AGENDA D-1a,b
APRIL 2006

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Chris Oliver
Executive Director

ESTIMATED TIME
3 HOURS
All D-1 Items

DATE: March 27, 2006

SUBJECT: Groundfish Management

ACTION REQUIRED

(a) Initial Review of EA/RIR/IRFA to remove Dark Rockfish from the GOA Groundfish FMP
(b) Initial Review/Final Action on EFP for longline targeting of SEO rockfish

BACKGROUND

(a) Initial Review of EA/RIR/IRFA to remove GOA Dark Rockfish from FMP

In February 2005, the Council initiated an analysis to remove dark rockfish (*Sebastes ciliatus*) from the GOA groundfish FMP and allow the State of Alaska to take over management of this species. Dark rockfish are currently contained in the pelagic shelf rockfish (PSR) complex. Assessment of this assemblage to determine ABC and OFL levels is based upon the biomass of dusky rockfish (*Sebastes variabilis*) the predominant (and target) species in the complex. Stock assessment authors and the GOA plan team have recommended removal of dark rockfish from the FMP (to allow for State management) when they were officially recognized as a distinct species from dusky rockfish in 2004.

Dark rockfish are predominantly located in nearshore habitats that are not specifically assessed by the GOA trawl survey, and are at risk of overfishing in local areas given the relatively high TAC for the pelagic shelf rockfish assemblage as a whole. In 2004, the SSC endorsed the Plan Team's recommendation of removing dark rockfish from the FMP. The Council initiated this in 2005 but action was delayed until the 2005 GOA trawl survey data became available for analysis.

An EA/RIR/IRFA to analyze this action is attached as **Item D-1(a)(1)**. This analysis examines the following alternatives:

Alternative 1.
Retain dark rockfish under the pelagic shelf rockfish assemblage. Continue to specify OFL and ABC for the complex as a whole, based primarily upon the stock assessment for dusky rockfish. (Status Quo)

Alternative 2.
Remove dark rockfish from the Federal groundfish FMP. Management responsibility in State and Federal waters would be assumed by the State of Alaska.

Under 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 this alternative, the State of Alaska could assume management authority for dark rockfish. Management plans for this species would be prepared by ADF&G staff for the Gulf of Alaska state management regions and reviewed by the Board of Fisheries.

As discussed in the EA, there are limited impacts of removing this species from the FMP. Dark rockfish comprise a small proportion of the total biomass in the PSR assemblage, which is dominated by the target species, dusky rockfish. Impacts to other PSR stocks as well as other groundfish stocks are minimal due to the relatively minor contribution to the overall exploitable biomass from the dark rockfish stock. Management of dark rockfish by the State is anticipated to be an improvement over Federal management within the PSR complex due to the State's ability to manage this stock as a single stock and on smaller management areas to protect against the potential for localized depletion. There are no anticipated impacts to marine mammals, seabirds, threatened or endangered species, habitat or the ecosystem.

The RIR discusses that removal of dark rockfish from the pelagic shelf rockfish complex could result in minor decreases in the pelagic shelf rockfish TAC, but since dark rockfish are such a small part of the stock of the complex any reduction in the TAC is likely to be nominal. A preliminary IRFA is included and will be developed further following selection of a preferred alternative to determine the potential impact of the action on affected small entities.

This analysis is scheduled for initial review at this meeting.

(b) Initial Review/Final Action on EFP for longline targeting of SEO rockfish

An EFP has been proposed by the Alaska Longline Fishermen's Association to request specific exemptions from fishery closures, prohibited species catch (PSC) limits, and fish retention restrictions and requirements in order to test shrimp fly troll gear to target rockfish in the Southeast Outside District (SEO) of the Gulf of Alaska. The immediate goals of the project are as follows: (1) Using shrimp fly gear, refine gear and fishing techniques to efficiently harvest Pacific Ocean perch (POP), pelagic shelf rockfish (PSR), and other shelf rockfish with minimal bycatch using gear compatible with typical Southeast Alaska fishing vessels and crews; (2) document the fishing characteristics of the shrimp fly gear; (3) and gather base-line biological information for data poor species.

The GOA groundfish plan team received a presentation from Dan Falvey at their September 2005 plan team meeting regarding progress on a similar, previous EFP. The GOA plan team recommended that the applicants continue work on an EFP. An excerpt of the GOA plan team September 2005 minutes relating to this agenda item is attached as **Item D-1(b)(1)**.

An EA has been prepared by NMFS to evaluate the potential impacts of issuing this EFP. A letter announcing the receipt of the EFP application from NMFS to the Council is attached as **Item D-1(b)(2)**. The EA is attached as **Item D-1(b)(3)**. The alternatives are limited to the status quo (Alternative 1) and the issuance of the EFP (Alternative 2). Alternative 2 would issue an EFP with the following regulatory exemptions: (1) hook-and-line fishery closures for reasons other than overfishing concerns; (2) PSC limits for halibut; (3) maximum retainable amounts for rockfish fisheries; and retention requirements for sablefish. The total amount of groundfish allowed to be harvested annually is 189 mt, including a 10 mt limit on sablefish bycatch. Halibut may be harvested in accordance with IFQ regulations. Halibut mortality for vessels without an individual fishing quota (IFQ) holder on board is limited to 2 mt, annually. All sablefish caught during the course of the permit must be carefully released. The permit would be effective for 3 years: May 15, 2006 - May 15, 2009.

NMFS staff will be available to discuss the EA and Dan Falvey from ALFA will be available to give additional information on the EFP.

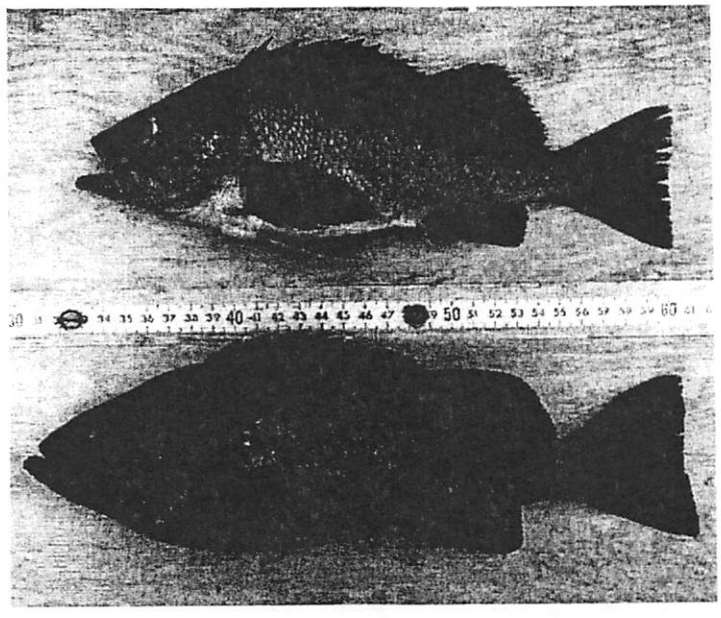
Initial Review Draft

ENVIRONMENTAL ASSESSMENT / REGULATORY IMPACT REVIEW / INITIAL REGULATORY FLEXIBILITY ANALYSIS

for

Revised Management Authority of Pelagic Shelf Rockfish Complex (Dark Rockfish)

Proposed **Amendment 67** to the
Fishery Management Plan for Groundfish
of the Gulf of Alaska Management Area



March 22, 2006

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EXECUTIVE SUMMARY

This Environmental Assessment, Regulatory Impact Review and Initial Regulatory Flexibility Analysis describes the proposed amendment 67 to the Gulf of Alaska Groundfish Fishery Management Plan (FMP). This amendment proposes to remove dark rockfish (*Sebastes ciliatus*) from the GOA groundfish FMP. This species is currently contained in the pelagic shelf rockfish (PSR) assemblage. It makes up a small proportion of the total biomass in this complex, is more often found in nearshore waters, and is caught in State fisheries. Removing this species from the FMP would turn management for this species in both State and Federal waters over to the State of Alaska.

The following problem statement was adopted for this analysis:

Dark rockfish are a nearshore, shallow water species which are rarely caught in offshore, Federal waters. For management purposes they are contained within the pelagic shelf rockfish complex, whose OFL and ABC are based primarily on the stock assessment for dusky rockfish which makes up the majority of the total exploitable biomass estimate for the PSR complex. As dark rockfish have now been identified as a separate species, are found in nearshore, shallow waters, and could potentially be locally overfished within the larger PSR complex TAC, the Council should consider removing this species from the GOA groundfish FMP and transferring their management to the State of Alaska.

This analysis considers the following alternatives to address the problem identified above.

Alternative 1.
Retain dark rockfish under the pelagic shelf rockfish assemblage. Continue to specify OFL and ABC for the complex as a whole, based primarily upon the stock assessment for Dusky rockfish. (Status Quo)

Alternative 2.
Remove dark rockfish from the Federal groundfish FMP. Management responsibility in State and Federal waters would be assumed by the State of Alaska.

Under 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 this alternative, the State of Alaska could assume management authority for dark rockfish. Management plans for this species would be prepared by ADF&G staff for the Gulf of Alaska state management regions and reviewed by the Board of Fisheries.

Environmental Assessment

There is limited impact in the Federal fishery of removing this species from the FMP. Dark rockfish comprise a small proportion of the total biomass in the PSR assemblage, which is dominated by the target species, dusky rockfish. Impacts to other PSR stocks as well as other groundfish stocks are minimal due to the relatively minor contribution to the overall exploitable biomass from the dark rockfish stock. Management of dark rockfish by the State is anticipated to be an improvement over Federal management within the PSR complex due to the State's ability to manage this stock as a single stock and on smaller management areas to protect against the potential for localized depletion. There are no anticipated impacts to marine mammals, seabirds, threatened or endangered species, habitat or the ecosystem.

Regulatory Impact Review

Removal of dark rockfish from the pelagic shelf rockfish complex could result in minor decreases in the pelagic shelf rockfish TAC, but since dark rockfish are such a small part of the stock of the complex any decline in the TAC is likely to be nominal.

Initial Regulatory Flexibility Analysis

Transfer of management of dark rockfish to the State is likely to result in some changes in regulation of catch. The State could develop a directed fishery for dark rockfish, most likely for fixed gear vessels. Since fixed gear vessels tend to be small, it is possible that the development of such a directed fishery would have a positive impact on small entities, by increasing fishing opportunities. The IRFA in this document is preliminary until the Council selects a preferred alternative. At that point, the potential impact on affected small entities of the action will be developed further in the analysis.

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1.0 PURPOSE AND NEED FOR ACTION

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 Chapters 1 and 2 of this document. Chapter 3 contains information on the biological and environmental impacts of the alternatives as required by NEPA. Impacts on endangered species and marine mammals are addressed in Chapter 4. Chapter 5 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. Chapter 6 discusses the potential impacts on small entities per the Regulatory Flexibility Act.

1.1 Purpose and Need

Dark rockfish are part of the pelagic shelf rockfish (PSR) assemblage in the Gulf of Alaska Groundfish Fishery Management Plan (FMP). Members of this assemblage include the following four species: dusky rockfish (*Sebastes variabilis*), dark rockfish (*S. ciliatus*), yellowtail rockfish (*S. flavidus*), and widow rockfish (*S. entomelas*). The forms of dusky rockfish commonly recognized as "light dusky rockfish" and "dark dusky rockfish" are now officially recognized as two species (Orr and Blackburn 2004). *S. ciliatus* applies to the dark shallow-water species with a common name dark rockfish, and *S. variabilis* applies to variably colored deeper-water species with a common name dusky rockfish.

Dark rockfish are found predominantly in nearshore, shallow waters. Assessment authors have suggested for years that dark rockfish be turned over the State of Alaska for management as data in the stock assessment for PSR are predominantly from dusky rockfish (the offshore variety) not dark rockfish (the nearshore, shallow water variety). Most of the available information is from the offshore trawl surveys and offshore commercial fishery and dusky rockfish makes up the majority of the exploitable biomass and catch from the assemblage.

1.1.1 Problem Statement

Given that dark rockfish are located predominantly in nearshore, shallow waters, if specifically targeted the potential exists for them to be locally overfished under the relatively high TAC for the entire pelagic shelf rockfish complex. Amendment 46 to the GOA groundfish FMP addressed a similar situation in the PSR complex by removing black and blue rockfish, nearshore rockfish populations which were not thought to be well-assessed by the trawl survey, from the GOA groundfish FMP and turned management over to the State of Alaska (NPFMC 1998). A similar situation exists for dark rockfish, and management by the State of Alaska would better address localized harvest requirements for this nearshore species than is currently provided by Federal management under the larger PSR complex.

Since official recognition as a separate species, the GOA Plan Team has also endorsed removing dark rockfish from the FMP based on the following rationale: (1) separation at species level, (2) distribution of dark rockfish to nearshore habitats that are not specifically assessed by the GOA trawl survey, and (3) the risk of overfishing dark rockfish in local areas given the relatively high TAC for the pelagic shelf rockfish assemblage as a whole. In 2004, the SSC endorsed the rationale and agreed with the Plan Team's recommendation of removing dark rockfish from the FMP. The Council initiated this in 2005 but action was been delayed until the 2005 GOA trawl survey data became available for analysis.

Given these concerns as noted by the assessment authors and the GOA groundfish plan team, the Council crafted the following problem statement:

Dark rockfish are a nearshore, shallow water species which are rarely caught in offshore, Federal waters. For management purposes they are contained within the pelagic shelf rockfish complex, whose OFL and ABC are based primarily on the stock assessment for dusky rockfish which makes up the majority of the total exploitable biomass estimate for the PSR complex. As dark rockfish have now been identified as a separate species, are found in nearshore, shallow waters, and could potentially be locally overfished within the larger PSR complex TAC, the Council should consider removing this species from the GOA groundfish FMP and transferring their management to the State of Alaska.

1.2 Next Steps in the Process

This analysis is scheduled for initial review at the April Council meeting. Pending the review process by the Council, the analysis will be revised and released for public review following the April Council meeting. Final action on this amendment is scheduled for June 2006.

2.0 DESCRIPTION OF ALTERNATIVES

Two alternatives are analyzed in this document: alternative 1, to continue managing dark rockfish within the larger pelagic shelf rockfish complex; and alternative 2, to remove dark rockfish from the FMP and turn over to the State of Alaska for management.

2.1 Alternative 1: Status Quo

Under this alternative, dark rockfish would continue to be managed within the pelagic shelf rockfish assemblage. The Council and the National Marine Fisheries Service would retain management authority for dark rockfish within the PSR complex in the EEZ. Overfishing limits (OFLs), acceptable biological catch (ABC) limits and total allowable catch (TAC) limits are established for the complex as a whole and managed accordingly. In season, catch is managed through monitoring directed fishing, with the fishery closed when directed fishing is estimated to leave only the portion of the TAC necessary to support incidental catch in other directed fisheries. Once the directed fishery is closed, incidental catch is managed under the aggregate rockfish MRA, which limits catch of all rockfish of the genera *Sebastes* and *Sebastolobus* (which includes Pacific ocean perch, northern rockfish, pelagic shelf rockfish, demersal shelf rockfish, and "other rockfish") to 15 percent of directed fishing harvests.

2.2 Alternative 2: Remove dark rockfish from the Gulf of Alaska FMP

Under this alternative, management authority for dark rockfish is redefined by withdrawing dark rockfish from the Federal GOA groundfish FMP. Under 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 this alternative, the State of Alaska could assume management authority for dark rockfish. Management plans for this species would be prepared by ADF&G staff for the Gulf of Alaska state management regions and reviewed by the Board of Fisheries.

OFLs, ABCs and TACs would continue to be specified for the PSR complex, but this complex would no longer include dark rockfish. The State would take on the responsibility for assessment and management of the dark rockfish stock.

In managing dark rockfish, the State of Alaska would develop a fishery management plan for the species under which gear type, season and guideline harvest level (GHL) for the species would be specified. The State may impose on State-registered vessels fishing in Federal fisheries only such additional State measures such as bycatch retention limits for dark rockfish, as are consistent with the applicable Federal fishing regulations for the fishery in which the vessel is operating. It is not the intention of the Council or NMFS to give the State authority to indirectly regulate other Federal fisheries through State implementation of gear restrictions, area closures or other bycatch control measures. Most likely, State management of dark rockfish would include regulation of any directed fishing for dark rockfish. Dark rockfish catch in Federal fisheries would be limited by the current MRA for aggregate rockfish or a separate bycatch limit as established by the State.

While specific management plans have not yet been formulated by the State, it is likely that measures used currently (e.g., in management of black rockfish) would be among those considered for dark rockfish management by the State (D. Carlile, pers. comm.).

These candidate measures would include, but not necessarily be limited to the following:

- Guideline harvest limits (GHLs, or quotas)
- Gear-, area- and directed-fishery-specific bycatch limits, wherein catch in excess of bycatch limits would be reported as bycatch overage on an ADF&G fish ticket, the excess bycatch would be required to be landed, with all proceeds from the sale of excess dark rockfish bycatch surrendered to the State.
- Full retention of all rockfish caught, with proceeds of the sale of any bycatch overage paid to the State of Alaska.
- Directed fisheries for dark rockfish in some areas of the State; in others perhaps bycatch only.
- No-take zones, wherein dark rockfish might not be allowed to be taken in a directed fishery and proceeds from any bycatch would be surrendered to the State.
- Gear restrictions (e.g. jig only) for directed fisheries.
- Trip limits.
- Reporting requirements such as submission of ADF&G fish tickets and/or logbooks.
- Vessel registrations for specific directed dark rockfish fishery areas.

2.3 Alternatives Considered but not Carried Forward

One alternative which was considered but not carried forward for analysis involves transferring management authority of dark rockfish to the State of Alaska while retaining the species under the Federal FMP. Demersal shelf rockfish in Southeast Alaska is under a similarly delegated management program to the State of Alaska. This alternative was not carried forward for dark rockfish for many reasons. A similar alternative was considered and rejected for black and blue rockfish under amendment 46 to the GOA groundfish FMP. Reasons for rejecting this for that amendment are the following: 1) State personnel would be required to comply with additional management processes; 2) the State would need to meet both state and federal requirements which are often on different time-frames for management (e.g., public meetings and reports); and 3) the State did not believe it could meet the costly assessment requirements for managing a nearshore species under a federal management plan (NPFMC 1998). Instead conservative management of the species under a state management jurisdiction only would be less costly and more conservative. These reasons are also valid for the delegating state management of dark rockfish. Given the Council's rejection of this alternative under amendment 46, this alternative was not carried forward for analysis in this document.

3.0 AFFECTED ENVIRONMENT

3.1 Pelagic Shelf rockfish complex

Four species comprise the pelagic shelf rockfish (PSR) assemblage: dusky rockfish (*Sebastes variabilis*), dark rockfish (*S. ciliatus*), yellowtail rockfish (*S. flavidus*), and widow rockfish (*S. entomelas*). The forms of dusky rockfish commonly recognized as "light dusky rockfish" and "dark dusky rockfish" are now officially recognized as two species (Orr and Blackburn 2004). *S. ciliatus* applies to the dark shallow-water species with a common name dark rockfish, and *S. variabilis* applies to variably colored deeper-water species with a common name dusky rockfish. Dusky rockfish are often found in large aggregations over the outer continental shelf and upper slope to depths of 675m (Orr and Blackburn, 2004). Dark rockfish are found in more shallow habitats from nearshore rocky reefs to depths no greater than 160m (Orr and Blackburn 2004).

The range of dark rockfish extends from the western Aleutian Islands and eastern Bering Sea, through the Gulf of Alaska to southeast Alaska (Orr and Blackburn 2004). Throughout its range it is common in depths ranging from 5m to 160m (Orr and Blackburn 2004). Dark rockfish are commonly collected with black rockfish (*S. melanops*) by trawl and hook-and-line gear in shallow waters and are often mis-identified as black rockfish (Orr and Blackburn 2004). In deeper trawls in the Aleutian Islands and Gulf of Alaska dark rockfish are found in association with Pacific ocean perch, northern rockfish and dusky rockfish (Blackburn and Orr 2004). Dark rockfish are occasionally found in association with other rockfishes such as harlequin rockfish, sharpchin rockfish, and redstripe rockfish (Orr and Blackburn 2004).

3.1.1 Biological characteristics of pelagic shelf rockfish species

Life history characteristics for all *Sebastes* species include an egg stage completed within the female and a pelagic larval stage (Lunsford et al. 2005). Larval studies for dusky rockfish (the best studied of the species in the PSR assemblage) are hampered by a lack of genetic analyses thus post-larval dusky rockfish have not been identified but are assumed to be similar to other *Sebastes* species and hence to be pelagic. Information for dark rockfish is presumed to be similar to known information for dusky rockfish. The habitat of young juveniles is unknown but a demersal stage follows the pelagic stage as evidenced by the appearance of juveniles less than 25 cm fork length in bottom trawl surveys (Clausen et al. 2002). Older juveniles have been taken only infrequently in trawl surveys and then in inshore more shallow waters than the adults (Lunsford et al. 2005). Limited food information for this species indicates that euphausiids are an important prey item for adult dusky rockfish (Yang 1993).

The size of dusky rockfish taken in the fishery generally appears to have increased after 1992; in particular, the mode increased from 42 cm in 1991-92 to 44-47 cm in 1993-97. The mode then decreased to 42 cm in 1998, and rose back to 45 cm in 1999-2002 (Lunsford et al. 2005). Age data from the fishery indicates a range of ages from 4-76 years (Lunsford et al. 2005). Age and length data from the Federal fishery data are only available for dusky rockfish.

Limited age and length data are available from ADF&G for dark rockfish from dockside sampling efforts from the 2002-2004 black rockfish commercial jig fishery. Preliminary 2002 length data for dark rockfish ranged from 25–50 cm in the Kodiak region while ages ranged from 7-52 years (N. Sagalkin, unpublished data).

Mortality rates and maximum age for pelagic shelf rockfish species are presented in Table 1. The estimates range from 0.06–0.09 and were based on dusky rockfish samples (Lunsford et al. 2005). A value of 0.09 has typically been used in stock assessments for pelagic shelf rockfish species because these species were typically younger than other long-lived rockfish (Lunsford et al. 2005). A value of 0.07 was recently computed for dark rockfish based upon a study completed in the GOA (Chilton. *In Review*). This study indicated a higher maximum age than had been previously assumed for dark rockfish. This value of 0.07 was utilized to compute ABCs and OFLs for dark, widow and yellowtail rockfish in the recent stock assessment for pelagic shelf rockfish (Lunsford et al. 2005).

Table 1. Instantaneous rate of natural mortality and maximum age for pelagic shelf rockfish, based on the break-and-burn method of aging otoliths. Area indicates location of study: Gulf of Alaska (GOA) or British Columbia (BC).

Species	Mortality Rate	Maximum Age	Area	Reference
Dusky Rockfish	0.09	59	GOA	1
	0.09	51[b]	GOA	7
	0.08	59[c]	GOA	5
	0.06	76	GOA	6
Dark Rockfish	0.07	75	GOA	2
Yellowtail Rockfish	0.07	53	BC	3
Widow Rockfish	0.05a	59	BC	4

[a] Instantaneous rate of total mortality (Z).
[b] Maximum survey age.
[c] Maximum survey age.
References: (1) Clausen and Heifetz (1991); (2) Chilton, L. *In Review*. Growth and natural mortality of dark rockfish (*Sebastes ciliatus*) in the western Gulf of Alaska. 23rd. Lowell Wakefield Fisheries Symposium on Biology, Assessment, and Management of North Pacific Rockfishes; (3) Leaman and Nagtegaal (1987); (4) Chilton and Beamish (1982); (5) Malecha et al. (2004); (6) Calculated for this document using Hoenig (1983) ($-\ln(0.001)/t_m$); (7) back calculated maximum age using Hoeing (1983) ($-\ln(0.001)/M$).

3.1.2 Biomass by species

Dusky rockfish are the most abundant species in the pelagic shelf rockfish assemblage gulfwide. The remaining three species make up a small proportion of the assemblage. Biomass estimates from GOA trawl surveys are shown in Table 2. GOA trawl surveys were triennial until 1999 and biennial since that time. Starting in 1996 a distinction was made between "light" and "dark" dusky rockfish (and since 2005 they have been referred to by their now official names of dusky rockfish and dark rockfish).

Biomass in all years is dominated by dusky rockfish. Biomass of dark, widow and yellowtail rockfish is patchy from one year to the next, with occasional single tows during the survey dominating the biomass estimate for that species. In 1999, dusky rockfish predominated, but a relatively large biomass of yellowtail rockfish was also seen in the Southeastern area. This yellowtail rockfish biomass can be mostly attributed to one relatively large catch in Dixon Entrance near the U.S./Canada boundary. In 2005, the dusky and dark rockfish biomass estimates were the highest ever recorded. The dark rockfish biomass was influenced by a large catch of 1,154 kg in the Shumagin area. The next largest catch of dark rockfish was 167 kg (Lunsford et al. 2005). With the exception of 2005 the relative contribution to the overall survey biomass from dark rockfish has been low (Table 3).

Table 2. Biomass estimates (mt) for species in the pelagic shelf rockfish assemblage in the Gulf of Alaska, based on results of bottom trawl surveys from 1984 through 2005 (Lunsford et al. 2005)

	Statistical Area					
Species	Shumagin	Chirikof	Kodiak	Yakutat	Southeastern	Total
1984						
Dusky rockfish	3,843	7,462	4,329	15,126	307	31,068
Yellowtail rockfish	0	0	0	17	454	471
Total, all species	3,843	7,462	4,329	15,143	761	31,539
1987						
Dusky rockfish	12,011	4,036	46,005	18,346	1,097	81,494
Widow rockfish	0	0	0	51	96	147
Total, all species	12,011	4,036	46,005	18,397	1,193	81,641
1990						
Dusky rockfish	2,963	1,233	16,779	5,808	953	27,735
Widow rockfish	0	0	0	285	0	285
Total, all species	2,963	1,233	16,779	6,093	953	28,020
1993						
Dusky rockfish	11,450	12,880	23,780	7,481	1,626	57,217
Total, all species	11,450	12,880	23,780	7,481	1,626	57,217
1996						
Light dusky rockfish	3,553	19,217	36,037	14,193	1,480	74,480
Dark dusky rockfish	152	139	59	0	0	350
Widow rockfish	0	10	0	0	919	929
Yellowtail rockfish	0	0	20	0	65	85
Total, all species	3,704	19,366	36,116	14,193	2,464	75,843
1999						
Light dusky rockfish	2,538	9,157	33,729	2,097	2,108	49,628
Dark dusky rockfish	2,130	31	49	0	0	2,211
Widow rockfish	0	0	69	0	115	184
Yellowtail rockfish	0	0	0	162	12,509	12,671
Total, all species	4,668	9,188	33,847	2,259	14,732	64,694
2001						
Light dusky rockfish	5,352	2,062	23,590	7,924[a]	1,738[a]	40,667[a]
Dark dusky rockfish	362	15	36	0[a]	0[a]	413[a]
Widow rockfish	0	0	0	0[a]	345[a]	345[a]
Yellowtail rockfish	0	0	0	54[a]	4,192[a]	4,245[a]
Total, all species	5,714	2,077	23,626	7,978[a]	6,275[a]	45,670[a]
2003						
Light dusky rockfish	4,039	46,729	7,198	11,519	1,377	70,862
Dark dusky rockfish	235	49	16	0	0	300
Widow rockfish	0	0	0	0	32	32
Yellowtail rockfish	0	0	0	71	635	705
Total, all species	4,274	46,778	7,214	11,590	2,044	71,899
2005						
Dusky rockfish	69,295	38,216	60,097	2,488	389	170,484
Dark rockfish	21,454	389	2,348	0	0	24,191
Widow rockfish	0	0	51	0	77	128
Yellowtail rockfish	0	0	0	0	1,121	1,121
Total, all species	90,749	38,605	62,445	2,448	1,587	195,924

[a]Note: The Yakutat and Southeastern areas were not sampled in the 2001 survey. Estimates of biomass for these two areas in 2001 were obtained by averaging the corresponding area biomasses in the 1993, 1996, and 1999 surveys.

