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UNITED STATES DEPARTMENT OF COMMERCE  
Office of the Under Secretary for  
Oceans and Atmosphere  
Washington, D.C. 20230

To All Interested Government Agencies and Public Groups: FEB -9 1993

Under the National Environmental Policy Act, an environmental review has been performed on the following action.

TITLE: Environmental Assessment of Amendment 46 to the Fishery Management Plan for Groundfish of the Gulf of Alaska

LOCATION: Exclusive Economic Zone of the Gulf of Alaska off Alaska

SUMMARY: Amendment 46 would transfer the management of black and blue rockfish to the State of Alaska by removing both species for the fishery management plan. This transfer would allow the State of Alaska to extend its management authority for its registered vessels harvesting black and blue rockfish into Federal waters and would result in more effective conservation measures in both nearshore and offshore areas.

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The environmental review process led us to conclude that this action will not have a significant impact on the environment. Therefore, an environmental impact statement was not prepared. A copy of the finding of no significant impact, including the environmental assessment, is enclosed for your information. Also, please send one copy of your comments to me in Room 5805, PSP, U.S. Department of Commerce, Washington, D.C. 20230.

Sincerely,

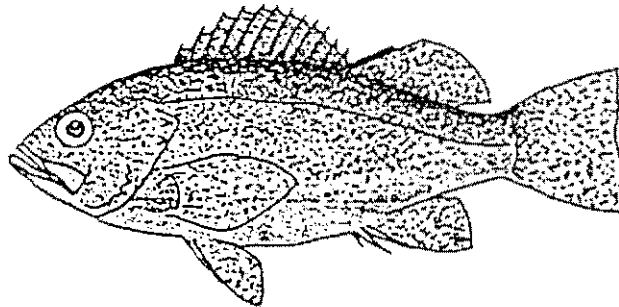
*Susan Tucker*

Acting NEPA Coordinator

Enclosure



ENVIRONMENTAL ASSESSMENT/REGULATORY IMPACT REVIEW  
FOR  
AMENDMENT 46 TO THE FISHERY MANAGEMENT PLAN FOR  
THE GROUND FISH FISHERY OF THE GULF OF ALASKA  
TO  
REVISE MANAGEMENT AUTHORITY OF PELAGIC SHELF ROCKFISH



Prepared by

Staff  
North Pacific Fishery Management Council  
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January 1998

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## EXECUTIVE SUMMARY

At its June 1997 meeting, the Council approved Alternative 3 as its preferred alternative. This action would remove black and blue rockfishes from the Gulf of Alaska FMP. The State of Alaska would then assume management of those species. During the final specification process for setting 1997 total allowable catches at the December 1996 meeting, the Council separated the Gulf of Alaska PSR assemblage into a nearshore component of black and blue rockfishes and an offshore component of dusky, widow, and yellowtail rockfishes for the Central Gulf only.

The EA/RIR for Amendment 46 to the Gulf of Alaska Fishery Management Plan analyzes the following three alternatives for management authority of black and blue rockfishes in the Gulf of Alaska:

Alternative 1: No action.

Alternative 2: Transfer management authority of black and blue rockfishes in both State and Federal Gulf of Alaska waters to the State of Alaska.

Alternative 3: Remove black and blue rockfishes from the Gulf of Alaska FMP. The State of Alaska would assume management of those species. (Preferred)

The status quo alternative was not recommended by the State of Alaska as it would allow unrestricted fishing of black rockfish while the PSR fishery remained open. Assemblage management is appropriate when species are taken as catch in the same fishery. In this situation, however, the species are largely separated by depth and are targeted by different gears. The large TAC for the PSR group is based on the biomass of offshore dusky rockfish. Status quo would allow this entire TAC to be taken as nearshore black rockfish, likely resulting in localized overfishing. Although the state has the authority to limit fishing in state waters, allowing the adjacent federal waters to remain open negates the effectiveness of this authority. The Council also rejected Alternative 1.

Alternative 2 would transfer management authority of black and blue rockfishes to the State of Alaska through the Alaska Department of Fish and Game (ADF&G), similar to action taken by the Council under Amendment 14 that assigned management authority for demersal shelf rockfish to the State.

Under existing federal regulations, neither NMFS nor ADF&G would have the flexibility necessary to ensure that localized depletion would not occur. Further, it would be difficult to manage in the Central Gulf within the separate federal TAC of 260 mt and its corresponding overfishing level of 340 mt. Nor would the Status Quo or Alternative 2 separate the nearshore rockfish from the PSR assemblage in the Western and Eastern Gulf. Without such action, or the removal of black rockfish from the FMP entirely, neither the State (Alternative 2) or the NMFS (Status Quo) can adequately protect the stock or benefit from available harvest of the inshore complex. The ability to close the offshore component or placing it on bycatch status while leaving open, or closing, the inshore component is a necessary conservation and management tool unresolved by either Status Quo or Alternative 2. In the Western Gulf, the Council's TAC for pelagic shelf rockfish is too high to adequately protect the nearshore black rockfish species. Though the state intends to conservatively manage this species, it will be unable to control harvest rates if a directed federal water PSR fishery occurs.

ADF&G does not support Alternative 2 and has informed the Council that it will not accept limited management authority because: (1) federal delegation under a plan amendment would require additional *unreimbursed activities*; (2) the nearshore PSR fishery is fundamentally different from the Eastern Gulf DSR fishery in that the TAC is available within each federal area. Because black/blue rockfish are highly

territorial and subject to localized depletion, regional managers of ADF&G would subdivide larger federal area quotas down to small local areas, account for bycatch, and manage to assure the health of the local population; (3) there is no biomass estimate for the black or blue rockfishes, and (4) the three ADF&G regional management areas have different fisheries and catch histories and it would be difficult to manage within the TAC in-season. Management under the Federal ABC would: (1) limit the developing black rockfish jig fishery to the average of 75% of the truncated time series of commercial landings for the Central Gulf only; and (2) create the possibility of exceeding the overfishing level for the species given the low level imposed by tier 6 of the federal overfishing standards. It would also place unnecessary, additional manpower and reporting demands on ADF&G to meet federal compliance of delegated management authority. The Council also rejected Alternative 2.

Alternative 3 would withdraw black and blue rockfishes from the Gulf of Alaska FMP entirely. The State of Alaska through ADF&G would assume management authority of these species in the absence of federal management. State management would not be tied to the federal definition of ABC and overfishing levels for black and blue rockfishes, stocks that are essentially unassessed. This would allow a more conservative approach than is currently possible in the Central region while allowing for developing fisheries in the Western and Eastern areas. ADF&G endorses Alternative 3 and has informed the Council it would manage black rockfish and blue rockfish resources on a regional basis. Nearshore rockfish management plans would be prepared by ADF&G staff for the three Gulf state management and reviewed by the Alaska Board of Fisheries. The Gulf of Alaska Plan Team has also recommended Alternative 3. The Council adopted Alternative 3 as its preferred alternative.

## 1.0 INTRODUCTION

The groundfish fisheries in the Exclusive Economic Zone (EEZ) (3 to 200 miles offshore) in the Gulf of Alaska (GOA) are managed under the Fishery Management Plan (FMP) for the Groundfish Fisheries of the Gulf of Alaska. The FMP was developed by the North Pacific Fishery Management Council (Council) under the Magnuson Fishery Conservation and Management Act (Magnuson Act). It was approved by the Secretary of Commerce and became effective in 1978.

Actions taken to amend FMPs or implement other regulations governing the groundfish fisheries must meet the requirements of Federal laws and regulations. In addition to the Magnuson Act, the most important of these are the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), Executive Order (E.O.) 12866, and the Regulatory Flexibility Act (RFA).

NEPA, E.O. 12866 and the RFA require a description of the purpose and need for the proposed action as well as a description of alternative actions which may address the problem. This information is included in Section 1 of this document. Section 2 contains information on the biological and environmental impacts of the alternatives as required by NEPA. Impacts on endangered species and marine mammals are also addressed in this section. Section 3 contains a Regulatory Impact Review (RIR) which addresses the requirements of both E.O. 12866 and the RFA that economic impacts of the alternatives be considered. Section 4 contains a finding of no significant impacts by the proposed action on small businesses in accordance with the Regulatory Flexibility Act.

### 1.1 Purpose of Document

This Environmental Assessment/Regulatory Impact Review (EA/RIR) examines a proposal to improve management of black and blue rockfishes in the Gulf of Alaska. In December 1995, the Council received a groundfish amendment proposal from the Gulf of Alaska (GOA) Groundfish Plan Team to either separate dusky rockfish from the GOA pelagic shelf rockfish assemblage (PSR) and transfer management authority of the remaining species to the State of Alaska or separate black rockfish from the assemblage and transfer authority for its management to the State. At the August 1996 Plan Team meeting, the Team revised the proposed amendment to separate the PSR assemblage into a nearshore component containing black and blue rockfishes and an offshore component containing dusky, widow, and yellowtail rockfishes. During the final specification process for setting 1997 total allowable catches at the December 1996 meeting, the Council separated the Gulf of Alaska PSR assemblage into a nearshore component of black and blue rockfishes and an offshore component of dusky, widow, and yellowtail rockfishes for the Central Gulf only. All five species remain under the PSR assemblage in the Western and Eastern areas until an ABC calculation for the nearshore component in those areas is accepted by the Council.

