends. Recreational fisheries trends will be assessed similarly based on historical effort metrics (angler trips). The likelihood that such trends could persist in the future will be evaluated qualitatively taking into factors, such as changes in costs and demand, that could affect fishing effort and the distribution of landings among ports.

<table>
<thead>
<tr>
<th>Port Group</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>Above/Below 1 Std Dev</th>
<th>RSQ</th>
<th>Slope</th>
<th>Coastwide Share</th>
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<td>0.790179</td>
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<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
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<td>-</td>
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</tr>
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<td>Low</td>
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<td>Low</td>
<td>Low</td>
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<td>Low</td>
<td>0.163121</td>
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<td>0.00%</td>
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</tr>
</tbody>
</table>

Figure 4-3. Trend analysis for nonwhiting trawl (and nontrawl IFQ, 2011-2012) fishery landings by IOPAC port group.

No Action and the historical baseline serve as a point of comparison to judge whether future harvest specifications and related management measures result in substantially different effects. This comparison will be supplemented with a qualitative evaluation of factors affecting groundfish fisheries and fishing communities that may be different in the future.

4.6.2 Short-term (2015-16) Effects

The short-term evaluation would be similar to what was done in previous EISs, although the range of alternatives would be narrower. (The need to evaluate impacts of rebuilding plan adoption/revision could increase the range of alternatives evaluated.)

- Commercial and Tribal Fisheries: Change in total ex-vessel revenue and accounting net revenue from No Action
- Recreational Fisheries: Change in marine angler trips from No Action
- Communities: Change in personal income and employment from No Action and change in ex-vessel revenue from the 2003-2012 baseline
- Processors: Change in purchases
4.6.2.1 Fishing Community Income

Personal income impacts derived from IOPAC will be presented by port group and region, comparing No Action harvest specifications to action alternative harvest specifications.

4.7 Cumulative Effects

CEQ regulations at 40 CFR 1508.25 identify three types of impacts that must be considered in an EIS: direct, indirect, and cumulative effects. Direct effects are directly related to the action (occurring at the same time and place); for indirect effects there is some intermediate cause-and-effect between the proposed action and the actual effect being evaluated (occurring at a distance in time and/or place). The regulations also define a cumulative impact as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (Federal or nonfederal) or person undertakes such actions.” Although the regulations and guidance identify cumulative effects as a separate, third class of impacts, all effects can be viewed as cumulative to the extent they are part of some causal chain that results in an ultimate effect on an environmental component. Therefore, to arrive at the final, cumulative effect on an environmental component, the effects in a causal chain are traced out and measured qualitatively or quantitatively, in terms of the metrics that have been identified in this EIS. The phenomena contributing to cumulative effects are baseline conditions (e.g., all relevant past and present actions), reasonably foreseeable future actions (RFFAs), the effects of the proposed action, and any mitigation that is proposed separately from the alternatives. Some of the baseline conditions of the affected environment are described in Chapter 3. Sections xx describe the direct and indirect impacts of the alternatives on fish stocks, fishery sectors, fishing communities, protected species, EFH, and the ecosystem.

4.7.1 The Scope and Types of External Actions and Trends Relevant to the Proposed Action

4.7.1.1 Geographic Boundaries

The analysis of impacts focuses on actions related to the harvest of Pacific Coast groundfish. The core geographic scope for each of the potentially impacted resources is focused on the Eastern Pacific Ocean (section xx). The core geographic scopes for the managed resources are the waters of the EEZ off of the coasts of Washington, Oregon, and California. For non-groundfish species, those ranges may be expanded and would depend on the biological range of each individual nontarget species in the Eastern Pacific Ocean. For habitat, the core geographic scope is focused on EFH within the EEZ, but includes all habitat utilized by groundfish and other non-groundfish species in the Eastern Pacific Ocean. The core geographic scope for endangered and protected species can be considered the overall range of these species in the Eastern Pacific Ocean. For human communities, the core geographic boundaries are defined as those U.S. fishing communities directly involved in the harvest or processing of the managed resources, which were found to occur in coastal states from Washington through California (section xx).

4.7.1.2 Temporal Boundaries

The temporal scope of past and present actions for the potentially affected resources is primarily focused on actions that have occurred after FMP implementation (PFMC 2011, originally implemented on October 5, 1982). For endangered and other protected resources, the scope of past and present actions is on a species-by-species basis and is largely focused on the 1980s and 1990s through the present, when NMFS began generating stock assessments for marine mammals and sea turtles that inhabit waters of the
U.S. EEZ. The temporal scope of future actions for all relevant resources extends 10 years into the future to provide a reasonable timeframe.

4.7.1.3 Past, Present, and Reasonably Foreseeable Future Actions and Ongoing Trends

Section 4.3 in the 2013-14 Groundfish Harvest Specifications FEIS describes the ongoing and reasonably foreseeable “external actions” and “ongoing trends” that contribute to the effects of the proposed action under the different alternatives to produce a cumulative effect. This information is summarized here with respect to actions and trends with continuing effects in 2013 and beyond.

**Fishing-related Actions (including Past, Present, and Reasonably Foreseeable Future Actions)**

**Past and future harvest specifications.** Groundfish fisheries are managed to prevent total catch exceeding ACLs, which are set at or below the ABC and therefore represent a precautionary reduction from the overfishing limit to account for scientific uncertainty and to rebuild overfished and other stocks whose biomass is below the MSY target level (or its proxy). The policy objective is to attain or maintain MSY over the long term, which depends on the continuous reapplication of ACLs during past, present, and future biennial management cycles. Harvest specifications also indirectly control the amount of fishing effort expended in regulated fisheries and the distribution of effort among groundfish sectors and gear types through the allocation of fishing opportunity. This indirectly affects EFH and the relative level of protected species take, due to the differential effects of different gear types.