Table 3. Contribution of dark rockfish survey biomass to overall PSR survey biomass estimate

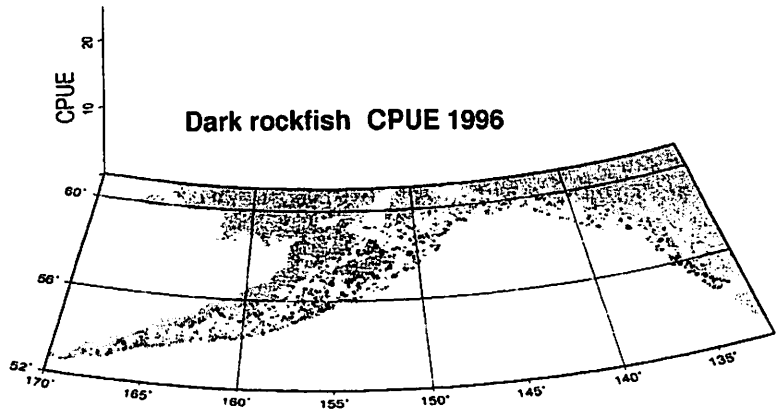
Year	% Survey Biomass
2001*	0.90
2003	0.42
2005	12.35

*Note the 2001 survey did not cover the eastern GOA

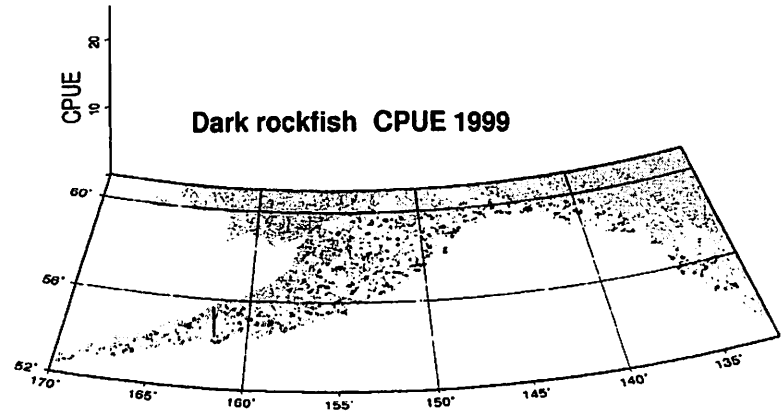
Trawl survey data shows locations by species in the pelagic shelf rockfish assemblage observed in the Gulf of Alaska since 1996. Dark rockfish shows high biomass in selected tows in the Shumagin area in 1999 (Figure 1a) and 2005 (Figure 1e). Trawl survey data also shows selected high tows east and southeast of Kodiak (Figure 1e).

Dusky rockfish trawl survey data shows consistent high tows albeit patchily distributed from one survey to the next (Figure 2a-e). The 2005 survey showed the highest biomass of dusky rockfish since the survey has been conducted (Lunsford et al. 2005).

Survey Biomass data for widow and yellowtail rockfish are shown for the 1984-2005 survey years (Figure 3a-i and Figure 4a-i). Widow rockfish showed only one high biomass tow in 1996 in the southeast leading to a biomass estimate in that area of >900 mt. Yellowtail rockfish showed higher biomass tows in southeast in 1984, 1996, 1999, and 2005 (Figure 4a-i). The high survey biomass estimate for yellowtail rockfish in 1999 was attributed to one relatively large catch in the Dixon entrance area (Figure 4f).



1a.



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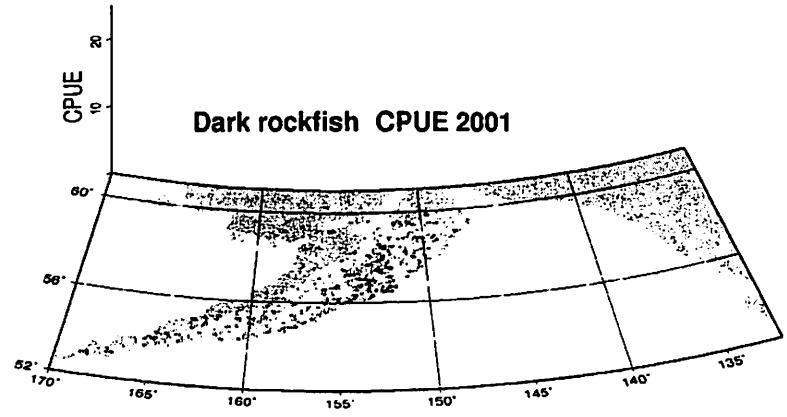
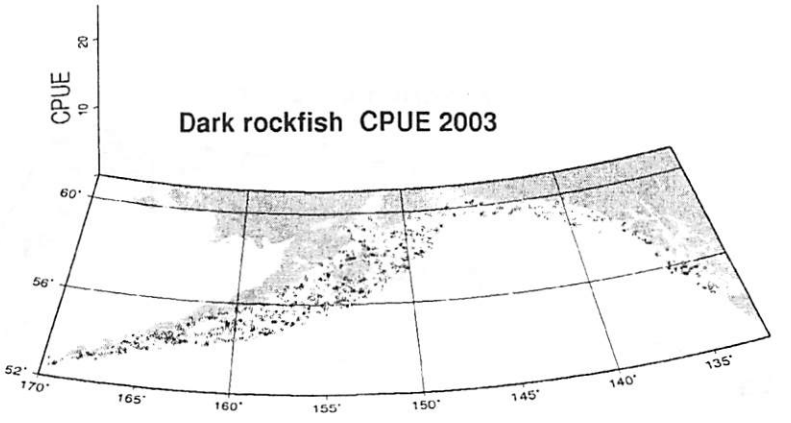


1c.

Figure 1. Dark rockfish survey catch per unit effort (CPUE); survey years 1996-2005



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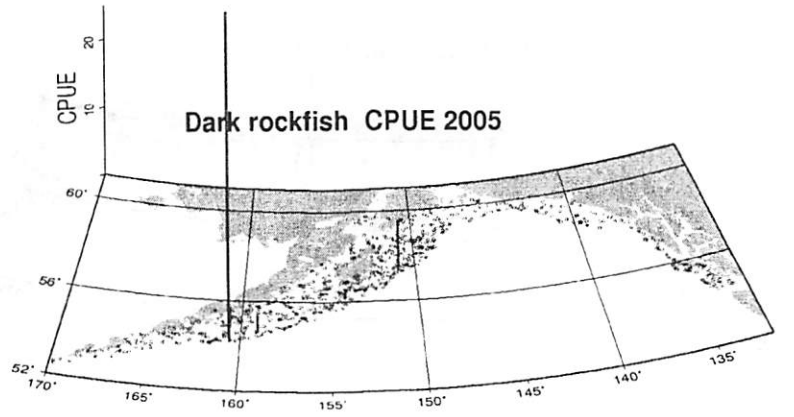
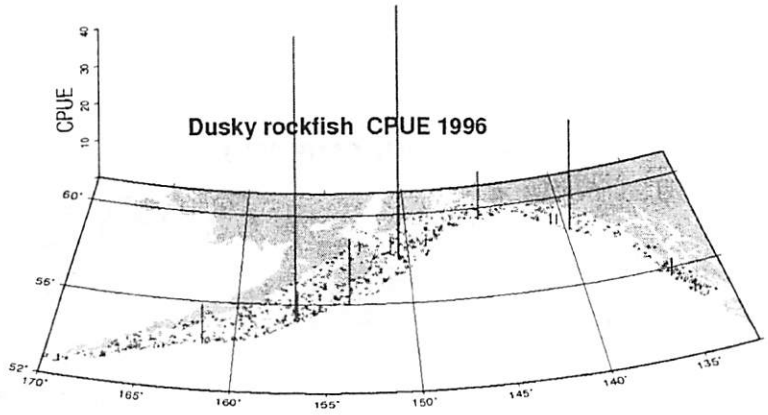
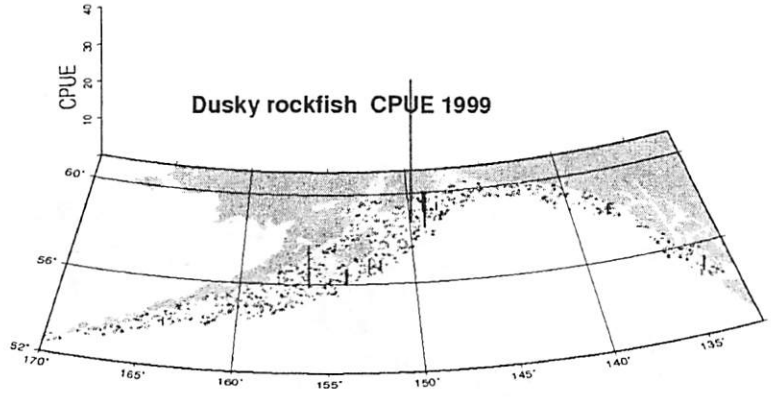


1e.

Figure 1 continued.



2a.



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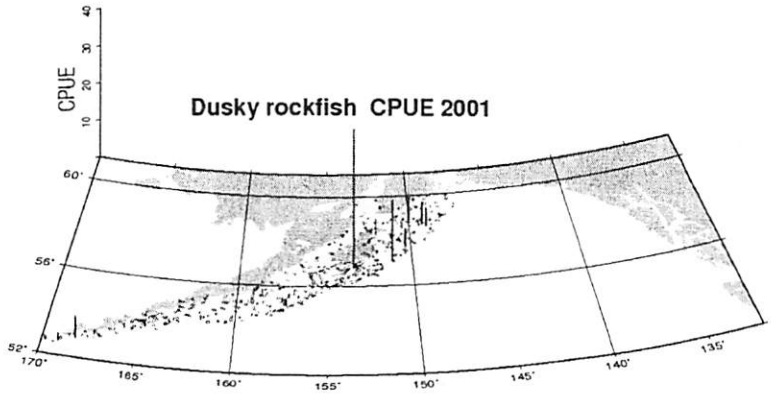
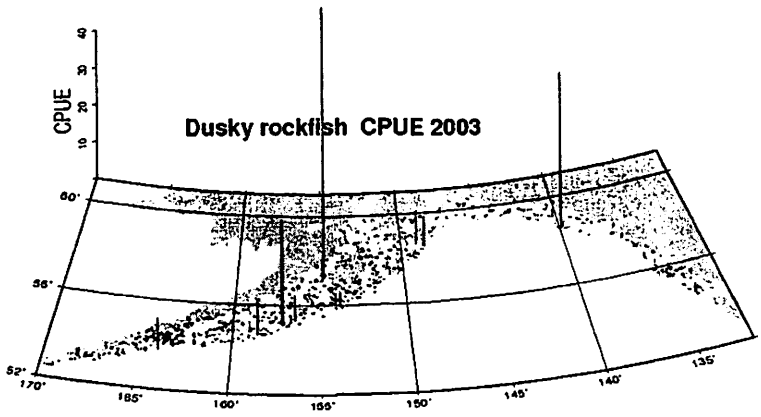


2c.

Figure 2. Dusky rockfish survey catch per unit effort (CPUE), survey years 1996-2003



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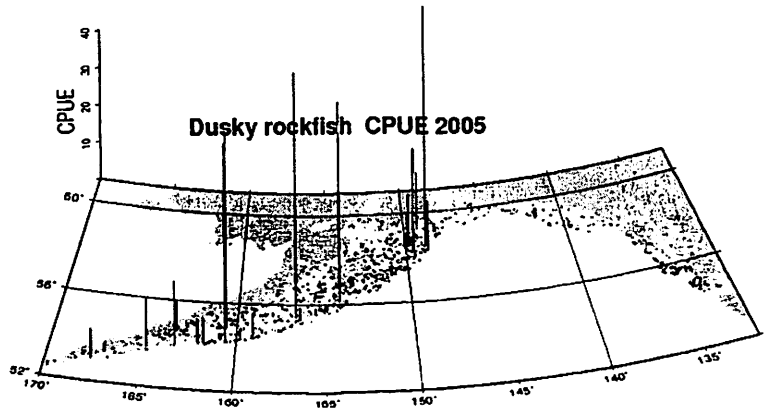

2e.

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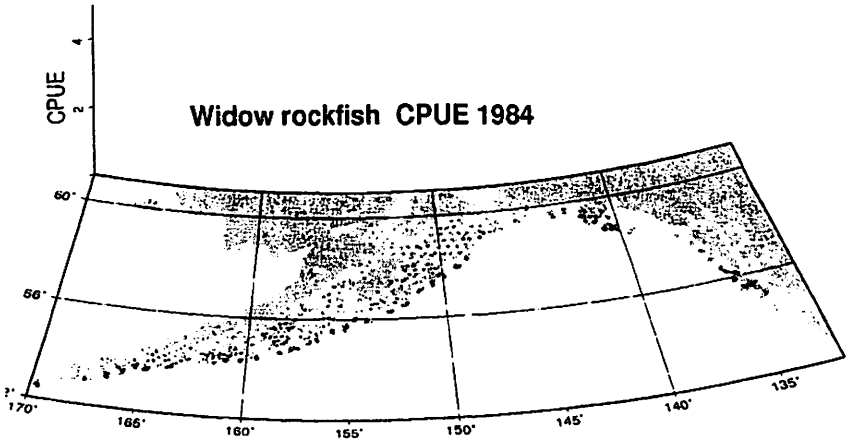
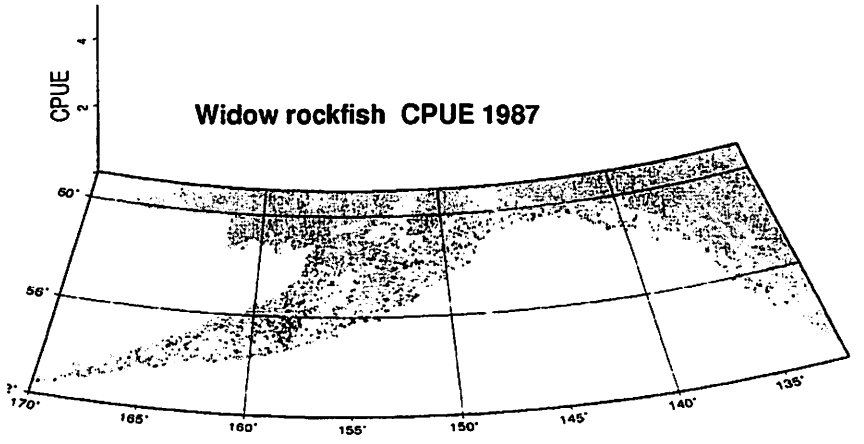


3a.



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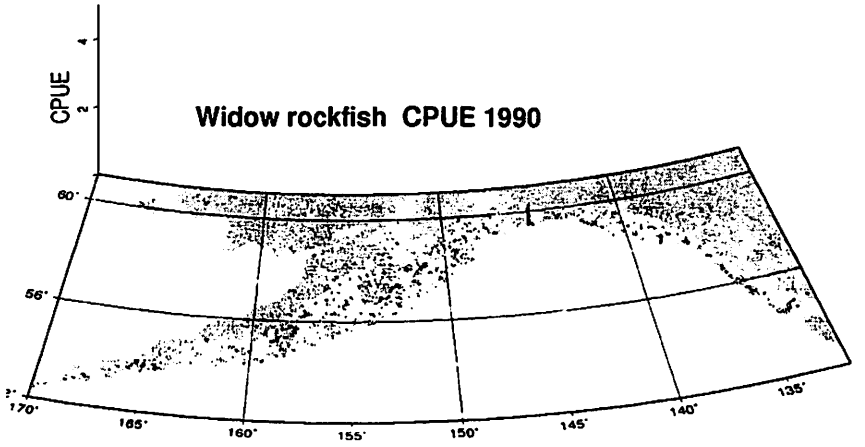
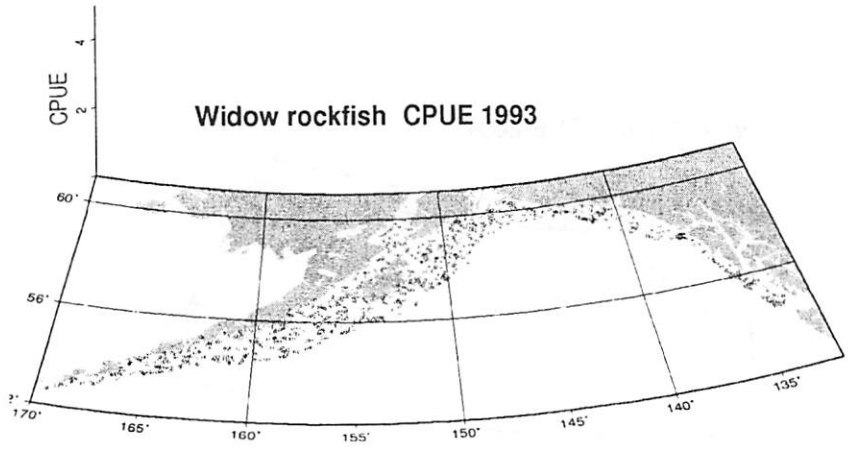


3c.

Figure 3. Widow rockfish survey catch per unit effort (CPUE), survey years 1984-2005



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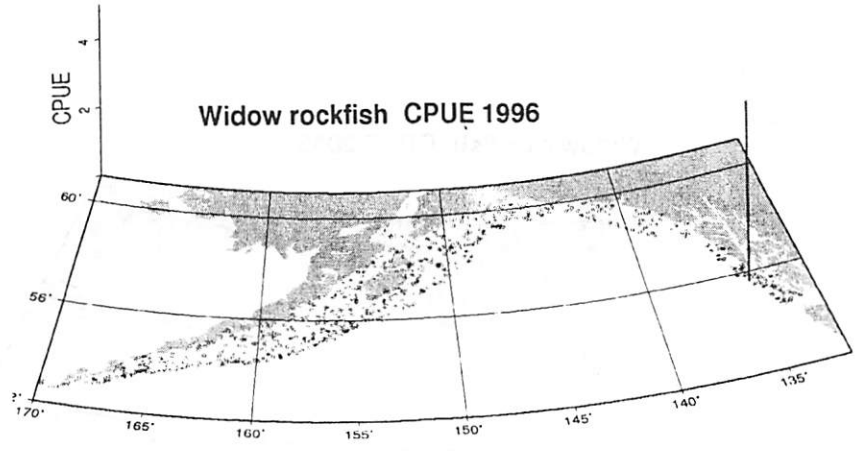

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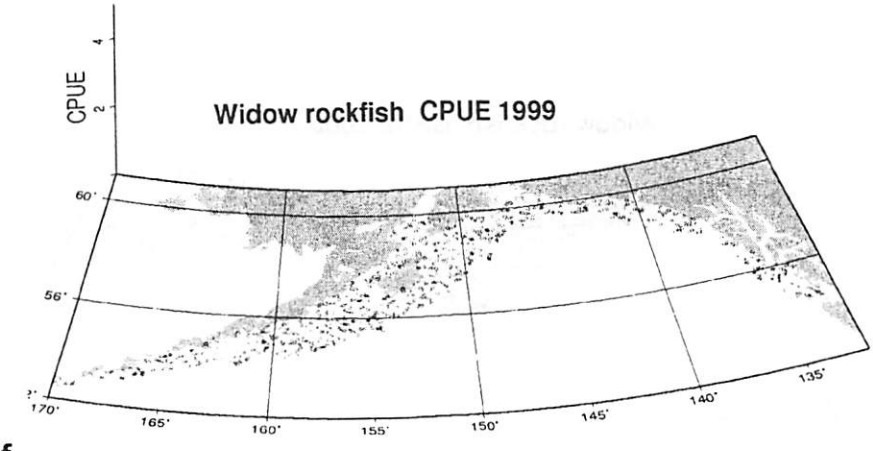
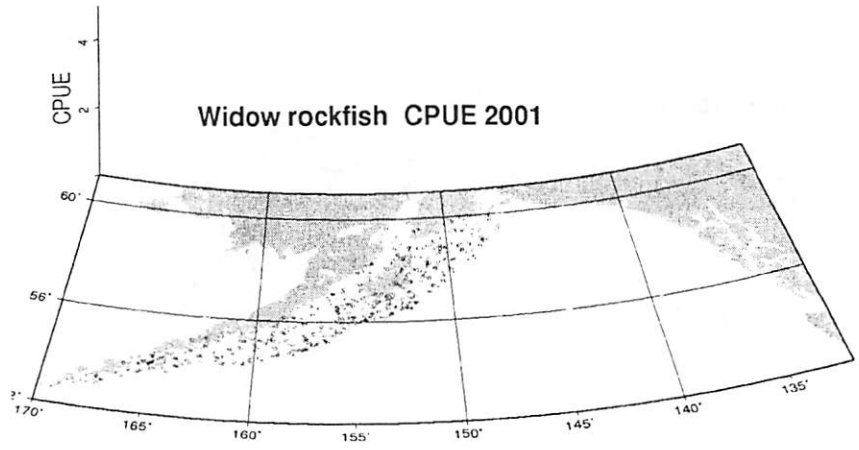


3f.

Figure 3 continued.



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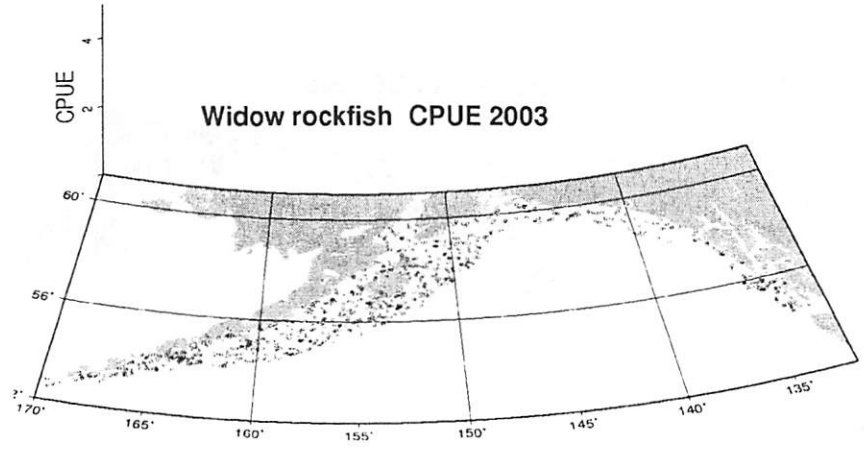

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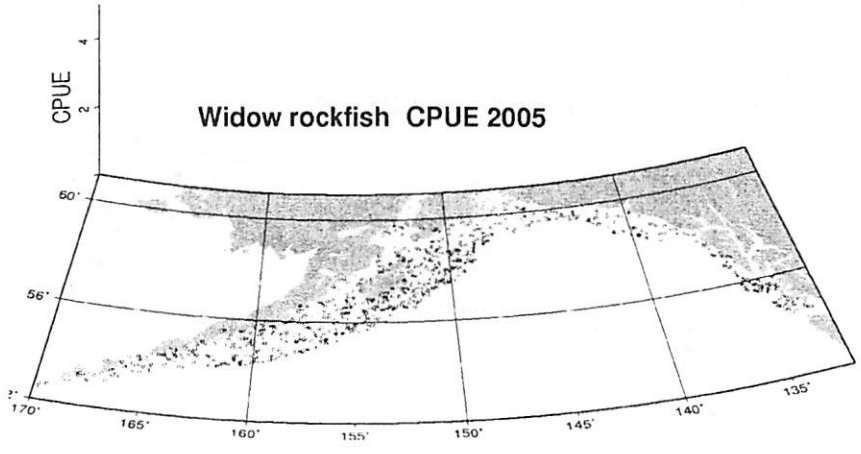
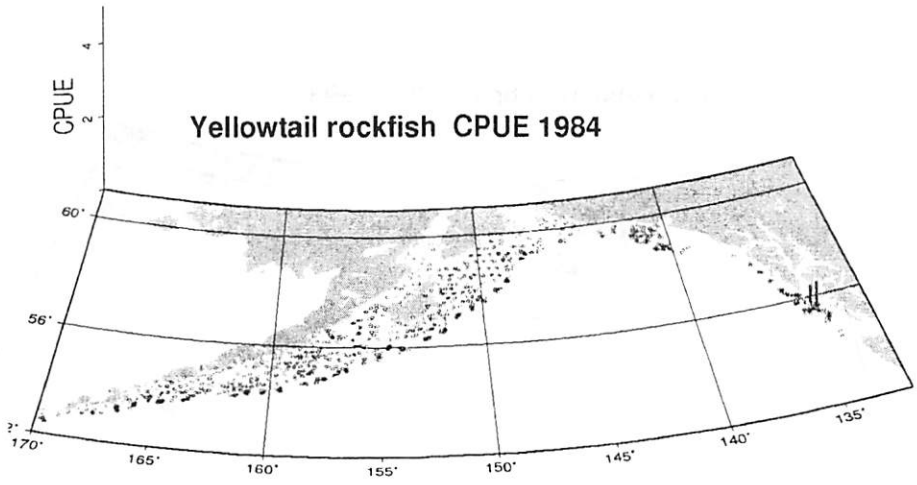


3i.

Figure 3 continued.



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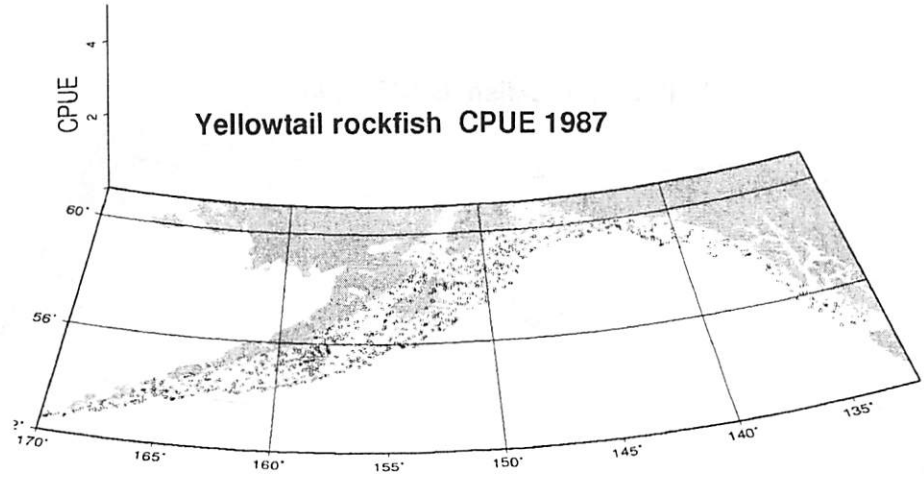

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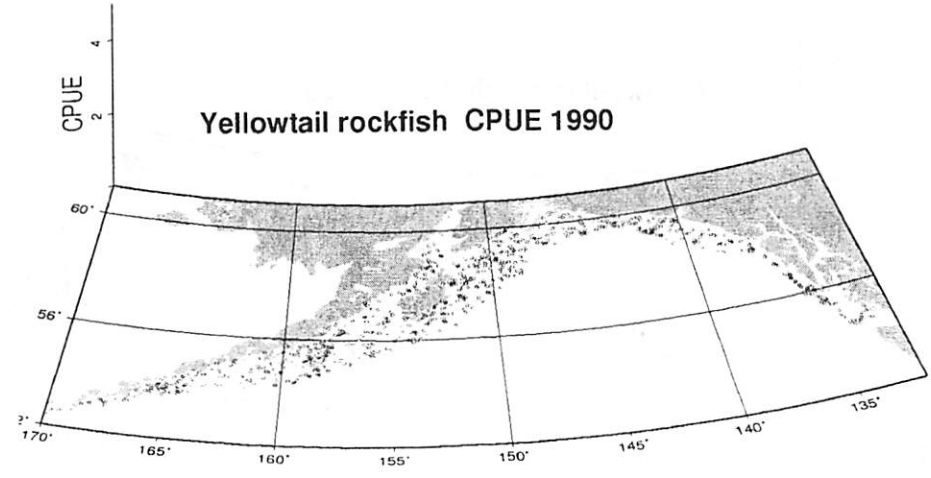
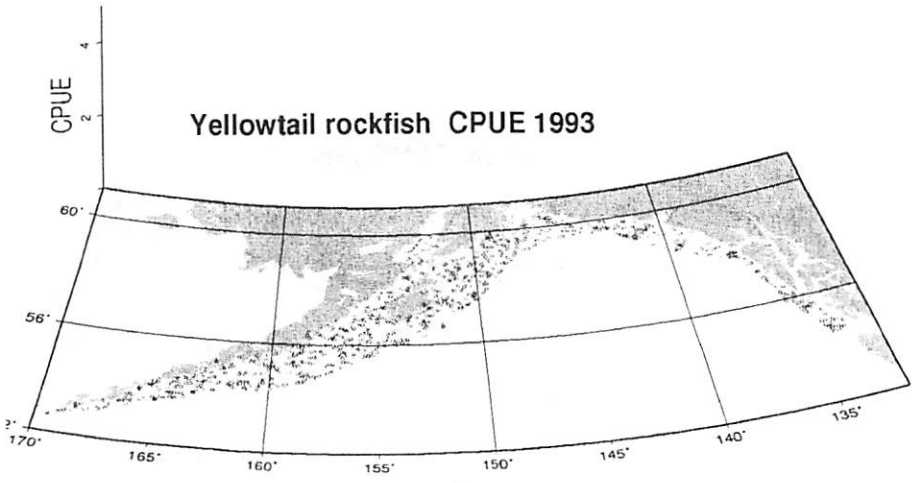
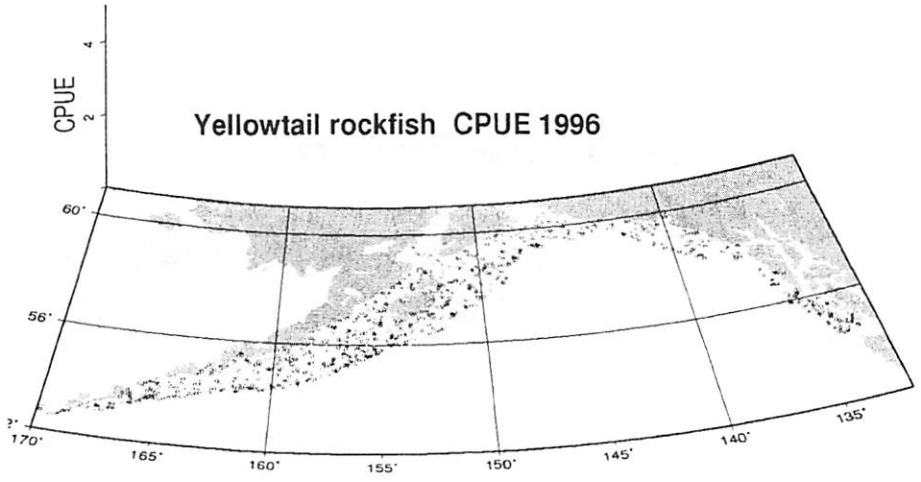


4c.