This analysis was revised after the December 1996 Council meeting to focus on the remaining proposed action to revise the management authority for black and blue rockfishes, either by granting limited authority to the State of Alaska or by removing those species from the FMP. Under the October 1996 reauthorization of the Magnuson-Stevens Act, the State could then assume management authority of these species in the EEZ in the absence of federal management.

### 1.2 Need for Action

The Gulf of Alaska Plan Team had identified two problems with Federal management of the GOA PSR assemblage (Table 1). First, the pelagic shelf rockfish TAC is based on the trawl assessment survey and is representative of the offshore dusky rockfish population. A large proportion of the black and blue rockfish population occur in nearshore reef habitats and therefore not assessed by the triennial trawl survey. Because they are unassessed, it is not possible to attribute a separate harvest

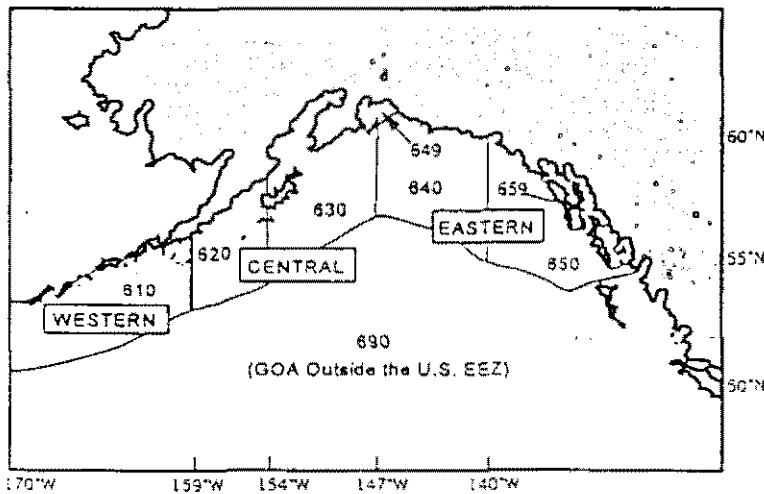
Table 1. Pelagic shelf rockfish assemblage

Black rockfish	<i>Sebastes melanops</i>
Blue rockfish	<i>S. mystinus</i>
Dusky rockfish	<i>S. ciliatus</i>
Widow rockfish	<i>S. entomelas</i>
Yellowtail rockfish	<i>S. flavidus</i>

objective for these two species under federal management guidelines. Nearshore rockfish could be easily overfished by jig fishermen in local areas under the relatively high TAC for the PSR assemblage. While the Alaska Department of Fish and Game (ADF&G) has implemented quotas and harvest closures of individual PSR species in certain areas in State waters, comparable management is not currently possible in adjacent Federal waters due to multi-species management of these species in the assemblage. In past years, the large TAC has never been fully utilized in the Central GOA and results in an essentially unrestricted fishery for black rockfish in Federal waters. Second, the trawl fishery for dusky rockfish in the Eastern and Western Gulf has preempted the developing summer jig fishery for nearshore black rockfish by in these regions (Figure 1). Third, the black rockfish resources are coming under additional fishing pressure that has resulted from the state water cod fishery. Many additional operators have installed mechanical jig machines. Fishing power has increased significantly. Small area guidelines are necessary to prevent localized depletion of this territorial, slow growing, long-lived species. The current management system cannot accommodate this.

Since 1991, the GOA Plan Team has discussed methods to effectively manage the black rockfish fishery to prevent localized depletion in the Central Gulf while allowing controlled development of the black rockfish fishery in the Eastern and Western Gulf. A Plan Team proposal was submitted to the Council during the 1995 groundfish amendment cycle to remove black rockfish, blue rockfish, widow rockfish, and yellowtail rockfish from the PSR assemblage and the FMP, and transfer management of these species to the State of Alaska (Appendix 1). The Council's Scientific and Statistical Committee concurred with prompt development of a plan amendment to address potential overfishing of PSR species for the 1997 groundfish season.

### 1997 REPORTING AREAS OF THE GULF OF ALASKA



In January 1996, the Council initiated an amendment to analyze management alternatives for management of PSR in the Gulf. The draft analysis included alternatives to separate the nearshore and offshore components of PSR and transfer management authority of black and blue rockfishes to the State of Alaska, either by granting limited authority to the State (as has been done for demersal shelf rockfish for Southeast Outside waters under GOA Amendment 14 beginning in 1985) or by removing them entirely from the FMP. During the final specification process for setting

1997 total allowable catches at the December 1996 meeting, the Council separated Alaska regulatory areas.

the Gulf of Alaska PSR assemblage

Figure 1. Gulf of

into a nearshore component of black and blue rockfishes and an offshore component of dusky, widow, and yellowtail rockfishes for the Central Gulf only. The five species are retained under the PSR assemblage in the Western and Eastern Gulf areas. The remaining proposed action to revise management authority of black and blue rockfishes is addressed in this analysis.

### 1.3 Alternatives Considered

#### Alternative 1: No action.

Under the status quo, the Council and National Marine Fisheries Service would retain management authority for black and blue rockfishes in the EEZ. The Council rejected the status quo alternative because it would not offer the resource the management protection required to not exceed ABC or OFL.

#### Alternative 2: Transfer management authority of black and blue rockfishes in both State and Federal waters of the Gulf of Alaska to the State of Alaska.

Alternative 2 would assign management authority for black and blue rockfishes in the Gulf of Alaska to the State of Alaska. Transferring management authority of any groundfish species under a Federal FMP requires a plan amendment. To address similar management problems for demersal shelf rockfish (DSR) in Southeast Alaska, authority was granted to the State of Alaska for DSR management in 1986 under GOA Amendment 14, and clarified under GOA Amendment 21. ADF&G has notified the Council that the agency does not support Alternative 2.

Alternative 2 would require State personnel to comply with additional management processes. Under state management, the field managers, their superiors and headquarters staff must meet state requirements for managing fisheries. This includes agency and public meetings, both local and statewide, preparing documents for the Alaska Board of Fisheries and the public, as well as managing the fishery. Under delegated authority, the state would additionally need to meet federal requirements which are on differing time-frames, such as additional public meetings and reports. This alternative may also place the state in double jeopardy by providing two vehicles for administrative process through which dissatisfied participants can seek to overturn agency decisions. This is unacceptable when the public is demanding "less government at less cost." Nor does the state believe it could meet the costly assessment needs required under a federal plan for the nearshore complex in the near future; though conservation can be assured through conservative management. The Council rejected Alternative 2 because it decided that sole management authority by ADF&G could best address the management needs of black and blue rockfishes.

#### Alternative 3: Remove black and blue rockfishes from the Gulf of Alaska FMP. The State of Alaska would assume management of those species.

Alternative 3 redefines the management authority of the species by withdrawing black and blue rockfishes from the FMP. Removing groundfish species from a Federal FMP requires a plan amendment. Under the 1996 reauthorization of the Magnuson-Stevens Act, State management authority may be extended into Federal waters off Alaska in the absence of Federal management of the species in question. Under Alternative 3, the State of Alaska could assume management authority for black and blue rockfishes. Management plans would be prepared for those species by ADF&G staff for the three Gulf of Alaska state



management and reviewed by the Alaska Board of Fisheries. ADF&G and the Gulf of Alaska Plan Team support Alternative 3. The Council also endorsed Alternative 3 as its preferred management alternative.

#### 1.4 Background

To better provide for long-term resource yield and contain total rockfish harvests at the 68 mt guideline harvest level for each area, the directed rockfish fisheries in both Cook Inlet and Prince William Sound were further limited, beginning in 1996, to accommodate bycatch needs estimated from average annual harvests in previous years. In Cook Inlet, vessel trip limits are 0.5 mt in five consecutive days with no annual harvest limit, but the directed fishery is closed when the outer Kenai Peninsula closes. Around Kodiak, harvest levels are defined as being no greater than 10 percent of the estimated biomass of black rockfish; the annual guideline harvest is 45 mt for Chiniak and Marmot Bays, and 23 mt near Ugak Bay. Upon reaching the annual black rockfish harvest level, bycatch-only restrictions of 20 percent are implemented for the aggregate of all rockfish species. In Southeast Alaska, a 500 mt annual cap exists for all *Sebastes* species not included in the DSR assemblage, which has been managed by ADF&G in the eastern Gulf of Alaska since the mid-1980s. Catch rates, however, are well below this level.

Under current management regimes, a closure of nearshore rockfish fisheries is often followed by a reported shift in effort to pelagic species in adjacent Federal waters. This may represent both misreporting of pelagic catches and/or a targeting of pelagic species managed under an ABC and TAC established for dusky rockfish. Because black rockfish generate the largest component of annual PSR harvests in nearshore waters, (WGOA - 99%, CGOA - 67%, and EGOA - 80% of landings in State waters), adoption of Alternatives 2 or 3 would provide greater conservation measures for black rockfish populations in both nearshore and offshore waters. However, because federal standards for setting ABC and overfishing definitions would apply under Alternative 2, there could be serious implications to other fisheries that land PSR if the overfishing definition is exceeded. Given how low the ABC and overfishing levels would have to be set based on tier 6, this is a distinct possibility. Alternative 3 would provide the best management prospects for the species by allowing local area management by the State.