**Non-groundfish fisheries.** Other fisheries contribute to mortality of environmental components also affected by groundfish fisheries, particularly protected species. (Catch of groundfish in non-groundfish fisheries is regulated and accounted for through the biennial management process and therefore directly affected by the proposed action.) Adverse impacts from other gear types may also combine with impacts to EFH from groundfish gear. Fishery removals from all sources also have long-term effects on the trophic structure of the California Current ecosystem.

**Section 7 consultation on the Groundfish FMP pursuant to the ESA.** NMFS NWR Sustainable Fisheries Division consulted with the Protected Resources Division to determine if fishing authorized under the Groundfish FMP is likely to jeopardize the continued existence of any species listed under the ESA. This consultation concluded that operation of the groundfish fishery is not likely to jeopardize the continued existence of ESA-listed species found in the action area or result in the destruction or adverse modification of designated critical habitat. NMFS has also consulted with the USFWS on the effects of operation of the fishery on listed species under USFWS jurisdiction. Past consultations have been done for the groundfish trawl fishery with respect to ESA-listed Chinook salmon ESUs. A bycatch threshold of 11,000 Chinook salmon was established for trawl fisheries targeting Pacific whiting; exceeding the threshold in any one year may trigger re-initiation of consultation. (No equivalent threshold has been established for nonwhiting groundfish trawl, because the level of take in this fishery has not yet been determined to be an ESA issue.)

**Catch share management.** IFQ and co-op management in trawl sectors were implemented at the beginning of 2011, based on Groundfish FMP Amendment 20. Regulatory changes to improve program performance and implement cost recovery provisions allowed for in the MSA are ongoing. A regulatory package was implemented on January 1, 2012, and comparable regulatory packages will likely be implemented in future years. The current moratorium on quota share trading was originally scheduled to expire at the beginning of 2012 but has been extended in response to ongoing litigation. The shoreside IFQ fishery may now use any legal groundfish gear (previously they were restricted to using only trawl gear). Although trawl gear is likely to remain the dominant gear type, harvesters may increasingly use fixed gear in certain areas and time periods. Coincident with catch share management, fixed allocations
between the IFQ and whiting co-op fisheries and other nontrawl groundfish fisheries were established. This makes it easier to determine QP and co-op share distributions during each management period but also reduces the scope of decision-making about fishing opportunity among different sectors of the fishery. Cost recovery measures and the end of subsidies to pay for observer coverage in the IFQ fishery will shift some costs from government to fishery participants.

Non-Fishing Actions (including Past, Present, and Reasonably Foreseeable Future Actions)

Non-fishing activities that introduce chemical pollutants, sewage, changes in water temperature, salinity, dissolved oxygen, and suspended sediment into the marine environment pose a risk to all of the identified resources. Human-induced non-fishing activities tend to be localized in nearshore areas and marine project areas where they occur. Examples of these activities include, but are not limited to agriculture, port maintenance, beach nourishment, coastal development, marine transportation, marine mining, dredging, and the disposal of dredged material. Wherever these activities co-occur, they are likely to work additively or synergistically to decrease habitat quality and, as such, may indirectly constrain the sustainability of groundfish species, non-groundfish species, and protected species. Decreased habitat suitability would tend to reduce the tolerance of these resources to the impacts of fishing effort. Mitigation of this outcome through regulations that would reduce fishing effort could then negatively impact human communities. The overall impact to the affected species and their habitats on a population level is unknown, but likely neutral to low negative, since a large portion of these species have a limited or minor exposure to these local nonfishing perturbations.

In addition to guidelines mandated by the MSA, NMFS reviews these types of effects through the review processes required by Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act for certain activities that are regulated by Federal, state, and local authorities. The jurisdiction of these activities is in "waters of the U.S." and includes both riverine and marine habitats.

For many of the proposed nonfishing activities to be permitted under other Federal agencies (such as beach nourishment, offshore tidal and wind power facilities, etc.), those agencies would conduct examinations of potential impacts on the resources. The MSA (50 CFR 600.930) imposes an obligation on other Federal agencies to consult with the Secretary of Commerce on actions that may adversely affect EFH. The eight Regional Fishery Management Councils are engaged in this review process by making comments and recommendations on any Federal or state action that may affect habitat, including EFH, for their managed species and by commenting on actions likely to substantially affect habitat, including EFH.

In addition, under the Fish and Wildlife Coordination Act (Section 662), “whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatsoever, including navigation and drainage, by any department or agency of the U.S., or by any public or private agency under Federal permit or license, such department or agency first shall consult with the USFWS, Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular state wherein the” activity is taking place. This Act provides another avenue for review of actions by other Federal and state agencies that may impact resources that NMFS manages in the reasonably foreseeable future.

In addition, NMFS and the USFWS share responsibility for implementing the ESA. The ESA requires NMFS to designate "critical habitat" for any species it lists under the ESA (i.e., areas that contain physical or biological features essential to conservation, which may require special management considerations or protection) and to develop and implement recovery plans for threatened and endangered species. The ESA provides another avenue for NMFS to review actions by other entities that may impact endangered and protected resources whose management units are under NMFS’ jurisdiction.
Ongoing Trends

Change in the use of ocean areas. Habitat protection measures (e.g., MPAs) and offshore energy projects (e.g., wind and wave power) could further limit the area open to fisheries.

Changes to coastal economies and land use. Increasing population and rising living standards can increase demand for nonfishery-related economic activities and land use in coastal areas. This may increase costs to fishery participants for shoreside infrastructure such as dock space.