Figure 4. Yellowtail rockfish survey catch per unit effort (CPUE) trawl surveys 1984-2005



4d.



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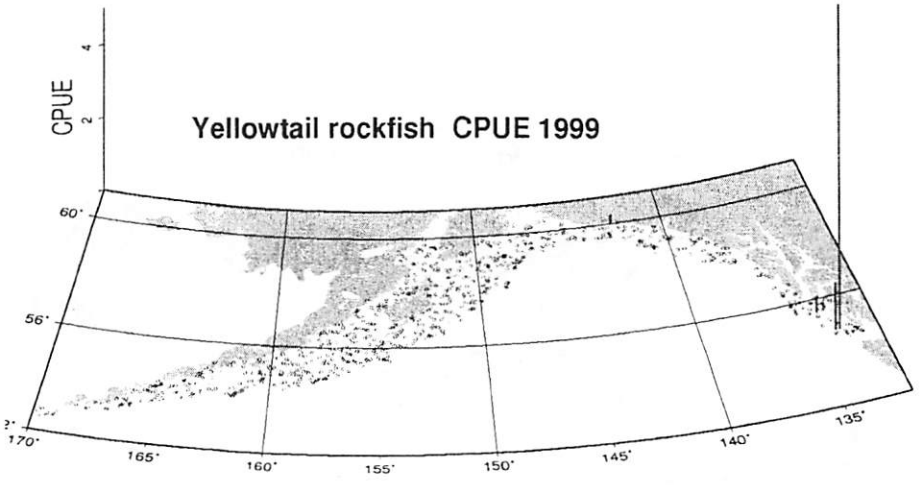
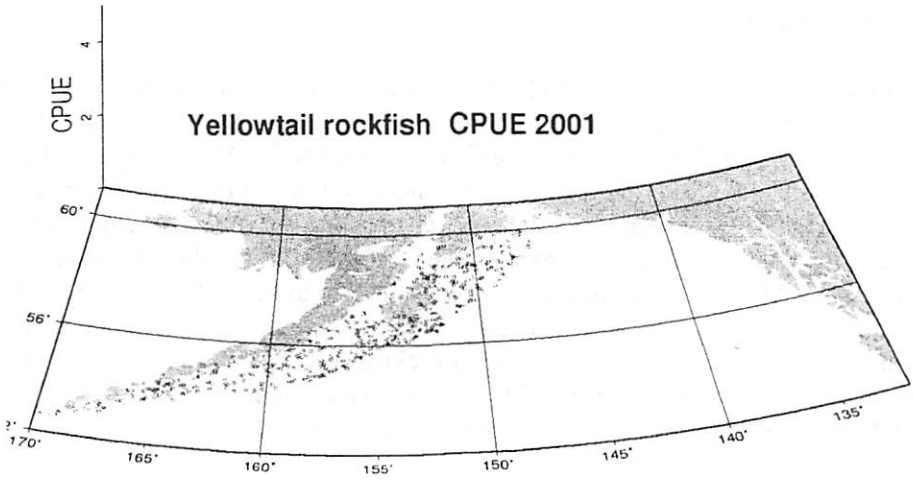


4f.

Figure 4 continued.



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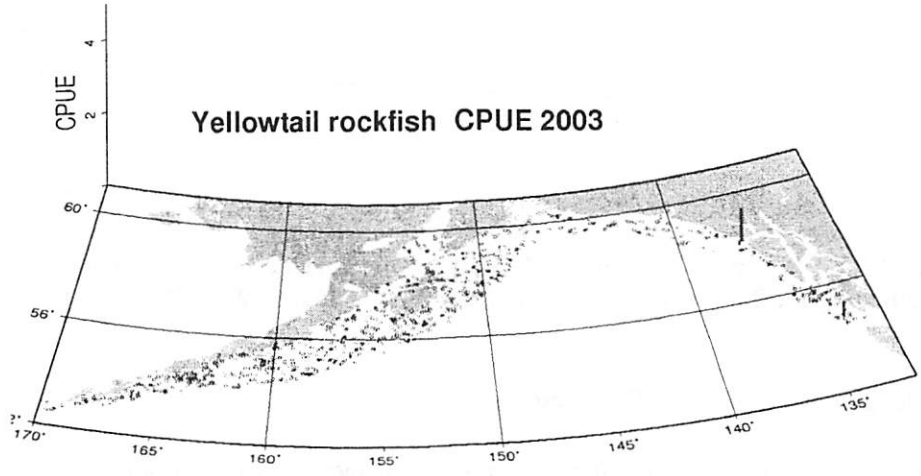

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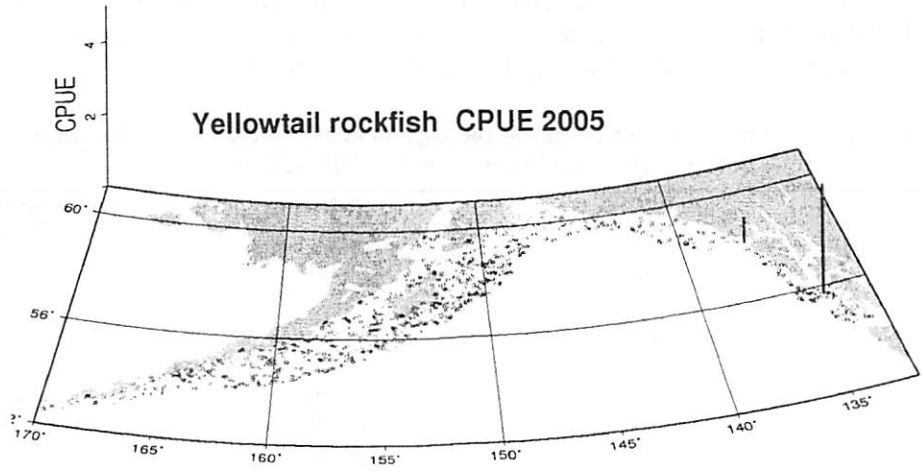


4i.

Figure 4 continued.

3.1.3 Stock Assessment

A single ABC is estimated for the pelagic shelf complex as a whole. An age-structured model is used to estimate the ABC and OFL for the dusky rockfish stock. This stock is currently in Tier 3. Under Amendment 56, Tier 3, the maximum permissible fishing mortality for ABC is $F_{40\%}$ and fishing mortality for OFL is $F_{35\%}$. These fishing rates are applied to the model estimated biomass to generate the ABC and OFL for the stock. The ABC is then apportioned over the three GOA management areas. For widow, yellowtail and dark rockfish, the average of exploitable biomass from the three most recent trawl surveys is used to determine the ABC (Tier 5). In Tier 5, F_{ABC} is defined to be <=0.75 x M. For M of 0.07 for the three species, F_{ABC} is then 0.75 x M, which equals 0.0525. Multiplying this value of F by the current exploitable biomass for dark, widow, and yellowtail rockfish (10,493 mt) yields an ABC of 551 mt for 2006. The ABC is then apportioned over the GOA management areas. Table 4 provides the 2006 OFL and ABC calculated by species based on the 2005 stock assessment.

Table 4. 2006 OFL and ABC, calculated by species.

Species	OFL	ABC
Dusky	5,927	4,885
Dark	735 (combines all three species)	436
Widow		9
Yellowtail		106
Total PSR	6,662	5,436

The 2006 complex OFL is 6,662mt and the ABC is 5,436mt. This is apportioned over the three GOA areas as the following for 2006 WGOA=1,438mt, CGOA = 3,262mt, WYAK =301mt and EYAK/SEO = 435 mt.

3.2 Pelagic Shelf Rockfish Fishery

Pelagic shelf rockfish have been caught almost exclusively with bottom trawls although some contribution from observed longline vessels has occurred. OFLs are specified gulfwide while ABCs and TACs are apportioned by area in the GOA. Overfishing levels in recent years are lower than in the period from 1998-2003 while ABCs have remained fairly constant (Table 5). Generally, in the PSR fishery in the GOA, the TAC has been established as equal to the ABC (Table 6).

Table 5. Overfishing levels (OFL), acceptable biological catch (ABC) and total allowable catch (TAC) levels for the GOA pelagic shelf rockfish complex 1998-2006

Year	OFL	ABC (total all areas)	TAC (total all areas)
1998*	9,420	4,880	4,880
1999	9,420	4,880	4,880
2000	9,040	5,980	5,980
2001	8,220	5,980	5,490
2002	8,220	5,490	5,490
2003	8,220	5,490	5,490
2004	5,570	4,470	4,470
2005	5,680	4,553	4,553
2006	6,662	5,436	5,436

*includes black and blue rockfish which were removed from the GOA FMP in 1998

The majority of the catch occurs in the Central GOA management area (Table 6).

Table 6. Commercial catch[a] (mt) of fish in the pelagic shelf rockfish assemblage in the Gulf of Alaska, with Gulfwide values of acceptable biological catch (ABC) and total allowable catch (TAC), 1988-2005. Updated through October 18, 2005. (Lunsford et al. 2005)

		Regulatory Area[b]					Gulfwide		
Year	Category	Western	Central	Eastern	West Yakutat[c]	Southeast Outside[d]	Total	ABC	TAC
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	471	64	2,891	5,190	5,190
1996	U.S.	182	1,849	265	190	75	2,296	5,190	5,190
1997	U.S.	96	1,959	574	536	38	2,629	5,140	5,140
1998	U.S.	60	2,477	576	553	22	3,113	4,880	4,880
1999	U.S.	130	3,835	694	672	22	4,659	4,880	4,880
2000	U.S.	190	3,074	467	445	22	3,731	5,980	5,980
2001	U.S.	121	2,436	451	439	12	3,008	5,980	5,980
2002	U.S.	185	2,680	457	448	9	3,322	5,490	5,490
2003	U.S.	164	2,194	617	607	10	2,975	5,490	5,490
2004	U.S.	281	2,182	211	199	12	2,885	4,470	4,470
2005	U.S.	118	1,843	218	215	3	2,397	4,553	4,553

[a]Catches for 1988-97 include black rockfish and blue rockfish, which were members of the assemblage during those years.
[b]Catches for West Yakutat and Southeast Outside areas are not available for years before 1996. Eastern area is comprised of the West Yakutat and Southeast Outside areas combined.
[c]West Yakutat area is comprised of statistical areas 640 and 649.
[d]Southeast Outside area is comprised of statistical areas 650 and 659.

Catches have been below TACs. Annual catches have generally increased from 1988 to 1992 and have fluctuated since that time. The pattern can largely be explained by management actions affecting rockfish during this time period. Prior to 1991 TACs for more desirable rockfish species such as Pacific ocean perch were relatively large thus the incentive to target lower valued rockfish (such as dusky rockfish in the PSR complex) was low. As TACs for slope rockfish became more restrictive in the 1990's the incentive to target other rockfish increased, resulting in higher catches for PSR species and a high in 1992 of 3605mt gulfwide. In-season management measures have largely prevented further increases in the dusky rockfish fishery. In some years (e.g., 1997-1998 and 2000-2005) the PSR trawl fishery in the Central GOA was closed prior to reaching the TAC. The fishery was closed either to ensure that catch did not exceed TAC or to prevent excessive bycatch of species such as Pacific Ocean perch and Pacific halibut (Lunsford et al. 2005).

Under the current management the Gulf of Alaska rockfish fisheries open on January 1st for non-trawl gear participants. The opening for trawl gear is near July 1st, but varies year-to-year. The trawl opening is generally timed to coincide with the availability of the quarterly halibut PSC allocation. The fishery is also timed to accommodate the sablefish longline survey that occurs later in the summer. The rockfish

fisheries, which also take some sablefish, must be completed early enough to allow the redistribution of sablefish stocks to avoid possible survey bias. The opening is also scheduled to accommodate in-season management so that managers have adequate catch and effort information to make Federal Register closure announcements, if needed, avoiding the 4th of July holiday weekend. The opening typically coincides with the openings of the Aleutian Islands Pacific ocean perch and Bering Sea flathead sole fisheries to distribute effort among the fisheries.

Both the trawl and non-trawl fisheries are prosecuted from a single TAC, with the harvest from the trawl fishery limited to the remaining available TAC after the non-trawl fleet has prosecuted the fishery from its January 1st opening. Since the non-trawl fleet has shown little interest in the fisheries historically, most of the TAC has been harvested by the trawl fleet.

Most participants target Pacific ocean perch first, until the TAC of that species is fully harvested. Pacific ocean perch are a larger biomass and typically are easier to target than the other two species. The season for Pacific ocean perch usually lasts between one and two weeks. Once the Pacific ocean perch fishery is closed, vessels will usually move on to the northern rockfish or pelagic shelf rockfish directed fisheries. The directed fisheries for northern rockfish and pelagic shelf rockfish typically last less than one month, closing before the end of July. Managers have exercised some caution in managing the fishery, occasionally closing the fisheries to ensure that the TAC is not exceeded. When sufficient TAC has remained available, managers have reopened the fisheries later to allow participants to complete the harvest.

Typically, harvests of the rockfish TACs have resulted in closure of the fisheries, although at times halibut PSC in the deep-water complex has closed the fisheries. In 2000, halibut PSC closed the pelagic shelf rockfish fishery. In 2001, halibut PSC closed both the northern rockfish and pelagic shelf rockfish fisheries in July. The fisheries were reopened on October 1st, when the fourth quarter halibut allocation became available. The fisheries closed again near the end of October, after harvest of the deep-water halibut PSC allocation.

From 1991-2005, dark rockfish have not made up more than 2.6 percent of the assemblage catch for pelagic shelf rockfish (Table 5). In most of these years dark rockfish made up only trace amounts of the catch with more than 99% of the catch made up of dusky rockfish. In 1999, dark rockfish made up 2.6% with dusky rockfish making up 97.4% of the catch. In 2004, widow rockfish made up a larger relative percentage of the total catch than in previous years with dusky rockfish making up 95.5% and dark rockfish 0.4%. In both of these survey years the high observed catch for dark rockfish (2.6% in 1999) and widow rockfish (4.5% in 2004) respectively were due to abnormally large individual tows recorded by observers (C. Lunsford, pers. comm.). In 2005, the catch composition was 98.7% dusky rockfish and 1.1% dark rockfish (Table 7).

Table 7. Percentage of assemblage catch (from observer data)

Year	Dusky	Dark	Yellowtail	Widow
1991	93.5	0.2	5.1	1.2
1992	98.9	0.3	trace	0.8
1993	98.1	trace	0.5	1.4
1994	98.3	1.2	0.1	0.4
1995	99.2	trace	trace	0.8
1996	99.7	trace	trace	0.3
1997	99.9	trace	trace	0.1
1998	99.9	trace	trace	trace
1999	97.4	2.6	trace	trace
2000	99.2	0.6	0.1	0.2
2001	99.7	0.3	trace	trace
2002	99.4	0.5	trace	0.1
2003	98.8	0.8	trace	0.3
2004	95.5	0.4	trace	4.5
2005	98.7	1.1	0.2	trace

Source: C. Lunsford, NMFS

Catches for dusky rockfish are concentrated on several relatively shallow, offshore banks on the outer continental shelf particularly the "W" grounds west of Yakutat, Portlock Bank (northeast of Kodiak Island) and around Albatross Bank south of Kodiak Island (Lunsford et al. 2005). Highest CPUE in the commercial fishery is generally at depths of 100-149 m (Reuter 1999).

From 1988-1995 nearly all of the catch of dusky rockfish was taken by large factory trawlers that processed the fish at sea. Since 1999 a larger proportion of the catch has been taken by smaller shore-based trawlers in the Central GOA and the catch has been delivered to Kodiak-based processing plants. These shore-based trawlers have accounted for the following percentages of trawl catch in the CGOA from 1996-2004 (Table 8).

Table 8. Percent shore-based trawl catch in Central GOA area 1996-2004 (Lunsford et al 2005)

Year	Percent shore-based trawl catch in Central GOA area
1996	27.1
1997	18.1
1998	25.0
1999	45.2
2000	74.4
2001	58.0
2002	49.7
2003	n/a
2004	64.6

Overall catch by gear type from 1998-2005 is shown in Table 9. Some fish are not identified to species and end up in an aggregate PSR catch category. Here dusky rockfish contains both dark and dusky rockfish. Trawl catch accounts for the majority of all catch in the pelagic shelf rockfish fishery. Dark rockfish are caught by jig gear and the jig catch listed in Table 9 could be primarily dark rockfish. The highest jig catch in recent years was 2004 with 53 mt. Trawl catch of dusky rockfish dominates all catch by year and gear type in this assemblage. Separate species codes are being developed to identify dusky rockfish and dark rockfish in future catch accounting given the differentiation to species level. In order to identify dark rockfish as a separate species in the Federal catch accounting system the federal reporting requirements need revision and fairly complex data processing revisions are also required (A. Smoker,

pers. comm.). New reporting requirements will be necessary whether or not the Council chooses to move dark rockfish for State management.

Table 9. Retained catch (mt) of PSR species by gear type 1998-2005 (screened for confidentiality). Source: NMFS Catch Accounting

Species and year	Trawl	Fixed gear*	Jig Gear
1998			
Dusky rockfish	1,288	84	4
PSR**	1,510	0	0
Widow rockfish	18	0	0
Yellowtail rockfish	0	0	2
1999			
Dusky rockfish	2,364	19	3
PSR**	2,136	0	0
Widow rockfish	0	0	0
Yellowtail rockfish	0	1	3
2000			
Dusky rockfish	2,395	15	5
PSR**	1,092	0	0
Widow rockfish	0	0	0
Yellowtail rockfish	0	1	2
2001			
Dusky rockfish	1,932	9	9
PSR**	892	0	0
Widow rockfish	0	0	0
Yellowtail rockfish	24	0	1
2002			
Dusky rockfish	1,807	3	15
PSR**	1,195	0	0
Widow rockfish	0	0	0
Yellowtail rockfish	0	0	1
2003			
Dusky rockfish	2,946	9	8
Widow rockfish***	n/a	n/a	n/a
Yellowtail rockfish	0	0	3
2004			
Dusky rockfish	2,410	8	53
Widow rockfish	n/a	n/a	n/a
Yellowtail rockfish	0	1	1
2005			
Dusky rockfish	2,023	18	17
Widow rockfish	n/a	n/a	n/a
Yellowtail rockfish	0	n/a	1

*fixed gear includes hook and line and pot gear. Jig gear is not included as it is broken out separately.
**PSR aggregate were not identified to species
***total only available in 2003 (7mt)

Dark rockfish are also caught in the state jig fishery. Dark rockfish have often been misidentified as black rockfish and caught in the black rockfish commercial fishery (Orr and Blackburn 2004). Dark rockfish have not been separately identified in the black rockfish fishery, although recent dockside sampling efforts by ADF&G have identified dark rockfish and other pelagic shelf rockfish species during the state jig fishery (see section 3.3 for additional information).

Major bycatch species for hauls targeting pelagic shelf rockfish include primarily northern rockfish and fish in the "other slope" rockfish category, followed by Pacific ocean perch (Ackley and Heifetz 2001). The "other slope" rockfish category includes 15 rockfish species with the primarily caught species in the category being sharpchin, redstripe, harlequin, silvergrey, yellowmouth and redbanded rockfish. Dusky rockfish was the primary bycatch species for hauls targeting northern rockfish (Ackley and Heifetz 2001). Bycatch of pelagic shelf rockfish species in the non-rockfish fisheries is presumed to be small (Lunsford et al 2005).

Discard rates of pelagic shelf rockfish have been lower than the rates for other slope rockfish species and in recent years (200-2004) have ranged from 2.4% to 4.7% (Lunsford et al 2005).

3.3 Other Groundfish Stocks

Groundfish stocks caught in conjunction with fisheries for pelagic shelf rockfish include Pacific ocean perch, northern rockfish and species in the "other slope" rockfish complex. Descriptions of these species and fisheries are contained in the annual Stock Assessment and Fishery Evaluation reports for the Gulf of Alaska (NPFMC 2005).

Dark rockfish are often caught in conjunction with black rockfish. Dark rockfish and black rockfish often co-occur in nearshore kelp beds of the Gulf of Alaska, and are superficially similar in appearance, especially in body color, which can lead to misidentification. Black rockfish are a nearshore, shallow water species that are commercially targeted using jig gear. Black and blue rockfish were both removed from the Federal FMP in 1998 under amendment 46 and turned over to the State of Alaska for management due to concerns of overfishing these species under the relatively high TAC for the pelagic shelf species complex (NPFMC 1998).

Black rockfish is now solely managed by the State of Alaska following removal from the GOA groundfish FMP of black and blue rockfish under amendment 46 to the FMP (NPFMC 1998). Commercial fisheries targeting black rockfish use jig gear. The commercial fishery for black rockfish opens in all Westward districts on January 1st and remains open until December 31, or until GHLs are attained (Mattes and Failer-Rounds 2005). Harvests are monitored through fish ticket records, processor reports and dockside sampling of commercial catches. Some black rockfish is also landed as bycatch in other fisheries (Ruccio et al. 2004). Trip limits in the Kodiak District for black rockfish are 5,000 pounds per five day harvest and landing. Vessel operators must register specifically for the black rockfish fishery in this district. No trip limits are imposed in the Chignik or South Alaska Districts of the Westward Region.

Canneries processing black rockfish in Kodiak in 2003 noted that increased sorting efforts for dusky and dark rockfish led to estimates that many deliveries that were close to 5,000 pounds total for all rockfish species often contained ¼ to ½ "dusky" rockfish (combined light and dark dusky rockfish species) once sorted (Ruccio et al. 2004). Total harvest in 2003 as reported on fish tickets for Kodiak, Chignik and South Alaska Peninsula areas for black rockfish was 141,265 pounds and for combined dusky rockfish species 17,967 pounds. The majority of the dusky rockfish harvest (17,910 of the total 17,967 pounds) was taken in the Kodiak District.

Information from ADF&G has indicated that as much as 25% of the fish reported as black rockfish caught in the Kenai Peninsula jig fishery may have actually been dark rockfish (Lunsford et al 2005).

Catch and effort data for the Kodiak District from 1990-2004 are shown in Table 10.

Table 10. Catch and effort, excluding discards, for the Kodiak Area black rockfish fishery 1998-2004 (from Sagalkin and Spalinger 2005)

Year	Vessels	Number of Landings	Directed GHL	Total Harvest (lbs)	Price per pound
1998	76	355	190,000	195,623	0.32
1999	84	316	185,000	131,986	0.40
2000	92	282	185,000	255,044	0.41
2001	55	194	185,000	220,825	0.40
2002	41	143	185,000	204,547	0.43
2003	49	106	185,000	85,362	0.36
2004	52	140	185,000	123,231	0.36

A total of 76 vessels harvested 231,555 pounds (105 mt) of black rockfish from the combined Kodiak, Chignik and Eastern District of the South Alaska Peninsula Area in the 2004 fishery (Sagalkin and Spalinger 2005). Of those participating, 31 vessels harvested black rockfish in the directed commercial fishery with jig gear while the remainder landed it as bycatch in other fisheries (Sagalkin and Spalinger 2005). The majority of the harvest was from the Kodiak District.

Dockside sampling efforts have increased in recent years and samplers have collected a range of data in addition to fish ticket records, fishing locations and effort. Recently data has been collected during the black rockfish jig fishery on fish length, sex, reproductive maturity, and otoliths for aging (Sagalkin and Spalinger 2005). Species composition data from dockside sampling indicates that the percentage of black rockfish identified as darks is higher in recent years (Figure 5 and Figure 6).

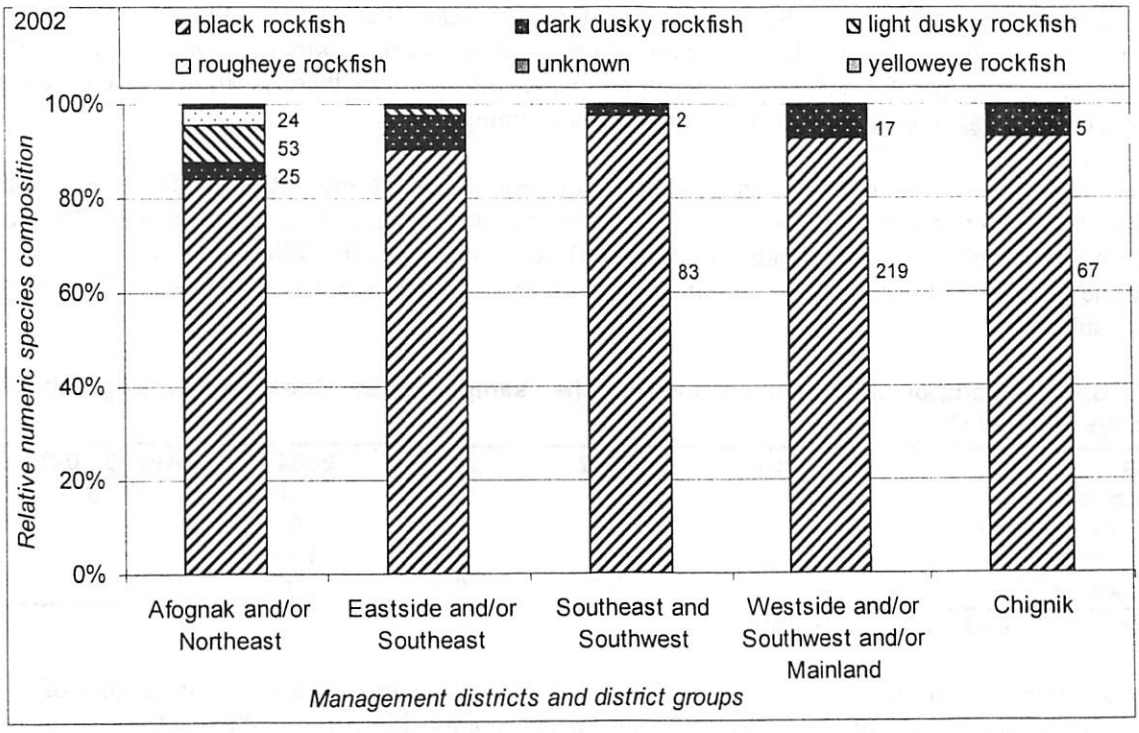


Figure 5. Percent species composition landed in the 2002 Black rockfish jig fishery (Source ADF&G)

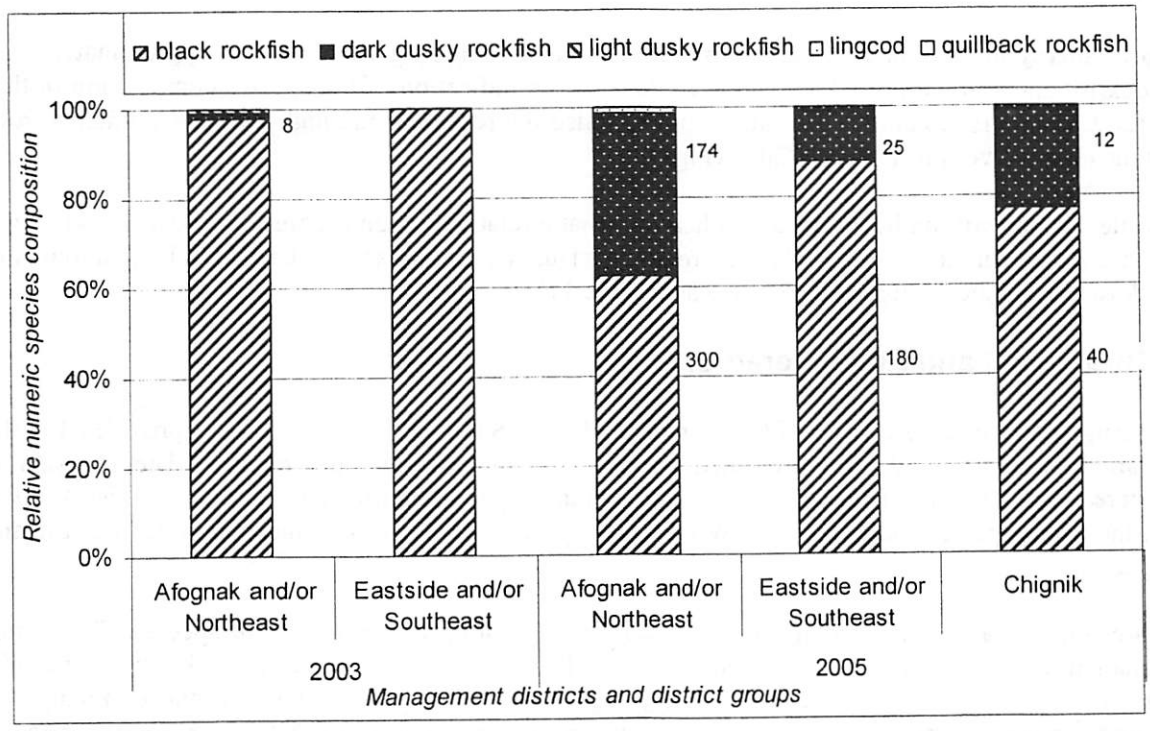


Figure 6. Percent species composition landed in the Black rockfish jig fishery 2003, 2005 (Source ADF&G)

Figures 5 and 6 show the percent species composition from the directed black rockfish jig fishery from dockside sampling in the Westward Region. In all areas and years the catch is predominantly black rockfish, however in 2005 a substantial proportion of the catch was dark rockfish (Figure 6). Generally processors offer less money for dark rockfish than for black rockfish, thus there is limited incentive for the fishermen to separate the two species (N. Sagalkin pers. comm.).

Preliminary data from the Cook Inlet management region also shows the proportion of dark rockfish in the landed black rockfish catch (Table 11). The relative proportion of dark rockfish in the catch has ranged from 0.9 to 5.6%. The lower rates of 0.9 in 2001, as compared to the following three years, may be due to the higher relative percentage of unidentified dusky rockfish in that year that were likely dark rockfish (Table 11).

Table 11. Species composition of pelagic shelf rockfish sampled in the Cook Inlet Area jig fishery and surveys 2001-2004.

Species	2001	2002	2003	2004	Ave (01-04)
Black rockfish	94.4	94.7	93.5	96.4	94.5
Unspec. Dusky rockfish	4.3	0.5	0.2	0.0	1.9
Dark rockfish	0.9	4.2	5.6	3.3	3.0
Dusky rockfish	0.4	0.7	0.8	0.3	0.5

Source: W. Dunn, ADF&G preliminary data

Dockside sampling data in the 2004 fishery for the Cook Inlet Area indicated that from a total of 672 rockfish sampled in the ports of Homer and Seward, species composition were 79% black rockfish, 7% dusky rockfish, 1% quillback rockfish and 13% yelloweye rockfish (Trowbridge and Bechtol 2004). Dusky rockfish were not separated into dusky and dark by species. Of the samples collected 87% came from the directed jig fishery.

A research survey in 2004 in the Shumagins area using a chartered jig vessel caught approximately 900 black rockfish and 434 dark rockfish, which could show an indication of the species composition in that region (D. Urban pers. comm.). The Shumagins are also the region of the high biomass estimates from tows in the trawl surveys in 1999 and 2005 (Figure 1).

Thus while data are still limited there are indications that a relatively high proportion of dark rockfish are caught in the commercial fisheries for black rockfish. Dusky rockfish are not caught in high amounts in the black rockfish fishery (Figure 5, Figure 6 and Table 11).

3.4 Threatened and Endangered Species

The Endangered Species Act of 1973 as amended [16 U.S.C. 1531 et seq; ESA], provides for the conservation of endangered and threatened species of fish, wildlife, and plants. The program is administered jointly by the NMFS for most marine mammal species, marine and anadromous fish species, and marine plants species and by the USFWS for bird species, and terrestrial and freshwater wildlife and plant species.

The designation of an ESA listed species is based on the biological health of that species. The status determination is either threatened or endangered. Threatened species are those likely to become endangered in the foreseeable future [16 U.S.C. § 1532(20)]. Endangered species are those in danger of becoming extinct throughout all or a significant portion of their range [16 U.S.C. § 1532(20)]. Species can be listed as endangered without first being listed as threatened. The Secretary of Commerce, acting through NMFS, is authorized to list marine fish, plants, and mammals (except for walrus and sea otter)

and anadromous fish species. The Secretary of the Interior, acting through the USFWS, is authorized to list walrus and sea otter, seabirds, terrestrial plants and wildlife, and freshwater fish and plant species.

In addition to listing species under the ESA, the critical habitat of a newly listed species must be designated concurrent with its listing to the "maximum extent prudent and determinable" [16 U.S.C. § 1533(b)(1)(A)]. The ESA defines critical habitat as those specific areas that are essential to the conservation of a listed species and that may be in need of special consideration. Federal agencies are prohibited from undertaking actions that destroy or adversely modify designated critical habitat. Some species, primarily the cetaceans, which were listed in 1969 under the Endangered Species Conservation Act and carried forward as endangered under the ESA, have not received critical habitat designations.

Table 12. Species listed as endangered and threatened under the ESA that may be present in the Federal waters off Alaska include:

Common Name	Scientific name	ESA status
Northern Right Whale	*Balaena glacialis*	Endangered
Bowhead Whale [1]	*Balaena mysticetus*	Endangered
Sei Whale	*Balaenoptera borealis*	Endangered
Blue Whale	*Balaenoptera musculus*	Endangered
Fin Whale	*Balaenoptera physalus*	Endangered
Humpback Whale	*Megaptera novaeangliae*	Endangered
Sperm Whale	*Physeter macrocephalus*	Endangered
Snake River Sockeye Salmon	*Onchorynchus nerka*	Endangered
Short-tailed Albatross	*Phoebaotria albatrus*	Endangered
Steller Sea Lion	*Eumetopias jubatus*	Endangered and Threatened [2]
Snake River Fall Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Snake River Spring/ Summer Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Puget Sound Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Lower Columbia River Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Upper Willamette River Chinook Salmon	*Onchorynchus tshawytscha*	Threatened
Upper Columbia River Spring Chinook Salmon	*Onchorynchus tshawytscha*	Endangered
Upper Columbia River Steelhead	*Onchorynchus mykiss*	Endangered
Snake River Basin Steelhead	*Onchorynchus mykiss*	Threatened
Lower Columbia River Steelhead	*Onchorynchus mykiss*	Threatened
Upper Willamette River Steelhead	*Onchorynchus mykiss*	Threatened
Middle Columbia River Steelhead	*Onchorynchus mykiss*	Threatened
Spectacled Eider	*Somateria fishcheri*	Threatened
Steller Eider	*Polysticta stelleri*	Threatened

[1] The bowhead whale is present in the Bering Sea area only.
[2] Steller sea lion are listed as endangered west of Cape Suckling and threatened east of Cape Suckling.

Of the species listed under the ESA and present in the action area, some may be negatively affected by commercial groundfish fishing. Section 7 consultations with respect to the actions of the Federal groundfish fisheries have been done for all the species listed above, either individually or in groups.

Additional information on endangered and threatened species appears in the Alaska Groundfish Fisheries Programmatic Supplemental Environmental Impact Statement (NMFS 2004).

3.5 Marine Mammals

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 bairdii* and *Mesoplodon spp.*)] and pinnipeds [northern fur seals (*Callorhinus ursinus*) and Pacific harbor seals (*Phoca vitulina*)] and the sea otter (*Enhydra lutris*).

Direct and indirect interactions between marine mammals and groundfish harvest occur due to overlap in the size and species of groundfish harvested in the fisheries that are also important marine mammal prey and due to temporal and spatial overlap in marine mammal foraging and commercial fishing activities. A detailed analysis of the effects of commercial fisheries on marine mammals appears in the Alaska Groundfish Fisheries Programmatic Supplemental Environmental Impact Statement (NMFS 2004).

3.6 Seabirds

Many seabirds occur in Alaskan waters indicating a potential for interaction with commercial fisheries. The most numerous seabirds in Alaska are northern fulmars, storm petrels, kittiwakes, murres, auklets, and puffins. These groups, and others, represent 38 species of seabirds that breed in Alaska. Eight species of Alaska seabirds breed only in Alaska and in Siberia. Populations of five other species are concentrated in Alaska but range throughout the North Pacific region. Marine waters off Alaska provide critical feeding grounds for these species as well as others that do not breed in Alaska but migrate to Alaska during summer, and for other species that breed in Canada or Eurasia and overwinter in Alaska. A detailed analysis of the effects of commercial fisheries on seabirds appears in the Alaska Groundfish Fisheries Programmatic Supplemental Environmental Impact Statement (NMFS 2004).

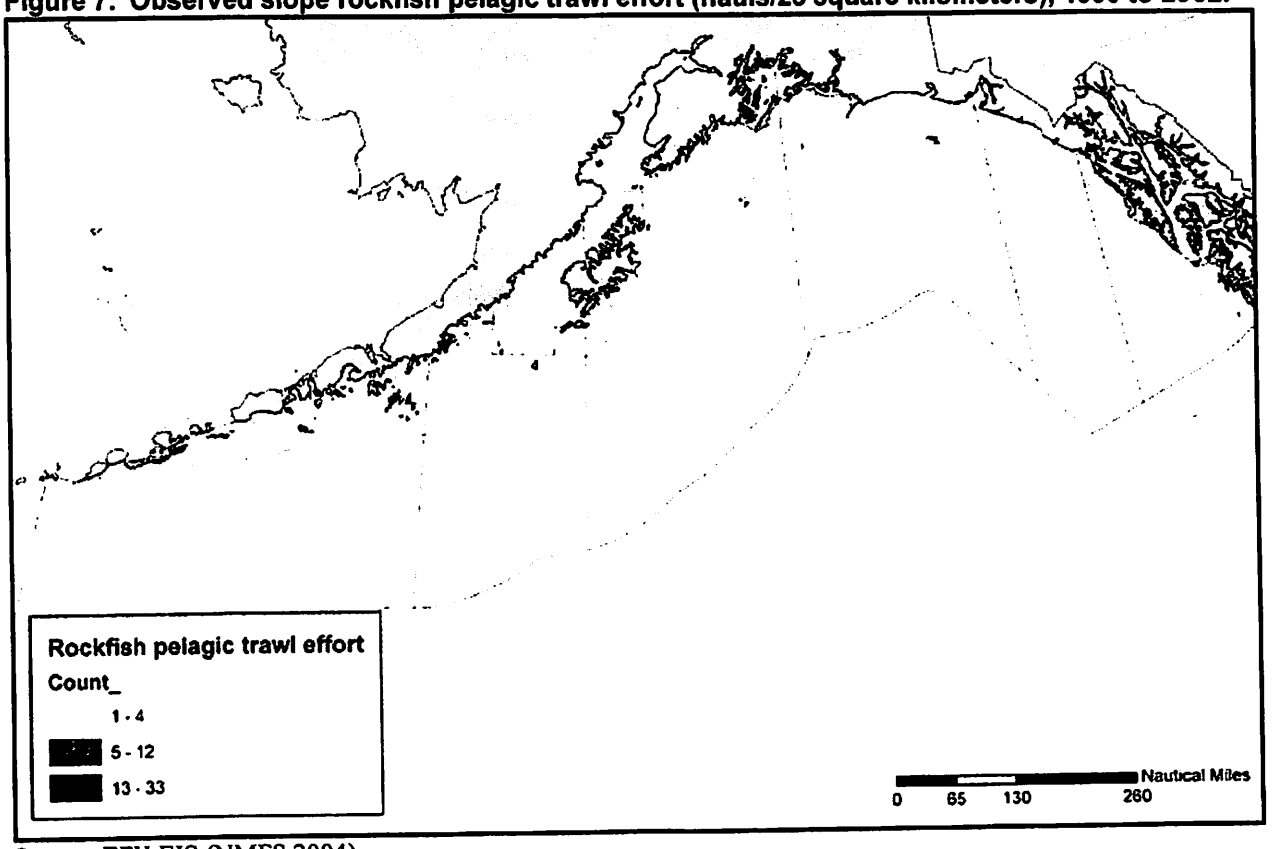
3.7 Habitat and Essential Fish Habitat

Section 303(a)(7) of the Magnuson-Stevens Act requires all FMPs to describe and identify Essential Fish Habitat (EFH), defined as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." In addition, FMPs must minimize to the extent practicable adverse effects of fishing on EFH and identify other actions to conserve and enhance EFH. To this end, the Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska (NMFS, 2004) provides a detailed analysis of the interactions between fisheries and EFH. Most of the controversy surrounding EFH concerns the effects of fishing activities on sea floor habitats. The analysis concludes that there are long term effects of fishing on benthic habitat features off Alaska and acknowledges that considerable scientific uncertainty remains regarding the consequences of those effects on the sustained productivity of managed species. Based on the best available scientific information, the EIS concludes that the effects on EFH are minimal because the analysis finds no indication that continued fishing activities at the current rate and intensity would alter the capacity of EFH to support health populations of managed species over the long term. The analysis concludes that no Council-managed fishing activities have more than a minimal adverse effect on EFH, which is the regulatory standard requiring action to minimize adverse effects under the MSA. Notwithstanding these findings, the Council elected to adopt a variety of new measures to conserve EFH, which are scheduled to be implemented by August 13, 2006.

Figure 7 shows the concentration of observed rockfish pelagic trawl hauls from 1990 to 2002. The figure suggests that slope rockfish pelagic trawl fisheries occur at relatively low effort levels (fewer than 33

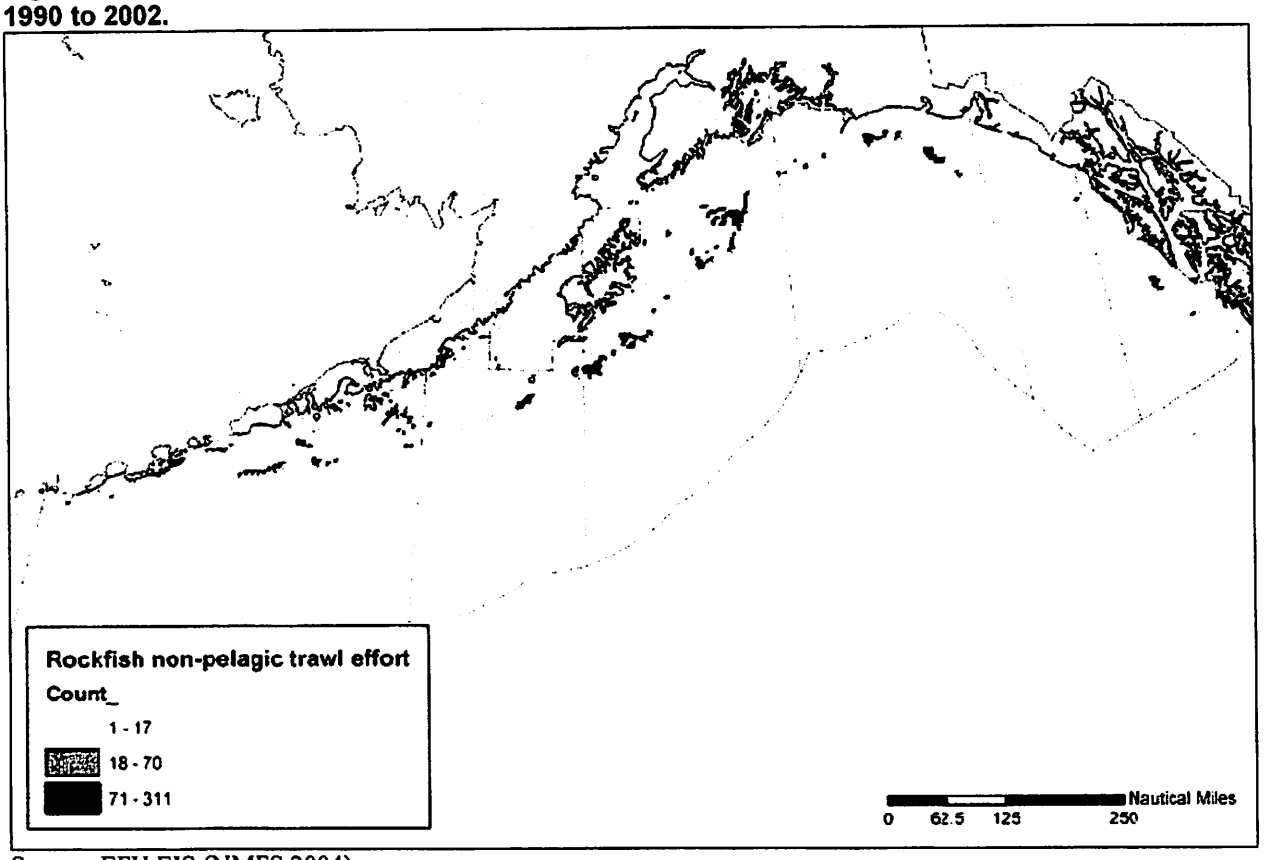
observed hauls/25 square kilometers from 1990 to 2002) in all locations in the Gulf of Alaska. The areas of greatest concentration are on the slope south of the Kenai Peninsula, with fewer areas of concentration south of Kodiak Island. Figure 8 shows the concentration of observed rockfish non-pelagic (bottom) trawl hauls from 1990 to 2002. The figure suggests that bottom trawl fishery for slope rockfish has taken place at relatively low effort levels all along slope areas. As with the pelagic trawl effort, concentrations of bottom trawl effort (more than 71 observed hauls/25 square kilometers from 1990 to 2002) in the Central Gulf have occurred south of Kodiak Island and south of the Kenai Peninsula. The Pacific Ocean perch fishery occurs over sand, gravel, and mud at depths of 90 to 200 fathoms. The northern rockfish and pelagic shelf rockfish fisheries occur over rock, gravel, and hard sand at depths of 40 to 80 fathoms. The analysis of the EIS provides detailed descriptions of EFH and the effects of fishing on EFH (NMFS, 2004).

Figure 7. Observed slope rockfish pelagic trawl effort (hauls/25 square kilometers), 1990 to 2002.



Source: EFH EIS (NMFS 2004).

Figure 8. Observed slope rockfish non-pelagic (bottom) trawl effort (hauls/25 square kilometers), 1990 to 2002.



Source: EFH EIS (NMFS 2004).

3.8 Ecosystem Considerations

Ecosystem considerations from the pelagic shelf rockfish fishery are summarized annually in the Gulf of Alaska Stock Assessment and Fishery Evaluation (SAFE) report (NPFMC 2005). These considerations are summarized according to the ecosystem effects on the pelagic shelf rockfish stock as well as the potential fishery effects on the ecosystem. Generally, determination of ecosystem considerations is limited by lack of biological and habitat information for rockfish.

The following table summarizes the available information on indicators of ecosystem effects for this fishery.

Table 13. Analysis of ecosystem considerations for pelagic shelf rockfish and the dusky rockfish fishery.

Ecosystem effects on GOA pelagic shelf rockfish			
Indicator	**Observation**	**Interpretation**	**Evaluation**
Prey availability or abundance trends			
Phytoplankton and Zooplankton	Important for larval and post-larval survival but no information known	May help determine year class strength, no time series	Possible concern if some information available
Predator population trends			
Marine mammals	Not commonly eaten by marine mammals	No effect	No concern
Birds	Stable, some increasing some decreasing	Affects young-of-year mortality	Probably no concern
Fish (Halibut, arrowtooth, lingcod)	Arrowtooth have increased, others stable	More predation on juvenile rockfish	Possible concern
Changes in habitat quality			
Temperature regime	Higher recruitment after 1977 regime shift	Contributed to rapid stock recovery	No concern
Winter-spring environmental conditions	Affects pre-recruit survival	Different phytoplankton bloom timing	Causes natural variability, rockfish have varying larval release to compensate
Production	Relaxed downwelling in summer brings in nutrients to Gulf shelf	Some years are highly variable like El Nino 1998	Probably no concern, contributes to high variability of rockfish recruitment

GOA pelagic rockfish fishery effects on ecosystem			
Indicator	**Observation**	**Interpretation**	**Evaluation**
Fishery contribution to bycatch			
Prohibited species	Stable, heavily monitored	Minor contribution to mortality	No concern
Forage (including herring, Atka mackerel, cod, and pollock)	Stable, heavily monitored (P. cod most common)	Bycatch levels small relative to forage biomass	No concern
HAPC biota	Medium bycatch levels of sponge and corals	Bycatch levels small relative to total HAPC biota, but can be large in specific areas	Probably no concern
Marine mammals and birds	Very minor take of marine mammals, trawlers overall cause some bird mortality	Rockfish fishery is short compared to other fisheries	No concern
Sensitive non-target species	Likely minor impact on non-target rockfish	Data limited, likely to be harvested in proportion to their abundance	Probably no concern
Fishery concentration in space and time	Duration is short and in patchy areas	Not a major prey species for marine mammals	No concern, fishery is being extended for several months starting 2006
Fishery effects on amount of large size target fish	Depends on highly variable year-class strength	Natural fluctuation	Probably no concern
Fishery contribution to discards and offal production	Decreasing	Improving, but data limited	Possible concern with non-target rockfish
Fishery effects on age-at-maturity and fecundity	Black rockfish show older fish have more viable larvae	Inshore rockfish results may not apply to longer-lived slope rockfish	Definite concern, studies being initiated in 2005

4.0 ENVIRONMENTAL IMPACTS

4.1 Alternative 1

4.1.1 Impacts on Pelagic Shelf Rockfish Stocks

Under alternative 1, Status Quo, there would be no change to the management of the pelagic shelf rockfish assemblage. Complex-level ABCs, OFLs and TACs would continue to be specified. As the TAC for the complex as a whole is largely based upon the biomass of dusky rockfish, the dark rockfish stock would continue to be at risk for potential overfishing under this relatively high complex-level TAC. One change that is anticipated under the status quo alternative is that catch accounting would begin to identify dark rockfish in the catch records due to the segregation of dark and light dusky by species. Catch information for dark rockfish will improve. However no management measures to restrict the harvest of dark rockfish will be taken.

4.1.2 Impacts on Other Groundfish Stocks

Under alternative 1, Status Quo, there would be no change to management of the pelagic shelf rockfish assemblage, thus there is no anticipated change in the impact of this fishery on other groundfish stocks. Bycatch in the PSR fishery includes northern rockfish and species in the "other slope" rockfish complex (see Section 3.2 for more information). The pelagic shelf rockfish fishery will continue to concentrate on dusky rockfish and relative bycatch of species is unlikely to change.

The impact on the State-managed black rockfish fishery is unlikely to change under current management of the pelagic shelf rockfish complex. Dark rockfish will likely continue to be caught in conjunction with the black rockfish fishery. Under the current management system there is limited incentive to report dark rockfish landings as separate from black rockfish landings. With the separation of dark and dusky rockfish by species, State reporting codes will change (as with Federal) and improved information on dark rockfish information is likely.

4.1.3 Impacts on Threatened or Endangered Species

This alternative is not expected to have negative impacts on endangered or threatened species beyond those identified in previous consultations under section 7 of the Endangered Species Act. No spatial or temporal dispersion of pelagic shelf rockfish catch is anticipated.

4.1.4 Impacts on Marine Mammals

Direct and indirect interactions between marine mammals and harvests from the pelagic shelf rockfish fisheries are not expected to differ under this alternative. Total catch is expected to be the same and the distribution of catch is not expected to differ in a way that will affect interactions.

4.1.5 Impacts on Seabirds

Direct and indirect interactions between seabirds and harvests from the pelagic shelf rockfish fisheries are not expected to differ under this alternative. Total catch is expected to be the same and the distribution of catch is not expected to differ in a way that will affect interactions.

4.1.6 Impacts on Habitat and EFH

The Status Quo alternative is not expected to have any additional impacts on habitat or EFH. Effort levels for rockfish fisheries in general (of which pelagic shelf rockfish fishery is a small portion) are considered low and occur in areas of less sensitive habitat (rock, gravel, mud, and sand). The current fishing has minimal effects on benthic habitat and essential fish habitat (EFH EIS). These effects are likely to continue, if current management is maintained.

4.1.7 Impacts on the Ecosystem

Effects of fishing on the Gulf of Alaska marine ecosystem are analyzed in detail in the Alaska Groundfish Fisheries Programmatic SEIS. Additional impacts on the ecosystem from the pelagic shelf rockfish fishery are summarized annually in the SAFE report. The status quo alternative is not anticipated to have any negative impact on the Gulf of Alaska ecosystem.

4.1.8 Socioeconomic Impacts

Socioeconomic impacts of maintaining the current pelagic shelf rockfish assemblage are anticipated to be minimal. Dark rockfish make up a small percentage of overall catch in the complex. Retaining them in the pelagic shelf rockfish complex has limited economic impact. Additional information on participation in the PSR fishery, ex-vessel values in the PSR fishery and economic impacts can be found in the Regulatory Impact Review in Chapter 5 of this document.

4.2 Alternative 2

4.2.1 Impacts on Pelagic Shelf Rockfish Stocks

Alternative 2, transferring dark rockfish to State management by removing it from the Federal FMP, is anticipated to result in better management of the dark rockfish stock. Currently dark rockfish are managed under a relatively high complex-level TAC which is set primarily for dusky rockfish. If dark rockfish are removed from the pelagic shelf rockfish assemblage, the State will manage them as a single stock in State and Federal waters. The majority of the dark rockfish stock are presumed to be located in near-shore, shallow waters. The biennial trawl survey conducted by NMFS does not adequately assess this habitat and thus does not adequately assess the biomass of dark rockfish stocks.

Dark rockfish are caught infrequently in the Federal PSR fishery but more frequently in the State jig fishery. Under State management, dark rockfish would be assessed and managed as a single stock and the potential would exist to manage on smaller regions than the Federal management of the complex. There would be a decrease in the overall annual ABCs (and TACs) for the pelagic shelf rockfish complex as a result of no longer including the fractional amount of biomass contributed by the dark rockfish stock.

In recent years (with the exception of 2005) this decrease in the overall ABC (and TAC) has been less than 2% (Table 14). As discussed in Sections 3.1 and 3.2, the ABC and TAC for the complex is primarily based on the much larger biomass of dusky rockfish thus the contribution from dark rockfish is very low in most years. Widow and yellowtail rockfish would continue to be managed within the pelagic shelf rockfish complex and the relative contribution to the ABC from these stocks will continue to be incorporated into the PSR ABC.

Table 14. ABC for the pelagic shelf rockfish complex 2002-2006 and the relative contribution from the dark rockfish stock to the overall complex ABC.

Year	PSR ABC	Dark rockfish ABC (mt)	% contribution to ABC
2002	5,490	90	1.64
2003	5,490	90	1.64
2004	4,470	88	1.99
2005	4,553	88	1.93
2006	5,436	436	8.02

As discussed in section 3.1, the trawl survey biomass estimate for dark rockfish in 2005 was much higher than previous years (12% of the 2005 biomass estimate was made up of dark rockfish). Again, this was due to one abnormally large tow in the survey. The ABC is based upon a three survey average due to fluctuations in biomass from one survey to the next (Lunsford et al. 2005). Thus, even with the three survey average taken into consideration, the percent contribution to the ABC in 2006 from dark rockfish is 8%.

