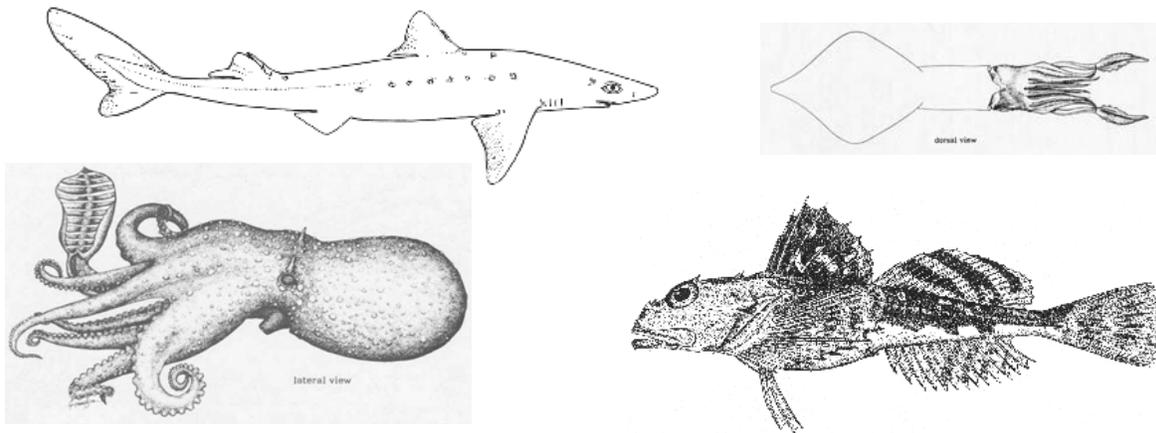


INITIAL REVIEW DRAFT

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

Set Overfishing and Allowable Biological Catch Specifications for the 'Other Species' Assemblage in the Gulf of Alaska

Environmental Assessment / Regulatory Impact Review / Initial Regulatory
Flexibility Analysis



Abstract: The proposed action would amend the Fishery Management Plan for Groundfish of the Gulf of Alaska (GOA FMP) to require the Council to annually set an overfishing limit (OFL) and allowable biological catch level (ABC) for the 'other species' complex. The Council currently sets total allowable catch (TAC) for the 'other species' complex according to a formula in the FMP. Under the proposed action, the Council would instead use the OFL and ABC specifications to determine the TAC for the 'other species' complex, according to the harvest specifications procedure laid out in the FMP for other groundfish species.

Prepared by staff of the
North Pacific Fishery Management Council
605 W. 4th Avenue, #306
Anchorage Alaska 99501
www.fakr.noaa.gov/npfmc

January 17, 2008

TABLE OF CONTENTS

1	PURPOSE AND NEED	3
1.1	Introduction.....	3
1.2	Purpose and Need	3
1.3	Background and history of the ‘other species’ assemblage.....	3
2	ALTERNATIVES	5
3	ENVIRONMENTAL ASSESSMENT.....	7
3.1	‘Other species’ complex, biological and fishery information	7
3.2	Physical and Biological Impacts.....	11
3.3	Economic and Socioeconomic Impacts	12
3.4	Cumulative Impacts.....	13
4	REGULATORY IMPACT REVIEW (RIR)	14
4.1	Introduction.....	14
4.2	What is a Regulatory Impact Review?	14
4.3	Statutory authority for this action.....	15
4.4	Purpose and need for this action	15
4.5	Description of the alternatives under consideration.....	15
4.6	Background information on the fishery	16
4.7	Analysis of the alternatives	16
4.8	Summary of significance criteria	17
5	INITIAL REGULATORY FLEXIBILITY ANALYSIS (IRFA).....	18
5.1	Introduction.....	18
5.2	What is the Regulatory Flexibility Act?.....	18
5.3	IRFA Requirements.....	19
5.4	What is a Small Entity?	19
5.5	Reason for Considering the Proposed Action.....	21
5.6	Objectives of, and legal basis for, the proposed action	21
5.7	Number and description of directly regulated small entities	21
5.8	Adverse economic impacts on directly regulated small entities.....	22
5.9	Recordkeeping and reporting requirements.....	22
5.10	Duplicating, overlapping, or conflicting Federal rules	22
5.11	Comparison of preferred and other alternatives	22
6	PREPARERS, AGENCIES AND PERSONS CONSULTED	22
7	REFERENCES	23