Changing demand affecting real prices. Population growth and rising living standards globally are likely to increase demand for fishery products. This could lead to price increases unless aquaculture increases supply at lower cost than wild-caught fish (and consumers consider the two products substitutable). Higher ex-vessel prices would benefit harvesters while higher wholesale prices (depending on changes in ex-vessel prices) would benefit processors.

Increased consumer awareness affecting purchasing decisions. Certification and consumer awareness programs may affect buying decisions. Consumers may become more aware of or form opinions about how effectively a fishery is managed both in terms of the status of target stocks and the effect of a particular fishery on other resources (e.g., protected species). Consumer awareness may have a marginal effect on demand for specific products (based on source) over the long term.

Changes to stock productivity due to climate forcing or other environmental factors. Stock productivity determines whether a given level of fishing mortality allows a stock to remain at or achieve MSY, but is not under human control. Harvest rates in rebuilding plans account for productivity, but this may change over time due to environmental factors. Periodic stock assessments usually indicate a need to change harvest rates based on stock status. Although policy and practice is to prevent overfishing, undetected changes in stock productivity (due to ocean regime, for example), change in understanding or estimates of stock reference points (e.g., unfished biomass), or assessment of previously unassessed stocks could reveal that overfishing has occurred and catch must be reduced to rebuild the stock and maintain it at the target biomass ($B_{MSY}$ or proxy).

Cyclical and ongoing climate change. Cyclical events (e.g., El Niño-Southern Oscillation, Pacific Decadal Oscillation) and long-term climate change affect the relative productivity of different marine organisms with attendant ecosystem effects. As discussed above, such changes can also affect the allowable level of catch under harvest specifications; it can also influence the relative impact of fisheries on protected species and other ecosystem components (because a less productive stock will be relatively more adversely affected by a given level of fishery take, for example).

4.7.2 Evaluation of the Cumulative Impacts of the Proposed Action
5 Consistency with the Groundfish FMP and MSA National Standards

The following narrative responses are from the 2013-14 Harvest Specifications FEIS. They will be revised as necessary for the current EIS.

5.1 FMP Goals and Objectives

The Groundfish FMP contains 3 broad goals and 17 objectives intended to achieve those goals. Past EISs for rebuilding plans and harvest specifications describe how the actions address each objective. The proposed actions evaluated in the current EIS address the goals and objectives in a similar fashion as described in the previous groundfish harvest specifications EISs.

5.2 National Standards

An FMP or plan amendment and any pursuant regulations must be consistent with ten national standards contained in the MSA (§301). These are:

National Standard 1 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 harvest specification action alternatives are consistent with the OY harvest management framework described in Chapter 4 of the Groundfish FMP. Chapter 4 describes OY as “a decisional mechanism for resolving the Magnuson Stevens Act’s multiple purposes and policies, implementing an FMP’s objectives and balancing the various interests that comprise the national welfare.” The OY harvest management framework (as revised by Amendment 23 to the Groundfish FMP) is consistent with revised National Standard 1 Guidelines. In this EIS, Section 2.1 describes how the proposed harvest specifications were developed in relation to the OFL, ABC, and ACL reference points. The OFL is the estimate of catch level above which overfishing is occurring, or the estimate of MFMT applied to a stock’s abundance. The ABC is a level of annual catch that accounts for the scientific uncertainty in the estimate of OFL and any other scientific uncertainty. Chapter 4 in the Groundfish FMP describes an ABC control rule, ABC values described in this document were determined following that control rule. The ACL is the level of annual catch that serves as the basis for invoking Accountability Measures. The ACL may equal but may not exceed the ABC. The ACL may be set lower than the ABC to account for a wide range of factors. The application of the OY harvest management framework to the specifications described in this document should result in ACLs that reduce the likelihood of overfishing.

The revised National Standard 1 guidelines set forth principles on which stock complexes should be organized, including that stocks within a complex should be similar in terms of geographic distribution, life history, and vulnerability to the fishery. Stock complexes are being reexamined, and as necessary, reorganized, incrementally as scientific information and institutional resources allow. Until the stock complexes can be reorganized the current stock complexes will remain in place. At this time the current configuration of the stock complexes has not shown to allow overfishing on any species therefore allowing them to remain in place thorough the Council’s reexamination does not pose a threat to the ongoing sustainability of any of the species in any complex. As part of this biennial cycle the Council is considering new sorting requirements in commercial fisheries for aurora, roughey, and shortraker rockfish, which are part of the Minor Slope Rockfish complex north or 40°10’ N. latitude. This requirement would provide information on the susceptibility of these species to groundfish fisheries.
Future reorganization of stock complexes based on common biological characteristics, such as vulnerability, would benefit from this information.

Because of past overfishing seven groundfish stocks are currently declared overfished. Widow rockfish was determined to be rebuilt in 2011 and will no longer be managed under a rebuilding plan beginning in 2013. Petrale sole was declared overfished in 2010 based on a revision to the OY harvest management framework that incorporates estimates of $B_{MSY}$ of $B_{25\%}$ and $MSST$ of $B_{12.5\%}$ for flatfish. Petrale sole is estimated to be rebuilt in 2013, but will be managed under its rebuilding plan for the 2013-14 biennial cycle.

Of the remaining overfished species four will be managed under the current, default rebuilding plans, maintaining the same SPR harvest rate and target year. The best available scientific information indicates that there is a less than 50 percent probability that canary rockfish and POP can be rebuilt by the target years currently in their rebuilding plans, even in the absence of fishing (zero ACL at $T_{F=0}$). Therefore, the target years in these rebuilding plans must be revised. The preferred alternatives for these stocks maintains the default SPR harvest rate but revises the target year based on the median rebuilding year estimated in the most recent rebuilding analysis. For canary rockfish, the revised target year is 2030, 3 years later than the current target year but only 2 years later than the re-estimated $T_{F=0}$ zero harvest level. The re-estimated target year for POP based on the default harvest rate is 2051, 31 years after the current rebuilding target year but only 8 years after the estimated rebuilding year under zero harvest.

