

1.0 INTRODUCTION

1.1 *How This Amendment is Organized*

This document provides background information about and analysis of changes to the Pacific Coast Groundfish Fishery Management Plan (FMP) incorporated as Amendment 16-3. The actual changes, or amended parts of the plan, will appear in the final environmental impact statement (FEIS) as Appendix D. The Pacific Fishery Management Council (Council) prepared this document in collaboration with the National Marine Fisheries Service (NMFS) Northwest Regional Office. The Council is one of eight regional Fishery Management Councils providing management recommendations to NMFS, which then implements these recommendations through federal regulations as appropriate. The Pacific Fishery Management Council is responsible for fisheries occurring in federal waters off the U.S. West Coast (see Appendix A, Figure 1-6). Each Council draws its membership from constituent states; in addition to Washington, Oregon, and California, Idaho is also a member of the Pacific Council because salmon, managed by the Council under a different FMP, return to rivers in Idaho to spawn.

This document is the third in a series of amendments numbered Amendments 16-1, 16-2, and 16-3. Amendment 16-1, approved on November 14, 2003, establishes a framework for the adoption of rebuilding plans for overfished species. Amendment 16-2, approved on January 30, 2004, adopted rebuilding plans for darkblotched rockfish, Pacific ocean perch (POP), lingcod, and canary rockfish. This amendment adopts rebuilding plans for bocaccio, cowcod, widow rockfish, and yelloweye rockfish. Adopted plans are implemented through the framework contained in Amendment 16-1.

FMPs, and any amendments to them, must conform to the Magnuson-Stevens Act (MSA), the principal legislation governing fishery management within the Exclusive Economic Zone (EEZ), which extends from the outer boundary of the territorial sea to a distance of 200 nautical miles from shore. In addition to addressing MSA mandates, this document is an EIS, pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended. According to NEPA (Sec. 102(2)(C)), any “major federal action significantly affecting the quality of the human environment” must be evaluated in an EIS. Based on a preliminary determination by Council and NMFS staff, adopting these four rebuilding plans may have significant impacts. Therefore, rather than preparing an environmental assessment (EA), which provides “sufficient evidence and analysis for determining whether to prepare an environmental impact statement,” NMFS and the Council have decided to proceed directly to preparation of an EIS. This EIS also contains information and analyses relevant to the Regulatory Flexibility Act (RFA) and Executive Order (EO) 12866 (Regulatory Impact Review or RIR). These mandates require agencies to evaluate the economic impact of regulatory actions, especially on small entities.

Federal regulations (40 CFR 1502.9) require agencies to prepare and circulate a draft EIS (DEIS), which “must fulfill and satisfy to the fullest extent possible the requirements established for final statements in Section 102(2)(C) of the Act” (i.e., NEPA). Agency guidelines (NOAA Administrative Order 216-6.5.01.b.1(i)) stipulate a minimum 45-day public comment period on the DEIS. At the end of this period a final EIS (FEIS) is prepared, responding to comments and revising the document accordingly. After the EIS is completed, a 30-day “cooling off” period ensues before the responsible official may sign a record of decision (ROD) and implement the proposed action. NMFS and the Council are under a court-mandated deadline of September 15, 2004, to sign the ROD for this EIS, signaling implementation of the rebuilding plans. In order to meet this deadline, in concert with the Council meeting schedule and other staff obligations, the DEIS for this action was released on April 2, 2004, in advance of the Council recommending a preferred alternative to NMFS on April 8, 2004, at their April meeting in Sacramento, California. The Council-preferred Alternative, which is based on a combination of strategic rebuilding parameters from the action alternatives in the DEIS, is described in this FEIS. Projected impacts are similar to those described and evaluated in this

DEIS. EPA published a Notice of Availability for the DEIS on April 9, 2004 (69 FR 18897) and the 45-day public comment period ended on May 24, 2004.

Environmental impact analyses have four essential components: a description of the purpose and need for the proposed action, a set of alternatives that represent different ways of accomplishing the proposed action, a description of the human environment affected by the proposed action, and an evaluation of the predicted direct, indirect, and cumulative impacts of the alternatives.^{1/} These elements allow the decisionmaker to look at different approaches to accomplishing a stated goal and understand the likely consequences of each choice or alternative. EISs are commonly organized around four chapters covering each of these topics. This EIS is organized differently; Chapters 1 and 2 cover the purpose and need and describe the alternatives, but the next six chapters focus on parts of the human environment potentially affected by the proposed action. Each of these chapters describes both the baseline environment potentially affected by the proposed action and the predicted impacts of each of the alternatives. Based on this structure, the document is organized in 14 chapters:

- The rest of this chapter, Chapter 1, discusses the reasons for changing the FMP. This description of **purpose and need** defines the scope of the subsequent analysis.
- Chapter 2 outlines different **alternatives** that have been considered to address the purpose and need. The Council will choose one of these alternatives as their preferred alternative, which is recommended to NMFS for adoption as a plan amendment.
- Chapter 3 describes **West Coast marine ecosystems and essential fish habitat (EFH)** potentially affected by the proposed action and discloses the predicted impacts of the alternatives on that segment of the human environment.
- Chapter 4 describes **protected species** potentially affected by the proposed action and discloses the predicted impacts of the alternatives on that segment of the human environment.
- Chapter 5 describes the **Amendment 16-3 overfished species** affected by the proposed action and discloses the predicted impacts of the alternatives on that segment of the human environment.
- Chapter 6 describes **co-occurring fish species** affected by the proposed action and discloses the predicted impacts of the alternatives on that segment of the human environment.
- Chapter 7 describes the **public sector and fisheries management regime** and how the different alternatives would affect these institutions.
- Chapter 8 describes the **socioeconomic environment**, which includes commercial and recreational fisheries and coastal communities in the action area, and how they would be affected by the different alternatives.
- Chapter 9 addresses **additional requirements of NEPA** and implementing regulations, including the identification of any measures that will be implemented to mitigate significant impacts of the proposed action.

1/ Federal regulations at 40 CFR 1502 detail the required contents of an EIS. Although there are several additional components, this list is of the core elements.

- Chapter 10 details how this amendment meets **10 National Standards set forth in the MSA (§301(a)) and groundfish FMP goals and objectives.**
- Chapter 11 provides information on those **laws and EOs**, in addition to the MSA and NEPA, that an amendment must be consistent with, and how this amendment has satisfied those mandates.
- Chapter 12 describes **public comments received** on the DEIS and responses to those comments, including how the EIS was revised in response to those comments.
- Chapters 13, 14, and 15 include required **supporting information**: the list of preparers, who received copies of the document, and the bibliography.

Appendices A through H provide additional supporting information. **Appendix A** is a comprehensive description of the affected environment and supports the descriptions included in Chapters 3 through 8. **Appendix B** reproduces tables first developed for Amendment 16-2 showing the catch of overfished species by different fleet segments and the co-occurrence of target species and overfished species. **Appendix C** describes economic modeling methods used in the analysis. **Appendix D** contains the actual amendment language that will be incorporated into Section 4.5.4 of the Groundfish FMP, summarizing rebuilding plans for the four species that are the subject of this amendment and EIS. **Appendix E** is the bocaccio rebuilding plan. **Appendix F** is the cowcod rebuilding plan. **Appendix G** is the widow rockfish rebuilding plan. **Appendix H** is the yelloweye rockfish rebuilding plan.

1.2 Purpose and Need

1.2.1 The Proposed Action

The proposed action is to implement legally-compliant rebuilding plans, consistent with the framework established in Amendment 16-1, that will set strategic rebuilding parameters to guide stock rebuilding for bocaccio (*Sebastes paucispinis*), cowcod (*S. crameri*), widow rockfish (*S. entomelas*), and yelloweye rockfish (*S. ruberimus*). These rebuilding parameters stem from the MSA and National Standard 1 guidelines (50 CFR 600.310). The most important strategic rebuilding parameters are the time period within which the stock must be rebuilt to the target biomass capable of supporting maximum sustainable yield (MSY) and the harvest control rule that would constrain fishing mortality, so the stock can be rebuilt in that time period. Amendment 16-1, addressing the process and standards for rebuilding plan adoption, states that new management measures intended to achieve these targets may be added to the FMP as part of rebuilding plans. However, no new management measures are proposed in Amendment 16-3 (evaluated in this EIS); instead, management measures implemented through the biennial management process will be used to constrain fishing to the targets identified in the rebuilding plans.

1.2.2 Need (Problems for Resolution)

As of February 2002, the U.S. Secretary of Commerce (Secretary) had declared nine West Coast groundfish stocks overfished. The eight currently overfished species are: bocaccio (*Sebastes paucispinis*), canary rockfish (*S. pinniger*), cowcod (*S. levis*), darkblotched rockfish (*S. crameri*), lingcod (*Ophiodon elongatus*), Pacific ocean perch (*S. alutus*), widow rockfish (*S. entomelas*), and yelloweye rockfish (*S. ruberrimus*).^{2/}

2/ Another West Coast groundfish species, Pacific whiting (*Merluccius productus*), was declared overfished in 2002. However, the most recent whiting stock assessment (Helsler, *et al.* 2004), incorporating new data from the 2003 hydro-acoustic survey, estimates current biomass between 47% and 51% of unfished

These declarations, stemming from MSA requirements, are based on overfishing criteria adopted by the Council under Amendment 11 to the Pacific Coast Groundfish FMP. The MSA (§304(e)(3)) also requires councils to “prepare a fishery management plan, plan amendment, or proposed regulations” in order to prevent overfishing and implement a plan to rebuild the overfished stocks. The Council developed Amendment 12 to specify an effective process for implementing rebuilding plans. This amendment was adopted by the Council in April 2000 and approved by NMFS on December 7, 2000. However, in Federal District Court the Natural Resources Defense Council challenged the legality of the provisions in Amendment 12 related to rebuilding plans,^{3/} based on the MSA and the NEPA. The Court found that the rebuilding plans created in accordance with Amendment 12 did not comply with the MSA because the plans did not take the form of an FMP, FMP amendment, or regulation. Therefore, the Council must specify rebuilding plans as an FMP or regulatory amendment. (Development of a new FMP covering overfished groundfish species is not considered.) Amendment 16-1 establishes a legally-compliant framework for the adoption and implementation of rebuilding plans. This amendment adopts rebuilding plans for four overfished groundfish species, consistent with the framework.

Rebuilding plans are mandated when the size of a stock or stock complex falls below a level described in the FMP as the minimum stock size threshold, or MSST, which is 25% of unfished biomass ($B_{25\%}$) for stocks managed under the groundfish FMP. Diminished stock size may be caused or exacerbated by fishing. Regardless of the cause of the decline, fishing mortality needs to be controlled to prevent further deterioration in the condition of the stock, and if the stock has been overfished, to allow it to rebuild.^{4/} Amendment 11 to the groundfish FMP established the “status determination criteria” (including MSST) that are used to determine whether overfishing is occurring and whether a stock has reached an overfished state. Rebuilding plans specify how an overfished stock will be rebuilt.

The proposed action is needed, because the four groundfish species addressed by this amendment (bocaccio, cowcod, widow rockfish, and yelloweye rockfish) are overfished. National Standard 1 in the MSA requires conservation and management measures that prevent overfishing. Preventing overfishing also means returning stocks to a size capable of achieving MSY, or to a stock size less than this if such stock size results in long-term net benefit to the nation. In order to satisfy this mandate, legally compliant rebuilding plans must be adopted for stocks that have been declared overfished by the Secretary.

1.2.3 Purpose of the Proposed Action

The *purpose* of the proposed action is to rebuild bocaccio, cowcod, widow rockfish, and yelloweye rockfish stocks managed under the Pacific Coast Groundfish FMP to a size capable of supporting MSY, or to a stock size less than this if such stock size results in long-term net benefit to the nation, and according to the requirements of the MSA. The MSA states: “For a fishery that is overfished, any fishery management plan, amendment, or proposed regulations... for such fishery shall... specify a time period for ending overfishing

biomass; the stock is, therefore, not currently overfished. Furthermore, because the 1999 year class was larger than previously estimated, estimates of the 2001 biomass in the current stock assessment range from 27% to 33% of unfished biomass, indicating the stock approached, but never fell below, the $B_{25\%}$ minimum stock size threshold (Whiting STAR Panel 2004). The Council has formally requested NMFS to declare whiting not overfished, removing the requirement to prepare a rebuilding plan and manage the stock accordingly.

- 3/ The amendment also removed FMP provisions that allowed foreign fishing on groundfish stocks. This part of the amendment was not challenged, and these provisions of the FMP stand.
- 4/ But when environmental changes affect the long-term productive capacity of the stock, one or more components of the status determination criteria may be respecified and the need for a reduction in fishing mortality reevaluated (50 CFR Section 600.310).

and rebuilding the fishery...” (Sec. 304(e)(4)). The MSA also states that this time period “shall be as short as possible,” and usually may not exceed 10 years. However, in setting a time period for rebuilding the stock, fishery managers may take into account various mitigating factors, such as the biology of the stock and the needs of fishing communities, such that the time period may exceed 10 years. Rebuilding plans must also take into account variations and contingencies in ecological and environmental conditions that cause MSY biomass to vary over time, which affects the practicable time period for rebuilding the stock. (The next section further describes stock rebuilding requirements.)

1.3 Background

1.3.1 Requirements for Rebuilding Plans

National Standards Guidelines specify how rebuilding should occur and, in particular, establish constraints on Council action (50 CFR 600.310(e)). Rebuilding should bring stocks back to a population size that can support MSY (B_{MSY}). A rebuilding plan must specify a target year (T_{TARGET}) based on the time required for the stock to reach B_{MSY} . This target is bounded by a lower limit (T_{MIN}) defined as the time needed for rebuilding in the absence of fishing (i.e., a zero fishing mortality rate, $F = 0$). Rebuilding plans for stocks with a T_{MIN} less than 10 years must have a target less than or equal to 10 years. If, as is the case with all of the groundfish stocks considered in this amendment, the biology of a particular species dictates a T_{MIN} of 10 years or greater, then the maximum allowable rebuilding time, T_{MAX} , is the rebuilding time in the absence of fishing (T_{MIN}) plus “one mean generation time.” Mean generation time is a measure of the time required for a female to produce a reproductively-active female offspring (Pielou 1977; and especially Restrepo, *et al.* 1998) calculated as the mean age of the net maternity function (product of survivorship and fecundity at age). The MSA states the rebuilding time should be as short as possible, taking into account the status and biology of the overfished stocks and the needs of fishing communities (Sec. 304(e)(A)(i)). All four species considered in this amendment have minimum rebuilding times greater than 10 years, so the target years considered in the alternatives are also greater than T_{MIN} .