1 PURPOSE AND NEED

1.1 Introduction

The proposed action would amend the Fishery Management Plan for Groundfish of the Gulf of Alaska (GOA FMP) to require the Council to annually set an overfishing limit (OFL) and allowable biological catch level (ABC) for the 'other species' complex. The Council currently sets total allowable catch (TAC) for the 'other species' complex according to a formula in the FMP. Under the proposed action, the Council would instead use the OFL and ABC specifications to determine the TAC for the 'other species' complex, according to the harvest specifications procedure laid out in the FMP for other groundfish species.

Actions taken to amend the FMP must meet the requirements of Federal laws and regulations, including the Magnuson-Stevens Fishery Conservation and Management Act, the National Environmental Policy Act, the Endangered Species Act, the Marine Mammal Protection Act, Executive Order 12866, and the Regulatory Flexibility Act, among others. Chapter 1 of this document examines the purpose and need for this action, and Chapter 2 describes the alternatives. An Environmental Assessment (Chapter 3), a Regulatory Impact Review (Chapter 4), and an Initial Regulatory Flexibility Analysis (Chapter 5).

1.2 Purpose and Need

The Council has developed the following problem statement for this analysis:

The GOA Groundfish FMP requires that an annual total allowable catch (TAC) be set for the other species assemblage. That TAC is set less than or equal to the sum of the four groups that comprise the assemblage (sharks, squids, sculpins, and octopuses). However, the FMP does not authorize the specification of an overfishing level (OFL) or allowable biological catch (ABC) for the assemblage. The proposed action is intended to comply with National Standard 1 of the Magnuson-Stevens Act, MSA Section 303(a) for specifying annual catch limits in the FMP, and Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 Section 104(b)(1)(B) requirements that Annual Catch Limits be implemented in 2011, and other applicable laws.

1.3 Background and history of the 'other species' assemblage

The 'other species' complex in the GOA FMP has evolved via a series of amendments. The following section provides an overview of how the complex has been managed historically under the FMP, and the amendments that have modified the complex and its management.

The original FMP, implemented in 1978, identified three separate species categories: 1) prohibited species; 2) specific species or species complexes; and 3) 'other species'. Under the original FMP, 'other species' had a Maximum Sustained Yield/Optimum Yield (MSY/OY) of 16,200 mt, as a whole, based upon historic foreign catch.

Amendment 5 to the FMP removed grenadiers from the 'other species' complex and established them as their own category with a separate MSY/OY of 13,200 mt based upon the recorded average grenadier catch from 1967-1979. Grenadiers were removed from the 'other species' complex given concerns that catches of grenadiers (specifically unforeseen bycatch in the hook-and-line sablefish fishery) would exceed the MSY/OY for the 'other species' complex and close directed fishing for target species. Because

the population of grenadiers was not included in the development of the OY for 'other species', the MSY/OY for the 'other species' complex remained unchanged following the removal of grenadiers.

Amendment 8 to the FMP was implemented in November, 1980 (45 FR 73486). Under this amendment, the grenadiers category was re-named non-specified species and all non-target catches from directed fishing (other than the species named in the 'other species' complex) were reported to that category. This was intended to alleviate operational problems with fishermen reporting non-target species in the 'other species' complex. 'other species' were defined as species that have "*only slight economic value and are not generally targeted upon, but which are either significant components of the ecosystem or have economic potential.*" (45 FR 73486). The OY for the 'other species' complex was established as 5% of the OYs for all target species. The 'other species' complex included sculpins, sharks, skates, eulachon, smelts, capelin, and octopus. At this time, squid were managed as a separate target fishery with a separate MSY and OY. Under amendment 8, OY for the 'other species' complex (as well as squid, other rockfish, and thornyhead rockfish) was modified to be managed Gulf-wide, rather than allocated by management area.