Section 304(e) introduces a tradeoff formulated as specifying a time to rebuild “as short as possible, taking into account the status and biology of any overfished stocks, the needs of fishing communities, … and the interaction of the overfished stock of fish within the marine ecosystem...” The proposed action is evaluated based on these considerations in Chapter 4 of this EIS.

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

The best available science standard applies to the following areas in relation to this proposed action: stock assessments, rebuilding analyses, and methods for determining management reference points (OFL, ABC, ACL, etc.), which forms the basis for determining harvest levels, and the evaluation of socioeconomic impacts. The supporting science is discussed below.

The harvest specifications (specifically, ACLs) considered under the proposed action (the action alternatives, including the Preferred Alternative), are based on the most recent stock assessments, developed through the peer-review STAR process. As part of the management cycle the Council recommends which stocks should be assessed in advance of current decision-making. Only a small proportion of the 80+ managed groundfish species are regularly assessed, because of a combination of factors. For many stocks there may not be enough data to support a full assessment (the FMP describes a classification system based on the availability of data). For unassessed stocks proxy methods must be used to determine reference points. Stocks may be subjected to little or no fishing pressure, or determined to have low vulnerability, and thus less in need of regular assessment. Finally, there is a limit on the institutional resources needed to carry out the assessments (i.e., fishery scientists). In some cases a previous assessment may be updated; this means that the underlying model is not reevaluated but the model is re-run with the addition of more recent data from the period since the last full assessment. Section 2.1 reviews the basis for alternative harvest specifications and references the stock assessments that were used.
The No Action Alternative specifications do not benefit from the new assessments and updates conducted as part of the current management cycle. For those stocks No Action does not represent the best available science.

Section 4.1 describes the methods that were used to determine reference points for harvest specifications (OFL, ABC, ACL, etc.) for stocks and stock complexes.

The NWFSC has developed a model application, called IO-Pac, for estimating personal income impacts of commercial fishing on the west coast. This model is documented in Appendix A.

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.

Groundfish ACLs are set for management units, which include stocks, stock complexes, or geographic subdivisions thereof. Stock complexes group co-occurring species, many of which have not been formally assessed. Section 2.1.3 describes how ACLs for stock complexes are developed based on ABC estimates of component stocks. Stocks within these complexes are not managed individually for a variety of reasons including the lack of assessments, lack of reliable catch data at the species level, or they constitute a small portion of catches. If a stock within a complex is individually assessed it may be managed under a separate harvest limit, when practicable.

Stocks with their own ACLs are managed throughout the range of that stock (as opposed to the species), although issues do arise in the case of stocks straddling international borders. For this reason, allocation of the harvestable surplus of Pacific whiting between the U.S. and Canada is subject to international agreement.

Separate ACLs may be set for geographic subcomponents of a stock for management purposes. However, the development of subcomponent ACLs is based on managing these stocks throughout their range within U.S. waters. As part of the proposed action the Council is considering a change in the scope of subcomponent ACLs for lingcod that would better reflect biological and fishery characteristics. Currently lingcod is managed in two area components, north and south of 42° N. latitude. Under the proposed action the dividing line would be moved to 40°10’ N. latitude, near Cape Mendocino. Cape Mendocino is a biogeographic boundary and as such 40°10’ N. latitude is commonly used in groundfish fishery management for the differential application of management measures.

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.

The proposed measures will not discriminate between residents of different states.

Allocation decisions are also made as part of the biennial harvest specifications process for those stocks for which formal allocations have not been established under the FMP. Section 2.2.2 describes these allocation decisions. Emphasis is placed on equitable division while ensuring conservation goals. Decision-making on these allocations occurs 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.
Draft Annotated Outline

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.

Measures have been taken to reduce fishing capacity in the limited entry trawl fleet and nontrawl fleets, including: fixed gear permit stacking program implemented by FMP Amendment 14, the trawl vessel buyback program, and catch share management implemented by FMP Amendment 20. Reducing excess capacity is expected to improve the efficiency in the utilization of fishery resources as well as reduce the levels of incidental catch.

Catch share management in the at-sea whiting sectors and the shoreside IFQ fishery promote efficiency of utilization by reducing regulatory discards. Vessels in these fisheries are subject to 100 percent observer coverage, which improves catch accounting.

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.

Management measures reflect differences in catch, and in particular bycatch, of overfished species, among different fisheries. For example, different RCA configurations are established for different gear types (trawl versus fixed gear) and the catch control tools also differ. For example, at-sea whiting fisheries are managed by co-ops, the shoreside IFQ fishery by IFQs, and limited entry fixed gear fishery for sablefish by vessel-level allocations (permit stacking). Within these fisheries and in the open access sector cumulative trip limits are used for particular management units and/or during certain times of the year. Recreational fisheries are managed with area closures and bag limits proposed by the states and appropriate to the catches and characteristics of each state’s recreational fishery.

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

Generally, by coordinating management, monitoring, and enforcement activities between the three west coast states, duplication, and thus cost, is minimized. Appendix C evaluates proposed management measures in detail, including consideration of associated costs and 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.