In all fisheries (including Federal fisheries), State managers would set an MRA (or separate bycatch limit) to limit incidental catch. Although uncertain, these MRAs would likely allow minor amounts of dark rockfish to continue to be retained in the pelagic shelf rockfish fishery. Since historic catches are approximately 1 percent or less of pelagic shelf rockfish catch, it is unlikely that the MRA would compel substantial discarding or reduce catch. The MRA, however, would prevent targeting of dark rockfish, which could occur under current rules. In other directed fisheries, discards of dark rockfish required by the MRA are likely to be minor, as catch of the species is relatively small relative to target catch.

Under this alternative the State would assume all management responsibilities for dark rockfish. This would entail assessment of the stock, management and all recordkeeping and recording requirements. Both federal and State recordkeeping requirements would be adjusted to account for dark rockfish as a species separate from dusky rockfish. Catch information for dark rockfish will be improved by these changes in catch accounting. New reporting requirements will be necessary whether or not the Council chooses to move dark rockfish for State management. The State of Alaska reporting requirements and catch processing coding changes will also be necessary. Creation of a State Fishery Management Plan for dark rockfish will also presumably be necessary as well as the reporting requirements (logbook requirements and other dockside sampling as per black rockfish) that are necessary for directed State fisheries.

A potential exists for exploiting the State management of this stock in Federal waters under this alternative. Hypothetically, a vessel could refuse to comply with State regulations for the State dark rockfish fishery (e.g., a permit and compliance with directed fishing according to State law) and then proceed to fish the species in Federal waters. A similar situation occurred in the scallop fishery in 1995, when a Federal Scallop FMP did not exist (for more information see the 2006 Scallop SAFE report, NPFMC 2006). The fishery was eventually closed in State and Federal waters by emergency order and re-opened when a Federal FMP officially delegating authority to the State was approved. However, given the limited interest in the dark rockfish fishery, coupled with the predominance of the biomass of the nearshore species in State waters, it appears highly unlikely that such a situation would develop. Nevertheless, if a situation as described were to develop, emergency State and Federal measures would be immediately taken to protect the dark rockfish stock and ameliorate the situation.

4.2.2 Impacts on other groundfish stocks

Transferal to State management under alternative 2 is expected to have no impact on other Federally managed groundfish stocks. As discussed in Chapter 3 dark rockfish make up a very small percentage of the overall biomass and catch in the pelagic shelf rockfish complex. Dusky rockfish make up the majority of all catch (and the biomass of the complex). Impacts to the bycatch of species such as northern rockfish are expected to be the same under alternative 2 as under the current status quo alternative.

State management of dark rockfish under this alternative would enhance reporting of dark rockfish in both the directed dark rockfish fishery as well as the black rockfish fishery. This would enhance data collection on dark rockfish and black rockfish stocks and improve catch accounting for both species.

4.2.3 Impacts on threatened or endangered species

This alternative is not expected to have negative impacts on endangered or threatened species beyond those identified in previous consultations under section 7 of the Endangered Species Act. No spatial or temporal dispersion of pelagic shelf rockfish catch is anticipated.

4.2.4 Impacts marine mammals

Direct and indirect interactions between marine mammals and harvests from the pelagic shelf rockfish fisheries are not expected to differ under this alternative. Total catch is expected to be the same or slightly decreased and the distribution of catch is not expected to differ in a way that will affect interactions.

4.2.5 Impacts on seabirds

Direct and indirect interactions between seabirds and harvests from the pelagic shelf rockfish fisheries are not expected to differ under this alternative. Total catch is expected to be the same or slightly decreased and the distribution of catch is not expected to differ in a way that will affect interactions.

4.2.6 Impacts on habitat and EFH

This alternative is not expected to have any additional impacts on habitat or EFH. Effort levels for rockfish fisheries in general (of which pelagic shelf rockfish fishery is a small portion) are considered low and occur in areas of less sensitive habitat (rock, gravel, mud, and sand). The current fishing has minimal effects on benthic habitat and essential fish habitat (EFH EIS). These effects are likely to continue, if current management is maintained.

4.2.7 Impacts on the ecosystem

Effects of fishing on the Gulf of Alaska marine ecosystem are analyzed in detail in the Alaska Groundfish Fisheries Programmatic SEIS. Additional impacts on the ecosystem from the pelagic shelf rockfish fishery are summarized annually in the SAFE report. This alternative is not anticipated to have any negative impact on the Gulf of Alaska ecosystem.

4.2.8 Socio-economic impacts

Removing dark rockfish from the Federal FMP and developing State management would convey additional protection for the species from overfishing and would allow for more conservative and potentially area (and species) specific management. Removal of dark rockfish from the pelagic shelf rockfish complex could result in decreases in the pelagic shelf rockfish TAC. As discussed in section 4.2.1, the contribution to the TAC from the dark rockfish portion of the PSR assemblage is variable from one survey year to the next. It has ranged from 2-8% of the total complex ABC from 2000-2006.

Additional information on participation in the PSR fishery, ex-vessel values in the PSR fishery and economic impacts can be found in the Regulatory Impact Review in Chapter 5 of this document.

4.2.9 Cumulative Impacts

This section describes the cumulative effects of the various alternatives. Cumulative effects of an alternative are the impacts on the environment resulting from the incremental effect of the alternative when added to other past, present or reasonably foreseeable future actions.

Direct and indirect effects of this action have been discussed in previous sections of this analysis. Additional actions considered here are ones which are reasonably foreseeable and may in conjunction with the proposed action have an additional impact.

One action of this nature of the Central GOA pilot rockfish program, approved by the Council under alternative 68 to the GOA groundfish FMP. This program will allocate rockfish species in the Central GOA management area in order to convey short-term economic stability to the region while comprehensive GOA groundfish rationalization initiatives are undertaken by the Council and NMFS. The pelagic shelf rockfish assemblage is among the species to be allocated under this program. A direct allocation of PSR will be specified, while dark rockfish, if they are removed from the assemblage, will likely have either a separate MRA or be included under the aggregate rockfish MRA. In either case the incremental effect of implementing this program with dark rockfish excluded from the PSR allocation is expected to be minimal. This program is anticipated to be implemented in 2008.

As with implementation of the pilot rockfish program, any incremental effect of implementing long-term comprehensive rationalization of the GOA groundfish fishery with dark rockfish removed from the PSR assemblage is likewise expected to be minimal.

5.0 REGULATORY IMPACT REVIEW

5.1 Introduction

This Regulatory Impact Review (RIR) examines the costs and benefits of a proposed amendment to remove dark rockfish from the Gulf of Alaska groundfish FMP.

5.2 What is a Regulatory Impact Review?

The preparation of an RIR is required under Presidential Executive Order (E.O.) 12866 (58 *FR* 51735: October 4, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following Statement from the E.O.:

> 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 nonetheless essential to consider. Further, in choosing among alternative regulatory approaches agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.

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

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, local or tribal governments or communities;
Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

5.3 Statutory Authority

Under the Magnuson-Stevens Act, the United States has exclusive fishery management authority over all marine fishery resources found within the exclusive economic zone (EEZ). The management of these marine resources is vested in the Secretary of Commerce (Secretary) and in the Regional Fishery Management Councils. The groundfish fisheries in the EEZ off Alaska are managed under the Fishery Management Plan (FMP) for Groundfish of the GOA.

5.4 Purpose and Need for Action

Dark rockfish are federally managed under the pelagic shelf rockfish (PSR) assemblage in the Gulf of Alaska Groundfish Fishery Management Plan (FMP). Members of this assemblage include the following four species: dusky rockfish (*Sebastes variabilis*), dark rockfish (*S. ciliatus*), yellowtail rockfish (*S. flavidus*), and widow rockfish (*S. entomelas*). The forms of dusky rockfish commonly recognized as "light dusky rockfish" and "dark dusky rockfish" are now officially recognized as two species (Orr and Blackburn 2004). *S. ciliatus* applies to the dark shallow-water species with a common name dark rockfish, and *S. variabilis* applies to variably colored deeper-water species with a common name dusky rockfish.

Dark rockfish are found predominantly in nearshore, shallow waters. Assessment authors have suggested for years that dark rockfish be turned over the State of Alaska for management as data in the stock assessment for PSR are predominantly from Dusky rockfish (the offshore variety) not dark rockfish (the nearshore, shallow water variety) as most of the available information is from the offshore trawl surveys and offshore commercial fishery and dusky rockfish makes up the majority of the exploitable biomass and catch from the assemblage.

Since official recognition as a separate species, the GOA Plan Team has also endorsed removing dark rockfish from the FMP based on the following rationale: (1) separation at species level, (2) distribution of dark rockfish to nearshore habitats that are not specifically assessed by the GOA trawl survey, and (3) the risk of overfishing dark rockfish in local areas given the relatively high TAC for the pelagic shelf rockfish assemblage as a whole. In 2004, the SSC endorsed the rationale and agreed with the Plan Team's recommendation of removing dark rockfish from the FMP. The Council initiated this in 2005 but action was been delayed until the 2005 GOA trawl survey data became available for analysis.

5.5 Alternatives Considered

Two alternatives are analyzed in this document, alternative 1, to continue managing dark rockfish within the larger pelagic shelf rockfish complex and alternative 2, to remove dark rockfish from the FMP and turn over to the State of Alaska for management.

5.5.1 Alternative 1: Status Quo

Under this alternative, dark rockfish would continue to be managed within the pelagic shelf rockfish assemblage. The Council and the National Marine Fisheries Service would retain management authority for dark rockfish within the PSR complex in the EEZ. Overfishing limits (OFLs), acceptable biological catch (ABC) limits and total allowable catch (TAC) limits are established for the complex as a whole and managed accordingly. In season, catch is managed through monitoring directed fishing, with the fishery closed when directed fishing is estimated to leave only the portion of the TAC necessary to support incidental catch in other directed fisheries. Once the directed fishery is closed, incidental catch is managed under the aggregate rockfish MRA, which limits catch of all rockfish of the genera *Sebastes* and *Sebastolobus* (which includes Pacific ocean perch, northern rockfish, pelagic shelf rockfish, demersal shelf rockfish, and "other rockfish") to 15 percent of directed fishing harvests.

5.5.2 Alternative 2: Remove dark rockfish from the Gulf of Alaska FMP

Under this alternative, management authority for dark rockfish is redefined by withdrawing dark rockfish from the federal GOA groundfish FMP. Under 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 this alternative, the State of Alaska could assume management authority for dark rockfish. Management plans for this species would be prepared by ADF&G staff for the Gulf of Alaska state management regions and reviewed by the Board of Fisheries.

OFLs, ABCs and TACs would continue to be specified for the PSR complex, but this complex would no longer include dark rockfish. The State would take on the responsibility for assessment and management of the dark rockfish stock. Most likely, State management of dark rockfish would include regulation of any directed fishing for dark rockfish. Dark rockfish catch in federal fisheries would be limited by the current MRA for aggregate rockfish or a separate MRA as established by the State.

5.6 Background

The 2005 Economic SAFE report gives summary information on the ex-vessel value of the rockfish fishery as a whole (Hiatt et al. 2005). Information from this document for the GOA aggregate rockfish fishery is summarized below in Table 15. Note this includes all rockfish catches, of which pelagic shelf rockfish is only a small fraction. Dark rockfish, in turn, are a small portion of the pelagic shelf rockfish catch.

Table 15. Ex-vessel value of rockfish catch in the GOA by vessel category and year ($ millions) from Hiatt et al. 2005

Gear	Year	Catcher vessel	Catcher processor	Total
Trawl	2000	2.7	2.7	5.4
	2001	1.4	2.0	3.5
	2002	2.4	3.0	5.4
	2003	3.2	2.8	6.0
	2004	3.0	3.5	6.5
Hook and Line	2000	2.2	.2	2.4
	2001	1.9	.2	2.1
	2002	2.0	.2	2.1
	2003	1.6	.2	1.8
	2004	1.7	.2	2.0

Data for the dusky rockfish landings by all gear types from 2003-2005 (includes both dusky rockfish and dark rockfish catch) indicates that catcher vessels catch a significantly higher proportion of the catch in this fishery than catcher processors (Table 16).

Table 16.

Year	Vessel category	Number of Vessels	Retain Catch (mt)
2003	Catcher processor	17	926
	Catcher Vessel	148	1,466
2004	Catcher processor	19	985
	Catcher Vessel	134	1,381
2005	Catcher processor	18	777
	Catcher Vessel	89	1,104

Data are not available at this time for ex-vessel value in price per pound specifically for the dusky rockfish fishery. However, data analyzed for the Central GOA pilot rockfish project (Amendment 68 to the GOA groundfish FMP) show ex-vessel price per pound for catcher vessels in the Central GOA pelagic shelf rockfish fishery (Table 17). The table shows that trawl ex-vessel prices ranged from 5 cents per pound to 7 cents per pound, while non-trawl ex-vessel prices ranged from 17 cents per pound to 26 cents per pound.

Table 17. Number of catcher vessels, landings, ex-vessel revenues and average ex vessel prices in the Central GOA pelagic shelf rockfish fishery (1998-2002) From NPFMC 2005.

Year	Gear	Number of vessels	Landings (mt)	Ex-vessel gross revenues ($)	Average ex-vessel price ($/lb)
1998	Non-Trawl	2	*	*	*
	Trawl	29	615.8	81,450	0.60
1999	Non-Trawl	2	*	*	*
	Trawl	32	1,293.2	199,577	0.070
2000	Non-Trawl	2	*	*	*
	Trawl	31	2,240.9	301,359	0.061
2001	Non-Trawl	6	4.0	2,374	0.272
	Trawl	33	1,232.6	138,534	0.051
2002	Non-Trawl	8	2.1	1,224	0.261
	Trawl	33	1,265.6	147,873	0.053

A further look at participation by year, gear and management area gives some indication of the relative participation for each gear type in the overall pelagic shelf rockfish fishery (Table 18).

Table 18. Number of vessels operating by NMFS management area and gear types for pelagic rockfish (primarily dusky, dark, yellowtail, and widow rockfish). From NMFS Catch Accounting (preliminary data)

		Area							
Year/Sum of # of vessels	Gear	610	620	630	640	649	650	659	GOA Total
1998	Jig		2	11	2	1	11	1	28
	Fixed	15	18	70	20	12	33	30	198
	Trawl	26	37	53	16				132
1998 Total		41	57	134	38	13	44	31	358
1999	Jig			10		2	13	1	26
	Fixed	27	27	60	19	16	33	38	220
	Trawl	22	39	52	20				133
1999 Total		49	66	122	39	18	46	39	379
2000	Jig		6	12		2	13	5	38
	Fixed	25	30	79	24	13	39	39	249
	Trawl	27	26	39	9	2			103
2000 Total		52	62	130	33	17	52	44	390
2001	Jig		4	13			12	5	34
	Fixed	29	21	55	11	6	36	26	184
	Trawl	27	27	38	11				103
2001 Total		56	52	106	22	6	48	31	321
2002	Jig	2	6	18	3		11	9	49
	Fixed	22	14	37	7		28	21	129
	Trawl	20	19	33	4				76
2002 Total		44	39	88	14		39	30	254
2003	Jig			10	0		57	3	70
	Fixed	0	0	3			35	8	46
	Trawl	9	3	37	0				49
2003 Total		9	3	50	0		92	11	165
2004	Jig		0	22			43	4	69
	Fixed			3	0		25	5	33
	Trawl	10	5	36	0				51
2004 Total		10	5	61	0		68	9	153
2005	Jig	0	0	16			27	0	43
	Fixed			0			10	7	17
	Trawl	8	6	33	0				47
2005 Total		8	6	49	0		37	7	107

The State fishery for black rockfish catches a higher proportion of dark rockfish than the Federal fishery for pelagic shelf rockfish (see section 3.4 for additional information on the black rockfish fishery and relative species composition of dark rockfish). The majority of the black rockfish harvest occurs in the Kodiak District. Catch and effort data for this fishery indicate that price per pound for landed black rockfish has varied from 32 cents per pound to 40 cents per pound since 1998 (Table 19).

Table 19. Catch and effort, excluding discards, for the Kodiak Area black rockfish fishery 1998-2004 (from Sagalkin and Spalinger 2005)

Year	Vessels	Number of Landings	Directed GHL	Total Harvest (lbs)	Price per pound
1998	76	355	190,000	195,623	0.32
1999	84	316	185,000	131,986	0.40
2000	92	282	185,000	255,044	0.41
2001	55	194	185,000	220,825	0.40
2002	41	143	185,000	204,547	0.43
2003	49	106	185,000	85,362	0.36
2004	52	140	185,000	123,231	0.36

No price information is available for dark rockfish, but anecdotal reports indicate that price per pound is lower than for black rockfish. Currently, fishermen have limited incentive to report catches of dark rockfish separately from black rockfish, given the lower price potential for dark rockfish.

5.7 Analysis of the Alternatives

Under the current management, dark rockfish is managed by federal managers as a part of the pelagic shelf rockfish complex. Continued management as part of the complex is likely to maintain current impacts. As described in Section 3.3, the majority of the pelagic shelf rockfish catch is dusky rockfish. Percent contribution by dark rockfish to total catch ranges from 0.4 to 1.1 percent of the total catch between 2000 and 2005, inclusive (Table 4). Catch of dark rockfish is likely to remain a relatively small portion of the pelagic shelf rockfish catch, with little affect on fishermen.

Removing dark rockfish from the Federal FMP and developing State management would convey additional protection for the species from overfishing and would allow for more conservative and potentially area (and species) specific management. Removal of dark rockfish from the pelagic shelf rockfish complex will likely result in decreases in the pelagic shelf rockfish TAC. As discussed in section 4.2.1, the contribution to the TAC from the dark rockfish portion of the PSR assemblage is variable from one survey year to the next. From 2000-2005, the dark rockfish stock contributed less than 2% of the total ABC (and TAC). However, due to a large survey biomass estimate in 2005, the resulting relative contribution of dark rockfish to the PSR ABC (and TAC) rose to 8% in 2006.

In all fisheries (including Federal fisheries), State managers would likely set an MRA (or separate bycatch limit) to limit incidental catch. Although uncertain, these MRAs would likely allow minor amounts of dark rockfish to continue to be retained in the pelagic shelf rockfish fishery. Since historic catches are approximately 1 percent or less of pelagic shelf rockfish catch, it is unlikely that the MRA would compel substantial discarding or reduce catch. The MRA, however, would prevent targeting of dark rockfish, which could occur under current rules. In other directed fisheries, discards of dark rockfish required by the MRA are likely to be negligible, as catch of the species is relatively small relative to target catch.

Depending on management choices of the State, it is possible that a directed fishery for dark rockfish could develop in State waters. Most likely such a fishery would be prosecuted with fixed gear, which could increase the value of catch, as rockfish harvested with fixed gear have typically brought higher ex vessel prices than trawl caught rockfish. Whether such a fishery would grow to the current level of trawl catch is uncertain. Since the current directed fishery for pelagic shelf rockfish opens on January 1st and closes with the closing of the trawl fishery, which starts in the first week of July, opportunity exists for targeting dark rockfish with fixed gear under current management. In any case, due to the relatively low abundance of dark rockfish, such a fishery is likely to be relatively small. Anecdotal reports from

fishermen indicate that dark rockfish can be targeted, either together with black rockfish or separately. In either case, the development of a directed fixed gear fishery for the dark rockfish could increase revenues generated from harvest of the species, but depends heavily on the growth of the fishery.

6.0 INITIAL REGULATORY FLEXIBILITY ANALYSIS

6.1 Introduction

This Initial Regulatory Flexibility Analysis (IRFA) evaluates the impacts, on small entities, of a proposed amendment to remove dark rockfish from the Gulf of Alaska groundfish FMP.

This IRFA addresses the statutory requirements of the Regulatory Flexibility Act (RFA) of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 (5 U.S.C. 601-612).

6.2 The Purpose of an IRFA

The Regulatory Flexibility Act (RFA), first enacted in 1980, was designed to place the burden on the government to review all regulations to ensure that, while accomplishing their intended purposes, they do not unduly inhibit the ability of small entities to compete. The RFA recognizes that the size of a business, unit of government, or nonprofit organization frequently has a bearing on its ability to comply with a Federal regulation. Major goals of the RFA are: (1) to increase agency awareness and understanding of the impact of their regulations on small business, (2) to require that agencies communicate and explain their findings to the public, and (3) to encourage agencies to use flexibility and to provide regulatory relief to small entities. The RFA emphasizes predicting impacts on small entities as a group distinct from other entities and on the consideration of alternatives that may minimize the impacts while still achieving the stated objective of the action.

On March 29, 1996, President Clinton signed the Small Business Regulatory Enforcement Fairness Act. Among other things, the new law amended the RFA to allow judicial review of an agency's compliance with the RFA. The 1996 amendments also updated the requirements for a final regulatory flexibility analysis, including a description of the steps an agency must take to minimize the significant economic impact on small entities. Finally, the 1996 amendments expanded the authority of the Chief Counsel for Advocacy of the Small Business Administration (SBA) to file *amicus* briefs in court proceedings involving an agency's violation of the RFA.

In determining the scope, or 'universe', of the entities to be considered in an IRFA, NMFS generally includes only those entities that can reasonably be expected to be directly regulated by the proposed action. If the effects of the rule fall primarily on a distinct segment, or portion thereof, of the industry (e.g., user group, gear type, geographic area), that segment would be considered the universe for the purpose of this analysis. NMFS interprets the intent of the RFA to address negative economic impacts, not beneficial impacts, and thus such a focus exists in analyses that are designed to address RFA compliance.

Data on cost structure, affiliation, and operational procedures and strategies in the fishing sectors subject to the proposed regulatory action are insufficient, at present, to permit preparation of a "factual basis" upon which to certify that the preferred alternative does not have the potential to result in "significant adverse impacts on a substantial number of small entities" (as those terms are defined under RFA).

Because, based on all available information, it is not possible to 'certify' this outcome, should the proposed action be adopted, a formal IRFA has been prepared and is included in this package for initial review.

6.3 What is required in an IRFA?

Under 5 U.S.C., Section 603(b) of the RFA, each IRFA is required to contain:

- A description of the reasons why action by the agency is being considered;
- A succinct statement of the objectives of, and the legal basis for, the proposed rule;
- A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply (including a profile of the industry divided into industry segments, if appropriate);
- A description of the projected reporting, record keeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
- An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap or conflict with the proposed rule;
- A description of any significant alternatives to the proposed rule that accomplish the stated objectives of the proposed action, consistent with applicable statutes, and that would minimize any significant economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives, such as:

    1. The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
    2. The clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
    3. The use of performance rather than design standards;
    4. An exemption from coverage of the rule, or any part thereof, for such small entities.

6.4 What is a small entity?

The RFA recognizes and defines three kinds of small entities: (1) small businesses, (2) small non-profit organizations, and (3) small government jurisdictions.

Small business. Section 601(3) of the RFA defines a 'small business' as having the same meaning as 'small business concern', which is defined under Section 3 of the Small Business Act. 'Small business' or 'small business concern' includes any firm that is independently owned and operated and not dominant in its field of operation. The SBA has further defined a "small business concern" as one "organized for profit, with a place of business located in the United States, and which operates primarily within the United States or which makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials or labor... A small business concern may be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, except that where the firm is a joint venture there can be no more than 49 percent participation by foreign business entities in the joint venture."

The SBA has established size criteria for all major industry sectors in the United States, including fish harvesting and fish processing businesses. A business involved in fish harvesting is a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates) and if it has combined annual receipts not in excess of $3.5 million for all its affiliated operations worldwide. A seafood processor is a small business if it is independently owned and operated, not dominant in its field of operation, and employs 500 or fewer persons on a full-time, part-time, temporary,

or other basis, at all its affiliated operations worldwide. A business involved in both the harvesting and processing of seafood products is a small business if it meets the $3.5 million criterion for fish harvesting operations. Finally, a wholesale business servicing the fishing industry is a small business if it employs 100 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide.

The SBA has established "principles of affiliation" to determine whether a business concern is "independently owned and operated." In general, business concerns are affiliates of each other when one concern controls or has the power to control the other, or a third party controls or has the power to control both. The SBA considers factors such as ownership, management, previous relationships with or ties to another concern, and contractual relationships, in determining whether affiliation exists. Individuals or firms that have identical or substantially identical business or economic interests, such as family members, persons with common investments, or firms that are economically dependent through contractual or other relationships, are treated as one party with such interests aggregated when measuring the size of the concern in question. The SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic and foreign affiliates, regardless of whether the affiliates are organized for profit, in determining the concern's size. However, business concerns owned and controlled by Indian Tribes, Alaska Regional or Village Corporations organized pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601), Native Hawaiian Organizations, or Community Development Corporations authorized by 42 U.S.C. 9805 are not considered affiliates of such entities, or with other concerns owned by these entities solely because of their common ownership.

Affiliation may be based on stock ownership when, (1) a person is an affiliate of a concern if the person owns or controls, or has the power to control 50 percent or more of its voting stock, or a block of stock which affords control because it is large compared to other outstanding blocks of stock, or (2) if two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, with minority holdings that are equal or approximately equal in size, but the aggregate of these minority holdings is large as compared with any other stock holding, each such person is presumed to be an affiliate of the concern.

Affiliation may be based on common management or joint venture arrangements. Affiliation arises where one or more officers, directors, or general partners, controls the board of directors and/or the management of another concern. Parties to a joint venture also may be affiliates. A contractor and subcontractor are treated as joint venturers if the ostensible subcontractor will perform primary and vital requirements of a contract or if the prime contractor is unusually reliant upon the ostensible subcontractor. All requirements of the contract are considered in reviewing such relationship, including contract management, technical responsibilities, and the percentage of subcontracted work.

Small organizations. The RFA defines "small organizations" as any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

Small governmental jurisdictions. The RFA defines small governmental jurisdictions as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of fewer than 50,000.

6.5 Reason for considering the action

As discussed in the EA and RIR sections of this analysis, the Council is considering this action in order to provide better protection for the small inshore stock of dark rockfish. This stock is currently contained in the pelagic shelf rockfish assemblage which is dominated by the biomass of the offshore dusky rockfish. Detailed descriptions of each alternative analyzed in this EA/RIR/IRFA can be found in Section 2.0.

6.6 Objectives of, and legal basis for, the proposed action

Under the Magnuson-Stevens Act, the United States has exclusive fishery management authority over all marine fishery resources found within the exclusive economic zone (EEZ). The management of these marine resources is vested in the Secretary of Commerce (Secretary) and in the Regional Fishery Management Councils. The groundfish fisheries in the EEZ off Alaska are managed under the Fishery Management Plan (FMP) for Groundfish of the GOA.

Statutory authority for measures designed to prevent overfishing is specifically addressed in Sec. 600.350 of the Magnuson-Stevens Act. That section establishes National Standard 1—Prevent Overfishing.

The objective of the proposed action is to prevent overfishing of the dark rockfish stock.

6.7 Number and description of small entities regulated by the proposed action

6.8 Impacts on Regulated Small Entities

Transfer of management of dark rockfish to the State is likely to result in some changes in regulation of catch. The State could develop a directed fishery for dark rockfish, most likely for fixed gear vessels. Since fixed gear vessels tend to be small, it is possible that the development of such a directed fishery would have a positive impact on small entities, by increasing fishing opportunities. The increase over current opportunities is likely to be relatively minor, as fixed gear vessels currently have little catch despite an extended season.[1]

Small entities that own trawl vessels are unlikely to realize any noticeable adverse effects from this action. Although trawl vessels would no longer be permitted to directed fish for dark rockfish (as a part of the pelagic shelf rockfish complex) in federal waters, since dark rockfish make up a very small part of the pelagic shelf rockfish catch, it is unlikely that any vessels would be required to discard dark rockfish catch in that fishery because of the MRA. A decline in the pelagic shelf rockfish TAC could occur, but that decline is likely to be small since the dark rockfish stock is a very small part of the combined stock of pelagic shelf rockfish. Since some of the decline in TAC is likely to be offset by incidental catch under the MRA, it is unlikely that catches will be noticeably affected.

6.9 Recordkeeping and Reporting Requirements

No additional recordkeeping will be required by the change in management proposed by this action.

6.10 Federal rules that may duplicate, overlap, or conflict with proposed action

This analysis did not reveal any federal rules that duplicate, overlap or conflict with the proposed action.

7.0 CONSISTENCY WITH APPLICABLE LAW AND POLICY

7.1 Magnuson-Stevens Act

[1] Current regulations allow fixed gear vessels to begin fishing for pelagic shelf rockfish (including dark rockfish) in January, with the fixed gear fishery typically closing in mid-July with the harvest of the TAC by trawl vessels, which begin fishing in early July.

7.1.1 National Standards

The Council's over-arching mandate to guide it in the prevention of overfishing is National Standard 1. This national standard states that:

Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery.

This action is specifically being considered in order to limit the current potential for overfishing of the dark rockfish stock. Under the current pelagic shelf rockfish assemblage, the dark rockfish stock is vulnerable to overfishing given the relatively high complex-level TAC that could be taken on any member of the assemblage. Dark rockfish as discussed in the analysis makes up a small fraction of the biomass in the assemblage and is generally found in shallow, in-shore waters. Transferal of management to the State of Alaska is anticipated to be better responsive to protection of this stock.

7.1.2 Section 303(a)(9) – Fisheries Impact Statement

Section 303(a)(9) of the Magnuson-Stevens Act requires that any plan or amendment include a fishery impact statement which shall assess and describe the likely effects, if any, of the conservation and management measures on a) participants in the fisheries and fishing communities affected by the plan or amendment; and b) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants taking into account potential impacts on the participants in the fisheries, as well as participants in adjacent fisheries.

The alternative actions considered in this analysis are described in Chapter 2 of this document. The impacts of these actions on participants in the fisheries and fishing communities are evaluated in the Regulatory Impact Review, Chapter 5.

7.2 Marine Mammal Protection Act

The alternatives analyzed in this action are not likely to result in any significant impacts to marine mammals.

7.3 Coastal Zone Management Act

This action is consistent with the Coastal Zone Management Act.

8.0 CONSULTATION AND PREPARERS

8.1 List of Persons and Agencies Consulted

NOAA Fisheries (RO): Mary Furuness
Tom Pearson
Andy Smoker
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NOAA Fisheries (AFSC): Dave Clausen
Dana Hanselman
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Alaska Department of Fish and Game:
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8.2 List of Preparers

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Nick Sagalkin

9.0 REFERENCES

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GOA September 2005 Plan Team minutes (excerpt for other slope rockfish discussion)

Other Slope Rockfish: silver grey rockfish discussion.

Dan Falvey (ALFA) provided the Team an overview of current efforts under an EFP to develop hook and line gear for targeting underutilized species. He provided the Team a document describing the EFP utilizing shrimp fly troll gear and an estimate of the catchability results and bycatch using this gear type. He noted that the gear works particularly well for targeting silvergrey rockfish, but that fishermen are not permitted to target anything in the other slope rockfish (OSR) complex because the whole complex is placed on bycatch-only status from the beginning of the year. He requested Plan Team input on the conservation concerns with potentially allowing a directed fishery under the OSR complex, and/or possible recommendations for additional EFP work if opening the complex for directed fishing is not recommended at this time.

Team members questioned the bycatch of species using this gear and were shown results indicated that the bycatch was minimal presumably due to the fishing habit of finding a school and then targeting that school specifically. Concerns were expressed that bycatch might be greater if the fishing practice did not include surfing directly on the school.

Team members questioned the level of economic incentive to fish for silvergrey rockfish. Dan indicated that that there may be a market for it that there was a higher price per pound was found in 2005 compared with 2004. He noted that it would not be a high value fishery for awhile but represents a possible entry level fishery opportunity to augment income without high overhead costs.

Stock assessment authors noted that age and growth information for the species is contained in the assessment for OSR. The Team reviewed the current survey data and the 2005 ABC noting that the ABC is unlikely to increase this year substantially. The Team expressed concerns that if the OSR complex were opened to directed fishing it would be possible to take the entire TAC on silvergrey rockfish. The Council has specifically established the TAC at a level to meet incidental catch needs. If the fishery were opened concerns were expressed regarding the potential for localized depletion, and the need for improved port sampling and better age data from the unexploited population.

Dan Falvey indicated his desire to protect the fishery from over exploitation by limiting the gear type. It was noted that this would require an FMP amendment to do so. Team members expressed concern that if the complex were open to all gear types there could be increased halibut bycatch from baited longlines.

The Team recommended that the EFP be continued to collect additional data prior to opening the complex to directed fishing. The Team felt that additional data are required to appropriately assess and manage this stock. Opening a complex to directed fishing is not generally recommended. Hence, continuing an EFP while the needed data collection systems and management analyses (e.g., an FMP amendment) are initiated seems reasonable. It was noted that

collecting data on the age distribution of this lightly exploited stock may be a useful baseline for management.

Specific recommendations for the EFP included the following:

- Look at OR and CA data on similar gear for seabird interactions
- Longer gear train could result in degraded product.

The Team recommended that cooperative research funding be pursued in order to age otoliths collected under the EFP. The Team discussed the possibility of also pursuing an amendment to limit the gear type, but in the absence of that felt that it was premature to open the complex to directed fishing at this time.

March 13, 2006

Stephanie Madsen, Chair
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99501

Dear Ms. Madsen:

We have received an application from the Alaska Longline Fishermen's Association for an exempted fishing permit (EFP) to test the feasibility of using unbaited artificial lures to target Pacific ocean perch, pelagic slope rockfish, and other slope rockfish in the Southeast Outside District (SEO) of the Gulf of Alaska (GOA). The goal of the experiment is to improve utilization of the rockfish resources in the SEO. Issuance of EFPs is authorized by the Fishery Management Plan for Groundfish of the GOA Management Area and its implementing regulations at 50 CFR 679.6, Exempted Fisheries.

Under regulations at § 679.6, we have consulted with the Alaska Fisheries Science Center (AFSC), and have determined that the application contains all the information necessary to judge whether the proposal constitutes a valid fishing experiment appropriate for further consideration. We are initiating consultation with the North Pacific Fishery Management Council (Council) by forwarding the application, as required by 50 CFR 600.745(b)(3)(i). We are also providing the draft environmental assessment (EA) for the Council's consideration. This project would be conducted in cooperation with the AFSC, and details of the project have been updated by AFSC since NMFS received the application in February 2005. We understand that you have tentatively scheduled Council review of the proposed project at the Council's April 2006 meeting in anticipation of our review and determination that the application warrants further consideration and consultation with the Council.

Please notify Mr. Dan Falvey of the Alaska Fishermen's Longline Association of your receipt of the application and invite him to appear before the Council in April in support of the application, if he desires. An AFSC stock assessment scientist also will be available at the February Council meeting to present the EA. We will publish a notice of receipt of the application in the Federal Register with a brief description of the proposal. Enclosed are copies of the application, EA, and the AFSC's memorandum of approval of the experimental design.

Sincerely,

Robert D. Mecum
Acting Administrator, Alaska Region

Enclosures

DRAFT ENVIRONMENTAL ASSESSMENT
for the Issuance of an Exempted Fishing Permit for Testing Shrimp Fly Gear to Target Rockfish in the Groundfish Fisheries in the Southeast Outside District of the Gulf of Alaska

March 2006

Lead Agency: National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Alaska Regional Office
Juneau, Alaska

Responsible Official: Robert D. Mecum
Acting Regional Administrator
Alaska Regional Office

For Further Information: Jason Gasper
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Abstract: This document is an Environmental Assessment (EA) of the potential impacts of issuing an exempted fishing permit (EFP) to allow for the testing of shrimp fly gear for harvesting rockfish species in the Southeast Outside District (SEO) of the Gulf of Alaska (GOA). The purpose of the EFP is to provide exemptions from the maximum retainable amounts of bycatch and certain fishery closures to allow the project to be conducted without disruption and without impacting other hook-and-line fisheries. The project is intended to provide a means to collect baseline biological information on data poor species and to evaluate the characteristics of a new type of fishing gear. The analysis found no significant impacts on the human environment for this action.

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Executive Summary

The proposed exempted fishing permit (EFP) supports a project to test shrimp fly gear for the harvest of rockfish species in the Southeast Outside District (SEO) of the Gulf of Alaska (GOA) that were historically harvested using trawl gear. Trawl gear has been prohibited in the SEO since March 23, 1998 (63 FR 8356, February 19, 1998). More effective commercial fishing gear is needed to improve the utilization of rockfish resources in the SEO; particularly Pacific ocean perch (POP). This project is consistent with Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), national standard 1, which directs that conservation and management measures achieve optimal yield from a fishery, and national standard 5, which seeks efficiency in the utilization of a fishery resource.

The EFP is necessary to allow the applicant to test shrimp fly gear for harvesting rockfish in the SEO with certain exemptions from fishery closures, prohibited species catch (PSC) limits, and fish retention restrictions and requirements. The proposed project is designed to determine bycatch rates of other species such as halibut, sablefish, and other rockfish assemblages when using the shrimp fly gear. Shrimp fly gear consists of unbaited artificial lures that can be trolled, jigged, or fished in a hook-and-line fashion. The immediate goals of the project are as follows: (1) Using shrimp fly gear, refine gear and fishing techniques to efficiently harvest Pacific Ocean perch (POP),pelagic shelf rockfish (PSR), and other shelf rockfish with minimal bycatch using gear compatible with typical Southeast Alaska fishing vessels and crews; (2) document the fishing characteristics of the shrimp fly gear; (3) and gather base-line biological information for data poor species.

The alternatives are limited to the status quo (Alternative 1) and the issuance of the EFP (Alternative 2). Alternative 2 would issue an EFP with the following regulatory exemptions: (1) hook-and-line fishery closures for reasons other than overfishing concerns; (2) PSC limits for halibut; (3) maximum retainable amounts for rockfish fisheries; and retention requirements for sablefish. The total amount of groundfish allowed to be harvested annually is 189 mt, including a 10 mt limit on sablefish bycatch. Halibut may be harvested in accordance with IFQ regulations. Halibut mortality for vessels without an individual fishing quota (IFQ) holder on board is limited to 2 mt, annually. All sablefish caught during the course of the permit must be carefully released. The permit would be effective for 3 years: May 15, 2006 - May 15, 2009.

The environmental effects of Alternative 2 are limited to PSC (halibut) and socioeconomic components. The effect of the action on halibut is insignificant. Socioeconomic effects primarily are potential future effects, which cannot be predicted. Therefore, the significance of such effects are unknown. Possible cumulative socioeconomic effects identified included (1) a developing rockfish fishery, (2) the pilot program for rockfish rationalization, and (3) GOA rationalization.

Comparison of Alternatives and Selection of a Preferred Alternative

Alternative 2 had no significant impacts identified and potential socioeconomic and cumulative socioeconomic effects. Alternative 1 had no additional environmental impacts beyond those already identified in previous analyses. Alternative 1 would not provide for the improved utilization of rockfish resources in the SEO nor would it allow the collection of biological information. Alternative 2 is the preferred alternative because it provides for improved utilization of rockfish in the SEO and facilitates the collection of biological information for a data poor species. In addition, Alternative 2 has no significant impacts.

1.0 Purpose and Need

The purpose of this environmental assessment (EA) is to predict whether the impacts to the human environment resulting from the proposed action will be significant. If the predicted impacts from issuing the exempted fishing permit (EFP) are not significant, no further analysis is necessary to comply with the requirements of the National Environmental Protection Act (NEPA).

The purpose of the proposed EFP is to support a project to test shrimp fly gear for the harvest of rockfish species in the Southeast Outside District (SEO) of the Gulf of Alaska (GOA) that were historically harvested with trawl gear. Trawl gear has been prohibited in the SEO since March 23, 1998 (63 FR 8356, February 19, 1998). More effective non-trawl gear types are needed to improve the utilization of rockfish resources in the SEO, while minimizing bycatch of non-target species. Moreover, the proposed project would provide important biological information on data poor rockfish species that would otherwise be logistically difficult and expensive for the National Marine Fisheries Service (NMFS) to collect.

The following section describes an EFP (EFP #06-02) that was issued in the SEO of the GOA in 2004. The proposed action will build on the results from EFP #06-02 and optimize sampling techniques to collect biological information.

Background

February 5, 2004, NMFS announces in the *Federal Register* the receipt of an application for an EFP (69 FR 5509). Notice of approval by the Regional Administrator was published in the *Federal Register* April 7, 2004 (FR 69 18350). The EFP authorized the applicant to develop and test shrimp fly gear and hook-and-line gear for rockfish harvest in the SEO of the GOA. The project's goal was to improve the utilization of rockfish species in the SEO in ways that are consistent with the Magnuson-Stevens Act national standard 1, which directs that conservation and management measures to achieve optimum yield from each fishery, and national standard 5, which seeks efficiency in the utilization of fishery resources.

The EFP provided biological and catch information about SEO rockfish that would not otherwise be available through research or commercial fishing operations. Recent commercial harvest data for Pacific Ocean perch (POP), pelagic shelf rockfish (PSR), and other slope rockfish (OSR) is limited to information on bycatch in the hook-and-line fishery because trawl gear has been prohibited in the SEO since March 23, 1998 (63 FR 8356, February 19, 1998). The research also explored methods to catch POP and silvergrey rockfish, both of which are commercially desirable species.

A report on the EFP was presented at the September 2005, GOA Groundfish Plan Team meeting.[1] Based on the study's results during the 2003- 2004 season, shrimp fly troll gear[2] was demonstrated to efficiently harvest several underutilized rockfish species with minimal bycatch. The report indicated that a total of 12 test fishing days across 19 stations along an 80 mile stretch

[1] **"Shrimp Fly Troll Gear: A Preliminary Report On Test Fishing Conducted Under EFP # 41, May 2004 and June 2005." Prepared by the Alaska Longline Fishermen's Association**

[2] Shrimp fly gear is used in Washington and Oregon to commercially fish for rockfish. The gear consists of monofilament lines with up to 200 artificial lures (called "shrimp flies") attached to the line. The gear can slowly trolled through a school of fish, the vessel may drift through a school of fish while the gear is "mooched," or the gear may be rigged in a hook-line-fashion as a vertical longline and off-bottom gear.

of the outer coast of Baranof Island were fished with unbaited shrimp fly gear. The gear was deployed a total of 108 times in depths ranging from 8 -122 fathoms. Silvergrey, black, dusky, and yellowtail rockfish were caught in sufficient numbers to be exploitable. POP, one of the primary target species of the project, was not caught in any quantity. Vessel operators who fished the shrimp fly gear indicated that POP schools were not seen during the four days spent testing the gear in deep water, and that further testing at different times of the day may yield better results. Bycatch of other rockfish species, such as species in the DSR complex, was minimal (1 yelloweye rockfish caught). During the 108 deployments of the shrimp fly gear, no halibut or sablefish were caught.

In October 2005, the applicant presented the results for the EFP issued in 2004 to the North Pacific Fishery Management Council's (Council) Statistical Science Committee (SSC). The SSC recommended that the EFP be extended in order to study the biological characteristics of silvergrey rockfish and to collect information about the impacts from a directed fishery for rockfish.

Current EFP Proposal

In February, 2005, NMFS received an application from Alaska Longline Fishermen's Association (ALFA) requesting an extension of EFP 04-01. After consulting with NOAA General Council, NMFS concluded that extending the existing EFP was not possible because a year had passed since the previous the EFP was issued (50 CFR 679.6(f)). A renewal of the existing permit was also not possible because the applicant wanted to change the number of vessels allowed to fish under EFP 04-1. Increasing the number of vessels changed the conditions stipulated in the permit, which required a new permit to be issued.

The overall goal of the proposed EFP project is to investigate unbaited shrimp fly lure on troll, jig, and hook and line gear to harvest underutilized SEO rockfish while minimizing bycatch and facilitating the collection of biological information for data poor rockfish species. There are three objectives associated with this project: (1) collect age, growth, and distribution information for rockfish species that have little baseline biological information; (2) document the fishing characteristics of the gear; including the calculation of bycatch rates for halibut, sablefish, and other rockfish assemblages; and (3) refine gear and fishing techniques to efficiently harvest POP, PSR, and OSR with minimal bycatch using gear compatible with typical Southeast Alaska fishing vessels. Gear types typically compatible with small (<60' LOA) catcher vessels in the SEO of the GOA include hook-and-line gear, dinglebar troll gear, jig gear, and power/hand troll gear. The proposed time period for the project is May 15, 2006 –May 15, 2009. EFP fishing may occur at any time during the permitted year, but permitted vessels must give 24 hours notice of departure and return for a test fishing trip, and participate in dockside sampling.

Continuation of the project will be assessed May 15, 2007 and May 15, 2008 and is contingent on satisfactory data collection and progress towards the sampling goals as determined by the Alaska Fishery Science Center (AFSC). ALFA is responsible for submitting an annual report to the AFSC and the NMFS Regional Office. The AFSC will review the project's results on an annual basis and make adjustments to the sampling design as needed.

The EFP is necessary to allow the applicant to test unbaited shrimp fly gear for rockfish in the SEO with certain exemptions from fishery closures, and requirements. The hook-and-line rockfish fisheries may closed to prevent (1) exceeding a total allowable catch (TAC) amount of a target species; (2) reaching an overfishing level of a non-target groundfish species; or (3) exceeding a prohibited species catch (PSC) limit for Pacific halibut. The regulatory exemptions

are being considered because the information gather about the harvest of target and incidentally taken species will allow the applicant to further modify gear to be more selective on targeted rockfish species, determine the gear characteristics on a variety of commercial vessels, and provide baseline biological information (e.g., age and growth) for POP, PSR, and OSR.

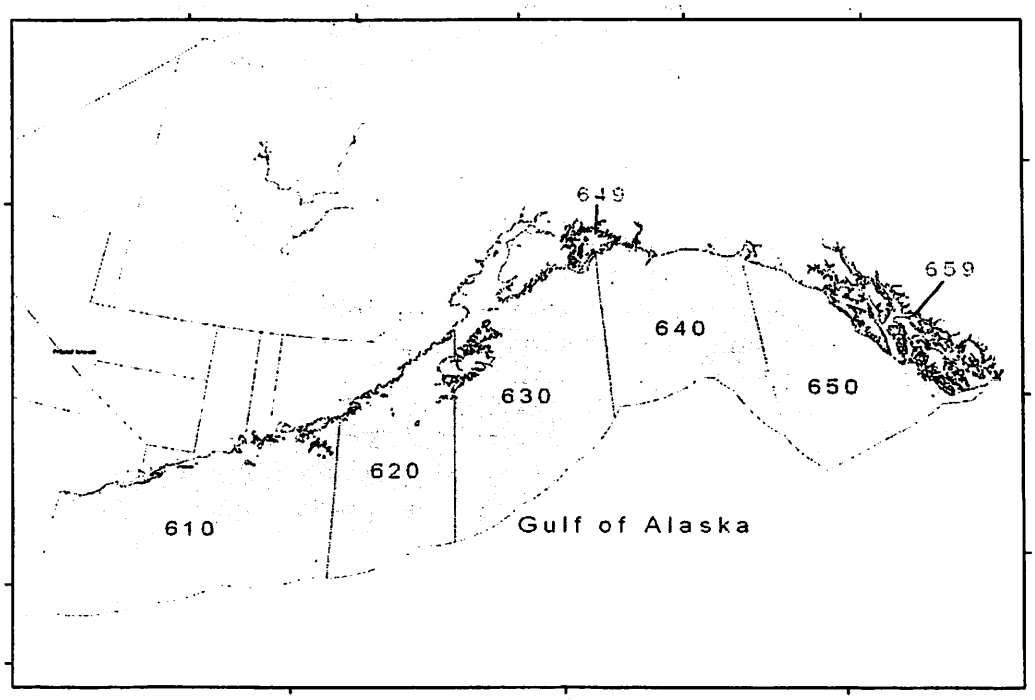
The proposed EFP would allow the applicant to continue harvesting groundfish up to the amount specified in the permit, even if overall rockfish harvest amounts have resulted in the closure of one or more rockfish hook-and-line fisheries. The hook-and-line fisheries in the SEO may be closed to avoid exceeding the total allowable catch (TAC) or PSC limits. Fishing activities under the proposed EFP would not be exempt from any hook-and-line fishery closures in the SEO that are implemented to address overfishing concerns.

The applicant has requested to retain and sell all rockfish species taken while fishing under the EFP. To accommodate this request, the EFP would provide exemption from one or more maximum retainable amounts specified in Table 10 of 50 CFR part 679. Demersal shelf rockfish (DSR) are managed by the State of Alaska, which has special provisions for the retention and sale. State DSR regulations at 5 AAC 28.171 require full retention of DSR and the proceeds from DSR sales in excess of 6,000 pounds (round weight) to be surrendered to the state.

Project Area

The EFP would take place in the SEO of the GOA. This area is also described as Statistical Area 650 for purposes of fisheries management. See Figure 1 for the location of Area 650, which includes waters in the Exclusive Economic Zone.

Figure 1 Gulf of Alaska (GOA) management area



2.0 Description of Alternatives

This EA provides an analysis of potential impacts resulting from issuing the EFP permit. Two alternatives are presented in this analysis: issuance of the EFP (Alternative 1) and no issuance of the EFP permit (Alternative 2). In this analysis, the alternatives are evaluated for all direct, indirect, and cumulative effects on resources, species, and issues within the action area (SEO of the GOA) as a result of the preferred alternative.

Alternative 1: No action alternative. The applicant's request for the rockfish EFP is not approved.

Alternative 2: Preferred alternative. The applicants request for the rockfish EFP is approved.

Under this alternative, NMFS would issue the EFP with the following conditions:

1. Location and timing. The EFP will be authorized in the SEO of the eastern GOA (Figure 1) in 2006, 2007, and 2008. The permit may be fished anytime during the year. However, because the EFP must match personnel and processor availability, the majority of fishing will occur April – October, with limited fishing in the winter. EFP fishing in 2007 and 2008 will be contingent on AFSC approval of the previous year's annual report and data collection efforts.

2. Amounts and disposition of halibut of groundfish. The total amount of target groundfish species taken and retained may not exceed 189 mt. No more than 10 mt of sablefish mortality and 2 mt of halibut mortality may be accrued. If these limits are reached, fishing activities under the EFP must stop. The NMFS Regional Administrator must be notified before EFP limits are reached if modification of the EFP to allow further fishing is to be considered. Considerations may include, but are not limited to (1) the present amount of harvest of groundfish species by the groundfish fisheries compared to the annual TACs; (2) the progress of the project to date; and (3) the potential impacts of any modification of the EFP.

   All groundfish species may be retained for sale except sablefish and DSR. Sablefish must be returned to the sea with minimal injury. DSR are managed by the State of Alaska, which has special provisions for the retention and sale of DSR. Specifically, the project would be conducted in compliance with the State DSR regulations at 5 AAC 28.171, which requires full retention of DSR, but limits the amount of this species that may be sold for revenue to the harvester.

   Valid individual fishing quota (IFQ) permit holders may harvest halibut in accordance with federal and state regulations. Vessels without an IFQ permit holder on board will be required to return halibut to the sea with minimal harm. The amount of sablefish and halibut bycatch mortality requested by the application is reasonable for the amount of rockfish anticipated to be taken during the project (Ackley and Heifetz 2001).[1] These requirements ensure that the applicant is able to contract with qualified personnel while maintaining low levels of incidental sablefish and halibut mortality.

[1] The 2 mt amount for halibut is based on anecdotal information provided by the applicant. No data from the SEO pelagic rockfish fisheries is available to determine possible halibut bycatch rates. Personal communication with Gregg Williams, Senior Biologist, IPHC March 5, 2004.

The following list provides the amounts of groundfish, halibut, and sablefish that are likely to be taken annually in this project:

i.	Groundfish (excluding sablefish)	179 mt
ii.	Halibut	< 2 mt
iii.	Sablefish	10 mt

All retained groundfish species will be counted against the annual TAC amounts specified for 2006, 2007, and 2008 (50 CFR 679.20).

3. Vessels and Gear: Up to six vessels will be permitted to simultaneously conduct commercial fishing trials of the shrimp fly gear. The total number of vessels participating in the EFP over the course of a year is not limited, but no more than six are allowed to fish at any time. This approach was selected because no two skippers fish alike, and the more inclusive the program is, the more realistically the bycatch and catch per until of effort (CPUE) data collected will reflect an open access fishery. The six vessel limit was selected because it is anticipated that current resources will permit adequate port and at sea sampling of this number. The optimal number of vessels is a qualitative assessment. However, the applicant believes that up to six vessels fishing at a given time will allow adequate fishing effort for gear evaluation and sample collection.

   In subsequent years of the EFP, additional vessels may be added if at-sea and dockside sampling resources allow and additional sampling is justified. Vessels participating in the experiment will generally be 60 ft or less in total length.

2.1 Regulatory Exemptions

Completion of the project would require the applicants' exemption from several groundfish regulations at 50 CFR part 679:

1. The EFP would provide exemption to the applicants from hook-and-line fishery closures resulting from prevention of exceeding a TAC or exceeding the halibut PSC limit. The permit would require an exemption from § 679.7(a)(2)which stipulates that persons are prohibited from conducting any fishing contrary to notification of inseason actions, closures, or adjustments under § 679.20, 679.21, 679.22, and 679.25. The EFP would allow for the harvest of up to 179 mt of certain groundfish species. The closure of rockfish hook-and-line fisheries for the reasons other than overfishing concerns would not prevent the continuation of fishing activities under the EFP.

2. The maximum retainable amounts (MRA) specified in Table 10 of 50 CFR part 679 for groundfish species would not apply to the rockfish species retained under this project. The permit would exempt the vessel MRA from § 679.20(e) and MRA of incidentally taken species as specified in § 679, Table 10 for the GOA. The applicant will be exempt from these amounts for groundfish to allow the retention of all groundfish, except sablefish, for sale. Rockfish caught below 10 fathoms generally do not survive being brought to the surface and released, so there is no benefit to the resource to require discards. By retaining the incidentally caught groundfish, the applicant will be able to accurately document the effectiveness of the gear types to target certain rockfish species and will recover a portion of the expense of the project.

3. Halibut caught during EFP fishing by non-IFQ holders would be discarded. Halibut mortality from this project would not be applied against the halibut PSC limits allocated to the other than demersal shelf rockfish (OTDSR) hook-and-line fisheries in the 2006 - 2009 harvest specifications for the GOA. The permit would exempt a vessel from § 679.21(d)(4)(iii)(C): The EFP would allow for up to 2 mt of halibut mortality by non-IFQ holders, as determined by consultation with the International Pacific Halibut Commission (IPHC) based on bycatch rates in the rockfish fisheries. The halibut mortality from the project would create an additional burden on the OTDSR hook-and-line industry, if the EFP halibut is counted toward the halibut PSC limits and triggers closure of the OTDSR hook-and-line fisheries. In accordance with federal regulations, halibut may be harvest and sold by qualified IFQ holders.

4. All sablefish caught during EFP fishing would be discarded. Qualified sablefish IFQ holders will be required to discard sablefish even if they have unused sablefish quota. Therefore, this permit would exempt a sablefish IFQ holder from § 679.7(f)(8)(iii)(11) which prohibits the discard of sablefish caught with fixed gear from any catcher vessel when any IFQ holder aboard holds unused sablefish IFQ. This EFP does not exempt halibut IFQ holders from halibut discard requirements.

3.0 Affected Environment

The NEPA documents listed below contain extensive information on the fishery management areas, marine resources, ecosystem, social and economic parameters of these fisheries and the harvest specifications. Rather than duplicate an affected environment description here, readers are referred to those documents. All of these are public documents and are readily available in printed form or over the Internet at links given in the references. Because this action is limited in area and scope, the description of the affected environment is incorporated by reference from the following documents:

Annual Harvest Specifications EA. The 2006-2007 harvest specifications were analyzed in an EA and a FONSI determination was made prior to publication of the rule (NMFS 2006). Additionally, the ecosystem considerations section of the Stock Assessment and Fishery Evaluation reports is included as Appendix C to the 2006-2007 harvest specifications EA (NMFS 2006). It contains summaries and pointers to recent studies and information applicable to understanding and interpreting the criteria used to evaluate significance of impacts that will result from alternative harvest quotas. Appendix B contains the GOA rockfish assessment reports.

Groundfish Programmatic EIS. The Alaska Groundfish Fisheries Final Programmatic Supplemental Environmental Impact Statement (PSEIS) evaluates the fishery management policies embedded in the Bering Sea/Aleutian Islands and GOA groundfish FMPs against policy level alternatives and the setting of TACs and allowable biological catch (ABC) at various levels (NMFS 2004). The PSEIS is available at http://www.fakr.noaa.gov/sustainablefisheries/.default.htm. This document contains a description of the impacts from the GOA groundfish fishery.