The non-specified category was defined as a "*residual category of species and species groups of no current or foreseeable economic value or ecological importance, which are taken in the groundfish fishery as an accidental bycatch and are in no apparent danger of depletion.*" (45 FR 73486). Grenadiers were included under the non-specified category.

Amendment 14 to the FMP was implemented November 18, 1985 (50 FR 43193). As a by-product of changing the OYs for pollock (western and central), Pacific Ocean perch, Atka mackerel, and "other rockfish," the OY for the 'other species' complex decreased, given the specification in the FMP that OY for the 'other species' complex be established as equal to 5% of the total OY for all of the target groundfish species.

In 1987, the FMP was amended (Amendment 15) such that the TAC calculation for the 'other species' complex was fixed in regulation as equal to 5% of the total TACs for all GOA target groundfish species. This percentage was consistent with previous approaches for OY for the 'other species' complex, and was determined as "ample to provide for the anticipated incidental catch of those species" (NPFMC 2008).

In 1988, Atka mackerel were combined into the 'other species' complex due to low abundance, and the absence of a directed fishery for several years. However, high landings in 1992, and a directed fishery in 1993, led to the development of Amendment 31 to the GOA FMP, which removed Atka mackerel from the 'other species' complex and placed them back into a target species category. In 1988, under Amendment 16, squid were moved into the 'other species' complex. Previously they had been listed as a separate target fishery.

Amendment 39, implemented in 1998, defined a forage fish category in the FMP. Important prey species were included in this category. Regulations were implemented which prohibited directed fishing on this category, placed limitations on allowable bycatch retention, and on the sale, barter, trade, or other commercial exchange, and prohibited the processing of forage fish in a commercial processing facility. The forage fish category contains species that were formerly included in the 'other species' complex, including species of eulachon, capelin, and smelts. The full list of species included in this category is in the GOA groundfish FMP (NPFMC 2008).

Conservation concerns were raised in 2003, regarding a developing skate fishery, and the inability of inseason management to allow for some directed fishing, and still adequately protect skate stocks, while these species were within the larger 'other species' complex. In 2004, amendment 63 to the GOA FMP removed skates from the 'other species' complex and placed them in a target category. Currently OFL,

ABC, and TACs are specified for big skates, longnose skates, and the remaining skates in the *bathyrāja* (or other skate) complex. This has allowed for some small but controlled directed fishing to occur on skates until such a time as additional data allow for adequate stock assessment and monitoring of these species to ensure their continued health and viability.

In 2006, amendment 69 to the FMP was implemented, which changed the language of the FMP to allow TAC for the ‘other species’ complex to be set at or below 5% of the combined TACs for the GOA target species. This amendment was prompted by the fact that the removal of skates from the ‘other species’ complex could result in increased harvest of the remaining species in the complex. Given the configuration of the complex, it was possible to target one member of the complex up to the full complex-level TAC, inhibiting in-season management’s ability to control directed fishing within the complex, and raising concerns given the lack of available stock information on most members of the complex. The Council’s intent with Amendment 69 was to provide themselves with the flexibility to set TAC at a level that would allow for incidental catch of ‘other species’ in the directed groundfish fisheries, allow a limited directed fishery for stocks in the ‘other species’ complex, but low enough to prevent excessive harvest of a single targeted species or of the complex a whole.

The ‘other species’ complex currently contains the following species: squids, sculpins, sharks, and octopus. The Council’s non-target species committee has been considering initiatives to break out the component groups, and develop individual harvest specifications (OFL, ABC, TAC) for each group. This initiative is a long-term effort, however, and is on hold pending guidance on annual catch limits as specified in the reauthorized Magnuson-Stevens Act of 2007. In the interim, this action has been proposed, to set an aggregate OFL and ABC for the ‘other species’ complex, which would allow the harvest specifications for this complex to be biologically based.

In State waters, there is no closed season for the ‘other species’ complex. Instead, they are managed as a parallel fishery where openings and closing are made concurrently with federal actions. Directed fishing for sharks, squid, and octopus requires a Commissioner’s permit. The permit is for a specific time period (generally 30 days), specifies the type of gear which may be used, and requires that a logbook be filled out by the vessel operator describing the fishing location, effort, and harvest. Sculpins are managed as groundfish in a parallel fishery where openings and closing are made concurrently with federal actions.