This document evaluates the effects of the alternatives on fishing communities (see section 4.3). These effects were taken into account in choosing the preferred “integrated alternative” (incorporating harvest specifications and related management measures). The alternatives are structured to allow a comparison of the tradeoffs between the requirements of the MSA. The requirements in Section 304(e)(4)(A) of the MSA include rebuilding overfished stocks in as short a time possible, taking into account the needs of fishing communities, and minimizing adverse economic impacts to fishing communities. Each integrated alternative contains a suite of ACLs for overfished species associated with a particular rebuilding strategy (target year and harvest rate) and management measures needed to constrain catches to these harvest levels. Target species catch for each alternative is projected based on these management measures, which allows an estimate of resulting ex-vessel revenue and personal income impacts at the community level (with the port group area the unit of analysis for community impacts). In this way the ‘rebuild in as short a time as possible’ standard can be contrasted with the ‘needs of fishing communities’ standard to
demonstrate what level of catch or bycatch of overfished species is necessary to address adverse impacts to fishing communities.

**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.**

Minimizing bycatch, of overfished species in particular, is an important component of the alternatives. Through the use of GCAs fishing effort is reduced in areas where overfished species are most abundant, thereby reducing potential bycatch. As noted above, catch share management, particularly in the shoreside IFQ fishery, has reduced bycatch by eliminating most regulatory discards (some non-target species are managed with cumulative trip limits, which may induce some level of regulatory discards). Nontrawl sectors use cumulative trip limits as the principal catch control tool. Because trip limits are based on landings, when they are set at a low level to discourage directed and incidental catch of overfished species, this can result in regulatory discards.

The petrale sole rebuilding plan established objectives reflecting that it is an important target species for vessels using groundfish bottom trawl gear (managed under the shoreside IFQ fishery). The rebuilding plan allows a limited target fishery to continue, which in concert with IFQ management minimizes discards.

The at-sea whiting sectors are managed under bycatch limits for selected overfished species. Mandatory co-ops in the mothership sector are allocated a portion of these sector bycatch limits and are accountable for keeping catch of these species within their allocation. The catcher-processor operates as a single, voluntary co-op responsible for the bycatch limit assigned to the sector.

As noted above, the at-sea whiting sectors and shoreside IFQ fishery are subject to 100 percent observer coverage. While necessary for catch accounting under IFQ/co-op management, observers also allow complete monitoring of total catch (including bycatch). The limited entry fixed gear sector and directed open access fisheries are subject to partial observer coverage. This observer data is used to develop bycatch rate estimates, which can be used to forecast and account for total catch of all managed species.

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

RCAs may affect safety if more vessels elect to fish seaward of the closed areas and are more exposed to bad weather conditions. Individual accountability under catch share management has resulted in vessels fishing more often seaward of the RCA in order to avoid catch of species such as canary and yelloweye rockfish, for which the allocations and resulting available QP are limited. As harvesters gain experience with the management program they may be able to develop opportunities to fish shoreward of RCAs while avoiding catch of these species, resulting in more inshore fishing.

The moratorium on quota share trading is expected to sunset beginning in 2013, which may lead to further capacity reduction and increased profits in the trawl sector. This may result in more investment in vessels and equipment that would enhance safety. Less efficient vessels are expected to leave the trawl fishery as part of this consolidation, which may eliminate older, less safe vessels.

For vessels electing to increase the amount of time fishing seaward of RCAs, implementing a VMS capable of sending distress calls could provide some mitigation. Although units with this capability have been approved for use, vessel owners are not required to purchase a unit with this capability. Also, by providing near real-time vessel position data, VMS could aid in search and rescue operations.
5.3 Other Applicable MSA Provisions

Harvest specifications are set based on targets established in overfished species rebuilding plans, which conform to Section 304(e) Rebuild Overfished Fisheries. Rebuilding plans contain the elements required by Section 304(e)(4) and discussed in the NS1 Guidelines (50 CFR 600.310).

NMFS prepared an EIS evaluating programmatic measures designed to identify and describe west coast groundfish EFH (NMFS 2005), and minimize potential fishing impacts on west coast groundfish EFH. The Council took final action amending the groundfish FMP to incorporate new EFH provisions in November 2005. NMFS partially approved the amendment in March 2006. Implementing regulations became effective in June 2006. The effects of the proposed actions on groundfish EFH are within the scope of effects evaluated in the programmatic groundfish EFH EIS. The Council commenced a 5-year review of its groundfish EFH designation in December 2010. Section 4.1.4 in this EIS describes impacts of the proposed action on EFH, consistent with the EFH assessment requirements of 50 CFR 600.920 (e)(3).

5.4 Public Scoping under MSA

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 biennial specifications process. The advisory bodies involved in groundfish management include the 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. 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. In addition to Council-sponsored meetings, the Washington Department of Fish and Wildlife (WDFW), ODFW and CDFG held public hearings to solicit input on the formulation of management measures.

Table 5-1 summarizes Council decision-making steps in developing biennial harvest specifications and management measures.

Table 5-1. Summary of Council decision-making during biennial harvest specifications process.

<table>
<thead>
<tr>
<th>Council meeting</th>
<th>Council Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 12-17, 2013</td>
<td>Adopt new stock assessments for use in management, OFLs, and a range of ABC values; prioritize a range of new management measures for preliminary analysis.</td>
</tr>
<tr>
<td>November 1-6, 2013</td>
<td>Adopt overfished species rebuilding analyses; adopt ABCs for analysis; identify tentative range of allocation alternatives. Review exempted fishing permits for 2015-16. Adopt new management measures for detailed analysis.</td>
</tr>
<tr>
<td>March 8-13, 2014</td>
<td></td>
</tr>
<tr>
<td>April 5-10, 2014</td>
<td>Adopt preferred alternative ACLs and narrow the range of allocations and management measures under consideration.</td>
</tr>
<tr>
<td>June 20-25, 2014</td>
<td>Adopt final preferred alternative including all elements for the 2015-16 management program.</td>
</tr>
</tbody>
</table>
6 NEPA and Other Applicable Laws

This chapter will be updated as necessary.