The Team first recommended assigning a separate ABC for black rockfish in 1991 to prevent possible over-exploitation of this species by the small-boat jig fishery in the Central Gulf (NPFMC 1992). The SSC believed there was inadequate biological information to determine a reasonable estimate of exploitable biomass for black rockfish, which meant that a black rockfish ABC could not be calculated. For the following two years, the Plan Team continued to propose that black rockfish be removed from the PSR assemblage (NPFMC 1992 and 1993). The SSC disagreed, citing a lack of biological information upon which to base an ABC for black rockfish. The Council subsequently did not assign a separate ABC for black rockfish.

The 1993 decline (to 130 mt) in catch from the Central Gulf was apparently due to both economic considerations and regulations implemented for the State water jig fishery. That year, ADF&G established annual harvest guidelines for rockfish in three management districts, constraining the fishery in Prince William Sound, near Kodiak, and along the Kenai Peninsula.

The 1994 black rockfish fishery once more raised the possibility of over-exploitation of this species, particularly in waters off the Kenai Peninsula, and the Team again proposed separating black rockfish from the assemblage. The Team recommended a separate Gulf-wide ABC for black rockfish of 335 mt using an approximate average of estimated catches from 1991-93 in the Central Gulf since assessment information on black rockfish is negligible (NPFMC 1994). Sufficient data on catch distribution did not exist to calculate area apportionments. The Council, however, concurred with the SSC's recommendation to not separate

black rockfish for 1995 and requested that the Team provide an improved ABC estimate that would prevent over-exploitation in both the Eastern and Central Areas.

In 1995, the Team added information to the PSR stock assessment describing the jig fishery and data on maximum age, natural mortality, and year class strength of black rockfish to support the Team's previous recommendation to separate black rockfish from the assemblage. The Team also discussed possible misidentification of "light" dusky rockfish, "dark" dusky rockfish, and black rockfish. The Team noted that localized over-exploitation of black rockfish and other near-shore species continued in the 1995 rockfish jig fishery in the Central area. State waters were closed to commercial rockfish fishing in May 1995 when the annual guideline harvest level was exceeded. Thereafter, reported landings of black rockfish from jig fishing shifted further offshore to Federal waters that were still open for fishing. Those catches comprised part of the relatively large and under-utilized TAC for PSR in the Central area.

In 1996, the SAFE report was further augmented with additional commercial and recreational data for PSR. One strong argument for separating black rockfish from the assemblage is that the low biomass estimate for this species from trawl surveys (Table 2) appears to be a gross underestimate of its true biomass. For example, the 1990 survey showed a biomass for this species of only 18 mt for the Central Regulatory Area (Chirikof and Kodiak areas), whereas an estimated 505 mt of black rockfish were caught there in the 1991 commercial fishery. The majority of black rockfish apparently are schooling fishes that inhabit shallow, rocky areas (AFDF 1981, Rosenthal et al. 1982). These areas usually cannot be sampled using trawls and results in extremely low biomass estimates for black rockfish in the trawl surveys.

Table 2. Biomass estimates for the GOA pelagic shelf rockfish assemblage based on the 1984, 1987, 1990, 1993 and 1996 trawl surveys.

INPFC Areas (mt)

Species	Shumagin	Chirikof	Kodiak	Yakutat	South-eastern	Total
Dusky rockfish	3,843	7,462	4,329	15,126	307	31,068
Yellowtail rockfish	0	0	0	17	454	471
Black rockfish	77	233	0	0	36	346
<u>Blue rockfish</u>	<u>12</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>4</u>
Total, all species	3,632	7,695	4,331	15,143	797	31,899
Dusky rockfish	12,011	4,036	46,005	18,346	1,097	81,494
Widow rockfish	0	0	0	51	96	147
Black rockfish	196	137	693	0	0	1,026
<u>Blue rockfish</u>	<u>1</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>3</u>
Total, all species	12,208	4,174	46,700	18,397	1,193	82,670
Dusky rockfish	2,963	1,233	16,779	5,808	953	27,735
Widow rockfish	0	0	0	285	0	285
Black rockfish	1,677	16	2	67	0	1,761
<u>Blue rockfish</u>	<u>47</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>7</u>
Total, all species	4,687	1,249	16,781	6,160	953	29,828
Dusky rockfish	13,377	12,944	24,966	7,384	1,607	60,278
Yellowtail rockfish	0	9	0	0	0	9
<u>Black rockfish</u>	<u>0</u>	<u>49</u>	<u>97</u>	<u>0</u>	<u>0</u>	<u>146</u>
Total, all species	13,377	13,002	25,063	7,384	1,607	60,433
Light dusky rockfish	<u>3,551</u>	19,235	36,040	14,193	14,779	74,498
<u>Dark dusky rockfish</u>	<u>169</u>	<u>140</u>	<u>58</u>	<u>0</u>	<u>0</u>	<u>367</u>
Subtotal	3,720	19,375	36,098	14,193	14,779	74,865
Widow rockfish	0	10	0	0	919	929
Yellowtail rockfish	0	0	20	0	65	85
<u>Black rockfish</u>	<u>11</u>	<u>0</u>	<u>0</u>	<u>2,285</u>	<u>0</u>	<u>2,296</u>
Total, all species	3,731	19,385	36,118	16,478	2,463	78,175

NMFS catch data for PSR in the GOA caught on hook and line gear can be substituted as an approximation for the jig fishery, although a small portion of these catches may have come from longlines. NMFS data indicate that 379 mt of black rockfish were harvested in 1994, 549 mt in 1995 and 490 mt projected through the end of 1996. The jig fishery harvested a moderate percentage of the total PSR catch, but still much less than the offshore trawl fishery for "light" dusky rockfish. About 75 percent of the 1995 Central Gulf jig catch reported to ADF&G came from the southern Kenai Peninsula, with the remainder from waters near Kodiak Island. The geographic breakdown of the 1994-96 estimates is shown in Table 3.

PSR species composition data from the domestic observer program for the 1991-95 trawl fishery are listed in Table 4. A small portion of these data may also come from longline vessels that carried observers, and could account for some of the black and yellowtail rockfish listed. "Light" dusky rockfish is the predominant catch in the trawl fishery.

Table 3. Estimated black rockfish catch (mt) in the GOA.

Area	1994	1995	1996*
Western	2	40	65
Central	285	419	251
<u>Eastern</u>	<u>92</u>	<u>90</u>	<u>75</u>
Gulf-wide	379	549	391

The Team reaffirmed that it was inappropriate to include dusky rockfish in the same assemblage as nearshore PSR species because: (1) adult dusky rockfish are commonly found on deeper offshore banks; (2) dusky rockfish are caught in trawl fisheries whereas most other rockfish in the assemblage are taken in hook and line fisheries, either as bycatch in the DSR longline fishery or in the directed jig fishery (3) nearshore rockfish inhabit shallower, more inshore areas, over a rougher substrate, and are usually taken in jig fisheries in Alaska.

In August 1996, the Team reviewed the draft EA/RIR and revised their amendment proposal to reflect a more appropriate division of the PSR assemblage into nearshore and offshore components. After review of the revised EA/RIR in November 1996, the Team

Table 4. PSR species composition for 1991-95 trawl fishery.

	Catch (%)				
	1991	1992	1993	1994	1995
"Light" dusky rockfish	86.6	98.5	97.5	98.1	98.8
"Dark" dusky rockfish	0.2	0.3	<0.1	1.2	<0.1
Yellowtail rockfish	4.7	<0.1	0.5	0.1	<0.1
Widow rockfish	1.1	0.8	1.4	0.4	0.8
Black rockfish	7.2	0.2	0.6	0.2	0.3
Blue rockfish	0.1	0.1	<0.1	<0.1	<0.1

selected Alternative 3 as its recommendation to the Council. Alternative 3 would remove black and blue rockfishes from the GOA FMP. The 1996 reauthorization of the Magnuson Act would allow the State of Alaska to expand management of these species into the EEZ in the absence of federal management. The Council separated black and blue rockfishes into a nearshore component in the Central Gulf only.

#### 1.4.1 Status of Stocks

The status of PSR stocks was most recently discussed in the Stock Assessment and Fishery Evaluation (SAFE) Report for the Groundfish Resources of the Gulf of Alaska as Projected for 1997 (NPFMC 1996). The only information available to assess PSR stock condition is derived from the triennial bottom trawl surveys in the Gulf of Alaska conducted in 1984, 1987, 1990, 1993, and 1996 (Figure 2). These surveys provide estimates of biomass for PSR species, but the offshore, light-colored variety of dusky rockfish was the only species caught in substantial quantities. This suggests that of all the species in the assemblage only "light" dusky rockfish may be amenable to assessment using bottom trawls. Trawl surveys only sample those components of the population that are on or near smooth, trawlable bottom; since all PSR species are thought to inhabit the mid-water environment at times, the biomass estimates may underestimate their true abundance. No comprehensive off-bottom surveys of rockfish in the Gulf of Alaska have been conducted.