2 ALTERNATIVES

Alternative 1: No Action

Alternative 2: Set aggregate overfishing level (OFL) and acceptable biological catch (ABC) for the GOA other species complex.

Alternative 1 would maintain the status quo. Currently, the FMP specifies that a total allowable catch level (TAC) be set for the ‘other species’ category at “less than or equal to 5 percent of the combined TACs for target species” (NPFMC 2008). This means that no stock assessment is annually required for the other species assemblage, as is the case for the GOA target species, although the Council has received such assessments in recent years as an appendix to the annual GOA Stock Assessment and Fishery Evaluation (SAFE) Report. Until the implementation of Amendment 69 to the GOA FMP, in 2006, the TAC for the ‘other species’ complex was automatically set at 5% of the combined TACs for the target species. Amendment 69 gave the Council the flexibility to set the TAC at or below 5% should. Since implementation in 2006, the Council’s Plan Team, Scientific and Statistical Committee (SSC), and Advisory Panel (AP) have recommended, and the Council has adopted, lower TACs. The Council’s

intent, expressed in the analysis for Amendment 69, is to set TAC at a level that accounts for incidental catch in directed groundfish fisheries, and allows for limited development of target fisheries on stocks in the ‘other species’ complex, but is low enough to prevent excessive harvest of a single targeted species or of the complex a whole.

Under Alternative 2, the FMP would be amended to require the ‘other species’ assemblage to undergo the identical harvest level specifications procedure to which other groundfish species or species groups are subject. This alternative would require an aggregate OFL, ABC, and TAC be determined annually for the ‘other species’ complex. This alternative would result in the GOA groundfish FMP mimicking the BSAI groundfish FMP in its treatment of the ‘other species’ category. An annual stock assessment for the ‘other species’ assemblage would be required, upon which the Plan Teams, SSC, AP, and Council would base their recommendations for harvest specifications.

Table 1 provides a comparison of the harvest specifications for the ‘other species’ complex between Alternatives 1 and 2, using 2007 data. To determine the aggregate ABC and OFL for the BSAI FMP ‘other species’ complex, the SSC generally considers ABC and OFL recommendations for each of the four component assemblages, and then sums both the ABCs and the OFLs to achieve an aggregate. It is likely that the SSC would continue this practice for the GOA FMP should this alternative be adopted, and consider OFL/ABC recommendations for the shark, squid, sculpin, and octopus assemblages in arriving at an aggregate OFL and ABC for the ‘other species’ assemblage as a whole. This analysis assumes that the SSC would use this method to arrive at an aggregate ABC and OFL. In 2006 and 2007, the Plan Teams and SSC reviewed stock assessments for the component species groups of the ‘other species’ complex, and recommended ABCs and OFLs solely to provide additional information for this analysis.

Table 1 Comparison of harvest specifications for the ‘other species’ complex under the alternatives, illustrated using 2007 available data

	Alternative 1 (status quo)	Alternative 2 (set ABC and OFL)
ABC and OFL	none	ABC = 7,943 mt; OFL = 10,588 mt ^a Sum of recommended Plan Team/ SSC ABCs and OFLs for component species groups (only recommended for purposes of this analysis)
Maximum permissible TAC	13,271 mt Council may set TAC at ≤ 5% of combined TACs for target species	7,943 mt Council may set TAC ≤ ABC
Actual TAC	4,500 mt Council reduces TAC from maximum, to allow for incidental catch and limited directed fisheries, but reduce risk of excessive harvest on a single stock or the complex as a whole	≤ 7,943 mt Council would retain prerogative to reduce TAC as in Alternative 1

^a Further explanation of the origin of these numbers may be found in Section 3.1.

3 ENVIRONMENTAL ASSESSMENT

The purpose of this section is to analyze the environmental impacts of the proposed Federal action: to set ABC and OFL specifications for the ‘other species’ complex in the GOA. An environmental assessment is intended, in a concise manner, to provide sufficient evidence of whether or not the environmental impacts of the action are significant (40 CFR 1508.9).

There are four required components of an environmental assessment (EA). The need for the proposal is described in Chapter 1, and the alternatives in Chapter 2. This section discusses the environmental impacts of the proposed action and alternatives. A list of agencies and persons consulted is included later in this document in Section 6.

3.1 ‘Other species’ complex, biological and fishery information

As discussed in Section 1.3, the ‘other species’ complex in the GOA FMP currently comprises squid, sculpins, sharks, and octopus. Until 2005, TAC was set for this complex as a proportion of the TACs of other target species. Since the implementation of Amendment 69 in 2005, the TAC has been set at a lower level. The Council establishes the TAC level to meet incidental catch needs in other directed groundfish fisheries, buffered to allow for limited directed fishery potential, but low enough to prevent excessive harvest of a single targeted species or of the complex a whole.

Table 2 illustrates the history of TACs and catch for the ‘other species’ complex in the GOA groundfish fisheries. ‘Other species’ are primarily taken incidentally, in many groundfish fisheries, although limited directed fishing occurs (e.g., a developing skate fishery in 2003 was the reason that skates were removed from the ‘other species’ complex to become a target species). Exceeding the TAC for ‘other species’ places the complex on prohibited species status, but does not currently shut down any target groundfish fishery since there is no ABC or OFL established for ‘other species’. Stock assessments are not routinely prepared for the ‘other species’ complex, although at various times such stock assessments have been reviewed by the Plan Teams and the SSC as an appendix to the GOA SAFE report. Stock assessments are not required as the Council does not currently specify an OFL or ABC for this complex.

Table 2 TAC and catch for ‘other species’ complex in the GOA groundfish fisheries, 1997-07.

Year	TAC (mt)	Catch (mt)		Catch as % of TAC
1997	13,470	5,409	During these years, the ‘other species’ category included skates, which were broken out as a target species in 2004	40%
1998	15,570	3,748		24%
1999	14,600	3,858		26%
2000	14,215	5,649		40%
2001	13,619	4,801		35%
2002	11,330	4,040		36%
2003	11,260	6,377	SKATE LANDINGS:	57%
2004	12,942	1,553	2,912	12%
2005	13,872	2,306	2,710	17%
2006	13,856 / 4,500 ^a	3,566	3,501	79%
2007	4,500	2,719	3,498	60%

^a Amendment 69, which amended the FMP to allow TAC to be set at or below 5% of the combined TACs of the target species, was implemented mid-2006. The Council adopted the 4,500 mt TAC at the December 2005 meeting, in anticipation of its implementation as soon as the FMP amendment was approved.

Under proposed Alternative 2, the SSC would recommend an aggregate ABC and OFL for the ‘other species’ complex as a whole, and the Council would set the TAC at or below the recommended ABC. This mimics the way the ‘other species’ complex is treated in the BSAI groundfish FMP. In order to come up with aggregate harvest specifications for the BSAI, the SSC considers a group-level ABC and OFL for each component of the ‘other species’ complex, and then adds the ABCs and OFLs to arrive at an aggregate ABC and OFL. For the purposes of this analysis, it is assumed that the SSC would use a similar method to arrive at an ABC and OFL for the GOA ‘other species’ complex under Alternative 2.

In late 2006, the Plan Teams and the SSC recommended ABCs and OFLs for the component species groups of the GOA ‘other species’ complex, for the purposes of this analysis. These numbers were revisited in 2007, and updated for sculpins based on its most recent biomass estimate. The recommendations are listed in Table 3.

Table 3 Plan Team and SSC recommendations for 'other species' ABC and OFL, 2006 and 2007 (mt).

'Other species' complex		ABC (mt)	OFL (mt)	Tier	Notes
component species groups	squid	1,526	2,030	6	Modified Tier 6 formula, ABC based on maximum incidental catch (in 2006)
	sculpins	4,327	5,770	5	Calculations based on biomass estimate from 2007 trawl survey
	sharks	1,792	2,390	6	Modified Tier 6 formula, OFL based on maximum incidental catch (in 1998)
	octopus	298	398	6	Modified Tier 6 formula, OFL based on maximum incidental catch (in 2002)
Aggregate		7,943	10,588		

Under Alternative 2, the Council would then set TAC levels at or below ABC, as specified in the FMP. A comparison of Table 2 and Table 3 illustrates that, based on recent information, the proposed aggregate ABC for the ‘other species’ complex would allow the TAC to be set at a higher level than has been the practice for the last two years, but still lower than 5% of the combined target species TACs (13,271 mt in 2007), which is the current maximum TAC as prescribed in the FMP. However, the Council could continue to reduce the TAC below the ABC, at a level to meet incidental catch needs but low enough to prevent excessive harvest of a single targeted species or of the complex a whole.

Table 4 lists catch of the ‘other species’ complex by species group, for the most recent five years. Octopus represents the lowest proportion of the ‘other species’ catch in most years. A comparison with Table 2 shows that the catch is well below TAC in all years.

Table 4 'Other species' complex catch (mt) for 2003-2007, broken out by component species groups

Year	'other species'	Squid		Sculpin		Sharks		Octopus	
		mt	% of complex	mt	% of complex	mt	% of complex	mt	% of complex
2003	6,377 ^a	91	1%	751	12%	750	12%	210	3%
2004	1,553	157	10%	658	42%	474	31%	265	17%
2005	2,306	627	27%	544	24%	987	43%	149	6%
2006	3,566	1,527	43%	576	16%	1,300	36%	164	5%
2007	2,719	413	15%	855	31%	1,189	44%	263	10%

^a Skates included as part of complex in 2003

Each group in the ‘other species’ complex plays an important ecological role. The species groups in this category occupy all marine habitats from pelagic to benthic, nearshore to open oceans, and shallow to slope waters. Sharks are top predators, so fluctuations in their populations may have significant effects on community structure. Squid and octopus are highly productive, voracious predators which are in turn important prey for commercially important groundfish, sharks, and marine mammals. Sculpins are important benthic predators, and sculpins serve as prey for many groundfish species.

Stock assessments were most recently prepared for the ‘other species’ component species groups in 2006, and updated in 2007 and are included as appendices to the GOA SAFE reports (Reuter et al. 2006, Ormserth and Jorgenson 2007, Conners and Jorgensen 2006, Courtney et al. 2006). These assessments provide the most recent information on GOA ‘other species’, and they are incorporated by reference. The following sections contain an overview of information on each component species group, drawn from the SAFE reports.

Squid

Squid are highly productive, short-lived animals, with a general lifespan of about 1 to 2 years. Ecosystem models estimate that there is a much larger squid biomass in the GOA ecosystem than is represented by their incidental catch in the GOA groundfish fisheries, and that a large proportion of squid mortality is attributable to predation. Consequently, the trawl survey biomass estimates for squid are likely to be low, and are considered unreliable (Table 5). The 2006 incidental catch was significantly higher than previous years, as was the 2007 survey biomass. Natural mortality rate is difficult to calculate, as a high proportion of the biomass dies off during the year.

Table 5 Squid biomass and catch of squids in the GOA (mt)

Year	2003	2004	2005	2006	2007
GOA squid survey biomass	6,322		4,899		11,991
total GOA squid catch	91	157	627	1,527	413
pollock fishery squid catch	62	139	620	1,515	406
pollock fishery as % of total squid catch	69%	89%	99%	99%	99%

The stock assessment author provided ABC and OFL recommendations for both Tier 5 and Tier 6. Tier 5 is problematic because of the unreliable biomass and natural mortality estimates. The traditional Tier 6 calculation, average catch over 1978-1995, results in a very low ABC and OFL, and seems overly conservative considering that squid appear to have a much larger abundance than is indicated by fishery catch. 2006 had the highest incidental catch, and the Plan Team and SSC recommended an alternative Tier 6 calculation, where ABC was set equal to the maximum incidental catch of 1,526 mt, and OFL was calculated at 133% of that amount.

Since 2004, the vast majority of incidental catch of squid occurs in the pollock fishery, largely in an area of the Shelikof Straits, during February and March.

Sculpins

GOA sculpin are dominated by 4 of the largest sculpin species groups: yellow Irish lord, plain sculpin, great sculpin, bigmouth sculpin, although about twenty species show up in the survey. The coefficients of variability (CV) around the biomass estimates for sculpins are low, and biomass is considered to be reliable (Table 6). Life history information is lacking for GOA sculpins, although new data is available for the BSAI.

Table 6 Sculpin complex biomass (selected species, mt) from the 1996-2007 GOA trawl survey

Species	Common name	Biomass						CV
		1996	1999	2001	2003	2005	2007	2007
<i>Hemilepidotus jordani</i>	Yellow Irish lord	17,804	20,255	20,945	12,064	15,952	15,720	0.15
<i>Hemitripterus bolini</i>	Bigmouth sculpin	4,246	3,983	3,471	5,767	5,543	3,126	0.22
<i>Myoxocephalus jaok</i>	Plain sculpin	1,015	1,692	932	1,220	3,912	4,456	0.50
<i>Myoxocephalus polyacanthocephalus</i>	Great sculpin	7,326	3,913	3,540	6,037	6,574	7,734	0.19
TOTAL – all sculpin species		31,313	30,782	30,417	26,515	33,560	32,468	0.11

Because of the reliable biomass estimates, sculpins are assessed in Tier 5. A conservative estimate of natural mortality is applied, based on information on sculpin species throughout the North Pacific. Sculpin catch is low in the groundfish fisheries, relative to their recommended ABC. The most common sculpin species are incidentally caught in flatfish trawl and Pacific cod pot fisheries. Smaller sculpin species are incidental catch in rockfish fisheries.

Sharks

Sharks are a long-lived species with slow growth to maturity, low productivity, and large maximum size. The three most common shark species in the GOA are spiny dogfish, Pacific sleeper shark, and salmon sharks. Reliable point estimates for biomass do not exist for sharks in the GOA, as the efficiency of bottom trawl gear varies by species and is unknown. Average biomass from 1996-2006 is considered the best available biomass estimate for GOA sharks (47,433 mt for spiny dogfish, 37,459 mt for Pacific sleeper shark, and 1,729 mt for salmon shark). Natural mortality has been estimated for spiny dogfish, but not for other species.

The Plan Teams and SSC recommended that ABC and OFL for sharks be specified using a modified Tier 6 approach. The maximum annual incidental catch for sharks between 1990 and 2006 occurred in 1998. This figure, 2,390 mt, is specified as the OFL, and ABC is calculated at 75% of the OFL.

Spiny dogfish and Pacific sleeper sharks are taken incidentally in flatfish and pollock bottom trawl, and sablefish longline fisheries. Catch by species is estimated in Table 7. There are currently no directed commercial fisheries for shark species, although there were some deliveries of spiny dogfish to Kodiak in 2004 and 2005.

Table 7 Estimated catch (mt) of sharks in the GOA, by species.

Year	Spiny dogfish	Pacific sleeper shark	Salmon shark	Other/unidentified shark	Total sharks
	<i>Squalus acanthias</i>	<i>Somniosus pacificus</i>	<i>Lamna ditropis</i>		
2003	369	292	36	53	750
2004	180	233	22	39	474
2005	414	460	53	60	987
2006	948	240	29	83	1,300
2007	692	294	95	107	1,189

Octopus

At least seven species of octopus can be found in the GOA, and all but one are benthic octopuses. In general, octopus life spans either 1-2 years or 3-5 years, although life history is little known for all species except *Enteroctopus dofleini*. Trawl survey biomass estimates are highly variable (Table 8), and may not accurately reflect the species and sizes caught, for example, in the pot fishery. As with squid, ecosystem models indicate that fishery catch is small compared to estimated predation mortality on octopus.

Table 8 GOA survey biomass estimates for octopus (all species, mt)

Survey year	Survey hauls	Hauls with octopus		Estimated biomass
1999	764	47	6.2%	994
2001	489	29	5.9%	994
2003	809	70	8.7%	3,767
2005	839	56	6.7%	1,125
2007	820	71	8.7%	2,296
10 year average				1,835

The Plan Teams and the SSC recommended a modified Tier 6 approach for octopus, as the traditional average catch Tier 6 approach appears too conservative for octopus. ABC is recommended as the maximum incidental catch, which occurred in 2002, and OFL is calculated at 133% of that value.

There is some interest in a directed fishery for octopus, although currently there is little evidence of such a fishery taking place. One Kodiak processor purchases incidentally-caught octopus primarily for halibut bait. Recent increases in market value have increased retention of incidentally-caught octopus in the GOA. The vast majority of incidental catch comes from the Pacific cod pot fishery.

3.2 Physical and Biological Impacts

Alternative 1

Alternative 1 represents the status quo, with no change to the harvest specifications for the ‘other species’ complex. Status quo groundfish fishing is periodically evaluated in the environmental assessment (EA) that supports decisionmaking on harvest specifications for the BSAI and GOA groundfish fisheries (NMFS 2006). The EA evaluates all physical and biological resources affected by the groundfish fisheries, and describes the impact of the fisheries. A “beneficial” or “adverse” impact leaves the resource in better or worse, respectively, condition than it would be in an unfished condition. “Significant” impacts are those adverse or beneficial impacts that meet specified criteria for each resource component, but generally are those impacts that affect the species population outside the range of natural variability, and which may affect the sustainability of the species or species group.

The analysis of Alternative 2 in NMFS (2006), which describes status quo fishing, is incorporated by reference. The EA has found that under status quo groundfish fishery management there is a low probability of overfishing target species, or generating significant adverse impacts to fish species generally (target, non-specified, forage, or prohibited species). The preliminary stock assessments prepared in 2006 and 2007 also do not indicate that the species of the ‘other species’ complex are overfished or subject to overfishing. Direct and indirect effects of the groundfish fisheries on marine mammals and seabirds have been identified as adverse but not significant, and effects on essential fish

habitat are no more than minimal and temporary. Effects on ecosystem relationships are also analyzed as adverse but not significant.

Alternative 2

Alternative 2 would change the status quo to annually set an ABC and OFL for the other species assemblage. This would allow the TAC for the 'other species' complex to be based on best available scientific information, and would incur an annual review of stock status of the 'other species' complex. This does not currently occur under status quo management. The annual review and biological limits are likely to further reduce any risk of overfishing the species within the 'other species' complex, and so are likely to be beneficial to those species. As Table 1 demonstrates, the maximum permissible TAC for the 'other species' complex would be reduced, under the proposed action, to a limit that is biologically determined. There continues to be some risk, as these species are managed as a complex, that directed fishing might target an individual stock of the complex and risk overfishing that species. A similar situation occurred in 2003, when a developing fishery for skates emerged in the GOA. At that time, the Council took swift action to remove skates from the 'other species' complex, which is an appropriate way to address such issues under the FMP. This safeguard is still available should developing fisheries for 'other species' emerge.

Under Alternative 2, the impacts of a developing fishery would not be as severe as they could have been in 2003, as the aggregate OFL for the complex will be notably less than the TAC for the complex at that time (which was calculated as 5% of the combined target species TACs). Additionally, with the specification of an overfishing limit, inseason management has the ability to close directed fisheries once the 'other species' OFL has been attained, which presents a further safeguard to any risk of overfishing.

Furthermore, the Council currently sets TAC for the 'other species' complex at a level that is approximately half of the estimated ABC for the complex (see Table 1). The Council would retain its flexibility under Alternative 2 to set the TAC at a level lower than the ABC, should the Council wish to continue its practice of accommodating incidental and limited directed fisheries, but preventing excessive targeting on a particular stock within the complex. For all these reasons, no significantly adverse impacts are likely to be associated with Alternative 2 with respect to the 'other species' complex. The proposed ABC in fact lowers the maximum permissible TAC that the Council might specify. Alternative 2 places the conservation of those species on a more sound, biologically-based footing.

With regard to other elements of the physical and biological environment, the proposed action is unlikely to exert any change. The 'other species' complex is primarily an incidental catch fishery, and no element of this proposed amendment is likely to change this status. The amount of incidental catch of 'other species' is unlikely to change, as this proposed amendment has no impact on other directed groundfish fisheries, and so is unlikely to change fishery interactions with seabirds, marine mammals, habitat, or the ecosystem generally.

3.3 Economic and Socioeconomic Impacts

Alternative 1 represents the status quo, with no change to the harvest specifications for the 'other species' complex. