

CHAPTER 8 SUMMARY OF OTHER ENVIRONMENTAL MANAGEMENT ISSUES

Federal regulations at 40 CFR 1502.16 require an EIS to compare the environmental impact of the alternatives considered in the analysis. Based on the environmental impacts of the 2009-10 groundfish harvest specifications and management measures disclosed in Chapters 3 through 7, this chapter summarizes these consequences to address the particular concerns of 40 CFR 1502.16. These concerns are an implicit part of the analyses in Chapters 3–7; thus, further detail on impacts can be found in those chapters.

Short-term uses versus long-term productivity. This relationship is central to the management framework, which is intended to allow harvests in 2009–10 (short-term use) at a level that maintains stocks at or returns them to their maximum level of surplus production, MSY (long-term productivity). For the proposed action evaluated in this EIS, the Council’s preferred alternative is intended to allow harvest levels that prevent short-term socio-economic disaster in fishing communities, while rebuilding depleted stocks to the B_{MSY} level as quickly as possible.

Irreversible resource commitments. An irreversible commitment represents some permanent loss of an environmental attribute or service. The use of non-renewable resources is irreversible; unsustainable renewable resource use may be irreversible if future production is permanently reduced or, at the extreme, is extinguished. For all species, ABCs are set at the MSY level, meaning that ABC harvest levels are estimated to be sustainable over time. This action sets OY levels for most species below their ABC levels, although some of the healthier stocks may have ABC equal to OY. These healthy stocks, however, are likely to be harvested well below their MSY levels, since the Council’s preferred alternative curtails fishing on healthy stocks to protect co-occurring depleted stocks. Therefore, the alternatives do not represent an irreversible commitment, because harvest levels and management measures are periodically adjusted in response to new information in order to sustain fishery resources.

Irretrievable resource commitments. A resource is irretrievably committed if its use is lost for time, but is not actually or practically lost permanently. The fish that are harvested represent an irretrievable resource commitment but the OY and management measure alternatives in this EIS are intended to rebuild and sustain the fishery resources.

Energy requirements and conservation potential of the alternatives. The principal effect of the alternatives on energy use is indirect and related to the level of fishing and surveillance activity. Fishing vessels and surveillance assets (ships and airplanes) consume fossil fuels. Fuel consumption is likely to correlate with levels of harvest ultimately permitted under the management regulations. However, there are a variety of other factors that could affect overall energy use and efficient utilization. Changes in fuel prices, for example, could affect the level of fishing vessel operations independent of the constraining effect of management measures under the alternatives.

Urban quality, historic resources, and the design of the built environment. The alternatives have no direct effect on these resources. Over the long term, reductions in personal income as a consequence of more restrictive harvest policies could cumulatively affect private and public investment in coastal communities, including marine-related businesses and port-related infrastructure. These changes could also affect cultural and historic resources as fishing and fishing-dependent activities are supplanted or simply disappear, changing the character of a coastal community.

Possible conflicts between the proposed action and other plans and policies for the affected area. Overfished groundfish species are caught incidentally in fisheries managed under other Council FMPs (salmon, CPS, and HMS). More restrictive measures are likely to affect these fisheries and thus conflict with some of the objectives of these FMPs. (FMPs try to strike a balance between conservation and utilization, so they include objectives related to resource use.)

The following three sections describe unavoidable adverse impacts (as required by 40 CFR 1502.16), mitigation measures (as required by 40 CFR 1502.16(h)), a discussion of the environmentally preferable alternative (as required by 40 CFR 1505.2(b)) and the rationale for the preferred alternative.