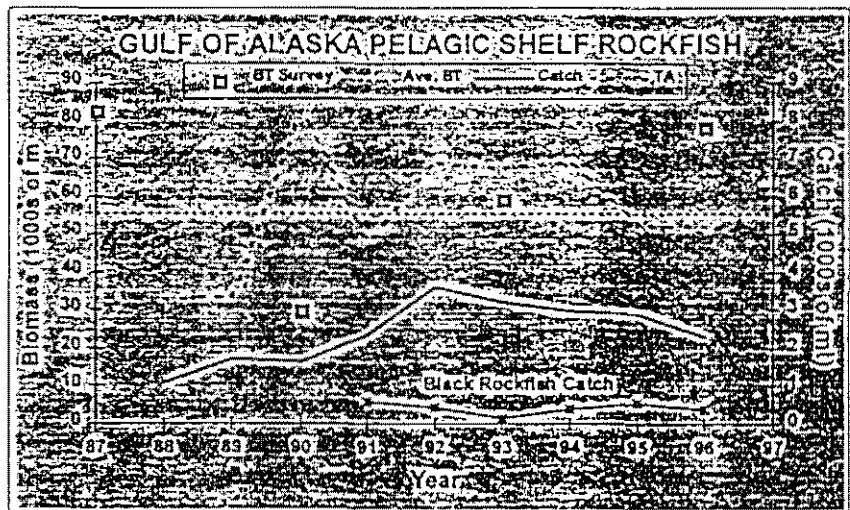


Figure 2. Biomass and catch for PSR assemblage and black rockfish.

Information is not yet available to estimate maximum sustainable yield of PSR in the Gulf of Alaska. As described by Vincent-Lang (1995), rockfish have historically been managed based on sustained yield principles using yield or production models based on relatively short-lived species (< 15 yr) which may not be applicable to long-lived fish such as rockfish. Assemblage management for rockfish was introduced as a reasonable management approach for related species that co-occur and are consequently caught together by non-selective gear. Biomass estimates are not available for all individual species within each rockfish

assemblage and it is assumed that the species are caught proportional to their biomass. This assemblage management approach has failed for black rockfish because the dominant species, "light" dusky rockfish, reside in a different habitat and are harvested by a different gear than black rockfish. Unless the nearshore black rockfish biomass is similar in magnitude to the offshore dusky biomass, this results in a serious potential for overfishing of black rockfish.

The relatively few life history parameters pertinent to stock assessment of PSR in Alaska can be summarized as follows. Only two PSR species, dusky and black rockfish, have been aged in Alaska using the currently accepted break-and-burn method. Age data for black rockfish from a large sport fish sample off the Kenai Peninsula and in Prince William Sound showed a maximum age of only 37 years (Meyer 1992). Likewise, age samples from the Kodiak Island jig fishery in 1993 showed a maximum age, 48 (Urban and Phillips 1994). In an extensive study of black rockfish in Washington state in 1980-93, maximum age was found to be 34 for males and 42 for females (Wallace and Tagart 1994).

There is no published information on age or size of recruitment for any of the pelagic shelf species in Alaska. Dusky rockfish, however, were abundantly caught in the 1987 trawl survey at an age of 7 (Clausen and Heifetz 1991); since nearly all the dusky rockfish caught in this survey were of commercial size, 7 years appears to be a reasonable estimate of age of recruitment in the commercial fishery.

One basic problem in research and assessment of dusky rockfish is its taxonomy. Gulf-wide, dusky rockfish is the most important species in the assemblage. The taxonomy of this species is unclear, and biochemical studies (Seeb 1986) indicate that two distinct species of dusky rockfish likely occur in the Gulf of Alaska: an inshore, shallow water, dark-colored variety; and a lighter-colored variety found in deeper water offshore. No formal reclassification of dusky rockfish, however, has yet been made. Most of the discussion on dusky rockfish in this EA/RIR describes the offshore, light-colored variety, since most information is available from offshore trawl surveys. During the summer of 1996, the NMFS Auke Bay Lab will be working with ADF&G to collect samples from light and dark dusky rockfish, as well as tiger, black, and china rockfishes, for mitochondrial DNA analyses. Until genetic studies clarify the taxonomy of dusky rockfish, both "light" and "dark" dusky rockfish will be managed under the offshore PSR component.

Recent information from ADF&G indicates that perhaps as much as 25% of the fish reported as "black rockfish" caught in the Kenai Peninsula jig fishery over the last several years may actually be "dark" dusky rockfish. The two species often reside together in the same nearshore habitat and are superficially similar in appearance, especially in body color, which may lead to misidentification. In the Kodiak jig fishery for black rockfish in 1993, however, only 2.4% of the commercial catch was reported to be dusky rockfish (Urban and Phillips 1994). In contrast dusky rockfish was reported to comprise 16% of the sport harvest in 1993, with black rockfish contributing 83%.

#### 1.4.2 Description of the Fishery

Commercial and recreational harvests of rockfish have increased as other traditional fisheries have declined (Bechtol 1992, 1995; Vincent-Lang 1995). Limited stock composition data for rockfish have led to in-season closures for commercial fisheries and increasingly restrictive regulations for recreational fisheries. However, heavily exploited nearshore rockfish have shown declines, particularly black rockfish (PSR) and yelloweye rockfish (DSR) (Vincent-Lang 1995). No prohibited species are harvested along with black rockfish. Black rockfish is harvested as a bycatch in the IFQ halibut longline fishery.

##### 1.4.2.1 Commercial Fishery

The most recent description of the commercial fishery is found in the PSR chapter of the 1996 GOA SAFE (NPFMC 1996b). The following summary is excerpted from that chapter. Catch statistics for PSR in the Gulf of Alaska are only available for 1988-96 (Table 5). Prior to 1988, they were classified into another,

larger management group ("other rockfish"), and it is not possible to separate out catches by species. Total catches have been much less than the TAC, indicating the assemblage has been under-utilized by commercial fishermen. Gulf-wide catches generally increased during the period 1988-92, reaching a high of 3,605 mt in 1992. Since then, catches have somewhat declined, totaling 2,989 mt in 1994, 2,891 mt in 1995, and 2,294 mt in 1996.

From 1988 to 1990, more than 95% of the catch was taken in bottom trawls by factory trawlers. Most of this catch was presumably "light" dusky rockfish. Through November 1996, PSR trawl catch totaled 1,870 mt. In 1991, however, a small-boat jig fishery for nearshore black rockfish also developed in the Gulf of Alaska, centered mostly near the town of Kodiak (Urban and Phillips 1994) and along the south shore of the Kenai Peninsula.

This fishery straddles the 3-mile limit and therefore occurs in both State and Federal waters. In the years 1991-95, estimated annual catches in this fishery have ranged between 152 and 569 mt. Central Gulf catches ranged between 130 and 505 mt.

A very small portion of these catches may have come from longlines, in addition to jigs. These data indicate that after a substantial increase to 549 mt Gulf-wide in 1995, the jig fishery so far in 1996 has somewhat declined 391 mt as of October 31, 1996. According to ADF&G catch statistics, about 75% of the Central Gulf jig catch in

1995 was from around the southern Kenai Peninsula, with the remainder from waters near Kodiak Island. Some of the decline in the central Gulf catches in 1996 has apparently been caused by more restrictive regulation by ADF&G of the rockfish fisheries in state waters around the Kenai Peninsula. Currently, the State of Alaska opens the directed rockfish fishery in the Cook Inlet area on January 1; it normally closes prior to July 1 due to attainment of that portion of the 68 mt quota set aside for the directed fishery. The lingcod fishery opens July 1 utilizing jig and to a lesser extent troll gear, which are also the major gear types used in the directed rockfish fishery.

The rockfish bycatch taken in the lingcod fishery can be substantial (ADF&G 1996). In the Central and Westward regions, fishermen are only allowed to keep 20 percent of their total on-board directed fishery catch as bycatch and must discard the remainder. The survival of discarded rockfish is low and results in waste. ADF&G has recently proposed moving the opening date for the directed rockfish fishery to July 1 to coincide with the lingcod fishery and reduce waste and the possibility of exceeding the 68 mt quota (ADF&G 1996). Another proposal would establish a guideline harvest level of 16 mt for lingcod, for State and Federal waters combined, 50 percent of the 5-year average harvest, further limiting rockfish bycatch (ADF&G 1996). A change in the directed rockfish season will accommodate rockfish bycatch needs in non-target fisheries such as Pacific cod and IFQ halibut fisheries by delaying the directed rockfish fishery until a mid-year annual assessment of bycatch impacts is made. A change in the lingcod guideline harvest level

Table 5. Catch (mt) of pelagic shelf rockfish assemblage in the Gulf of Alaska, with Gulf-wide values of acceptable biological catch (ABC) and total allowable catch (TAC), 1988-96.

Year	Fishery category	Regulatory area			Gulf-wide		Gulf-wide ABC
		Western	Central	Eastern	Total		
1988	Foreign	0	0	0	0		
	U.S.	400	517	168	1,085		
	JV	Tr	1	0	1		
	Total	400	518	168	1,086	3,300	3,300
1989	U.S.	113	888	737	1,738	6,600	3,300
1990	U.S.	165	955	527	1,647	8,200	8,200
1991	U.S.	215	1,191	936	2,342	4,800	4,800
1992	U.S.	105	2,622	887	3,605	6,886	6,886
1993	U.S.	238	2,061	894	3,193	6,740	6,740
1994	U.S.	290	1,702	997	2,989	6,890	6,890
1995	U.S.	108	2,247	536	2,891	5,190	5,190
1996	U.S.	181	1,848	265	2,294	5,190	5,190

Note: No foreign or joint venture catches after 1988. Catches in 1988 are landed catches only. Catches in 1989-91 also include fish reported in weekly production reports as discarded by fishermen or processors. Catches in 1992-95 also include discarded fish, as determined through a "blend" of weekly production reports and information from the domestic observer program.

will reduce annual harvests more proportional to historical annual yield and, as a secondary effect, reduce rockfish bycatch removals.

#### 1.4.2.2 Recreational Fishery

The recreational fishery for rockfish occurs primarily in State waters under the management authority of the Alaska Board of Fisheries (Vincent-Lang 1995). Most harvest occurs in Southeast and Southcentral Alaska, with relatively little effort or harvest west of Kodiak Island. Fishing is allowed year-round, but the majority of the recreational harvest occurs from mid-May to mid-September. Most rockfish are taken by anglers targeting halibut, but rockfish are targeted in selected areas and times of year.

Assessment of rockfish populations exploited by the sport fishery is limited. Biological data are collected at major ports in Southcentral Alaska to estimate the age, length, sex, and species composition of the recreational rockfish harvest. Information on effort and harvest by user group and statistical area are also collected. Species composition of the harvest has been estimated for a few ports in Southeast Alaska with creel surveys. Data to assess sustained yields or the current status of stocks are also lacking.

Given limited stock assessment information, susceptibility to overharvest based on life history traits, and documented overharvest in other areas, State management of recreational fisheries is conservative. Bag limits vary by regulatory area. Separate regulations are often established for pelagic and other species to account for differences in relative abundance, productivity, and distribution. Occasionally additional protection is offered specifically to yelloweye rockfish, a highly desirable species. There are no size limits anywhere in State waters.

The limit in Southeast Alaska for pelagic rockfish is 5 per day and 10 in possession. The limit for all other species is 5 per day and 10 in possession, but only 2 per day or 4 in possession may be yelloweye rockfish. In the Ketchikan and Sitka areas, the bag and possession limit for rockfish other than pelagic species is 3 fish, no more than one of which may be a yelloweye rockfish. In Southcentral Alaska, bag limits are usually established for all species combined. In Prince William Sound, the summertime limit for rockfish is 5 per day and 10 in possession, and all rockfish removed from the water must be retained. In North Gulf Coast and Cook Inlet waters the limit is 5 fish per day and 10 in possession, but no more than 1 daily or 2 in possession may be demersal or slope species. The limits in Kodiak and Alaska Peninsula waters are 10 per day and 20 in possession.

ADF&G estimates recreational rockfish harvest through a statewide mail-out survey (Howe et al. 1995). During the period 1977-94, the sport harvest of all rockfishes in Southeast Alaska averaged 36,500 fish and ranged from 9,000 to 57,000 fish (Table 6). Ketchikan area waters account for the largest share of the Southeast Alaska harvest, averaging 37%. Meanwhile, harvest of all species in Southcentral Alaska averaged 42,400 fish, ranging from 22,000 to 71,000 fish (Table 7). Seward accounted for an average of 55% of the Southcentral harvest.

Table 6. Estimated rockfish harvest (number of fish) in the Southeast Alaska recreational fishery (Mills 1991, Howe et al. 1995).

Year	Ketchikan	Prince of Wales Island	Petersburg, Wrangleil, Kake, Stikine	Sitka	Juneau	Haines - Skagway	Glacier Bay	Yakutat	Southeast Alaska Total
1977	834	571	762	3,635	2,996	130	34	0	8,962
1978	6,898	2,504	2,106	2,784	2,169	362	63	0	16,886
1979	8,491	1,882	1,881	8,372	9,627	364	182	182	30,981
1980	18,415	4,968	2,841	8,481	6,724	319	43	0	41,791
1981	20,581	4,544	1,937	11,837	5,649	820	259	44	45,671
1982	21,023	8,027	1,581	13,027	6,141	1,583	168	52	51,602
1983	18,824	12,040	1,008	9,855	7,859	168	409	105	50,268
1984	16,295	5,197	2,265	6,375	5,978	558	85	146	36,899
1985	16,632	4,168	2,663	5,085	4,704	315	472	0	34,039
1986	17,861	9,841	2,106	5,997	4,847	794	78	44	41,568
1987	18,231	9,984	2,525	5,944	4,709	289	307	272	42,261
1988	26,378	8,692	480	9,319	10,224	854	801	91	56,839
1989	17,159	8,955	1,726	6,196	4,638	465	357	8	39,504
1990	9,043	9,062	1,150	3,948	1,881	488	306	81	25,959
1991	8,504	7,200	1,222	4,879	3,408	415	936	264	26,828
1992	9,927	7,968	1,838	6,852	3,532	181	501	414	31,213
1993	6,764	9,589	2,070	6,622	5,717	569	448	251	32,030
1994	11,741	12,122	2,298	13,446	3,271	157	881	490	44,406

Table 7. Estimated rockfish harvest (number of fish) in the Southcentral Alaska recreational fishery (Mills, unpublished data available through ADF&G Anchorage).

Year	Prince William Sound	North Gulf Coast (Seward)	Cook Inlet	Kodiak/ Afognak	Alaska Peninsula	Southcentral Alaska Total
1977	4,401	13,021	1,860	2,810	-	22,092
1978	5,035	18,087	4,332	1,907	-	29,361
1979	11,018	22,281	2,989	3,599	-	39,887
1980	6,174	27,967	1,995	1,489	-	37,625
1981	11,610	19,526	3,575	6,242	421	41,374
1982	5,608	23,032	2,473	3,992	178	35,283
1983	6,514	18,339	4,361	3,252	62	32,528
1984	7,993	22,882	3,603	8,231	1,116	43,825
1985	8,853	17,105	2,723	4,691	199	33,571
1986	9,762	38,660	6,103	4,479	686	59,690
1987	6,563	12,768	3,386	6,501	2,046	31,264
1988	12,711	35,688	9,639	11,369	1,875	71,282
1989	12,919	24,888	4,140	5,070	255	47,272
1990	8,157	18,729	3,208	3,842	2,677	36,613
1991	8,733	19,803	2,819	8,036	1,044	40,435
1992	15,478	28,729	4,537	5,652	914	55,310
1993	12,274	24,978	4,993	7,569	781	50,595
1994	15,382	28,256	5,184	5,019	724	54,565



The recreational harvest is made up of primarily demersal and pelagic shelf rockfishes. At least 20 species are represented in the sport harvest. Species composition, and therefore mean weight, are highly variable among ports and years (Table 8). Pelagic rockfish make up the majority of the harvest at Homer, Seward, and Kodiak most years. During the period 1991-1994, black rockfish accounted for about 40% of the harvest at Sitka, 75% at Seward, 20-40% at Valdez, 33% at Homer, and 75% at Kodiak. In Southcentral Alaska, the mean weight of harvested rockfish (all species combined) ranges from 3.6 to 6.7 pounds among ports and years. The mean weight of black rockfish ranged from 3.6 to 5.5 pounds (Table 9).

Table 8. Species composition of recreational rockfish harvests for Southeast and Southcentral Alaska ports (Vincent-Lang 1991, Meyer 1992, Meyer *in prep.*, Hubartt et al. 1993, 1994, 1995).

Port	Year	Percent of Total Harvest		Percent of Total Harvest	
		Pelagic	Other	Black	Dusky
Sitka	1992	-	-	41	1
	1993	-	-	37	1
	1994	42	58	37	2
Craig/Klawock	1992	-	-	18	-
Ketchikan	1993	-	-	6	1
	1994	7	93	6	1
Petersburg	1994	7	93	7	0
Seward	1991	70	30	68	1
	1992	78	22	76	1
	1993	79	21	72	7
	1994	82	18	79	3
Valdez	1990	20	80	15	5
	1991	39	61	37	3
	1992	41	59	40	1
	1993	20	80	19	1
	1994	40	60	40	0
Homer	1991	40	60	33	7
	1992	65	35	29	36
	1993	54	46	34	19
	1994	60	40	36	23
Whittier	1991	2	98	2	0
Kodiak	1992	99	1	71	28
	1993	99	1	82	17
	1994	99	1	72	27

Table 9. Mean weights (pounds) of rockfish harvested in recreational fisheries in Southcentral Alaska, by port and year (Meyer *in prep.*)

Port	Year	All Species Combined	Black Rockfish
Homer	1991	6.73	4.46
	1992	4.49	4.02
	1993	6.44	4.64
	1994	5.36	4.66
Kodiak	1992	3.60	3.82
	1993	3.57	3.63
	1994	3.83	4.05
Seward	1991	4.90	4.18
	1992	4.35	3.73
	1993	4.20	3.93
	1994	4.38	3.86
Valdez	1991	4.32	5.04
	1992	5.15	5.51
	1993	5.61	5.41
	1994	5.18	5.30

## 2.0 ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES

An environmental assessment (EA) is required by the National Environmental Policy Act of 1969 (NEPA) to determine whether the action considered will result in a significant impact on the human environment. If the action is determined not to be significant based on an analysis of relevant considerations, the EA and resulting finding of no significant impact (FONSI) would be the final environmental documents required by NEPA. An environmental impact statement (EIS) must be prepared for major Federal actions significantly affecting the human environment. An EA must include a brief discussion of the need for the proposal, the alternatives considered, the environmental impacts of the proposed action and alternatives, and a list of document preparers. The purpose and alternatives are discussed in Section 1. Section 2 contains a discussion of the environmental impacts of the alternatives. Section 5 contains the summary and conclusions of the analysis. The list of preparers is in Section 8.

### 2.1 Environmental Impacts of the Alternatives

The environmental impacts generally associated with fishery management actions are effects resulting from (1) harvest of fish stocks which may result in changes in food availability to predators and scavengers, changes in the population structure of target fish stocks, and changes in the marine ecosystem community structure; (2) changes in the physical and biological structure of the marine environment as a result of fishing practices, e.g., effects of gear use and fish processing discards; and (3) entanglement/entrapment of non-target organisms in active or inactive fishing gear.

The Council has recognized the threat of overfishing on black rockfish during its TAC deliberations for the past four years and requested the Gulf of Alaska Plan Team to continue its deliberations. The Plan Team has recommended separation of black rockfish from the assemblage since 1993. Their concerns are summarized in Section 1.2 of this analysis and can be found in greater detail in its meeting minutes and the September and December SAFES for 1993, 1994, 1995, 1996. Of particular concern: the PSR TAC is based on the trawl assessment survey of the offshore dusky rockfish population and nearshore rockfish could be easily overfished by jig fishermen in local areas under the relatively high TAC for the PSR assemblage; the trawl fishery for dusky rockfish in the Eastern and Western Gulf has preempted the developing summer jig fishery for nearshore black rockfish by in these regions; and the black rockfish resources are coming under

additional fishing pressure that has resulted from the state water cod fishery. Small area guidelines are necessary to prevent localized depletion of this territorial, slow growing, long-lived species. Additional background on the Plan Team's recommendation is provided in Section 1.4

The Council separated black and blue rockfishes into a 'nearshore component' for the Central Gulf only during the 1997 TAC specification process. The Scientific and Statistical Committee and the Council did not concur with the Plan Team's methodology for separating nearshore species for the Western and Eastern Gulf. No new data has been collected to enhance the Plan Team's 1996 recommendations.

## 2.2 Impacts on Endangered or Threatened Species

Endangered and threatened species under the ESA that may be present in the Bering Sea include:

<b>Endangered</b>	
Northern right whale	<i>Balaena glacialis</i>
Sei whale	<i>Balaenoptera borealis</i>
Blue whale	<i>Balaenoptera musculus</i>
Fin whale	<i>Balaenoptera physalus</i>
Humpback whale	<i>Megaptera novaeangliae</i>
Sperm whale	<i>Physeter macrocephalus</i>
Snake River sockeye salmon	<i>Oncorhynchus nerka</i>
Short-tailed albatross	<i>Diomedea albatrus</i>
Steller sea lion (western stock)	<i>Eumetopias jubatus</i>
<b>Threatened</b>	
Steller sea lion	<i>Eumetopias jubatus</i>
Snake River spring and summer chinook salmon	<i>Oncorhynchus tshawytscha</i>
Snake River fall chinook salmon	<i>Oncorhynchus tshawytscha</i>
Spectacled eider	<i>Somateria fischeri</i>

None of the alternatives is expected to have a significant impact on endangered or threatened species.

## 2.3 Impacts on Marine Mammals not Listed under the ESA

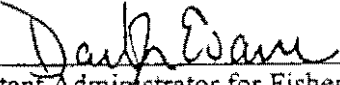
Marine mammals not listed under the ESA that may be present in the GOA include cetaceans, [minke whale (*Balaenoptera acutorostrata*), killer whale (*Orcinus orca*), Dall's porpoise (*Phocoenoides dalli*), harbor porpoise (*Phocoena phocoena*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), and the beaked whales (e.g., *Berardius bairdi* and *Mesoplodon spp.*)] as well as pinnipeds [northern fur seals (*Callorhinus ursinus*), and Pacific harbor seals (*Phoca vitulina*)] and the sea otter (*Enhydra lutris*).

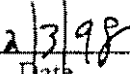
## 2.4 Coastal Zone Management Act

Each of the alternatives would be conducted in a manner consistent, to the maximum extent practicable, with the Alaska Coastal Zone Management Program within the meaning of Section 307(c)(1) of the Coastal Zone Management Act of 1972 and its implementing regulations.

## 2.5 Finding of No Significant Impact

None of the alternatives is likely to significantly affect the quality of the human environment. Preparation of an environmental impact statement for selection of any of the alternatives of the proposed action would not be required by Section 102(2)(C) of the National Environmental Policy Act or its implementing regulations.

  
Assistant Administrator for Fisheries

  
Date

## 3.0 REGULATORY IMPACT REVIEW: ECONOMIC AND SOCIOECONOMIC IMPACTS OF THE ALTERNATIVES

This section provides information about the economic and socioeconomic impacts of the alternatives including identification of the individuals or groups that may be affected by the action, the nature of these impacts, quantification of the economic impacts if possible, and discussion of the trade offs between qualitative and quantitative benefits and costs.

The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following statement from the order:

*In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider. Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environment, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.*

This section also addresses the requirements of both E.O. 12866 and the Regulatory Flexibility Act to provide adequate information to determine whether an action is "significant" under E.O. 12866 or will result in "significant" impacts on small entities under the RFA.

E. O. 12866 requires that the Office of Management and Budget review proposed regulatory programs that are considered to be "significant." A "significant regulatory action" is one that is likely to:

- (1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
- (2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- (3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

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

A regulatory program is "economically significant" if it is likely to result in the effects described above. The RIR is designed to provide information to determine whether the proposed regulation is likely to be "economically significant."

### 3.1 Management Background

This analysis addresses the need for an amendment to revise management authority of the PSR nearshore component by transferring limited authority to the State (Alternative 2) and/or removal of groundfish species from the GOA Groundfish FMP (Alternative 3).

### 3.2 Alternative 1: Status Quo

Alternative 1 would maintain the Council as having primary management responsibility for black and blue rockfishes in the GOA.

### 3.3 Alternative 2: Transfer management authority of black and blue rockfishes in both State and Federal waters of the Gulf of Alaska to the State of Alaska.

Transferring management authority of any groundfish species under a Federal FMP would require a plan amendment. Similar management authority was transferred to the State of Alaska for demersal shelf rockfish (DSR) in 1986 under GOA Amendment 14, and clarified in 1990 under GOA Amendment 21.

The Team has recommended State management of black and blue rockfishes, believing that ADF&G has a greater capability for in-season management of these very small area TAC apportionments under Federal guidelines (Table 10). The black rockfish stock may be very limited and vulnerable to localized depletion at very low harvest levels.

	<u>nearshore</u>	<u>offshore</u>	<u>total</u>
Western			620
Central	260	3,260	3,580
<u>Eastern</u>			<u>1,000</u>
Total	260	3,260	5,200

The Team has suggested that the directed fishery for black rockfish is recent and historic catch averages may not be an appropriate method for setting TAC, as required under the new overfishing guidelines in Amendment 44 (NPFMC 1996a). The recent expansion of the fishery in the Central Gulf might result in a TAC that is unsustainable, while the lack of effort in the Eastern Gulf unnecessarily limits the potential for a developing fishery in that area.

An overfishing limit (OFL) of 340 mt has been recommended for the nearshore rockfish group for the Central Gulf in 1997. Regulations concerning the attainment of an OFL authorize NMFS to close the management area or portions thereof to prevent harvest of the species or species group of concern. Typically, on attainment of an OFL, NMFS closes those Federal waters for which the OFL is specified to those fisheries that take the species that is in danger of being overfished. NMFS, could, however, close a portion of a management area or district, for example, a specified area that encompasses certain depth contours, to prevent the harvest of those species that may have limited and distinct distribution.

A limited area closure may be desirable for the nearshore rockfish group, which occurs in shallower, inshore waters. However, in those cases where a particular fishery, such as the nearshore fishery for black rockfish, straddles the 3-mile limit and, therefore, occurs in State and Federal waters, NMFS does not have the authority to close the State waters to prevent overfishing. Cooperative management between the State and NMFS would be necessary to ensure that a concurrent State water closure occurs when a Federal water closure is implemented. Based on historical data, NMFS might consider closing Federal waters to the jig

and the hook-and-line fisheries in those areas where black and blue rockfishes occur to avoid overfishing of black and blue rockfish species.

ADF&G has informed the Council, however, that limited management authority would not be successful for the nearshore PSR assemblage across three management areas as it has for DSR, where it is confined to only the Southeast management district. Given the low TAC and low Overfishing level the occurrence of simultaneous fishing effort in the three regions could easily result in the overfishing level being reached before total catch was reported.

### 3.4 Alternative 3: Remove black and blue rockfishes from the Gulf of Alaska FMP. The State of Alaska would assume management of those species.

Recent expansion of the fishery in the central region may result in a TAC that is unsustainable. The Council's preferred alternative (Alternative 3) would accrue the most benefits to fishermen and the fishery resource because ADF&G would not be under the same restrictions required under the new Federal guidelines for unassessed populations (tier 6) when setting State harvest guidelines. These restrictions: (1) limit the gulf-wide developing black rockfish jig fishery to the average of 75% of the truncated time series of commercial landings for the Central Gulf only; and (2) create a Central area overfishing level that cannot be adequately monitored by in-season management either by NMFS or ADF&G because of the low area TAC resulting from it.

State management of these species is likely to encourage the development of new survey methodologies for black rockfish, reducing uncertainty regarding the true stock size and sustainable catch levels, and allowing ABCs to be set at levels which are more likely to extract greater long-term economic yield from this resource. ADF&G will conservatively manage this fishery under the 68 mt guideline harvest level with vessel trip limits as described in Section 1.4.1, until the status of those stocks are evaluated.

With expanded authority under the reauthorized Magnuson-Stevens Act in 1996, the State may extend its management authority of black and blue rockfishes into Federal waters upon withdrawal of these species from the Gulf of Alaska Groundfish FMP. Due to the small landings and value in the directed jig fishery and bycatch of landings in the longline fisheries, it is unlikely that any vessel harvesting black or blue rockfishes in federal waters would not be licensed with the State of Alaska and thereby subject to its regulations. An unlicensed vessel would have to land its catch outside Alaska, in either British Columbia, Washington, or Oregon. Additional safety concerns make it further unlikely that vessels in this fishery would not be licensed with the State.

### 3.5 Entities Affected by Preferred Action

In 1996, ADFG fish tickets have recorded 302 vessels harvesting 973,443 lb of black rockfish in 679 landings in the Central, Eastern, and Eastern Gulf of Alaska. These data are reported by area in Table 11. State water landings comprised 67% of Central area landings, 99% of Western area landings, and 80% of Eastern area landings. Landings by gear type and area are reported in Table 12. Jig gear was the predominant contributor of landings in the Western/Central GOA (82%) and Eastern GOA (68%). Black rockfish was also harvested as bycatch in the halibut IFQ longline fishery, producing 25% of black rockfish landings in Southeast.

Table 11. Black rockfish harvest from the Central, Western and Eastern Gulf, 1989-1996.

YEAR	NMFS AREA	VESSELS	LANDINGS	POUNDS*	% STATE WATERS
1989	CENTRAL	29	92	45,313	74%
	WESTERN	1	1	908	0%
	EASTERN	72	142	18,618	75%
1990	CENTRAL	19	47	67,324	6%
	WESTERN	1	1	7	100%
	EASTERN	95	244	24,314	60%
1991	CENTRAL	90	401	981,883	93%
	WESTERN	1	1	27	100%
	EASTERN	102	309	128,528	95%
1992	CENTRAL	112	286	566,768	79%
	WESTERN	0	0	--	
	EASTERN	114	336	58,913	71%
1993	CENTRAL	101	237	256,900	41%
	WESTERN	9	18	155	0%
	EASTERN	97	268	42,713	97%
1994	CENTRAL	105	344	462,809	46%
	WESTERN	0	0	--	
	EASTERN	105	307	92,703	84%
1995	CENTRAL	167	498	772,775	58%
	WESTERN	17	60	120,991	100%
	EASTERN	109	354	111,571	91%
1996	CENTRAL	143	357	596,810	67%
	WESTERN	34	117	308,700	99%
	EASTERN	125	205	67,933	80%
*Total round pounds catch, all gear types				Source: ADF&G fish ticket database	

Table 12. Black rockfish vessels and catch by gear for years 1991-1996.

Central and Western Areas				
GEAR TYPE	# VESSELS	% VESSELS	# POUNDS	% POUNDS
Hand troll	94	10%	377,102	8%
Mechanical Jig	298	31%	4,066,472	82%
Longline (<60' vessel)	117	12%	53,078	1%
Longline (>60'vessel)	402	41%	412,098	8%
Bottom Trawl	38	4%	52,619	1%
Pelagic Trawl	13	1%	432	<1%
Pots (<60' vessel)	4	<1%	2,513	<1%
Pots (>60' vessel)	3	<1%	345	<1%
Eastern Area				
GEAR TYPE	# VESSELS	% VESSELS	# POUNDS	% POUNDS
Hand troll	22	5%	30,877	- 7%
Dinglebar troll	1	<1%	63	<1%
Jigs	134	31%	300,082	68%
Longline <26' vessel	72	17%	8,399	2%
Longline >26' vessel	204	47%	102,920	23%
Ring net	1	<1%	20	<1%
Cautionary note: In-season catch data shown above should be considered very preliminary. Changes may occur daily as data is edited and updated. Data is computed in this form primarily for in-season management use and general catch reporting.				

\*Total round pounds catch, all gear types.

Source: ADF&G fish ticket database

In 1996, price per pound varied between \$0.25 and \$0.40/lb in the longline fishery and between \$0.40 and \$0.60/lb in the directed jig fishery in Southeast. An average price was roughly \$0.35/lb for black rockfish in the Western /Central area. Using \$0.35/lb for Western/Central landings and an average of \$0.40 for Eastern area landings, the 1996 black rockfish fisheries were worth approximately \$344,000.

### 3.6 Socioeconomic Impacts

ADF&G fish ticket data indicate that most PSR are filleted and shipped fresh to the Lower 48, with some product sold to local restaurants. Dusky and black rockfishes have recently sold for \$0.30-.50/lb (round weight), depending on whether landings are from the directed fishery or caught as bycatch. Black rockfish has also recently sold for \$0.80/lb (Eastern cut) in a small market in the Lower 48 (D. Stockel, Sitka Sound Seafoods). Estimated revenues of approximately \$377,000- 630,000 ex-vessel, may be generated under Alternative 2 or 3 to implement a separate TAC for the nearshore PSR jig fishery (based on a nearshore PSR ABC of 600 mt minus 30 mt decrease in offshore PSR TAC). Economic impacts under the preferred alternative would depend on the guideline harvest level set for these species. If the nearshore PSR species are included under the current 68 mt guideline harvest level for rockfish, no additional revenue would be generated.

To fully understand the socioeconomic impacts of transferring management authority of nearshore pelagic shelf rockfish, it is important to know how the State would manage this fishery. State regulatory changes for finfish are considered by the Alaska Board of Fish every other year. To be considered, proposals for specific changes must be submitted prior to a preannounced deadline. The printed proposals are readily available to the public. They are reviewed by the ADF&G staff, the Fish & Wildlife Protection



(enforcement) staff, the local fish and game advisory committees, and the regional fish and game councils prior to the Board meetings. The Board then takes these comments from the public and the various reviewers prior to making a decision whether to adopt, reject, or modify the proposal and establish regulations consistent with State management standards. All proposals submitted prior to the deadline are considered and weighted equally by the Board. Both Alaska and non-Alaskan fishermen participate in the process.

The majority of the current PSR harvest, except for dusky rockfish, occurs in State waters, and a significant portion of PSR harvest reported from Federal waters may actually be occurring in State waters. Adopting PSR management under existing State plans will provide for optimum long-term yield of the PSR resource by managing for production of black rockfish and other PSR species according to historical rockfish production in the nearshore waters where PSR species primarily occur. Industry has commented that during the 1996 fishing year additional effort is expected for black rockfish and other nearshore shelf pelagics. NMFS regional staff reported that a separate Federal ABC for nearshore PSR (260 mt for the Central Gulf as calculated by the Team) could encourage discards in anticipation of a closure.

ADF&G would incorporate PSR management into both existing and new management plans following the transfer of PSR management authority to the State of Alaska under Alternatives 2 or 3. Current rockfish management in State waters along the Kenai Peninsula and external to Prince William Sound, an area referred to as the North Gulf District, involves an annual guideline harvest level of 68 mt with vessel trip limits of 1.8 mt in five consecutive days. In Prince William Sound, the annual guideline harvest is 68 mt with vessel trip limits of 1.4 mt in five consecutive days for the aggregate of all rockfish species. Both the annual and individual harvest caps are calculated as an aggregate of all landed rockfish species, including pelagic shelf species. When the annual guideline is reached in these areas, the directed fishery is closed and bycatch levels implemented. Black rockfish harvest from the central region would be incorporated into the 68 mt GHL, reducing exploitation from current levels. Southeast Alaska has a developing fisheries policy that ensures very conservative management for new and developing fisheries. The guideline harvest limit for all non-DSR rockfish harvests in Southeast state waters is 500 mt. Management goals provide for resource conservation and then for sustained yield management with existing bycatch needs accommodated before releasing directed fishery quota. Mandatory logbooks and special conditional use permits will be required for the fishery. Port sampling programs are in place to collect biological data and verify catch and effort data. The State routinely manages in-season to prevent localized depletion and promote distribution of effort throughout a management area.

In 1988, ADF&G received funding from the Federal Interjurisdictional Fisheries Fund to develop a management strategy for DSR in the Eastern Gulf. Those monies were used to analyze existing data on DSR biology and fishery and to support an industry working group that made recommendations on DSR management that ultimately were approved by the Board of Fisheries and the Council. ADF&G currently assesses the DSR assemblage in Southeast Alaska using estimates of biomass collected from line transect survey and recommends an ABC to the Plan Team as part of the annual specification process. The Team anticipates that, as occurred for DSR, enhanced assessment of nearshore rockfish (i.e., black rockfish) may occur with the transfer of management authority to the State.

The preferred alternative may result in short-term restrictions on jig fishermen with some negative economic effects. Long term economic effects, however, should be beneficial as stocks of black rockfish would be sustained under more direct management.

### 3.7 Administrative, Enforcement and Information Costs

No additional enforcement costs are expected from any of the proposed alternatives. Some additional information costs may accrue due to additional resource assessments for black rockfish but would be offset by foregone losses to the commercial fishing sector from decreased quotas due to overharvesting.

## 4.0 REGULATORY FLEXIBILITY ANALYSIS

The objective of the Regulatory Flexibility Act is to require consideration of the capacity of those affected by regulations to bear the direct and indirect costs of regulation. If an action will have a significant impact on a substantial number of small entities an Initial Regulatory Flexibility Analysis must be prepared to identify the need for the action, alternatives, potential costs and benefits of the action, the distribution of these impacts, and a determination of net benefits.

NMFS has defined all fish-harvesting or hatchery businesses that are independently owned and operated, not dominant in their field of operation, with annual receipts not in excess of \$2,000,000 as small businesses. In addition, seafood processors with 500 employees or fewer, wholesale industry members with 100 employees or fewer, not-for-profit enterprises, and government jurisdictions with a population of 50,000 or less are considered small entities. A "substantial number" of small entities would generally be 20% of the total universe of small entities affected by the regulation. A regulation would have a "significant impact" on these small entities if it reduced annual gross revenues by more than 5 percent, increased total costs of production by more than 5 percent, or resulted in compliance costs for small entities that are at least 10 percent higher than compliance costs as a percent of sales for large entities.

If an action is determined to affect a substantial number of small entities, the analysis must include:

- (1) a description and estimate of the number of small entities and total number of entities in a particular affected sector, and total number of small entities affected; and
- (2) analysis of economic impact on small entities, including direct and indirect compliance costs, burden of completing paperwork or recordkeeping requirements, effect on the competitive position of small entities, effect on the small entity's cashflow and liquidity, and ability of small entities to remain in the market.

### 4.1 Economic Impact on Small Entities

The overall economic impacts of the proposed alternatives for managing pelagic shelf rockfish are expected to be positive. Separation of the assemblage into nearshore and offshore components will allow for an ABC and TAC to be implemented for black and blue rockfishes to allow for development of the commercial jig fishery in the Western and Eastern areas. With separate TACs, trawl landings of dusky rockfish would no longer have the potential to limit development of the black rockfish jig fishery. All groundfish vessels are currently eligible to participate in these fisheries. Net economic gains would accrue to the nation from enhanced management of the black rockfish and blue rockfish resources under area management by the State of Alaska.

The preferred alternative would not cause a significant economic impact on a substantial number of small entities and is not likely to lead to a reduction in the gross revenues received by the small business sector of the fleet.

## 5.0 SUMMARY AND CONCLUSIONS

At its June 1997 meeting, the Council approved Alternative 3 as its preferred alternative. This action would remove black and blue rockfishes from the Gulf of Alaska FMP. The State of Alaska would then assume management of those species. During the final specification process for setting 1997 total allowable catches at the December 1996 meeting, the Council separated the Gulf of Alaska PSR assemblage into a nearshore

component of black and blue rockfishes and an offshore component of dusky, widow, and yellowtail rockfishes for the Central Gulf only.

The EA/RIR for Amendment 46 to the Gulf of Alaska Fishery Management Plan analyzes the following three alternatives for management authority of black and blue rockfishes in the Gulf of Alaska:

Alternative 1: No action.

Alternative 2: Transfer management authority of black and blue rockfishes in both State and Federal Gulf of Alaska waters to the State of Alaska.

Alternative 3: Remove black and blue rockfishes from the Gulf of Alaska FMP. The State of Alaska would assume management of those species. (Preferred)

The status quo alternative was not recommended by the State of Alaska as it would allow unrestricted fishing of black rockfish while the PSR fishery remained open. Assemblage management is appropriate when species are taken as catch in the same fishery. In this situation, however, the species are largely separated by depth and are targeted by different gears. The large TAC for the PSR group is based on the biomass of offshore dusky rockfish. Status quo would allow this entire TAC to be taken as nearshore black rockfish, likely resulting in localized overfishing. Although the state has the authority to limit fishing in state waters, allowing the adjacent federal waters to remain open negates the effectiveness of this authority. The Council also rejected Alternative 1.

Alternative 2 would transfer management authority of black and blue rockfishes to the State of Alaska through the Alaska Department of Fish and Game (ADF&G), similar to action taken by the Council under Amendment 14 that assigned management authority for demersal shelf rockfish to the State.

Under existing federal regulations, neither NMFS nor ADF&G would have the flexibility necessary to ensure that localized depletion would not occur. Further, it would be difficult to manage in the Central Gulf within the separate federal TAC of 260 mt and its corresponding overfishing level of 340 mt. Nor would the Status Quo or Alternative 2 separate the nearshore rockfish from the PSR assemblage in the Western and Eastern Gulf. Without such action, or the removal of black rockfish from the FMP entirely, neither the State (Alternative 2) or the NMFS (Status Quo) can adequately protect the stock or benefit from available harvest of the inshore complex. The ability to close the offshore component or placing it on bycatch status while leaving open, or closing, the inshore component is a necessary conservation and management tool unresolved by either Status Quo or Alternative 2. In the Western Gulf, the Council's TAC for pelagic shelf rockfish is too high to adequately protect the nearshore black rockfish species. Though the state intends to conservatively manage this species, it will be unable to control harvest rates if a directed federal water PSR fishery occurs.

ADF&G does not support Alternative 2 and has informed the Council that it will not accept limited management authority because: (1) federal delegation under a plan amendment would require additional unreimbursed activities; (2) the nearshore PSR fishery is fundamentally different from the Eastern Gulf DSR fishery in that the TAC is available within each federal area. Because black/blue rockfish are highly territorial and subject to localized depletion, regional managers of ADF&G would subdivide larger federal area quotas down to small local areas, account for bycatch, and manage to assure the health of the local population; (3) there is no biomass estimate for the black or blue rockfishes, and (4) the three ADF&G regional management areas have different fisheries and catch histories and it would be difficult to manage within the TAC in-season. Management under the Federal ABC would: (1) limit the developing black rockfish jig fishery to the average of 75% of the truncated time series of commercial landings for the Central Gulf only; and (2) create the possibility of exceeding the overfishing level for the species given the low level

imposed by tier 6 of the federal overfishing standards. It would also place unnecessary, additional manpower and reporting demands on ADF&G to meet federal compliance of delegated management authority. The Council also *rejected* Alternative 2.

Alternative 3 would withdraw black and blue rockfishes from the Gulf of Alaska FMP entirely. The State of Alaska through ADF&G would assume management authority of these species in the absence of federal management. State management would not be tied to the federal definition of ABC and overfishing levels for black and blue rockfishes, stocks that are essentially unassessed. This would allow a more conservative approach than is currently possible in the Central region while allowing for developing fisheries in the Western and Eastern areas. ADF&G endorses Alternative 3 and has informed the Council it would manage black rockfish and blue rockfish resources on a regional basis. Nearshore rockfish management plans would be prepared by ADF&G staff for the three Gulf state management and reviewed by the Alaska Board of Fisheries. The Gulf of Alaska Plan Team has also recommended Alternative 3. The Council adopted Alternative 3 as its preferred alternative.

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APPENDIX I

GOA PLAN TEAM PROPOSAL



## GROUND FISH FISHERY MANAGEMENT PLAN AMENDMENT PROPOSAL

Name of Proposer: GOA Plan Team

Brief Statement of Proposal: Remove all species of Pelagic Shelf Rockfish except dusky rockfish from the GOA FMP and transfer management responsibilities in both State and Federal waters to the State of Alaska.

Objective of Proposer: To ensure effective management of the nearshore pelagic rockfish fishery to prevent localized depletion in the Central Gulf, allow controlled development of this fishery in the Eastern and Western gulf and prevent preemption of the dusky rockfish fishery by the nearshore jig fishery.

Need and Justification: Currently the nearshore pelagic group includes rockfish, for which there is a large TAC. "Light" dusky rockfish are generally targeted by trawl gear occur in offshore, hard bottom areas. Two problems exist with the current management regime. 1) Nearshore pelagic rockfish, a component of which are reef-specific as adults, could easily be over-fished in local areas give the extremely large TAC for the PSR assemblage. Although ADF&G has implemented quotas and harvest closures in state waters there is no comparative management available in adjacent federal waters. The second problem occurs in the Eastern and Western Gulf where there is a new developing jig fishery for nearshore rockfish. This fishery is largely prosecuted in the summer, and its possible that the trawl fishery for dusky rockfish could preempt the developing jig fishery.

Foreseeable Impacts of Proposal: This should provide positive benefits for both the dusky rockfish trawl fishery and the nearshore jig fishery. The state is better able to manage fisheries such as black rockfish that require small area quotas and intensive management. This approach allows for full utilization of both resources while reducing the risk of localized depletion of nearshore pelagic rockfish.

Are there alternative solutions: (1) Separate black rockfish from PSR and remove that species from the FMP. This would allow ADF&G to manage black rockfish without the constraints imposed by federal overfishing regulations. (2) Separate dusky rockfish from the PSR assemblage but leave the other species in the FMP. If dusky rockfish is removed from the PSR assemblage and managed under federal regulations we would be forced to set overfishing levels for PSR equal to average catch history. This level is very low and could easily result in the early closure of other fisheries once the overfishing level is reached. (3) Status quo.

APPENDIX II

ADF&G RECOMMENDATION