Because of the uncertainty surrounding stock assessments and future population trends (due, for example, to variable recruitment), the rebuilding period limits and the target need to be expressed probabilistically. At the outset of the rebuilding period T_{TARGET} should be set so there is at least a 50% probability of achieving B_{MSY} within the T_{MAX} .^{5/} (Probabilities associated with T_{MIN} , T_{TARGET} , and T_{MAX} are discussed in Appendix A, Section 1.1.1.2.)

National Standards Guidelines identify a “mixed-stock complex” exception to the definition of overfishing (50 CFR 600.310(d)(6)), which is applicable to some overfished groundfish species. Different fish assemblages—some with healthy stocks and some with overfished stocks—can co-occur in a mixed-stock complex, and thus, both can be caught simultaneously. An optimum yield (OY) harvest for the healthy stock can result in overfishing the depleted stock. The guidelines allow councils to authorize this type of overfishing if three conditions are met (50 CFR 600.315(d)(6)). First, an FMP (or plan amendment) must assess the overall benefits of such a policy in comparison to other measures, such as reducing the OY for the healthy stock. Second, councils must consider mitigating measures that reduce overfishing by, for example, modifying fishing strategy or gear configuration. The benefits of mitigation must be compared to those determined in the preceding assessment; the measures would only be implemented if they will result in greater benefits. Finally, permitted overfishing cannot result in eventual listing of the species (or evolutionarily

5/ The use of a low bound 50% probability is not specified in regulations; it is the result of litigation (*Natural Resources Defense Council v. Daley*, April 25, 2000, U.S. Court of Appeals for the District of Columbia Circuit).

significant unit thereof) under the Endangered Species Act (ESA). This mixed-stock exception is not considered in formulating rebuilding plans for the four species in this FMP amendment and EIS, reflecting the Council's commitment to stock rebuilding and recognizing efforts that have been made to restructure the management regime to accommodate stock rebuilding.

National Standard Guidelines also distinguish the activity of "overfishing" from the status of a stock characterized as "overfished." Overfishing is defined by the maximum fishing mortality threshold (MFMT); harvest mortality above this limit constitutes overfishing. A stock is considered overfished when its biomass falls below the MSST, which for stocks managed under the groundfish FMP, is defined as $B_{25\%}$ (25% of the unfished biomass). Thus, the MFMT refers to a fishing rate while the MSST refers to a stock size. Although sometimes causing confusion, this distinction is an important one. It can be seen that any combination of these two features may apply to a stock. For example a stock above the MSST may experience overfishing (because the MFMT is being exceeded). Conversely, an overfished stock (biomass below the MSST) may not be experiencing overfishing. In fact, stock rebuilding characterizes this second condition where historical overfishing has caused the stock to become overfished. Although overfishing is no longer occurring, and the stock is rebuilding, the stock is considered overfished until it returns to the target biomass.

1.3.2 Stock Status of the Four Species Considered in this Amendment

1.3.2.1 *Bocaccio Stock Status*

There are two separate West Coast bocaccio populations. The southern stock exists south of Cape Mendocino and the northern stock north of 48° N latitude in northern Washington (off Cape Flattery). Although it is unclear whether this separation results in reproductively separate stocks, assessment scientists and managers have treated the two populations as independent stocks north and south of Cape Mendocino. The southern stock is considered overfished, the northern stock is not.

A 1996 assessment (Ralston, *et al.* 1996) indicated the southern bocaccio stock was in severe decline. NMFS formally declared the stock overfished in March 1999 after the groundfish FMP was amended to incorporate the tenets of the Sustainable Fisheries Act (SFA). MacCall, *et al.* (1999) confirmed the overfished status of bocaccio and estimated spawning output of the southern stock to be 2.1% of its unfished biomass and 5.1% of the MSY level. The northern stock of bocaccio had not been assessed at that time.

The last two assessments—in 2002 and 2003—have produced very different results. The 2002 stock assessment (MacCall and He 2002a) found a slight increase in relative abundance from previous assessments, to 4.8% of unfished biomass, potential productivity appeared lower than previously thought, making for a more pessimistic outlook. Bocaccio have highly variable recruitment; a relatively strong 1999 year class has played a big role in recent assessments. Data used in the 2002 assessment indicated that this year class was much smaller than previously thought, leading scientists to conclude that fewer fish were entering the fishable population, and requiring a downward revision in harvest levels. As a result, the Council established a 2003 OY of 20 mt. (This value was expressed as a ceiling; management measures implemented at the outset of 2003 aimed to keep actual harvest mortality below this level.) Even with this very low harvest level, the rebuilding analysis showed the stock would not rebuild; however, the analysis showed a low probability of further stock decline with this level of fishing mortality.

The data available for the assessment conducted the next year (MacCall 2003b) showed that the 1999 year class was in fact entering the fishable population in large numbers. When combined with a lower estimate of natural mortality, this assessment resulted in a much more optimistic outlook for bocaccio recovery, even with a substantial increase in harvest mortality. After vetting by a stock assessment review (STAR) panel, the assessment presented three different results. (See Section 1.1.1.1 in Appendix A for a description of the

stock assessment review process.) The STAR Panel recommended the use of two assessment models as a means of bracketing uncertainty, because of the differing recruitment information in two data sources: the triennial trawl survey conducted by NMFS and recreational catch per unit effort (CPUE) data, which was computed differently than in previous assessments. Following the STAR Panel meeting, MacCall, the stock assessment author, presented a third “hybrid” model that incorporated the data from all of the indices. The Council’s Scientific and Statistical Committee (SSC) recommended, and the Council approved, the use of this third modeling approach. This resulted in modest improvement in estimated stock size, but significantly affected the estimated productivity of the stock. These results had substantial effects on the rebuilding outlook for bocaccio. The current rebuilding analysis (MacCall 2003a), using the “hybrid” model, suggests the stock could rebuild to B_{MSY} within 25 years while sustaining an OY of approximately 300 metric tons (mt) in 2004 (see Table 2-1).

1.3.2.2 Cowcod Stock Status

While cowcod are not a major component of the groundfish fishery, they are highly desired by both recreational and commercial fishers because of their bright color and large size. The cowcod stock south of Cape Mendocino has experienced a long-term decline. Abundance indices decreased approximately tenfold between the 1960s and the 1990s, based on commercial passenger fishing vessel (CPFV) logs (Butler, *et al.* 1999). Recreational and commercial catch also declined substantially from peaks in the 1970s and 1980s, respectively.

The cowcod stock in the Conception management area (off Southern California) was assessed in 1998 (Butler, *et al.* 1999). Unfished spawning biomass (B_0) was estimated to be 3,370 mt, and 1998 spawning biomass was estimated at 7% of B_0 , well below the 25% overfishing threshold. As a result, NMFS declared cowcod in the Conception and Monterey management areas overfished in January 2000. Large areas off Southern California (the Cowcod Conservation Areas) have been closed to fishing for cowcod. The stock’s low productivity and declined spawning biomass also necessitates an extended rebuilding period, estimated at 62 years with no fishing-related mortality (T_{MIN}), to achieve a 1,350 mt B_{MSY} for the Conception management area.

There is relatively little information about the cowcod stock, and there are major uncertainties in the 1998 assessment, the only one that has been conducted to date. The assessment authors needed to make estimates of early landings based on more recent data and reported total landings of rockfish. Age and size composition of catches are poorly sampled, population structure is unknown, and the assessment was restricted to Southern California waters.

A cowcod rebuilding review was completed in 2003 which validated the assumption that non-retention regulations and area closures have been effective in constraining cowcod fishing mortality (Butler, *et al.* 2003). These encouraging results are based on cowcod fishery-related landings in recreational and commercial fisheries. Discard information from the West Coast Groundfish Observer Program (WCGOP) was unavailable at the time of the review and CPFV observations showed negligible discards. Angler reported discards were not included in the analysis. Non-retention regulations and limited observation data have increased the need for fishery independent population indices. A full stock assessment is scheduled to be conducted in 2005.

1.3.2.3 Widow Rockfish Stock Status

Williams, *et al.* (2000) assessed widow rockfish in 2000. The 2001 spawning output level (8,223 mt) was 23.6% of the unfished level (33,490 mt), based on that assessment and a revised rebuilding analysis (Punt and MacCall 2002) adopted by the Council in June 2001, and the stock was, therefore, declared overfished in

2001. The analysis estimated the minimum rebuilding time (T_{MIN}) was 22 years, and with a mean generation time of 16 years, the maximum allowable time to rebuild (T_{MAX}) is 38 years.

A new assessment for widow rockfish was completed in 2003 (He, *et al.* 2003b). This assessment concluded the widow rockfish stock size is 22.4% of the unfished biomass, but indicates stock productivity is considerably lower than previously thought, although data sparseness was a significant limitation (Conser, *et al.* 2003; He, *et al.* 2003b). Many of the strategic rebuilding parameters for widow rockfish did not change dramatically with the new rebuilding analysis (He, *et al.* 2003a) (also see Table 2-3). The rebuilding period in the absence of fishing increased to 25 years and, with a mean generation time of 16 years, the maximum allowable time to rebuild (T_{MAX}) is 41 years. However, the harvest rate associated with these rebuilding trajectories has dropped significantly, in response to the new understanding of decreased stock productivity. The interim rebuilding OY for 2003 using the 2000 rebuilding analysis was 832 mt. Under the 2003 rebuilding analysis, the OY for 2004 is 284 mt using the base model.

1.3.2.4 Yelloweye Rockfish Stock Status

The first-ever yelloweye rockfish stock assessment was conducted in 2001 (Wallace 2002). The assessment concluded current yelloweye rockfish stock biomass is about 7% of unexploited biomass in Northern California and 13% of unexploited biomass in Oregon. The assessment revealed a thirty-year declining biomass trend in both areas with the last above-average recruitment occurring in the late 1980s. The stock was declared overfished in 2002, because its biomass was well below the MSST. At the same time, it was separated from the rockfish complexes in which it was previously listed. As with the other overfished stocks, yelloweye rockfish harvest is now tracked separately.

In June 2002 the SSC recommended that managers should conduct a new assessment incorporating Washington catch and age data. This recommendation was based on evidence that the biomass distribution of yelloweye rockfish on the West Coast was centered in waters off Washington, and useable data from Washington were available. Based on that advice, the Council asked for a new assessment in the summer of 2002, in advance of a final decision on 2003 management measures. Methot, *et al.* (2002) did the assessment, which was reviewed by a STAR Panel in August 2002. The assessment result was much more optimistic than the one prepared by Wallace (2002), largely due to the incorporation of Washington fishery data. While the overfished status of the stock was confirmed (24% of unfished biomass), Methot, *et al.* (2002) provided evidence of higher stock productivity than originally assumed. The assessment also treated the stock as a coastwide assemblage.

1.3.3 Summary of the Current Management Regime

Interim rebuilding plans and rebuilding analyses have been used since 2000 to guide the Council in deciding annual management measures for overfished groundfish stocks. The four rebuilding plans adopted through Amendment 16-2 provided guidance in developing management measures for 2004. Consistent with the stock rebuilding framework in the groundfish FMP, the harvest control rules (or exploitation rate) for two of these stocks, darkblotched rockfish and POP, were changed in order to rebuild these stocks by the target year with the same probability (P_{MAX}). With adoption and approval of Amendment 17, groundfish management is shifting two a two-year, or biennial, management cycle. The Council is currently developing harvest specifications and management measures for the first biennial management cycle, 2005-2006. These harvest specifications will be consistent with rebuilding plans in both Amendments 16-2 and 16-3 (this amendment). This process accounts for new information from stock assessments and rebuilding analyses, and legal constraints on harvests imposed by the need to rebuild overfished groundfish fisheries. Although the Council has respected these constraints in its decisions to date, NMFS has the authority to reject these decisions because, in the regulatory context, they only represent recommendations to the Secretary.

The Council has typically chosen a risk-averse strategy when deciding on harvest levels for overfished stocks based on recommendations contained in rebuilding analyses and given by the Council's advisory bodies (see Appendix A, Table 2-2 and 2-3). Total mortality has been controlled by reducing trip and landing limits for co-occurring species in select target fisheries, gear restrictions (e.g., the small footrope specification for landing shelf rockfish), seasonal closures (e.g., the recreational groundfish fishery seasons adopted in California), and area closures (e.g., Groundfish Conservation Areas [GCAs], which include the Cowcod Conservation Area [CCA], Rockfish Conservation Area [RCA], and Yelloweye Rockfish Conservation Area [YRCA]).

The actual bycatch (or discard) rate for overfished species, which may differ among the various groundfish fishery sectors, is a critical uncertainty that must be addressed if effective measures to control total mortality, and thus, achieve rebuilding objectives, are to be adopted. Limited data have been available on which to base these estimates. Therefore, bycatch and discard rate assumptions have been contentious and the focus of some recent legal challenges. However, NMFS implemented an observer program in August 2001, which allows direct observation of commercial bycatch. Bycatch data from this program were first used in 2003 to estimate total mortality of overfished species. As more data become available from a broader range of groundfish fisheries, they are being used to improve bycatch estimates. (Section 1.2.3 in Appendix A discusses bycatch modeling and the use of observer data.) This will promote more informed management decisions and allow managers to more effectively control total mortality of overfished groundfish stocks.

1.3.4 Summary of Litigation over Amendment 12

In January 2000, the Natural Resources Defense Council (NRDC), along with other conservation organizations, challenged the adequacy of Amendment 12 (*Natural Resources Defense Council v. Evans*) in Federal District Court. They claimed that rebuilding plans submitted pursuant to Amendment 12 were inadequate for two reasons. First, they did not take the form of FMPs, plan amendments, or regulations as required by the MSA. Second, rebuilding plans could allow overfishing under the “mixed-stock exception.” The NRDC argued that the overfished species provisions in the SFA demonstrate Congress’s intent to eliminate this exception, so rebuilding plans should not entertain this exception. The Plaintiffs also argued that the EA accompanying Amendment 12 failed to consider a reasonable range of alternatives as required by NEPA. The Court found for the Plaintiffs on the claim that rebuilding measures must conform to the MSA-mandated format of a plan, plan amendment, or regulation and the NEPA-related claim of an inadequate range of alternatives. The Court decided the second MSA-related claim, on the validity of the mixed-stock exception, was not ripe for judicial review because the exception had not yet been applied to Pacific groundfish management. In response to its findings, the Court ordered NMFS to revise Amendment 12, so rebuilding plans accord with MSA and NEPA requirements.

1.3.5 Development of Rebuilding Plan Adoption Strategy

Because of the litigation described above, in late 2001 work began on a new FMP amendment for the rebuilding plan adoption process that would be consistent with the Court's findings. The Council and NMFS published a Notice of Intent (NOI) to prepare an EIS on April 16, 2002 (67 FR 18576). According to this NOI, the EIS would evaluate two sets of alternatives: one set addressing the framework for rebuilding plan adoption (or the “process and standards”) and a second set evaluating different rebuilding strategies that could be adopted as rebuilding plans for overfished species. (These strategies are described in terms of targets and limits, such as T_{TARGET} , T_{MIN} , T_{MAX} , harvest control rules satisfying a given target, and potential management measures to constrain fishing mortality to levels determined by the harvest control rule.) Based on internal discussion, Council staff decided in late 2002 that the process and standards alternatives should be analyzed in a separate environmental document and adopted as Amendment 16-1. Evaluated in an EA, Amendment 16-1 was approved by NMFS on November 14, 2003.

1.3.6 Relationship Between the Contents of Rebuilding Plans and the Contents of this EIS

Section 4.5.3.2 of the Groundfish FMP enumerates the contents of rebuilding plans. Although these components are part of this EIS, they are also presented as separate, concise documents attached in Appendices E through H. These rebuilding plans will also appear in the first Stock Assessment and Fishery Evaluation (SAFE) document, Volume I, published after rebuilding plan adoption and approval by the Secretary. The rebuilding plans are based on material in this EIS, as described below.

The contents of rebuilding plans enumerated in the groundfish FMP are:

1. A description of the biology and status of the overfished stock and fisheries affected by stock rebuilding measures.

Chapter 5 describes the biology and status of the stocks in this Amendment; more in-depth discussion of overfished stocks may be found in Section 2.4.1 of Appendix A. Chapter 8 describes the fisheries affected by stock rebuilding measures; more in-depth discussion may be found in Chapter 6 of Appendix A.

2. A description of how rebuilding parameters for the overfished stock were determined (including any calculations that demonstrate the scientific validity of parameters).

Rebuilding analyses for the overfished species describe how rebuilding parameters are calculated. These analyses are summarized in Chapter 5. The rebuilding analysis documents are available from the Council upon request.

3. Estimates of rebuilding parameters (B_0 , B_{MSY} , T_{MIN} , T_{MAX} , and the probability of reaching target biomass by this date [P_{MAX}], and T_{TARGET}) at the time of rebuilding plan adoption.

B_0 , B_{MSY} , T_{MIN} , T_{MAX} are listed in Tables 2-2 and 2-3 in Appendix A. The values do not differ among the alternatives. Values for P_{MAX} and T_{TARGET} under each alternative are listed in Chapter 2 of this EIS, Tables 2-1 through 2-4.

4. The process, and any applicable standards, that will be used during periodic review to evaluate progress in rebuilding the stock to the target biomass.

FMP Section 4.5.3.5 lists three types of review standards. For the four rebuilding plans considered here, the following review standard will be adopted as part of each rebuilding plan: "The Council, in consultation with the Scientific and Statistical Committee (SSC) and Groundfish Management Team (GMT), will determine on a case-by-case basis whether there has been a significant change in a parameter such that the chosen management target must be revised."

5. Any management measures the Council may wish to specifically describe in the FMP that facilitate stock rebuilding in the specified period. (These measures would be in addition to any existing measures typically implemented through annual or biennial management.)

No new management measures will be adopted as part of these four rebuilding plans. Existing management measures that are part of the FMP framework are used to constrain total fishing mortality to levels consistent with rebuilding targets. However, rebuilding plans describe the types of measures implemented through periodic management and long-term measures such as the CCA and YRCA.

6. Any goals and objectives in addition to, or different from, those listed in the FMP.

No additional goals and objectives are included in these rebuilding plans.

7. Potential or likely allocations among sectors.

Section 8.3 discusses potential allocation among sectors.

8. For fisheries managed under international agreement, a discussion of how the rebuilding plan will reflect traditional participation in the fishery, relative to other nations, by fishermen of the United States.

None of the fisheries catching the overfished stocks considered in this amendment are currently managed under international agreement.

9. Any other information that may be useful to achieve the rebuilding plan's goals and objectives.

Appendix A describes baseline conditions. This information is used, as appropriate, in the rebuilding plans.

1.4 Scoping Summary

1.4.1 Background to Scoping

NEPA requires the public and other agencies be involved in the decision-making process. "Scoping" is an important part of this process. Scoping is designed to provide interested citizens, government officials, and tribes an opportunity to help define the range of issues and alternatives that should be evaluated in the EIS. NEPA regulations stress that agencies should provide public notice of NEPA-related proceedings and hold public hearings whenever appropriate during EIS development (40 CFR 1506.6).

The scoping process is designed to ensure all significant issues are properly identified and fully addressed during the course of the EIS process. The main objectives of the scoping process are to provide stakeholders with a basic understanding of the proposed action, explain where to find additional information about the project, provide a framework for the public to ask questions, raise concerns, identify issues, recommend options other than those being considered by the agency conducting the scoping, and ensure those concerns are included within the scope of the EIS review process.

On September 12, 2003, NMFS and the Council published an NOI in the *Federal Register* announcing their intent to prepare an EIS in accordance with NEPA for Amendment 16-3 to the groundfish FMP. This NOI:

- described a scoping meeting to be held on November 2, 2003;
- identified where additional information about the proposed project could be obtained;
- explained the roles of NMFS and the Council in the EIS and authorization processes;
- presented a brief summary of the history of rebuilding plans; and
- described the alternatives being considered to date by NMFS and the Council for inclusion in the EIS.

Publication of the NOI announced the public and agency scoping comment period, which ended on November 10, 2003.

1.4.2 Council Scoping and Agency NEPA Scoping

The Council process, which is based on stakeholder involvement, encourages public participation and public comment on fishery management proposals during Council, subcommittee, and advisory body meetings. The advisory bodies involved in groundfish management include the Groundfish Management Team (GMT), with representation from state, federal, and tribal fishery scientists; and the Groundfish Advisory Subpanel (GAP), whose members are drawn from the commercial and recreational fishery, processing, and conservation sectors. The Ad Hoc Allocation Committee, a subpanel of the Council, provides advice on allocating harvest opportunity among the various fishery sectors. These opportunities all constitute the broadly defined Council scoping process, not all of which focuses on the scope and content of NEPA analysis. The Council reviewed a scoping document at their November 3-7, 2003 meeting and adopted for analysis the range of alternatives included in this EIS. The Council identified their preferred alternative during their April 4-9 meeting in Sacramento, California after the DEIS was released. A 45-day comment period, during which NMFS accepted written comments ended on May 24, 2004.

In addition, the Council hosted a public scoping meeting on November 2, 2003, at the Hilton Hotel in Del Mar, California specifically for the purpose of getting comments on the scope of the NEPA analyses for rebuilding plan related actions. Ten people attended. The meeting served two purposes: to listen to and record the public's comments about the proposed action and to respond to requests for background information. The Council also received two letters from environmental advocacy groups during the scoping period.

1.4.3 Summary of Scoping Comments Received by the Council

The 10 people attending the public scoping session and the two written comments break down into the following interest group categories:

<u>Comment Source</u>	<u>Number</u>
Government agency	1
Commercial fishing sector	1
Recreational fishing sector	5
Conservation organizations	3
Other	2
TOTAL	12

The number of times an issue is raised during the scoping process provides an indication of the issues that commentors are most concerned about. Scoping also helps agencies eliminate from detailed study issues that are not significant (40 CFR 1501.4(g)).

Table 1-1 summarizes and categorizes the scoping comments. The way in which this EIS addresses issues raised by the comments is discussed below according to the categories listed in Table 1-1.

Accountability: The comments raise the issue of how the Council and NMFS will ensure a rebuilding plan is effectively rebuilding an overfished species. First, periodic stock assessments and rebuilding analyses provide the scientific underpinning for evaluating stock rebuilding. According to the framework, strategic rebuilding parameters may be changed as part of the federal rulemaking process used to establish biennial management measures to ensure adequate process. Second, the MSA directs the Secretary (through NMFS) to review rebuilding plans at least every two years to ensure adequate progress. In addition, through the framework adopted by Amendment 16-1, and as noted above, the Council will also review progress every two years based on standards being developed by the GMT and SSC. This issue has to do with the

framework for adopting and reviewing rebuilding plans, not the rebuilding plans themselves, and is, therefore, outside the scope of this EIS.

Bycatch: The comments recommend measures to reduce bycatch and ask that bycatch rates be evaluated in this EIS. Adopting bycatch reduction measures is outside the scope of this EIS. NMFS released a bycatch mitigation draft programmatic EIS on February 20, 2004 (NMFS 2004b). The Council will identify their preferred alternative for this EIS at their April 2004 meeting. This EIS identifies practicable conservation and management measures to reduce bycatch and bycatch mortality. Thus, there is a parallel decision process for implementing bycatch reduction measures. The issue of bycatch accounting is discussed in Appendix A, Section 1.2.3. Bycatch in different groundfish fishery sectors is discussed in Appendix A, Section 6.4.1.

Closed areas and marine reserves: The comments focus on evaluating the utility and effects of the RCA, a coastwide closed area intended to keep vessels out of depths where overfished species bycatch is highest, and whether to make it a permanent marine reserve. The RCA is a management measure established through the annual (now biennial) management process. As new and better data become available, primarily through the groundfish observer program, the configuration of the RCA has been adjusted to allow fishing opportunity given the constraints of stock rebuilding. Such changes have been, and will continue to be, the subject of NEPA analysis associated with setting harvest specifications and management measures. Although changes to the RCA are not a component of rebuilding plans and are, therefore, outside the scope of this Amendment 16-3 EIS, the Council and NMFS are preparing an EIS to evaluate 2005-2006 specifications and measures.

Cumulative effects: This comment emphasizes the need to evaluate cumulative effects, which are incremental effects of the proposed action “when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions” (40 CFR 1508.7). Chapters 3 through 8 evaluate cumulative impacts on different components of the human environment.

Enforcement: This comment asks that the EIS analyze measures that aid in enforcement. Although enforcement measures are not part of the proposed action, as part of the analysis of impacts to the public sector, enforcement issues are discussed.

Habitat: These comments recommend analyzing the effect of fishing on important habitat and implementing habitat conservation measures as part of the proposed action. Chapter 3 evaluates the impacts of the alternatives on EFH. (Chapter 4 in Appendix A describes fishing and non-fishing impacts to EFH.) However, implementing habitat conservation measures is not considered as part of species rebuilding plans and is outside the scope of the proposed action. NMFS is currently preparing an EIS evaluating the designation of EFH and measures to minimize impacts to such habitat. This concurrent NEPA analysis, scheduled for completion in early 2006, will evaluate habitat conservation measures.

Harvest rates: These comments focus on how harvest rates might change based on increases in stock size. The framework implemented by Amendment 16-1 accounts for the possibility that the harvest rate, which as part of the harvest control rule is a strategic rebuilding parameter, may need to be changed. Such changes can be effected through the same federal rulemaking process used to establish biennial management measures and would be evaluated in the accompanying environmental impact analysis.

Historical factors: These comments recommend the EIS discuss past management and fishing practices to determine what caused overfishing and discuss the harvest history in terms of bycatch levels. Commentors also recommend the evaluation of management measures necessary for rebuilding. In Appendix A, Section 1.2 discusses key management issues, including bycatch; Section 2.2 describes the history of exploitation, and Section 6.4 describes bycatch in different fishery sectors. Chapters 5 and 8 in the main part of the EIS also discuss historical bycatch levels with an accounting by species.

Science and data: The commentor recommends discussing controversy surrounding stock assessment results. In Appendix A, Section 1.1.1.1 describes the stock assessment process while Section 1.2.1 describes some of the problems associated with scientific uncertainty. Controversy is also a factor in the decision to prepare an EIS rather than an EA.

Management measures: The commentor recommended including and evaluating management measures needed to rebuild stocks. As noted above, rebuilding plans establish targets for rebuilding and evaluating rebuilding progress. Management measures are developed and implemented through the biennial management cycle included in the FMP framework. This allows management measures to be regularly adjusted in response to changes in stock status. Harvest levels for overfished species are set according to the targets established in rebuilding plans; management measures are then crafted to keep total fishing mortality within these limits. Fishery monitoring is also an important part of this process, so total mortality is accurately determined. Amending the FMP to include new management measures specifically for the purposes of stock rebuilding is not considered as part of the proposed action because this would be a much less flexible approach; the FMP should provide a comprehensive framework for ongoing and responsive management rather than a detailed specification of management measures for every situation.

Mixed stock exception: This comment argues against the use of the mixed stock exception. The mixed stock exception has not been used by the Council and is not considered for the four species in this amendment.

Monitoring: These comments emphasize the importance of monitoring to effective stock rebuilding and recommend including a discussion of monitoring methods and measures in the EIS. Section 7.1.3 in this EIS discusses management data systems, including catch monitoring. In Appendix A, Section 1.2.3 also discusses current programs to monitor and estimate total fishing mortality. Effective monitoring is crucial to fisheries management, not just stock rebuilding alone. NMFS and the Council are always trying to improve and expand catch monitoring programs, as evidenced by the implementation of the groundfish observer program. As recreational fishing mortality becomes a significant component of total fishing mortality for some stocks, improvements in monitoring programs for these fisheries are being made. Although these efforts are going on in concert with the development and implementation of rebuilding plans, they are not considered a part of the rebuilding plans themselves. Rather, they represent a key component of the overall fishery management program.

Overages: The commentor recommends that when the harvest limit for a particular species is exceeded in a given year, the harvest limit in the succeeding year should be reduced to account for the excess mortality. The harvest level for a species or species group (OY) applies to a single year, and both over or under harvests are not carried over in setting the next year's harvest level. If an OY is exceeded, NMFS and the Council evaluate why it happened and adjust management measures in future years accordingly. Periodic stock assessments account for past catches and serve as the basis for determining future harvest levels.

Recreational fishing: The comments emphasize the importance of rockfish, including overfished species, to recreational fishers. The impacts of different rebuilding plan alternatives on recreational fisheries are evaluated in Sections 8.3.3 and 8.5.3 in this EIS.

Range of alternatives: These comments stress the need to evaluate a sufficiently broad range of alternatives for overfished species. Chapter 2 describes the alternatives. They are structured around different rebuilding probabilities (P_{MAX} values), which also indicate a range of associated target rebuilding years and harvest control rules. For all species, except cowcod, these cover a wide range of values from 60% to 90%. The P_{MAX} 50% value (the minimum permitted by legal precedent) and 100% have been eliminated from detailed consideration because they are not considered reasonable, either in terms of stock rebuilding (50%) or socioeconomic impacts (100%). Cowcod are not well-assessed, but available information indicates that this is a very unproductive stock and rebuilding plans based on either a 55% or 60% P_{MAX} are reasonable. It

would have been preferable to evaluate rebuilding plans for all overfished species in a single impact analysis. However, dividing the adoption process into two amendments allowed better coordination with the availability of new stock assessments.

Social factors: The commentor asks the EIS analyze different outcomes from a maximum harvest level to no harvest at all. As noted above, the range of alternatives covers a broad range of potential outcomes, although the extreme ends of the range—maximum harvest and no fishing—have been eliminated from detailed study because they are considered unreasonable. Alternatives incorporating rebuilding targets based on a 50% P_{MAX} (maximum allowed harvest) and a 100% P_{MAX} (little or no allowed harvest) were evaluated in Amendment 16-2, which adopted rebuilding plans for canary rockfish, darkblotched rockfish, POP, and lingcod. It found that the 100% P_{MAX} alternative would have significant socioeconomic impacts. Although the 50% P_{MAX} was not found to have significant biological impacts, for the Amendment 16-3 species, the Council chose to consider only more risk-averse alternatives (60% P_{MAX} and above), anticipating that analysis would show moderate to severe socioeconomic impacts across the range of alternatives, balanced against the benefits of stock rebuilding.

Other general comments: These comments cover several issues, including recognizing other EISs currently in preparation, evaluating different management policies, using the current management regime as the no action alternative, and adequately analyzing all issues related to overfishing. Although this EIS includes discussion and description of a full range of issues, as noted above, management measures are not part of the proposed action. As in Amendment 16-2, the No Action Alternative is based on the default harvest policy in the absence of interim or adopted rebuilding plans.

1.4.4 Criteria Used to Evaluate the Impacts of the Amendment 16-3 Proposed Action

Implementation of the rebuilding plans for four overfished species will be evaluated based on projected impacts to the components of the human environment listed below. For each of these components the criteria used for measuring direct, indirect, and cumulative impacts are described. These criteria were developed by Council and NMFS staff, based on scoping comments and Council and advisory body discussions.

Habitat and Protected Species

The combined and cumulative effects of implementing multiple rebuilding plans are considered. Impacts to habitat and protected species would correlate with the level and type of fishing activity. Increased fishing activity, particularly bottom trawling, would result in greater impacts to habitat in comparison to a decrease in fishing. Different protected species are affected by a variety of gear types. For example, ESA-listed salmon stocks are caught in midwater trawl fisheries targeting Pacific whiting. Although there are no data for West Coast fisheries, elsewhere longline fisheries hook seabirds during gear deployment. As with habitat, alternatives that allow more fishing effort would result in greater impacts to protected species in comparison to alternatives that result in less fishing effort.

Overfished Species Stocks

Rebuilding analyses provide three metrics that can be used to compare the effect of the alternatives on the four overfished species stocks considered in this EIS. The analyses identify the probability of rebuilding in the maximum permissible time period and the median rebuilding year (or target year) for different harvest levels. The harvest level represents the direct impact. The associated probability of rebuilding in the maximum time period is a measure of the long-term risk that a particular harvest level will not achieve rebuilding. The median rebuilding year is the most likely year by which the stock will be rebuilt and is an

indication of the tradeoff between harvests and how quickly the stock will rebuild. Harvest levels are inversely correlated with the rebuilding time and probability. The alternatives will be evaluated based on these metrics. Alternatives that restrict harvests more have less environmental impacts than alternatives that allow a higher harvest rate.

Co-occurring Species

Co-occurring species include other overfished groundfish stocks whose rebuilding plans are not implemented through this amendment and stocks that are not overfished. Certain overfished species act as constraining stocks in that the level of harvest needed to rebuild them is so low that harvest limits for co-occurring species cannot be reached. Direct and indirect impacts of the alternatives can be compared by considering each of the four overfished species' rebuilding plans separately. Alternatives that require lower harvest limits for the species in question would also limit harvest of co-occurring species, thereby resulting in less environmental impact, while higher harvest limits would result in greater environmental impacts. Because of the constraining effect of rebuilding measures for a given overfished species, combined and cumulative effects also have to be considered. An evaluation of these effects considers the interaction between rebuilding measures for different overfished species. However, the same metric—fishing mortality to co-occurring species—can be used.

The Management Regime

Although not part of the proposed action, management measures will be implemented to ensure total fishing mortality remains at levels necessary to achieve targets incorporated into rebuilding plans. Generally, the range of management measures implemented through the biennial harvest specification process will be used, although new management measures could be identified in the FMP and implemented through future actions. The impacts of the alternatives are evaluated in terms of the types of management measures that may be used. More complicated, controversial, and difficult-to-enforce management measures would impose greater costs in comparison to less complex measures. Impacts to the management regime can also be evaluated in terms of the data needed to both support and evaluate potential management measures. Management measures that are more dependent on precise total catch monitoring will require a higher level of direct observation than is currently in place. Increasing observer coverage would entail more costs.

Commercial Fisheries

Commercial fishery impacts are compared in terms of changes in expected landings, and where possible, exvessel revenue. These socioeconomic impacts are inversely related to biological impacts. Alternatives that limit harvest more, and thereby reduce landings, also reduce exvessel revenue; alternatives that allow higher harvest levels result in comparatively higher exvessel revenue.

Recreational Fisheries

Recreational fishery impacts are evaluated qualitatively based on the change in fishing opportunity as measured by the number of fishing trips that might occur under each alternative. These effects are compared for each overfished species in terms of the impact of rebuilding measures on recreational fishing. Because some species are not caught in recreational fisheries, rebuilding measures for those species would have little effect. Other species, such as bocaccio, are frequently caught, and rebuilding measures would have a greater impact.

Tribal Fisheries

Tribal fishery impacts are qualitatively evaluated based on the degree of change in groundfish landings compared to historical landings. Some treaty fisheries have specific allocations reserved to them, and rebuilding measures could affect the allocations. As with all socioeconomic impacts, alternatives with a lower harvest limit are more likely to affect tribal allocations than those that allow a higher harvest limit.

Buyers, Processors, and Markets

Impacts on buyers and processors correlate closely with changes in landings and associated exvessel revenue. (Exvessel revenue is derived from purchases by this sector.) Alternatives can, thereby, be qualitatively evaluated in a similar fashion. Lower harvest limits would reduce the amount of fish that could be purchased relative to higher harvest limits. Impacts of the alternatives on markets, such as retail outlets and restaurants, can be qualitatively evaluated in terms of the substitutability of other fish products for those that might become unavailable (or become too expensive) as a result of harvest limits. Some groundfish products might be easily substituted, while others—such as live fish sales—may not be.

Fishing Communities

Fishing community impacts represent the aggregate of the socioeconomic impacts described above. Alternatives can be qualitatively evaluated by comparing the alternatives in terms of changes in personal income resulting from changes in groundfish landings. Given the range of these species and how vessels targeting them are distributed by port, there will be geographic differences in community impacts. This evaluation compares these differences, based on the different harvest limits set for different overfished groundfish species under alternative rebuilding plans. Consistent with EO 12898, Environmental Justice, disproportionate adverse impacts to low income and minority populations are also evaluated.

Nonconsumers/Nonusers

Some members of the public benefit from the knowledge that the environment is in a healthy state, even if they are not directly affected by changes in the opportunity to consume, use, or directly enjoy a resource or environmental component. Nonconsumers and nonusers are likely to derive greater benefit if overfished species return to higher population levels more rapidly through more aggressive rebuilding policies. However, data are unavailable to quantify this benefit.

TABLE 1-1. Summary of scoping comments received on Amendments 16-3. (Page 1 of 3)

	Number of comments
Accountability	
The Amendment 16-1 Process and Standards document defers to the individual rebuilding plans for determining adequacy of progress. We want to ensure that this document and 16-2 have mechanisms in them to ensure accountability.	1
If you have a strong recruitment year, it will be very tempting to increase allowable fishing mortality levels instead of banking that recruitment. But if you have a bad recruitment year, what happens in terms of pushing the rebuilding period out? Address these issues and include effective mechanisms for accountability in the rebuilding plans.	1
Bycatch	
Scientists and fishermen should work collaboratively to do research to develop better methods for bycatch reduction.	1
Analyze management measures that reduce bycatch (including bycatch of prey species) - for example, capacity reduction, time and area closures, no-take MPAs, trip or bag limits, mortality caps, and gear modifications.	2
Include a full, species-specific analysis of bycatch and evaluate as alternatives and consider for adoption in the rebuilding plan all potentially practicable bycatch reduction measures.	1
Closed Areas/Marine Reserves/Rockfish Conservation Areas	
As the stocks increase, the harvest increases will occur outside the RCA. Retention of overfished species caught in areas outside the RCA should be allowed in the future. This is the spillover effect in action. The fish inside the RCA will continue to be protected.	1
As the stocks increase, there is tradeoff in terms of management measures. Either the size of RCAs can be reduced or retention of overfished species should be allowed.	1
Analyze the effects of making the RCA a permanent marine protected area. Evaluate how you would approach management in this way.	1
Cumulative Effects	
Analysis of alternatives must include cumulative effects and past, present, and reasonably foreseeable future effects of activities on the environment.	1
Enforcement	
Analyze measures that aid in enforcement, such as vessel monitoring systems.	1
Habitat and Marine Reserves	
Considering habitat is especially important in rebuilding overfished species.	1
Analyze management measures that reduce the adverse impacts of fishing practices on important habitats (including habitat of prey species) - for example, capacity reduction, time and area closures, no-take MPAs, trip or bag limits, gear modifications, and prohibitions on fishing practices that adversely impact important habitats or prey species.	2
Fully analyze habitat needs and existing habitat impacts for each overfished species and consider the full range of alternatives for protecting and enhancing habitat for each species subject to rebuilding.	1
Harvest Rates	
In the past an F20% harvest rate was used, which was reviewed and worked well. But the unexpected shift in environmental regime combined with continued management at this rate caused overfishing problems.	1
How will rebuilding plans take into account that catch rates will increase as the stock increases?	1
There has to be a provision in the rebuilding plan that as an overfished stock gets above a certain level they can be caught and retained.	1

TABLE 1-1. Summary of scoping comments received on Amendments 16-3. (Page 2 of 3)

	Number of comments
Historical Factors	
The EIS should look at the history of how these stocks became overfished. Can we learn anything from the past to determine better ways to manage the fishery?	1
Analyze the extent to which current management systems (including the year-round fishery goal and use of small bimonthly trip limits) have contributed to the overfished status of each species, and consider alternatives that might help rebuild each species faster or more effectively.	1
Include a full analysis of the harvest history of each species, including the amount of fish that have been landed in previous years and the amount believed to have been discarded, and address the effectiveness of management measures in restricting fishing catch to the levels necessary to rebuild these overfished species on the appropriate timeline.	1
Science and Data	
The EIS should discuss and recognize the controversy surrounding stock assessment results.	1
Management Measures for Rebuilding	
Include management measures for achieving rebuilding targets and time periods in Amendment 16-3 and the EIS. Rebuilding plans consisting of a target and rebuilding strategy only fall short of an actual plan to return a species to an applicable management level.	1
Analyze management measures that ensure rebuilding targets are met (i.e. limiting fishing effort via capacity reduction, time and area closures, a network of no-take marine protected areas, trip or bag limits, and caps on total mortality) with accounting systems that ensure annual mortality levels necessary for rebuilding are not exceeded.	2
Analyze measures that account for total mortality and ensure successful rebuilding.	1
Mixed Stock Exception	
We object to the use of the mixed stock exception.	1
Monitoring	
There needs to be a strong monitoring component in the rebuilding plans. If the Council commits to rebuilding plans, they should also commit to making them work.	1
Analyze information sources necessary to track rebuilding progress and ensure annual mortality goals are achieved. If sources are lacking, identify essential data collection elements and methods, such as ways to accurately assess effort, monitor bycatch, identify fishing locations and identify important habitat. Include current efforts in addition to increased observer coverage, use of federal permits or licenses to better estimate effort, use of VMS or other technologies, etc.	1
Overages	
Explore options for proper accounting of annual mortality levels and ways to ensure that any overages are addressed in subsequent annual limits. For example, explore deduction of overage amounts in the subsequent year; percent reduction in annual mortality limits to account for past overages; and establishing firm rebuilding dates that are not revised with subsequent assessments.	2
Recreational Fishing	
In the scoping information document, the discussion of fishing communities is inaccurate in stating that there are alternatives to recreational groundfish. Because recreational fishers show a strong preference for a particular type of fish (e.g., groundfish vs. salmon), they will not necessarily switch if fishing opportunity on one type is eliminated. Also, there may be restrictions on other stocks that limit fishing. This affects both private and CPFV vessels.	1
There are people who "live and die by the rockfish" and will not be replaced. People focus on a particular group of fish by preference.	1

TABLE 1-1. Summary of scoping comments received on Amendments 16-3. (Page 3 of 3)

	Number of comments
Range of Alternatives	
Explore a full range of rebuilding time options with high probabilities of success. Include short and long-term economic and ecological implications.	1
Explore a full range of management measures necessary to ensure a high probability of successfully rebuilding depleted stocks within the rebuilding target time. Analyze measures that will rebuild depleted populations by limiting total mortality to levels consistent with rebuilding targets; that will minimize the incidental catch of a depleted species' prey species; and that will reduce fishing gear impacts on the marine environment - including past, present and reasonably foreseeable adverse impacts of fishing and non-fishing operations on habitat used by depleted species.	1
Include as many overfished groundfish species as possible in the EIS in order to take a holistic approach to rebuilding.	1
Social Factors	
Look at social values from a range of maximizing the amount of cheap fish extracted to not having any fishing and relying only on the non-consumptive value of the resource.	1
Other Comments/General	
Ideally the Council should develop a programmatic ecosystem EIS. In this EIS, the cumulative effects analysis brings in [or should bring in?] other factors in a similar way. Such an analysis would include evaluation of coastal impacts such as development and pollution. Definitely recognize outcomes of the bycatch PEIS and EFH EIS and how they might affect the outcome of rebuilding' species.	1
Discuss different management policies in the EIS. For example, evaluate full retention or how catches should be treated to reduce bycatch.	1
The current management regime should serve as the "no action" or "status quo" alternative.	1
The EIS must fully analyze all issues that are potentially relevant to the species' current overfished condition and to different available strategies for rebuilding the species.	1
Total Comments	39