8.1 Unavoidable Adverse Impacts

Impacts of the alternatives on the human environment are identified and evaluated in Chapters 3–7 of this EIS. Previous EISs covering groundfish harvest specifications and the adoption of rebuilding plans (PFMC 2004b; PFMC 2004c; PFMC 2006) did not identify significant adverse effects to biological components of the environment; instead, they described the potential risk for such impacts if the proposed actions failed to meet their objectives. The main risk is that, because of scientific uncertainty, stocks may not be managed at or to target biomasses (stock sizes) and fishing mortality rates identified in the management framework. As discussed elsewhere in this document, the need to rebuild depleted species stocks constrains harvests of healthier stocks; in general, the risk of exceeding the OY is greatest for these stocks because the OYs are set at low values. This risk is mitigated by the regular reassessment of depleted species and the periodic re-specification of OYs in accordance with the management framework. Regular stock assessments, which for depleted species are planned as part of each biennial management cycle, reduce uncertainty about the status of the stock while providing new information needed to establish OYs consistent with rebuilding plans. Table 8–1 compares the current targets for these species and those proposed modified under the current proposed action. Targets for other alternatives are discussed in Chapter 4. Four of the seven species—bocaccio, canary rockfish, Pacific ocean perch, and widow rockfish—show an increase in P_{MAX} , an indicator of the likelihood of achieving the target, while the target year is the same or earlier, indicating a lowered risk.¹⁷ The OYs for these species also have been increased, which can ease constraints on accessing target species, improving economic performance of the fisheries. The target year for yelloweye rockfish, one of the most constraining stocks, remains the same while the rebuilding probability is reduced from 80 to 69 percent. The OY for this stock is also reduced substantially, reflecting a more pessimistic outlook from

¹⁷The EA for Amendment 16-1 (PFMC 2003a) includes a discussion of how the P_{MAX} statistic is derived.

the stock assessment. Overall, the risk has increased slightly while both managers and harvesters must adapt to the reduced harvest limit. This part of a longer term effort to apply a constant harvest rate strategy while allowing time for fisheries to adapt to the required lower OYs. Cowcod shows a substantial change in P_{MAX} and an increase in the target year. This change results from a technical correction in the stock assessment and the rebuilding trajectory is similar to that as in the original rebuilding plan adopted as part of Amendment 16-3 (P_{MAX} = 60 percent and T_{TARGET} = 2090). The OY has remained essentially unchanged at 4 mt. The most recent stock assessment for darkblotched rockfish reflects a substantially changed view of the productivity of this stock, resulting in a more pessimistic rebuilding trajectory. The OY was reduced somewhat while avoiding disastrous impacts to fishing communities. The rebuilding probability is reduced, although still at 80 percent, while the target year is further out. Overall, the OYs chosen for the 2009-10 biennium are consistent with long-term rebuilding strategies: they show a high likelihood of rebuilding the stocks within the target period.

Table 8-1. Comparison of current and proposed OYs and rebuilding targets for depleted species.

Species	OY		P_{MAX}		T_{TARGET}	
	2008	Proposed (2009)	Current	Proposed	Current	Proposed
Bocaccio	218	288	78%	89%	2026	2026 ^{a/}
Canary	47	105	55%	75%	2063	2021
Cowcod	4.2	4	91%	66%	2039	2072
Darkblotched	330	285	100%	80%	2011	2028
POP	150	189	93%	94%	2017	2017 ^{a/}
Widow	368	522	95%	100%	2015	2015 ^{a/}
Yelloweye	27	17 ^{b/}	80%	69%	2084	2084

^{a/} Although T_{TARGET} for these stocks remains at current values, the estimate of the median time to rebuild is lower. For bocaccio it is 2023, canary rockfish 2020, POP 2011, and widow rockfish 2009.

^{b/} The yelloweye OY is based on a strategy to ramp down the harvest rate from the 2006 (status quo) harvest rate to a new constant harvest rate strategy in 2011.

There is a potential risk that management measures will fail to constrain total catch of depleted species below their rebuilding-target-associated OYs. Stock characteristics are a factor in the likelihood that such overages would result in significant adverse biological impacts as illustrated by Figure 2-2. For cowcod and yelloweye rockfish in particular the relationship between short-term (2009-10) OYs and estimated target year is flat. Thus, a small incremental increase in total catch (represented by the OY) results in a relatively large delay in the target rebuilding year. The figure for darkblotched rockfish also shows that relatively small changes in current harvest levels lead to a large change in the predicted rebuilding year, especially for harvests above 200 mt. To address the potential risk, the Council-preferred management measure alternative includes a variety of measures to constrain harvests to OYs. These include non-retention of these species in almost all fisheries, implementation of additional YRCAs for recreational fisheries, region-specific recreational harvest guidelines for yelloweye rockfish, bycatch caps for canary rockfish in the whiting fishery, and the requirement of selective flatfish trawl gear north of 40° 10' N. latitude and small footrope gear south of this management line to reduce bycatch of canary rockfish in the bottom trawl sector. Furthermore, additional measures could be applied inseason if available information indicates a likelihood of catches exceeding the OY for these species.

The previously-prepared EISs referenced above also identify potentially significant cumulative socioeconomic impacts because exvessel revenue and related personal income declined dramatically in the period from the mid-1990s to the early 2000s. Fishing opportunity has stabilized at a more modest level in the past few years, and the Council preferred alternative shows increased revenues in comparison to status quo.

8.2 Mitigation

An EIS must discuss “means to mitigate the adverse environmental impacts” stemming from the proposed action (40 CFR 1502.16(h)), even if the adverse impacts are not by themselves significant. No mitigation is proposed, although the preferred alternative is mitigative to the degree that management measures constrain fishing mortality to levels below the OYs. In addition, the management framework itself mitigates impacts because it is adaptive through the application of inseason management measures, which may be automatic actions for regulatory purposes. Most broadly, during the management cycle, the Council responds to new information on actual catch. The GMT uses this information to project total catch for the year for depleted species and, if necessary, propose adjustments to management measures to reduce fishing mortality.

8.3 Rationale for Preferred Alternative

Setting harvest specifications and associated management measures is largely driven by the legal requirement to rebuild depleted species. Because of the resulting constraints imposed on fisheries the risk that other stocks will be subjected to overfishing is minimal. For depleted stocks, the basic approach that guides the adoption of a rebuilding strategy comes from the MSA as reiterated by *Natural Resources Defense Council, Inc., and Oceana, Inc. vs. National Marine Fisheries Service, et al.*, 421 F.3d 872 (9th Cir. 2005): “...a time period for ... rebuilding ... as short as possible, taking into account... the needs of fishing communities...” (MSA §304(e)(4)(A)). As in the 2007-08 groundfish harvest specifications EIS (PFMC 2006), the evaluation of the alternatives considered rebuilding in as short a time as possible, while also taking into account the needs of fishing communities. From a strictly biological perspective, rebuilding in a time period as short as possible equates to rebuilding in the absence of fishing. Considering the OY alternatives, Alternative 1 lists OYs of 0 mt for all depleted species, which equates to the as-short-as-possible/absence-of-fishing standard. This is the alternative that causes the least adverse impacts to the biological and physical environment. However, it would have disastrous economic consequences, because it would result in complete closure of a range of groundfish and nongroundfish fisheries. As a result, it would have significant adverse impacts to fisheries and fishing-dependent communities. In contrast, the Council-preferred alternative was developed to address fully the requirements of MSA §304(e)(4)(A). The strategies and measures adopted under this alternative seek the appropriate balance between stock rebuilding and the needs of fishing communities, based on the Ninth Circuit District Court’s direction and the requirements of National Standard 8 of the MSA. This puts conservation and rebuilding overfished stocks before the needs of fishing communities, but avoids disastrous short-term consequences to those communities:

Conservation and management measures shall, consistent with the conservation requirements of [the MSA] (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.

As discussed above, depleted species OYs were set consistent with rebuilding plans and four of the seven species show substantial improvement in rebuilding trajectories. Cowcod and yelloweye rockfish show continued slow rebuilding while the new assessment shows darkblotched rockfish is a less productive stock than previously thought with rebuilding taking longer, although the Council has reduced the OY in line with this more pessimistic outlook. Table 7–57c shows estimated income impacts under the different management measure alternatives by fishery. The Council-preferred

alternative shows a 22 percent increase in personal income impacts compared to No Action. The Council-preferred alternative, in comparison to No Action, continues current rebuilding strategies for most depleted species with an increase in positive short-term socioeconomic impacts (assuming that the whiting fishery is prosecuted at levels similar to past years). Although, as discussed above, lower OYs and associated management measures bring about less adverse impacts, the Council also considered the needs of fishing communities in selecting its preferred alternative. The cumulative decline in revenue and income over the past decade has been significant. Additional substantial reductions in revenue due to management restrictions would likely have additional significant short-term socioeconomic impacts. The rationale for adopting the preferred alternative is therefore consistent with the requirements of the MSA at §304(e)(4)(A).