Gulf of Alaska Groundfish Rationalization Supplemental EIS. In this analysis, ongoing since May 2002, the Council is considering alternative management approaches to "rationalize" the GOA groundfish fisheries. Rationalization may improve the economic stability to the various participants in the fishery. These participants may include harvesters, processors, and residents of fishing communities. The Council is considering these new management policies at the request of the GOA groundfish industry to address its increasing concerns about the economic stability of the fisheries. Some of these concerns include changing market opportunities and stock abundance, increasing concern about the long-term economic health of fishing dependent communities, and the limited ability of the fishing industry to respond to environmental concerns under the existing management regime. The Council may consider rationalizing the fishery through individual fishing quotas, allocations to communities or processors, or cooperatives. Alternatively, the Council may choose to modify the License Limitation Program or maintain the existing management system. As yet, specific alternatives have not been selected, and the SEIS will guide the Council in its decision making process. For more information see the http://www.fakr.noaa.gov/ sustainablefisheries/goa_seis/default.htm.

4.0 Environmental and Economic Consequences

Environmental Components Potentially Affected

The issuance of the EFP is limited in scope and will likely not affect all environmental components of the GOA. This project involves the taking of groundfish species, primarily rockfish in the SEO using shrimp fly gear. The EFP would require harvested groundfish to be counted against the annual TAC limits.

In 2005, large amounts of rockfish TAC were not harvested (See Table 4.1). This resulted in all rockfish groups having TAC available for the entire fishing season. For the OSR complex, the TAC is set far below the ABC. If 2006 and 2007 harvests are similar to 2005, the TAC (and ABCs) for POP, OSR, and PSR are likely not to be approached in 2006 or 2007, even with the harvest anticipated with the project supported by the EFP. TAC projections are not available for 2008, however, historical harvests of PSR and OSR have generally been far below the TAC, and of the harvest of POP in the SEO GOA has been very small since 2003. For example, between 2002 and 2005 the TAC for OSR and PSR has not varied by more than 5% and POP TAC has not varied by more than 10%. Similarly, the percentage of POP, PSR, and OSR TAC actually harvested has not been greater than 18%. Therefore, based on historical trends, harvest amounts specified in the EFP will likely be below the groundfish TACs during the span of the project. An exemption from the TAC limits is therefore not necessary to facilitate the project.

Table 4.1 2005 -2007 Rockfish Harvest and TACs in the SEO GOA

Area	Rockfish Species or Species Group	2005 Total catch (mt)	2005 TAC* (mt)	Remaining 2005 TAC (mt)	2005 ABC (mt)	2006 TAC* (mt)	2006 ABC (mt)	2007 TAC** (mt)	2007 ABC (mt)
EYGOA	Shortraker/ rougheye	325	536	212	536	536	536	**572**	**572**
EYGOA	Thornyhead	134	520	134	520	707	707	707	707
SEO GOA	Pacific Ocean Perch	0	1,632	1,632	1,632	1,587	1,587	1,639	1,639
EY AK SEO GOA	Pelagic Shelf	13	898	885	898	435	435	443	443
SEO GOA	Other rockfish	36	200	164	3,430	200	2,847	2,872	200
SEO GOA	Demersal Shelf	182	410	228	410	410	410	410	410

* TAC does not include amount for state water fishery.
** Estimated TAC

Because the amounts of groundfish taken will be applied against the TACs, no effects beyond those already identified are expected on the physical, benthic communities, non specified species, target species, marine mammals, and seabird components of the environment (NMFS 2004).

Table 4.2 shows the potentially affected components. Two potential environmental sectors may be impacted, PSC and socioeconomic. Under PSC, the effects are limited to incidental mortality for Pacific halibut. The future development of a rockfish fishery may have socioeconomic impacts on the participants in the fishery and on fishermen who rely on the same portion of halibut PSC for the OTDSR hook-and-line fisheries.

Table 4.2 Resources potentially affected by EFP Alternatives

	Potentially Affected Component							
Alternatives	Physical	Benthic Comm.	Groundfish	Marine Mammals	Seabirds	Non specified Species	Prohibited Species	Socioeconomic
1	N	N	N	N	N	N	N	N
2	N	N	N	N	N	N	Y	Y

N = no impact beyond status quo anticipated by the option on the component.
Y = an impact beyond status quo is possible if the option is implemented.

This section forms the scientific and analytical basis for the issue comparisons across alternatives. As a starting point, Alternative 2 is perceived as having the potential to affect one or more components of the human environment. Significance of effect is determined by considering the context in which the action will occur and the intensity of the action. The context in which the action will occur includes the specific resources, ecosystem, and the human environment affected. The intensity of the action includes the type of impact (beneficial versus adverse), duration of the impact (short versus long term), magnitude of impact (minor versus major), and degree of risk (high versus low level of probability of an impact occurring). Further tests of intensity include(1) the potential for compromising the sustainability of any target or nontarget species; (2) substantial damage to marine habitats and/or essential fish habitat; (3) impacts on public health or safety; (4) impacts on endangered or threatened species, or critical habitat of listed species; (5) cumulative adverse effects; (6) impacts on biodiversity and ecosystem function; (7) significant social or economic impacts; and (8) degree of controversy (NOAA Administrative Order 216-6, Section 6.02).

Differences between direct and indirect effects are primarily linked to the time and place of impact. Direct effects are caused by the action and occur at the same time and place. Indirect effects occur later in time and/or are further removed in distance from the direct effects (40 CFR 1508.27). For example, the direct effects of an alternative which lowers the harvest level of a target fish could include a beneficial impact to the targeted stock of fish, a neutral impact on the ecosystem, and an adverse impact on net revenues to fishermen, while the indirect effects of that same alternative could include beneficial impacts on the ability of Steller sea lions to forage for prey, neutral impacts on incidental levels of prohibited species catch, and adverse impacts in the from of economic distribution effects, for example, reducing employment and tax revenues to coastal fishing communities.

The section below contains an explanation of the significance criteria. The significance ratings are as follows: beneficial, adverse, insignificant, and unknown. Where sufficient information on direct and indirect effects is available, rating criteria are quantitative in nature. In other instances, where less information is available, the discussions and rating criteria used are qualitative. In instances where criteria to determine an aspect of significance (significant adverse, insignificant, or significant beneficial) do not logically exist, no criteria are noted. These situations are termed "not applicable" in the criteria tables. An example of an instance where criteria do not logically exist, is the evaluation of the impact vector of incidental take on a declining stock of marine mammals. In that situation, an increase in take that caused a downward change in the population trajectory by greater than 10% is significant adverse. Any level below that which would have an effect on population trajectories is insignificant because the stock is continuing to decline regardless of fishery effects. There is no logical significant beneficial alternative (a reduction in

take resulting in a beneficial effect on the population trajectory). Therefore, a criterion for significant beneficial is not applicable (NMFS 2004).

The rating terminology used to determine significance is the same for each resource, species, or issue being treated, however, the basic "perspective" or "reference point" differs depending on the resource, species, or issue being treated. The reference point relates to the biological environment. For each resource or issue evaluated, specific questions were considered in the analysis. In each case, the questions are fundamentally tied to the respective reference point. The generic definitions for the assigned ratings are as follows:

S+ Significant beneficial effect in relation to the reference point; this determination is based on interpretations of available data and the judgment of the analysts who addressed the topic.

I Insignificant effect in relation to the reference point; this determination is based upon interpretations of data, along with the judgment of analysts, which suggests that the effects are small and within the "normal variability" surrounding the reference point. When evaluating an economic or management issue it is used when there is evidence the alternative does not positively or negatively affect the respective factor.

S- Significant adverse effect in relation to the reference point and based on interpretations of data and the judgment of the analysts who addressed the topic.

U Unknown effect in relation to the reference point; this determination is made in the absence of information or data suitable for interpretation with respect to the question of the impacts on the resource, species, or issue.

NE No effect is anticipated from implementation of the action.

4.1 Effects on Prohibited Species

The only prohibited species managed in the groundfish fisheries in the GOA is Pacific halibut. Alternative 1 is the status quo and would have no additional effects on prohibited species that have not already been analyzed (NMFS 2004). Alternative 2 would allow for additional halibut mortality beyond the PSC limit established for the OTDSR hook-and-line fisheries. The EFP would specify that up to 2 mt of halibut mortality is permitted annually over the time period of the permit, (May 15, 2006 through May 15, 2009). Very little halibut PSC limit is available in the June 10 through September 1 time period (see Table 4.3), and it is unknown if the applicant will need to conduct fishing during this time. For this reason, the applicant would be exempt from applying halibut mortality from the project against the PSC limit for the OTDSR hook-and-line fishery.

Table 4.3 **Final 2005-2006 halibut PSC limits, allowances, and apportionments. The halibut PSC limit for hook-and-line gear is allocated to the DSR and OTDSR (values are in metric tons).**

Hook-and-line gear			
Other than DSR		DSR	
Dates	Amount	Dates	Amount
Jan 1 - June 10	250 (86%)	Jan 1 - Dec 31	10 (100%)
June 10 - Sept 1	5 (2%)		
Sept 1 - Dec 31	35 (12%)		
Total	290 (100%)		10 (100%)

The reference point for significance determination for the effects on PSC is the current population trajectory or harvest rate of subject species. The following tables summarize the significance criteria for evaluating the effects of the alternatives on Pacific halibut.

Table 4.4 **Criteria used to estimate the significance of effects on stocks of Pacific halibut in the GOA.**

Effect	Significant Adverse	Insignificant	Significant Beneficial	Unknown
Incidental catch of halibut	Reasonably expected to jeopardize the capacity of the stock to maintain benchmark population levels	Reasonably not expected to jeopardize the capacity of the stock to maintain benchmark population levels	NA	Insufficient information available

Benchmarks: Pacific halibut - estimated long term constant exploitation yield (CEY),
NA: not applicable.

1) Criteria used to estimate effects of Alternative 2 on stocks of halibut in the GOA.

The IPHC is responsible for the conservation of the Pacific halibut resource. The IPHC uses a policy of harvest management based on a constant exploitation rate. The constant exploitation rate is applied annually to the estimated exploitable biomass to determine a total constant exploitation yield (CEY). The total CEY is adjusted for removals that occur outside the commercial directed hook-and-line harvest (incidental catch in the groundfish fisheries, wastage in halibut fisheries, deadloss, sport harvest, and personal use) to determine the commercial directed hook-and-line quota and the fishery CEY (net CEY). Incidental catch of halibut in the groundfish fisheries results in a decline in the standing stock biomass, a lowering of the reproductive potential of the stock, and reduced short and long term yields to the directed hook-and-line fisheries. To compensate the halibut stock for these removals over the short term,

halibut mortality in the groundfish fisheries is deducted on a pound for pound basis each year from the directed hook-and-line quota. Halibut incidentally taken in the groundfish fisheries are of smaller average size than those taken in the directed fishery, this results in further impacts on the long term reproductive potential of the halibut stock. This impact, on average, is estimated to reduce the reproductive potential of the halibut stock by 1.7 pounds for each 1 pound of halibut mortality in the groundfish fisheries. These impacts are discussed by Sullivan, *et al.* (1994).

The benchmark used to determine the significance of effects for Alternative 2 on the halibut stock was whether or not incidental catch of halibut during the project reasonably would be expected to lower the total CEY of the halibut stock below the estimated yield of 13.73 million pounds (624 mt) in Area 2C. Because Alternative 2 allows an additional 2 mt of mortality to occur, which is approximately 0.003% of the estimated yield, it is not expected to decrease the total CEY of the halibut stock below the estimated total CEY. Therefore, the potential effect is rated insignificant.

4.2 Social and Economic Effects

Alternative 1 is the status quo and no additional socioeconomic effects beyond those already analyzed are expected (NMFS 2006). The social and economic effects of Alternative 2 are primarily related to the potential development of a new method of directed fishing for POP, PSR, and OSR. Participants in the projects are contracted by the AFSC and will receive revenue from the sale of groundfish (except sablefish) taken during the project. In 2003, ex-vessel price for unprocessed, landed catch was an estimated $46.87 per mt of POP, $123.70 per mt of PSR, and $166.37 per mt for OSR. If prices for these species are similar in 2006, the revenue is estimated to be an additional $16,850.00 to the applicant. Expenses for conducting the project are unknown, so the difference between revenues and expenses is unknown. The following is a discussion of the types of impacts that may result from the EFP and future development of the rockfish fishery in SEO.

New Information

Techniques for harvesting rockfish by hook-and-line gear have not been explored in the SEO. The EFP will allow the testing of several types of hook-and-line gear and reporting of the results to the Council and industry members. This new information will be a benefit to stakeholders in the rockfish fishery. The AFSC scientists will benefit from the information gathered in the testing of the gear and may apply the information to the development and testing of other hook-and-line gear. The Council will benefit from understanding the potential for harvest of the rockfish resources in the SEO. Hook-and-line fishermen may obtain information on a new opportunity or method for fishing, leading to more effective fishing methods, and increased potential harvests.

Improved utilization of the SEO rockfish resource

If an effective gear type is developed that could selectively harvest POP, pelagic rockfish, and other slope rockfish, more participation in the SEO rockfish fishery may occur and more of the TAC may be harvested. The increased harvest would result in a new supply of rockfish for the market. This could provide benefits to consumers through potentially lower prices and increases in consumers' surplus. The new supplies also would tend to provide new profit opportunities for fishermen exploiting SEO fisheries. Depending on the price impact of the new supplies, fishermen in other rockfish fisheries may experience somewhat lower prices due to the new sources of product competition. Rockfish may also be a substitute fish for another groundfish, which may impact the price or demand of the substituted groundfish species.

If increased exploitation of the SEO rockfish stocks did not have an impact on ex-vessel prices, and if the full 1,600 mt of POP available for harvest in 2003 were not harvested, the harvest would have had an unprocessed landed value of $74,992.00. If the 2004 combined SEO TAC of 2680 mt for POP, pelagic rockfish, and other slope rockfish were available and harvested, the unprocessed landed value would be $217,122.00, based on 2003 prices. However, we do not currently have models which would allow us to predict the impact of changes in supply on rockfish prices; therefore, it is not possible to know for certain the actual revenue impacts associated with increased production of this magnitude.

With the improved utilization of rockfish, there may be potential problems with the amount of halibut PSC available for the OTDSR hook-and-line fisheries. Currently, the hook-and-line Pacific cod fisheries take the majority of the OTDSR hook-and-line halibut PSC apportionment, which led to the closure of all hook-and-line fisheries GOA-wide in the spring of 1999, 2000, and 2001, and in the fall of 2003 and 2004 (NMFS inseason data). Unless additional halibut PSC is made available, the availability of improved gear will not result in improved utilization of the rockfish fishery, and the expansion of a rockfish fishery in SEO may result in earlier closure of OTDSR hook-and-line fisheries.

Economic Development

Harvesters of SEO rockfish may come from the SEO, from other areas of Alaska, or from outside Alaska. This cannot be predicted at this time. It is not known if increased harvests will be provided to shoreside processors in SEO, shoreside processors outside of the SEO, or if the processing may be done by catcher/processors. To the extent that the fish are caught by fishermen from coastal regions of Alaska and delivered to shoreside processors, this action may provide additional regional economic development.

5.0 Cumulative Effects

Analysis of the potential cumulative effects of a proposed action and its alternatives is a requirement of the NEPA. An environmental assessment or environmental impact statement must consider cumulative effects when determining whether an action significantly affects environmental quality. The Council on Environmental Quality (CEQ) regulations for implementing NEPA define cumulative effects as:

> "the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

The cumulative effects of the current harvest specifications are discussed in detail in the Harvest Specifications EA (NMFS 2006) and are adopted here by reference. The Harvest Specifications EA is a recent and broad examination of potential cumulative effects for fisheries throughout Alaskan waters. The findings can therefore be applied to the SEO groundfish fishery. The EA discusses several future actions that may have continuing, additive and meaningful relationship to direct and indirect cumulative effects on groundfish and prohibited species.

Prohibited Species: The EA concludes that ongoing groundfish fishing activity and associated bycatch of PSC species will continue to have an adverse impact on PSC species. However, as stated in the EA, other actions will tend to reduce the impact that fishing has on PSC bycatch. These actions include an ecosystems approach to management, rationalization programs, and traditional management tools. Increased attention to ecosystem considerations through research should lead to increased attention to the impact of fishing activity on non-target resource components, including PSC. Rationalization programs coupled with traditional management (i.e., TACs) and enforcement also are likely to beneficially impact PSC by controlling total harvest amounts and allowing better incidental catch controls and monitoring of groundfish fisheries.

Groundfish: The allowable level of harvest for the proposed EFP is limited by the groundfish TAC and is thus subject to the harvest specification process. As stated in the EA, the setting of harvest levels each year insures that fish stocks are not overfished and that they can produce maximum sustainable yield (MSY) on a continuing basis. Harvest from fisheries in subsequent years will put continuing pressure on groundfish stocks. However, these fisheries are expected to be managed in a sustainable manner and are subject to Tier-specific over fishing level (OFL) and ABC levels. Therefore, the fishery will be conducted under regulations that are substantially the same as those in place today. Future regulations may include ecosystem considerations. The EA states that these considerations should be at least as precautionary as regulations in place today. Expansion of State fisheries will most likely result in a reduction in the Federal TAC, or a greater harvest of an existing Federal TAC within State waters. The EA states that an expansion of State of Alaska fisheries would not be expected to result in overfishing. However, predicting the actual impact depends on the actions taken by the State.

Only two environmental components were identified that potentially could be affected by Alternative 2, prohibited species and socioeconomic components. Alternative 1 in this EA is the status quo and no additional cumulative effects are expected beyond those already identified in previous analyses (NMFS 2004). No additional cumulative effects on prohibited species are expected from Alternative 2 because the PSC limits for halibut in the hook-and-line fisheries are not expected to change and no additional past, present, or foreseeable future effects have been identified.

Alternative 2 would permit the development of gear that may lead to the development of a non-trawl rockfish fishery in SEO. Three foreseeable future actions that may have cumulative socioeconomic effects are (1) the future development of a non-trawl rockfish fishery, if the project is successful; (2) a pilot rockfish rationalization program; and (3) GOA rationalization. The development of a rockfish fishery in the SEO may effect revenues for participants and markets, as explained in Section 4.5, but it is not possible at this time to predict the success of the project under the EFP or the future participation in a rockfish fishery.

The pilot rockfish rationalization program is part of the Consolidated Appropriations Act, 2004, Title VIII, Section 802. The Act provides for the development of a pilot program for rationalizing the rockfish fisheries in the Central GOA. The GOA pilot rockfish program is scheduled to start in 2007 and will continue until 2009. Rockfish fisheries in the central GOA are primarily trawl fisheries, but a number of participants also are known to participate in the hook-and-line halibut and sablefish fisheries. Because of the participation in hook-and-line fisheries, it is possible that participants in the central GOA rockfish fisheries may move effort into the SEO, if a hook-and-line fishery develops, especially if the fisherman is limited in participation in the central GOA rockfish fishery by the pilot rationalization program.

GOA rationalization may result in the shifting of fishing effort from areas where rockfish fisheries are fully rationalized to areas that have not been fully rationalized, resulting in more effort moving from the western and central GOA to the SEO. The GOA rationalization program is in the very early stages of development, and it is not possible to describe the potential changes in effort that may occur or how markets and revenues may be affected. Because of uncertainty of future participation in the rockfish hook-and-line fishery in SEO and the unknown nature of the pilot rockfish and GOA rationalization programs, cumulative socioeconomic effects of Alternative 2 are unknown.

No additional past, present, or reasonably foreseeable cumulative impact issues have been identified that would accrue from Alternative 2.

6.0 Environmental Analysis Conclusions

Alternative 1 is the status quo. No EFP would be issued, and therefore, no additional effects would occur beyond those already identified and analyzed in the Final SEIS (NMFS 2004) and in the 2006 harvest specifications EA (NMFS 2004). For this reason, impact analyses in this EA were exclusively for Alternative 2. In addition to the Final PSEIS and the 2006 harvest specifications EA, the significance of impacts of the actions analyzed in this EA were determined through consideration of the following information as required by NEPA and 50 CFR 1508.27:

Context: For the issuance of the EFP, the setting of the proposed action is the hook-and-line groundfish fisheries of the GOA. The effects of the issuance of an EFP on society, within this area, are on individuals directly and indirectly participating in the hook-and-line groundfish fisheries and on those who use the ocean resources. Because this action may allow for potential future development of a rockfish fishery in the SEO of the GOA, this action may have regional impacts on society.

Intensity: Listings of considerations to determine intensity of the impacts are in 50 CFR §1508.28(b) and in the NOAA Administrative Order 216-6, Section 6. Each consideration is addressed below in order as it appears in the regulations.

Adverse or beneficial impact determinations for marine resources, including sustainability of target and nontarget species, damage to ocean or coastal habitat or essential fish habitat, effects on biodiversity and ecosystems, and marine mammals: No significant adverse impacts were identified for Alternative 2. Because groundfish would be harvested within the TAC using hook-and-line, jig, and troll gear, no effects were expected on target or nontarget species, ocean or coastal habitat, EFH, biodiversity, the ecosystem, seabirds, or marine mammals. Potential effects on prohibited species were limited to Pacific halibut, and those effects were determined to be insignificant.

Public health and safety will not be affected in any way not evaluated under previous actions or disproportionately. The EFP will not change fishing methods (including gear types), timing of fishing or quota assignments to gear groups, which are based on previously established seasons and allocation formulas in regulations.

Cultural resources and ecologically critical areas: This action takes place in the geographic area of the GOA, generally from 3 nm to 200 nm offshore. The land adjacent to this area contains cultural resources and ecologically critical areas. The marine waters where the fisheries occur contain ecologically critical areas. Effects on the unique characteristics of these areas are not anticipated to occur with this action.

Controversiality: This action involves the permitting of a project to improve utilization of an underutilized fishery. The hook-and-line fishing industry and the Council support this action, and no controversial issues have been identified related to the EFP.

Risks to the human environment, including social and economic effects: Risks to the human environment by the GOA groundfish fisheries are described in detail in the Final PSEIS (NMFS 2006). This action is limited in scope to a project that would last up to three years and with minimal amount of harvest of halibut outside the PSC limit. The effect on the human environment from this additional removal of halibut is insignificant. Future socioeconomic effects are possible depending on the success of the project and the implementation of the GOA rationalization program. It is not possible to predict the outcome of the project, future participation in the SEO rockfish fishery, or the nature of the GOA rationalization program, and therefore, effects on the socioeconomic component of the human environment are unknown.

Future actions related to this action may result in impacts. As described in Section 5.0, future actions depend on the results of the project and GOA rationalization. Pursuant to NEPA for all future action, appropriate environmental analysis documents (EA or EIS) will be prepared to inform the decision makers of potential impacts to the human environment and to implement mitigation measures to avoid significant adverse impacts. Impacts of future development of an SEO rockfish fishery, the pilot rockfish rationalization program, and GOA rationalization on the socioeconomic component of the environment are unknown.

Cumulatively significant effects, including those on target and nontarget species: Beyond the cumulative impact analysis in the Final PSEIS (NMFS 2006), no additional past or present cumulative impact issues have been identified that would accrue from Alternative 2. Foreseeable future socioeconomic impacts are unknown for Alternative 2, as described above and in Section 5.0.

Districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places: This action will have no effect on districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places, nor cause loss or destruction of significant scientific, cultural, or historical resources. Because this action is 3 nm to 200 nm at sea, this consideration is not applicable to this action.

Impact on ESA listed species and their critical habitat: Because Alternative 2 allows for the harvest of groundfish within the annual TACs, no additional effects are expected on ESA listed species beyond those identified in the 2006- 2007 harvest specification EA (NMFS 2006) and the Final PSEIS (NMFS 2004).

This action poses **no known violation of Federal, State, or local laws or requirements for the protection of the environment.** Issuance of the EFP would be conducted in a manner consistent, to the maximum extent practicable, with the enforceable provisions of the Alaska Coastal Management Program within the meaning of Section 30(c)(1) of the Coastal Zone Management Act of 1972, and its implementing regulations.

This action poses **no effect on the introduction or spread of nonindigenous species** into the GOA beyond those previously identified because it does not change fishing, processing, or shipping practices that may lead to the introduction of nonindigenous species.

Comparison of Alternatives and Selection of a Preferred Alternative

Alternative 1 is the status quo and does not provide for the issuance of an EFP for development of a hook-and-line rockfish fishery in the SEO. Alterative 2 would provide for an EFP that would allow for the development of hook-and-line gear that could effectively harvest rockfish in the SEO where they have been underutilized. Alternative 2 had no significant impacts identified and unknown socioeconomic and cumulative socioeconomic effects. Alternative 1 had no additional environmental impacts beyond those already identified in previous analyses, but Alternative 1 would not provide for the improved utilization of rockfish resources in the SEO. Because Alternative 2 has no significant adverse impacts identified and provides the potential for improved utilization of rockfish in the SEO, Alternative 2 is the preferred alternative.

7.0 List of Preparers and Contributors

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
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AGENDA D-1 (b)
Supplemental
APRIL 2006

March 13, 2006

Stephanie Madsen, Chair
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99501

Dear Ms. Madsen:

We have received an application from the Alaska Longline Fishermen's Association for an exempted fishing permit (EFP) to test the feasibility of using unbaited artificial lures to target Pacific ocean perch, pelagic slope rockfish, and other slope rockfish in the Southeast Outside District (SEO) of the Gulf of Alaska (GOA). The goal of the experiment is to improve utilization of the rockfish resources in the SEO. Issuance of EFPs is authorized by the Fishery Management Plan for Groundfish of the GOA Management Area and its implementing regulations at 50 CFR 679.6, Exempted Fisheries.

Under regulations at § 679.6, we have consulted with the Alaska Fisheries Science Center (AFSC), and have determined that the application contains all the information necessary to judge whether the proposal constitutes a valid fishing experiment appropriate for further consideration. We are initiating consultation with the North Pacific Fishery Management Council (Council) by forwarding the application, as required by 50 CFR 600.745(b)(3)(i). We are also providing the draft environmental assessment (EA) for the Council's consideration. This project would be conducted in cooperation with the AFSC, and details of the project have been updated by AFSC since NMFS received the application in February 2005. We understand that you have tentatively scheduled Council review of the proposed project at the Council's April 2006 meeting in anticipation of our review and determination that the application warrants further consideration and consultation with the Council.

Please notify Mr. Dan Falvey of the Alaska Fishermen's Longline Association of your receipt of the application and invite him to appear before the Council in April in support of the application, if he desires. An AFSC stock assessment scientist also will be available at the February Council meeting to present the EA. We will publish a notice of receipt of the application in the Federal Register with a brief description of the proposal. Enclosed are copies of the application, EA, and the AFSC's memorandum of approval of the experimental design.

Sincerely,

Robert D. Mecum
Acting Administrator, Alaska Region

Enclosures

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Alaska Fisheries Science Center
7600 Sand Point Way N.E.
Bldg. 4, F/AKC
Seattle, Washington 98115-0070

MAR 15 2000

MEMORANDUM FOR: Jason Gasper
Sustainable Fisheries, Alaska Region

FROM: for Douglas P. DeMaster
Science & Research Director, Alaska Region

SUBJECT: Exempted Fisheries Permit (EFP) Application - SE Alaska Outside District Experimental Hook-And-Line Fishery for Underutilized Rockfish Species

The attached EFP application as modified is returned approved.

Attachment

cc: Doug Mecum

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Alaska Fisheries Science Center
7600 Sand Point Way N.E.
Bldg. 4, F/AKC
Seattle, Washington 98115-0070

JC

10 March 2006

MEMORANDUM FOR: Douglas P. DeMaster

FROM: John C. Clary

SUBJECT: Exempted Fisheries Permit (EFP) Application – SE Alaska Outside District Experimental Hook-and-Line Fishery for Underutilized Rockfish Species

Several of the AFSC staff have reviewed the attached EFP application from the Alaska Longline Fishermen's Association (ALFA). All noted concerns have been addressed by the applicant in this final version. Under this EFP, ALFA would continue work begun in 2003 under EFP#41. ALFA requests a new EFP to allow for more intensive test fishing of the shrimp fly troll gear under commercial conditions. The new EFP also allows for a larger pool of vessels to be permitted to better assess gear performance under commercial conditions. Gear refinements will be tested to reduce product degradation by seabirds, and a dockside sampling program will be established to collect baseline biological data.

EFP application is forwarded with a recommendation for approval.