6.1 National Environmental Policy Act

The CEQ has issued regulations specifying the requirements for NEPA documents (40 CFR 1500 – 1508), and NOAA’s agency policy and procedures for NEPA can be found in NOAA Administrative Order 216-6 (NAO 216-6). The required elements of an Environmental Impact Statement (EIS) and the public process associated with an EIS are specified in both CEQ’s regulations and NAO 216-6.

The required elements of an EIS are as follows (as per NAO 216-6 5.04b):

- A cover sheet and table of contents;
- A discussion of the purpose and need for the action;
- A summary of the EIS, including the issues to be resolved, and in the FEIS, the major conclusions and areas of controversy including those raised by the public;
- Alternatives, as required by Sections 102(2)(C)(iii) and 102(2)(E) of NEPA;
- A description of the affected environment;
- A succinct description of the environmental impacts of the proposed action and alternatives, including cumulative impacts;
- A listing of agencies and persons consulted, and to whom copies of the EIS are sent;
- A ROD, in the case of a FEIS, and;
- An index and appendices, as appropriate.

Comments received on this DEIS will be considered and responded to in the FEIS. After the comments are considered, NMFS will publish a Notice of Availability for a 30-day public comment period for the FEIS and will conclude the NEPA process with a Record of Decision documenting whether to approve, partially approve, or disapprove this proposed action under the MSA.

6.2 Notice of Intent and Public Scoping Under NEPA

The National Marine Fisheries Service in coordination with the Pacific Fishery Management Council published a Notice of Intent (NOI) on Month, day, 2013, to announce the intent to develop and prepare an EIS. This EIS will include analysis of the long-term impacts of setting harvest specifications (including OFLs, ABCs, and ACLs) and management measures including the 2015-16 biennial period, pursuant to the Pacific Coast Groundfish Fishery Management Plan.

The purpose of the NOI was to alert the interested public of the commencement of the scoping process and to provide for public participation in compliance with the National Environmental Policy Act. The scoping process is the first and best opportunity for the public to raise issues and concerns for the Council and NMFS to consider during the development of the harvest specifications and management measures. The Council and NMFS rely on input during scoping to both identify management measures and develop alternatives that meet the objectives of the Pacific Coast Groundfish FMP.

The public comment period was open for thirty days, ending on Month, day, 2013. A summary of public comments received during the thirty-day public comment period will be included here.
6.3 Related NEPA documents

The following NEPA documents provide information and analyses related to the effects of this proposed action:


Information may be incorporated by reference from these documents into this EIS. Council on Environmental Quality (CEQ) regulations (40 CFR 1502.21) state “Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described.” When information from the above document is incorporated, these procedures are followed within the body of this EIS.

6.4 Preparers and Listing of Agencies and Persons Consulted

The following people wrote the EIS:

- Kelly Ames, Pacific Fishery Management Council: Sections
- Christopher “Kit” Dahl, Pacific Fishery Management Council: Sections
- John DeVore, Pacific Fishery Management Council: Sections
- Kerry Griffin, Pacific Fishery Management Council: Sections
- Becky Renko, National Marine Fisheries Service, Northwest Region: Sections
- Edward Waters, Contracting Economist: Sections
This EIS was prepared and evaluated in consultation with the National Marine Fisheries Service and the Pacific Fishery Management Council. In addition, members of the Groundfish Management Team (GMT) and the Scientific and Statistical Committee (SSC) prepared and reviewed portions of the analyses and provided technical advice during the development of the EIS. Members of Council advisory bodies are listed in rosters available at http://www.pcouncil.org/council-operations/council-and-committees/council-and-committee-rosters/. In addition the following persons were consulted or were involved in reviewing drafts of the document:

- Sarah Biegel, NMFS NWR, NEPA Coordinator
- Ryan Couch, NOAA GC, Attorney
- Kevin Duffy, NMFS NWR, Groundfish Section
- Mariam McCall, NOAA GC, Attorney
- Sarah Williams, NMFS NWR, Groundfish Section
- Becky Renko, NMFS NWR, Groundfish Section
- Others TBD

6.5 DEIS Distribution List

The Council makes the EIS available on its website so anyone with computer access may download a copy of the document. Electronic copies on CD-ROM and paper copies are made available upon request. The Council distributes a notice of availability for the EIS through its electronic mail 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 EIS to the following agencies:

- Department of Interior,
- Department of State,
- U.S. Coast Guard Commander Pacific Area,
- Marine Mammal Commission,
- Pacific States Marine Fisheries Commission, and
- Environmental Protection Agency.

As part of the review process for consistency with applicable laws such as the CZMA, NMFS also distributes the EIS to the following coastal states and agencies:

- Washington Coastal Zone Management Program, Shoreline Environmental Assistance, Department of Ecology, Washington State;
- Ocean-Coastal Management Program, Department of Land Conservation and Development, State of Oregon; and
- California Coastal Commission.

Members of the public may also request to be on the distribution list. The following individuals have requested copies of the EIS:

TBD

In addition, a Notice of Availability of the DEIS is also published in the *Federal Register*. The DEIS is available for a 45-day public comment period. During this time, any member of the public may call the Council office and request a copy of the DEIS for their review.
6.6 Addressing NEPA in Subsequent Biennial Cycles

The adoption and adjustment of regulations for managing the groundfish fishery (including harvest specifications and management measures) is an ongoing, adaptive process. Changes in the type and intensity of environmental impacts tend not to differ substantially from one period to the next. With this view in mind this EIS evaluates the impacts of the ongoing action over a longer time period than 2 years. Biennial changes to the management program may then be subject to more focused analyses, as described below based on Council on Environmental Quality (CEQ) guidelines for supplementing and/or tiering from a previously prepared NEPA document.

When harvest specifications (and related management measures) are periodically adjusted, NMFS will determine whether to supplement this EIS or prepare a tiered NEPA analysis. These methods and the circumstances where they could be applied are discussed below.

CEQ regulations identify two conditions that trigger the need to “supplement” a NEPA document: (1) Has the agency made substantial changes in the proposed action that are relevant to environmental concerns?; (2) Are there significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts? (See 40 CFR 1502.9(c)(1)). If the answer to these questions is “no,” then no additional NEPA analysis is needed. The rationale for the agency’s “no” finding must be adequately documented in the administrative record. Agencies, including NMFS, have used a “supplemental information report” (SIR) format to document these findings. Circumstances where this EIS would be supplemented could arise if the Council makes substantial changes to harvest policies, such as changing proxy values for F_{MSY} or adopting several new rebuilding plans for key stocks.

Alternatively, if circumstances have changed such that additional NEPA documentation may be required, the concept of “tiering,” introduced in CEQ regulations, would be used: “Whenever a broad environmental impact statement has been prepared (such as a program or policy statement) and a subsequent statement or environmental assessment is then prepared on an action included within the entire program or policy (such as a site specific action) the subsequent statement or environmental assessment need only summarize the issues discussed in the broader statement and incorporate discussions from the broader statement by reference and shall concentrate on the issues specific to the subsequent action.” (40 CFR 1502.20) If, when harvest specifications and management measures are periodically adjusted, it is determined that this EIS does not address the environmental impacts of the proposed action, a subsequent tiered NEPA document would be prepared. The tiered NEPA document would be narrowly focused on those aspects of the proposal that may have environmental impacts different from those identified in this EIS. For example, the tiered NEPA document could focus on changes to harvest control rules that were not analyzed in this EIS.
6.7 Administrative Procedure Act

The Administrative Procedures Act, or APA, governs the Federal regulatory process and establishes standards for judicial review of Federal regulatory activities. Most Federal rulemaking, including regulations promulgated pursuant to the MSA, are considered “informal,” which is determined by the controlling legislation. Provisions at 5 U.S.C. 553 establish rulemaking procedures applicable to the proposed action. Section 6.2 in the Groundfish FMP (PFMC 2011) specifies that biennial harvest specifications and management measures require ‘full notice-and-comment rulemaking’ to implement the regulations necessary to implement the Council recommendation. The rulemaking associated with this proposed action will be conducted in accordance with the APA and procedures identified in section 304 of the MSA.

6.8 Additional Laws and Executive Orders Applicable to the Proposed Action

In addition to the Magnuson-Stevens Act (see Chapter 5), the National Environmental Policy Act, and the Administrative Procedure Act there are other laws and Federal Executive Orders that may impose substantive and procedural requirements on the proposed action. These other laws and executive orders are described below.

6.8.1 Coastal Zone Management Act:

Section 307(c)(1) of the Federal Coastal Zone Management Act (CZMA) of 1972 requires all Federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. A determination as to whether the proposed action is 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 will be submitted to the responsible state agencies for review under Section 307(c)(1) of the CZMA. The relationship of the groundfish FMP with 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.

6.8.2 Endangered Species Act

The Endangered Species Act of 1973 (ESA) was signed on December 28, 1973, and provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range, and the conservation of the ecosystems on which they depend. The ESA replaced the Endangered Species Conservation Act of 1969; it has been amended several times.

A “species” is considered endangered if it is in danger of extinction throughout all or a significant portion of its range. A species is considered threatened if it is likely to become an endangered species within the foreseeable future.

Federal agencies are directed, under section 7(a)(1) of the ESA, to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Federal agencies must also consult with NMFS or USFWS, under section 7(a)(2) of the ESA, on activities that may affect a listed species. These interagency consultations, or section 7 consultations, are designed to assist Federal agencies in fulfilling their duty to ensure Federal actions do not jeopardize the continued existence of a species or destroy or adversely modify critical habitat. Should an action be determined to jeopardize a species or result in the destruction or adverse modification of critical habitat, NMFS or USFWS will suggest Reasonable and Prudent Alternatives (RPAs) that would not violate section 7(a)(2).
Biological opinions document whether the Federal action is likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat. Where appropriate, biological opinions provide an exemption for the “take” of listed species while specifying the extent of take allowed, the Reasonable and Prudent Measures (RPMs) necessary to minimize impacts from the Federal action, and the Terms and Conditions with which the action agency must comply.

This section will be updated with finding from the most recent BiOps.

6.8.3 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, porpoise, as well as seals, sea lions, and fur seals; while 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, and California-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.

Pursuant to the MMPA, the List of Fisheries (LOF) classifies U.S. commercial fisheries into one of three Categories according to the level of incidental mortality or serious injury of marine mammals:

I. frequent incidental mortality or serious injury of marine mammals
II. occasional incidental mortality or serious injury of marine mammals
III. remote likelihood of/no known incidental mortality or serious injury of marine mammals

The Marine Mammal Protection Act (MMPA) mandates that each fishery be classified by the level of serious injury and mortality of marine mammals that occurs incidental to each fishery is reported in the annual Marine Mammal Stock Assessment Reports for each stock. On the 2012 List of Fisheries the WA/OR/CA sablefish pot fishery is listed as a category II fishery due to interactions with humpback whales. All other west coast groundfish fisheries are listed as category III fisheries. ([See http://www.nmfs.noaa.gov/pr/interactions/lof/final2012.htm.](http://www.nmfs.noaa.gov/pr/interactions/lof/final2012.htm) [update with Final 2013 LOF when available.])

Commercial fishing vessels participating in Category I or II fisheries must be covered by a Federal permit under the MMPA. For most fisheries, including all west coast fisheries, a blanket permit is issued for all Federal or state permits authorizing participation in the fishery.

6.8.4 Migratory Bird Treaty Act

The MBTA of 1918 was designed to end the commercial trade of migratory birds and their feathers that, by the early years of the 20th century, had diminished the populations of many native bird species. The MBTA states that it is unlawful to take, kill, or possess migratory birds and their parts (including eggs, nests, and feathers) and is a shared agreement between the United States, Canada, Japan, Mexico, and Russia to protect a common migratory bird resource. The MBTA prohibits the directed take of seabirds, but the incidental take of seabirds does occur.
6.8.5 Paperwork Reduction Act

The Paperwork Reduction Act requires that agency information collections minimize duplication and burden on the public, have practical utility, and support the proper performance of the agency's mission.

6.8.6 Regulatory Flexibility Act

The Regulatory Flexibility Act 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 if it has annual receipts not in excess of $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 not in excess of $6.5 million. If the projected impact of the regulation exceeds $100 million, it may be subject to additional scrutiny by the Office of Management and Budget.

6.8.7 Executive Order12866 (Regulatory Impact Review)

EO 12866, Regulatory Planning and Review, covers a variety of regulatory policy considerations and establishes procedural requirements for analysis of the benefits and costs of regulatory actions. It directs agencies to choose those approaches that maximize net benefits to society, unless a statute requires another regulatory approach. The agency must 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 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. NMFS requires the preparation of a regulatory impact review (RIR) for all regulatory actions of public interest. The purpose of the analysis is to ensure 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.

6.8.8 Executive Order 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 Section 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.

6.8.9 Executive Order 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.”

6.8.10 Executive Order 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. In 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’ U and A fishing areas (described at 50 CFR 660.324). Each of the treaty tribes has the discretion to administer their fisheries and to establish their own policies to achieve program objectives.

6.8.11 Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds)

EO 13186 supplements the MBTA (above) by requiring Federal agencies to work with the USFWS to develop memoranda of agreement to conserve migratory birds. NMFS is in the process of implementing a memorandum of understanding. The protocols developed by this consultation will guide agency regulatory actions and policy decisions in order to address this conservation goal. The EO also directs agencies to evaluate the effects of their actions on migratory birds in environmental documents prepared pursuant to the NEPA.

6.9 Findings

The Council process and this EIS are intended, where possible, to meet the public involvement requirements and provide the information and analysis necessary to address the mandates described above. Mandates that require additional analysis, documentation, and process not met through NEPA are discussed in section 6.10 below. The information and analysis in this EIS supports the following findings with respect to other applicable law.

Coastal Zone Management Act: Harvest specifications and management measures for 2015-2016 are not expected to affect any state’s coastal management program.

ESA: NMFS and USFWS conducted a section 7 consultations to determine whether activities authorized under groundfish regulations in 2013 and subsequent years are likely to jeopardize the continued existence of any species listed under the ESA. Findings (Incidental Take Statements, Reasonable and Prudent Measures, etc.) are summarized here.

Marine Mammal Protection Act: Section 4.x describes new information about the incidental take of marine mammals and section 4.x assesses the effects of the proposed action on marine mammals. Although the operation of groundfish fisheries may differ from previous management cycles there is
Draft Annotated Outline

insufficient information to predict whether the effects on marine mammals will differ from previous management cycles.

Migratory Bird Treaty Act: The proposed action is unlikely to cause the incidental take of seabirds protected by the Migratory Bird Treaty Act to differ substantially from levels in previous years. Past EISs evaluating the impact of groundfish harvest specifications (PFMC 2006; PFMC 2008; PFMC and NMFS 2011) evaluated impacts to seabirds and concluded that the proposed action will not significantly impact seabirds. (Section 4.x evaluated impacts of the proposed action on protected species)

Paperwork Reduction Act: The proposed action, as implemented by any of the alternatives considered in this EIS, does not require collection-of-information subject to the Paperwork Reduction Act.

Executive Order 12898 (Environmental Justice): The proposed action will not result in disproportionate adverse impacts to low income and minority communities (see section 4.x).

Executive Order 13132 (Federalism): The proposed action does not have federalism implications subject to EO 13132.

Executive Order 13175 (Consultation and Coordination with Indian Tribal Government): Harvest specifications and management measures for 2015-2016 have been developed in consultation with the affected tribe(s) and, insofar as possible, with tribal consensus.

Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds): See the finding for the Migratory Bird Treaty Act, above.

6.10 Mandates Addressed Through Separate or Parallel Processes

6.10.1 ESA

NMFS Northwest Region Sustainable Fisheries Division consulted with the Protected Resources Division and with the USFWS pursuant to section 7(a)(2) of the ESA on the effects of the operation of the Pacific coast groundfish fishery in 2013 and subsequent years. Outcomes implemented outside of the biennial harvest specifications process are summarized here.

6.10.2 Executive Order 12866 (Regulatory Impact Review) and the Regulatory Flexibility Act

NMFS develops the necessary analysis and documentation needed to address these mandates as part of the Federal rulemaking process implementing groundfish harvest specifications and management measures. These analyses rely substantially on the contents of this EIS and the socioeconomic impact evaluation in Chapter 4 and baseline information in Chapter 3, which have been developed in conjunction with NMFS NWR staff to provide information needed for the Regulatory Impact Review and Regulatory Flexibility Act analyses.
7 Literature Cited