Approved 10 March 06

Exempted Fisheries Permit Application

50CFR Section 696.6

Southeast Alaska Outside District Experimental Hook-and-Line Fishery for Underutilized Rockfish Species

1. Date of Application:

February 15, 2006

2. Applicant:

Alaska Longline Fishermen's Association.
403 Lincoln St, Ste 237
Sitka, AK 99835
907-747-3400

3. Statement of Purpose and Goal of Project

Background

A number of rockfish species available for harvest in the Southeast Outside (SEO) District of the Eastern Gulf of Alaska have not been effectively targeted by commercial fishing operations since a 1998 prohibition on the use of trawl gear. For example, based on stock assessment information in the SEO for 2006, approximately 1,600 mt of Pacific Ocean perch (POP), 3,000 mt of the Other Slope Rockfish complex (OSR), and 400 mt of the Pelagic Shelf Rockfish (PSR) could be harvested. However, a small portion of this amount will actually be utilized in SEO fisheries. In order to investigate the feasibility of harvesting the underutilized rockfish species with vessels common to the SE Alaska fishing community, Alaska Longline Fishermen's Association (ALFA) in conjunction with the Alaska Fisheries Development Foundation received an EFP (#41) in the fall of 2003.

A report on test fishing under EFP #41 was presented at the NOAA September 2005 Gulf of Alaska Groundfish Plan Team meeting.* Based on test fishing results in 2003- 2004, a gear new to Alaska called "shrimp fly troll gear" was identified as the best candidate for harvesting several underutilized rockfish species with minimal bycatch. The report indicated that, to date, a total of 12 test fishing days have been conducted with shrimp fly troll gear. Test fishing occurred at 19 stations along an 80 mile stretch of the outer coast of Baranof

* **"Shrimp Fly Troll Gear: A Preliminary Report On Test Fishing Conducted Under EFP # 41, May 2004 and June 2005." Prepared by the Alaska Longline Fishermen's Assn**

Island. The gear was deployed a total of 108 times in depths ranging from 8 -122 fathoms. Consistently high CPUE's were observed for silvergrey rockfish using the shrimp fly gear. Black, dusky and yellowtail rockfish (PSR complex) also appeared to be exploitable. **Bycatch of other rockfish species was minimal and during the 108 deployments, not a single halibut or sablefish was caught.**

Surprisingly, POP, one of the primary target species of the project, was not caught in any quantity. The captains involved with the test fishing believe that POP schools were not seen during the four days spent testing the gear in deep water, and that further testing at different times of the day, and or year, may yield better results with POP.

Plan Team members commented on conservation concerns and the regulatory process associated with opening a new fishery. Their minutes reflect the following comments:

- *The Team expressed concerns that if the OSR complex were opened to directed fishing it would be possible to take the entire TAC on silvergrey rockfish. The Council has specifically established the TAC at a level to meet incidental catch needs. If the fishery were opened concerns were expressed regarding the potential for localized depletion, and the need for improved port sampling and better age data from the unexploited population.*

- *Team members expressed concern that if the complex were open to all gear types there could be increased halibut bycatch from baited longlines.*

- *The Team recommended that the EFP be continued to collect additional data prior to opening the complex to directed fishing. The Team felt that additional data are required to appropriately assess and manage this stock. Opening a complex to directed fishing is not generally recommended. Hence, continuing an EFP while the needed data collection systems and management analyses (e.g., an FMP amendment) are initiated seems reasonable.*

- *It was noted that collecting data on the age distribution of this lightly exploited stock may be a useful baseline for management. Specific recommendations for the EFP included the following:*
    - *Look at OR and CA data on similar gear for seabird interactions*
    - *Longer gear train could result in degraded product.*

In conclusion, the Plan Team recommended that cooperative research funding be pursued in order to age otoliths collected under the EFP. The Team discussed the possibility of also pursuing an amendment to limit the gear type, but in the absence of such an amendment, felt that it was premature to open the complex to directed fishing at this time.

To address the issues raised by the Plan Team, ALFA is requesting a new EFP to allow for more intensive test fishing of the shrimp fly gear under commercial conditions. Under the new EFP, a larger pool of vessels will be permitted to better assess the performance of the gear under commercial conditions. Gear refinements will be tested to reduce product

degradation by seabirds, and a dockside sampling program will be established to collect base-line biological data.

Purpose and Goal of Project

The main purpose of this project is to investigate and develop hook-and-line harvest techniques for the sustainable harvest of underutilized SEO rockfish. The study is also designed to determine bycatch rates of other species such as halibut, sablefish, and other rockfish assemblages when using the shrimp fly gear gear.

The immediate goals of the project are to

1. Refine gear and fishing techniques that can efficiently harvest POP, PSR, and OSR with minimal bycatch using gear compatible with typical Southeast Alaska fishing vessels and crews.
2. Document the fishing characteristics of the gear.
3. Gather base-line biological information on a lightly exploited stock.

These goals are consistent with the National Standard 1 set forth in the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) of "achieving, on a continuous basis, Optimal Yield from each fishery". The project's goals are also consistent with National Standard 8 of the MSFCMA dealing with community protection since communities of Southeast Alaska are highly dependent on fishery resources. The majority of Southeast Alaska based fishing vessels are less than 60 feet long with skippers, crews, and processors highly dependant on seasonal harvests of multiple species. Stated alternatively, the goal is to develop a rockfish fishery that will help sustain Southeast Alaska communities and that will more fully utilize available resources in a way that can complement the present harvest mix of species and seasons.

Target species for the study are Pacific ocean perch, yellowtail and dusky rockfish in the pelagic shelf rockfish complex, and silvergrey rockfish in the other slope rockfish complex. Total Allowable Catches for these target species are left mostly unharvested or artificially lowered from the ABC due to a combination of factors that include: the continued prohibition on use of trawl gear in the SEO District; unproven alternate catching methods for many of the underutilized rockfish species; an underdeveloped market for hook-and-line caught rockfish; Maximum Retainable Bycatch (MRB) regulations; and halibut Prohibited Species Cap (PSC) restrictions. Given a 6,640 mt combined POP, PSR, and OSR complex ABC and assuming a $0.15 to $0.25 per pound ex-vessel price, the potential dock-side value range is between $2.2 and $3.6 million.

An Exempted Fishery Permit (EFP) is necessary for this project because current regulations prohibit directed fishing on the OSR complex and halibut PSC closures may disrupt windows of opportunity for test fishing. The other slope rockfish complex TAC in SEO is designated as bycatch only for the entire year and set at a level well below the ABC to allow only for the expected bycatch needs of other fisheries. Silvergrey rockfish, a large component of the complex, has proven to be exploitable with shrimp fly gear but the feasibility and characteristics of a target fishery cannot be ascertained without an EFP.

Expected windows of opportunity for the project's test fishing periods that match vessel, personnel, and processor availability are: spring of 2006 prior to May 15, the fall of 2006 after Sept 1, and/or similar dates in 2007 and 2008 and.. Directed hook-and-line closures in the SEO district due to GOA-wide halibut PSC have occurred on 4/24/99, 3/9/00, 2/26/01, and 8/1/03 and 10/2/04. Consequently, in five of the past seven years, test fishing during the windows of opportunity would not have been possible without an EFP. The requested EFP will provide an assurance that a test fishery targeting POP, PSR, and OSR complex with hook-and-line gear can be undertaken independent of PSC status and/or MRB restrictions.

4. Technical Details/Experimental Design:

(i) Amounts and disposition of each species to be harvested

The following reflects the estimated catch and bycatch amounts needed for proceeding with the project. Additional species specific information relating to the requests is furnished in Section 9 of this application.

a. Amounts:

i)	Groundfish	179mt/yr
ii)	Halibut mortality	<2 mt
iii)	DSR	< 2 mt

b. Disposition arrangements

All rockfish will be retained and sold to local Southeast Alaska processors to document and evaluate the potential ex-vessel value of the entire catch. Retention of the bycatch is also consistent with MSFCMA National Standard 5 that promotes efficiency in utilization of fishery resources. Ex-vessel round pound value for hook-and-line caught rockfish processed into fillets is expected to be approximately $0.15 to $0.50. If the vessel does not have a valid IFQ holder on board, then all halibut and sablefish bycatch will be released in accordance with the procedures listed in Section 14 of the 2005 IPHC regulations for "Careful Release of Halibut." Vessels with a halibut IFQ holder on board may retain halibut caught while fishing this EFP. All sablefish caught under this EFP will be carefully released. All halibut caught by the IFQ holder must be done in accordance with State of Alaska and Federal regulations. Proceeds form the sale will be retained by the vessel.

(ii) *Area and timing of the experiment*

The project will take place in the SEO District of the Eastern GOA. Expected windows of opportunity for the project's test fishing periods that match vessel, personnel, and processor availability are: Spring of 2006 prior to May 15, the fall of 2006 after Sept 1, and/or similar dates in 2007 and 2008. EFP fishing in years 2007 and 2008 will be contingent on the approval of the previous year's annual progress and data collection efforts by the Alaska Fishery Science Center (AFSC) and the NMFS Alaska Regional

Office. ALFA will be required to submit an annual progress report to the AFSC and NMFS. The progress report will discuss the previous year's sampling results and sampling modification that may be needed in the succeeding year.

(iii) Vessel and gear to be used

a. Vessel Selection

Up to 6 vessels will be permitted to conduct commercial fishing trials of the off-bottom hook and line, troll, or jig gear at any given time. Vessel selection will be based on the ability of the vessel to comply with the conditions of this EFP, data needs, safety, and enforcement considerations. Each vessel must agree to the data collection and reporting protocols associated with the test fishery, and agree to carry an observer if selected. Test fishing may occur at any time during the permitted year, but permitted vessels must give 24 hour notice of departure and return for a test fishing trip, and participate in dockside sampling. In subsequent years of the EFP, additional vessels may be added if at-sea and dockside sampling resources permit. Vessels participating in the experiment will generally be 60' or less in total length.

The total number of vessels participating in the EFP over the course of a year is not limited, as long as no more that six are fishing at any given time. This approach was selected because no two skippers fish alike, and the more inclusive the program is, the more realistically the bycatch and CPUE data collected will reflect an open access fishery. The six vessel limit was selected because it is anticipated that current resources will permit adequate port and at sea sampling of this number. The optimal number of vessels is a qualitative assessment. However, we feel that up to six vessels fishing at a given time will allow adequate fishing effort for gear evaluation and sample collection. The number of vessels used in this experiment also reflects the interest by fishermen willing to test the fishing gear and the resources available for sampling effort. The project coordinator will be responsible for monitoring the total number of vessels fishing per day. A list of vessels eligible to participate in the program during a quarter will be supplied to NMFS at then beginning of the permit and on March 1, Junel, September 1, and December, 1. each year

b. Gear

Gear used for test fishing under the EFP will be similar in concept to the shrimp fly gear tested under EFP # 41. All gear used in this EFP must be hook and line, jig, or troll gear using unbaited artificial lures with the main line remaining physically attached to the vessel and fished in an off-bottom fashion. This gear may be trolled through a school or fished in a stationary manner. All "trains" will be limited to a maximum of 200 hooks long.

(iv) Experimental design

The overall project is designed to be undertaken over a period of four years. A primary product of the EFP will be the documentation of the fishing characteristics of off-bottom hook and line gear using artificial lures when targeting on schools of PSR,

OSR, and POP under commercial fishing conditions. Proposals to define the gear type and appropriate regulations for an open access fisheries will be made to NMFS based on results of this EFP. In the SEO area, the primary regulatory change which would be needed is to remove OSR from bycatch only status and/or split out silvergrey rockfish as a separate target. Additional regulations addressing gear definition, hook limits and seabird avoidance measures must also be considered.

Issues identified by fishery managers relating to the proposed gear include age structure of existing stock, bycatch of fully utilized species and disproportionate targeting on juvenile rockfish. These issues have been incorporated into the objectives and data will be gathered to provide insight.

The primary data collection tools will be dockside sampling and mandatory logbooks. To ensure the quality of the data collected, ALFA will develop a procedures manual and training program for participating skippers, at-sea and shore based samplers. A project coordinator will be hired to ensure the provisions of this EFP are implemented correctly. The project coordinator will work closely with the scientific advisors in developing the procedures manual, data forms and participant training methods, During the initial training session, one of the science coordinators will be on site to discuss the sampling protocol with the project coordinator and provide training. The project coordinator will also be responsible for the logistics associated with the at sea and dockside sampling, training of samplers, and for reviewing all data forms after each trip to ensure quality. In addition, the Alaska Department of Fish and Game will provide periodic oversight during the dockside sampling.

In general, berth space will be provided for the on-board samplers and their gear in a common foc'sl'e. Regular meals will be served in conjunction with crew breaks. Toilet facilities will vary from an enclosed head, to a deck bucket used in conjunction with reasonable accommodations for privacy depending on the boat. Fish will be sorted on deck before icing to the extent possible and a sampling station will be provided at the hatch with adequate space for observer duties.

Specific objectives for the logbook and dockside sampling part of the project are:

Objective 1: Document the CPUE of the shrimp fly gear when targeting PSR, OSR, and POP in the SEO area. The primary species which will be targeted are dusky, yellowtail, POP, and silvergrey rockfish.

- **Work Plan**—Permitted vessels will target each assemblage with a goal of completing at least 20 tows for each assemblage. After each tow, the vessel skipper will record the set information on sampling forms developed by the project leader. All rockfish will be retained identified to species and counted. Unknown rockfish will be recorded in the log, iced separately and identified to the species level upon delivery. Non rockfish catch (including benthic invertebrates) will be identified to the species level, counted, and recorded. CPUE will be calculated based on the number of fish/tow, the number of tows/hour and number of fish/hook if different numbers of

hooks are used. A procedures manual will be developed by ALFA and all skippers will receive training in the data collection protocols.

Information about lost gear will be recorded on the sampling forms. The recorded information includes the location of the lost gear (GPS coordinates), the type of gear lost, number of hooks lost, vessel, and date the gear was lost.

Objective 2: Collect length, sex, and age data on target species.

- **Work Plan**— Sitka will be the designated port for all deliveries associated with this EFP during the first year. Additional ports may be added in subsequent years if resources permit. 100% of trips delivered under this EFP will be sampled at dockside by a trained sampler. Average weight by species will be recorded and incorporated into the CPUE values. Size information will be recorded for a random sample of each species to determine if the gear disproportionately selects for juvenile rockfish and applied on a trip basis. All catch information will be recorded on sampling forms developed by the project leader and of similar design to RACE specimen and sablefish logbook forms. RACE specimen forms will be filled out for otoliths retained. The RACE specimen forms will accompany all otolith samples. Expected number of deliveries is estimated to range from 10-50 deliveries per year. Target sample size for length and sex information for each delivery is 100 for the major species (subsampled randomly) (annual target 1,000 -5,000 lengths). A total of 25 otoliths pairs will be collected by taking otoliths from every fourth lengthed fish of the major species (annual target 250-1,250 ages) from each delivery and sent to NMFS for ageing at the end of the season. If a delivery contains less than 100 fish of the major rockfish species, then all of the major species will be lengthed, while continuing one otolith for every fourth length. All specimens of the minor species will be measured for lengths. All catch will be weighed.

Objective 3: Collect information about the bycatch characteristics of the gear when targeting these species. Primary species of concern are halibut, sablefish, and yelloweye rockfish.

Work Plan-- An attempt will be made to locate rockfish schools and deploy the shrimp fly gear in a variety of habitat types. Bycatch information will be gathered for each tow. Halibut and sablefish will be counted, released at the roller, and an estimated weight recorded. Yelloweye and other rockfish species will be retained, identified to the species level, recorded in the log and weighed upon delivery. A small portion (<15%) of the EFP trips will be fished in conjunction with hook-and-line IFQ halibut sets. Vessel operators may fish the EFP gear while the hook-and-line gear is soaking. These "combination" trips will be sampled separately from EFP only trips to facilitate analytical comparison between the trip types. Comparisons between the trip types will be made using information from the logbook, shoreside sampling, and onboard sampler coverage. It is important to document the fishing characteristics

of combination trips because they may be prevalent if a directed fishery for rockfish in the SEO is allowed in the future.

Objective 4: Collect information on seabird interactions associated with the gear while setting and retrieving.

- **Work Plan**--Seabird presence/absence information as well as a description of seabird information will be collected when the gear is deployed and retrieved. Any seabirds incidentally hooked will be carefully released. Procedures for documenting seabird interactions will be covered in the procedures manual.

Objective 5: Collect information from at-sea sampling for comparison with of logbook and dockside sampling programs, and to collect tow specific data.

- **Work Plan**—A small cadre of locally based, qualified individuals will be trained in at-sea sampling procedures associated with this project. These at-sea samplers will be locally based individuals with university or work experience in biology, fisheries, or a related field A target range of 25% to 50% of test fishing days will be sampled each year with a target goal of all boats participating in the project carrying an at-sea sampler at least once each year. Results from at sea samples will be compared with logbook and dockside samples at the end of each year. The scientific advisors associated with this project will then review the results and identify appropriate target coverage levels for at sea samples in the following year.

(v) Provisions for public release of all obtained information, and submission of interim and final reports.

An interim project report will be compiled annually and will be provided to NMFS or the NPFMC (if requested). Analysis and reporting will be done by qualified ALFA personnel with oversight by the science advisors. A final report summarizing the projects design and analysis of tested hook-and-line gear along with suggestions for use and a summary of ex-vessel prices will be produced and be made available to Southeast Alaska fishermen, organizations affiliated with hook-and-line gear, communities, processors, and any other interested individuals or organizations at the end of the project.

Hard copy data including logbooks and data forms will be photocopied with the originals retained by ALFA and reproductions retained by scientists at Auke Bay Laboratory. Electronic copies of data will be stored in Microsoft Excel and likely analyzed in the same format. Electronic copies of data and analyses will be retained by both ALFA and ABL and available to others upon request.

5. Accommodations for an observer if required by the Regional Administrator:

As an integral part of the vessel selection process, appropriate accommodations, consistent with the goal of using vessels typically used in Southeast Alaska, will be provided for any required observers.

6. Details for all coordinating parties engaged in the experiment and signatures of all representatives of all principal parties:

a. *Alaska Longline Fishermen's Association*
403 Lincoln Street, Suite 237
Sitka, AK 99835
Phone: (907) 747-3400
E-mail: alfafish@ptialaska.net

ALFA, a Sitka based fishermen's association, is the primary applicant undertaking this project. ALFA personnel managing the project include Linda Behnken, Executive Director and Dan Falvey, ALFA Project Manager. ALFA Steering Committee includes members of the Southeast Alaska fishing community as well as personnel from NMFS and ADF&G.

7. Information about each vessel to be covered by the exempted fishing permit:

Vessel information required for the EFP will be provided as follows in accordance with application procedures listed in 50 CFR part 679.6(b)(6)..

i. Vessel Name:
ii. Name address and telephone number of:
    1. Vessel Master :
    2. Owner:
iii. USCG Documentation, state license, or registration number:
iv. Home Port:
v. Length of vessel:
vi. Net Tonnage:
vii. Gross Tonnage:

8. Signature of Applicant: See Section 9

9. Additional Information for the Regional Administrator:

The following additional information about the environmental effects of this project is furnished in realization that NMFS may need to prepare an Environmental Assessment (EA) for this project. Overall, the NPFMC has taken a conservative approach to rockfish management and none of the identified species are considered over fished in the waters of Alaska.

a. *Direct Environmental effects of gear*:

Since this project will use off-bottom hook and line fishing gear that is similar to the troll, jig, and dinglebar gear commonly used gear in SEO waters, environmental effects are not likely to be more severe than the present situation. Given that the gear fishes in mid-water, near the bottom, it can be surmised that the risk of gear loss due to snagging and physical damage to bottom dwelling organisms would be similar to dinglebar or troll gear, and more limited than with conventional bottom tending longline gear. The further limitation of the experimental gear to artificial lures minimizes the ghost fishing potential and older lost gear that is at least partially floating would be expected to eventually sink due to the accumulation and growth of attached benthic marine organisms. Although there may be a prospect of entanglement of mobile marine life or a hazard to navigation, the gear will be near the bottom in water depths over generally over 75 meters so the risks are anticipated to be minimal and similar to the types of longline and troll gear presently used in the SEO District or in waters controlled by the State of Alaska.

Additional information on size distribution and bycatch associated with shrimp fly gear can be found in the report on EFP #41 presented to the NPFMC Plan Team in September 2005. Based on this report, detrimental effects of the gear on marine birds are anticipated to be minimal based on test fishing results under EFP #41 where some 108 deployments and retrievals ere made with no seabird mortality. However, seabird interactions will be monitored and changes made to handling techniques if seabird mortality occurred.

b. *Effects on target species*:

Given that the target species (POP, PSR, and OR) are not subject to directed fishing and have minimal bycatch harvest, this experiment is unlikely to have any noticeable effect on the target species populations. Only a 39 mt catch out of the 2700 mt combined POP, PSR, and OR TAC was recorded as in 2005. Assuming a $0.15/ lb to $0.25 average price and potential ABC of 5,000 mt for these species, there is potential $2.0 to $3.6 million increase in ex-vessel value for SEO fishermen. In addition, with a more developed market for these target species, the cost structure and bycatch value associated with the entire Southeast hook-and-line fishery can be improved.

c. Information specific to each of the following target rockfish is summarized as follows:

1) POP (*Sebastes alutus*). In the last five years, SEO District TACs have ranged from a low of 1580 mt in 2002 to a high of 3160 mt in 1999. The 2005 TAC was set at 1632 mt. The highest recorded catch in the last 5 years is only 2 tons. POP stocks in SEO are underutilized and could easily sustain a much greater harvest level. According to *The Rockfishes of the Northeast Pacific*, "In the Gulf of Alaska, POP is the overwhelmingly abundant rockfish species, in some years forming almost three-quarters of the biomass of all rockfishes". The minimal catch rates, in spite of

longline fisheries prosecuted on sablefish and halibut in areas where POP are likely to be present, are probably associated with the semi-pelagic habitat occupied by POP along with feeding habits that are apparently not conducive for harvest by conventional bottom tending longlines, hook size, and the bait. *The Rockfishes of the Northeast Pacific* reports that larval stages feed on crustaceans, while mature adults feed on midwater fishes such as deep-sea smelts and lantern fishes. Hanselman et al. (2005) reports that "adult slope rockfish such as POP and northern rockfish feed on euphausiids". In the GOA, age at 50% maturity for females is reported as 10.5 years. During the summer months, mixed (male and female) schools of POP are generally found from 200 to 400 m while in the winter, females segregate out to depths from 500 to 700 m. The 50 mt take as requested for this EFP, is not likely to have a noticeable impact on POP populations.

2) Pelagic Shelf Rockfish (*Sebastes variabilis*—dusky, *S. entomelas*—widow, and *S. flavidus*—yellowtail, dark- *S. ciliatus*). Pelagic shelf rockfish are defined in the October 2003 NPFMC SAFE document (Clausen et al. 2003) as "those species of *Sebastes* that inhabit the continental shelf of the GOA, and that typically exhibit a midwater, schooling behavior". Dusky rockfish have now been divided into two species, dusky rockfish (formerly light dusky) and dark rockfish (formerly dark dusky rockfish). The dark rockfish is generally found in near shore waters and is unlikely to be caught in this study. The dusky rockfish is found most commonly in waters from 100 to 300 meters. Widow rockfish are said to be somewhat spotty and less common in the GOA than further south and are most abundant between 140 and 210 m. Yellowtail rockfish are generally found in shallower water from 90 to 180 meters.

   PSR TACs have been set at 240, 770, 770, 860, 860, 880, and 898 mts with harvests at 22, 22, 12, 9, 10, 12 and 3 mts for years 1999 through 2005 respectively. According to blended data base information from NMFS, most of the SEO PSR catch occurs in directed rockfish fisheries. A small amount of bycatch is also is attributed to the sablefish fishery. Given that so little of the PSR TAC is taken, harvesting the EFP amount request for this study is not likely to have a noticeable impact on the populations.

3) Other Slope Rockfish (*Sebastes aurora*—aurora, *S. melanostomus*—blackgill, *S. paucispinus*—bocaccio, *S. goodi*—chilipepper, *S. crameri*—darkblotch, *S. elongates*—greenstripe, *S. variegates*—harlequin, *S. wilsoni*—pygmy, *S. babcocki*—redbanded, *S. proriger*—redstripe, *S. zacentrus*—sharpchin, *S. jordani*—shortbelly, *S. brevispinus*—silvergrey, *S. diploproa*—splitnose, *S. saxicola*—stripetail, *S. miniatus*—vermilion, *S. reedi*—yellowmouth, and, in the Eastern GOA only, *S. polyspinus*—northern). Slope rockfish are defined in the November 2004 SAFE document as "those species of *Sebastes* that, as adults, inhabit waters of

the outer continental shelf and continental slope of the GOA, generally in depths greater than 150-200 m". Other rockfish TACS have been set at a level that is deemed sufficient to meet the bycatch needs of other hook-and-line directed fisheries and set well below the 3,430 mt ABC. Development of gear that would specifically target this underutilized resource would allow a TAC that more closely reflects ABC. However, the marketability of some of the OSR species is questionable due to smaller size characteristics. Table II lists the major other slope rockfish species with size and life history characteristics for reference. Taking the EFP request amount is unlikely to have any significant effect on the OSR species complex.

d. *Effects on expected bycatch species*:

Bycatch species with requests for EFP amounts include DSR at less than 2 mt, and halibut mortality at less than 2 mt. All sablefish will be carefully released. Bycatch species that have EFP amount requests are summarized as follows:

1) DSR (*Sebastes pinniger*—canary, *S. nebulosa*—china, *S. caurinus*—copper, *S. maliger*—quillback, *S. helvomaculatus*—rosethorn, *S. nigrocinctus*—tiger, and *S. ruberrimus*—yelloweye). In the SEO, DSR are managed jointly by the State of Alaska and NMFS. By definition the DSR category encompasses the above-listed seven species of near shore, bottom-dwelling rockfishes, however according to the October 2002 SAFE document (O'Connell et al. 2002), 90% of the harvest is made up of yelloweye and 8% quillback. The State managed directed DSR fishery is broken into a seasonal allocation with 67% target quota available between Jan 1 and March 15 and the remaining TAC, after accounting for bycatch in other hook-and-line fisheries, available between November 16 and December 31. Approximately 90% (by weight) of the total DSR harvest is yelloweye with fishing that takes place between the 90 m and 200 m contours.[1] The 2 mt EFP is needed in order to comply with regulations for full retention, but the request is purposely small and is indicative of the project's intent to target species that are not already fully utilized.

e. *Overall EFP Requirements for this ALFA Project*: ALFA is undertaking this project with full realization that it is a speculative venture but with significant potential to develop new opportunities for utilization of available fishery resources. The project will allow for a better understanding of bycatch and market impacts of hook-and-line fishing for POP, PSR and other rockfish complexes in the SEO District. Acquisition of an EFP is necessary because it will allow the investigation to take place in a reasonably efficient way independent of halibut PSC closures and MRB status of targeted species. Data gathered through this project will also be available to assist in management of other hook-and-line fisheries in waters off of Alaska.

Without experimentation allowed through the EFP process and rationale, commercial fishing adaptations to market and environmental imperatives are more likely to be difficult and disruptive.

Daniel J Falvey, ALFA Project Manager

Endnotes:

[1] *Demersal Shelf Rockfish Stock Assessment for 2003*, ADF&G 2002

Clausen, D. M., J. T. Fujioka, and J. Heifetz. 2003. Shortraker/rougheye and other slope rockfish. In Stock assessment and fishery evaluation report for the groundfish resources of the Gulf of Alaska, p. 531–572. North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage AK 99501.

Hanselman D.H., J. Heifetz , J. Fujioka, and J. Ianelli. 2005. Gulf of Alaska Pacific ocean perch. In Stock assessment and fishery evaluation report for the groundfish resources of the Gulf of Alaska, p. 531–572. North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage AK 99501.

Love M.S, M.M. Yoklavich, and L. Thorsteinson 2002. The Rockfishes of the Northeast Pacific. University of California Press, Los Angeles.

O'Connell, V.M., D.W. Carlile, and C.K. Brylinsky. 2002. Demseral shelf rockfish assessment for 2003. In Stock assessment and fishery evaluation report for the groundfish resources of the Gulf of Alaska. North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage AK 99501.

Table II.-- Mortality rates, maximum age, and female age and size at 50% maturity for shortraker rockfish and some species of "other slope rockfish". Size is fork length in cm. Area indicates location of study: West Coast of USA (WC), British Columbia (BC), Gulf of Alaska (GOA), Aleutians (AL), and eastern Bering Sea (EBS). All mortality rates except where noted are for instantaneous rate of total mortality (Z) estimated with catch-curves.

1) Archibald et al. 1981; 2) Chilton and Beamish 1982; 3) Heifetz et al. 1997; 4) Hutchinson 2004; 5) Malecha and Heifetz 2000; 6) McDermott 1994; 7) Munk 2001. [a]M based on the gonad somatic index method (McDermott 1994).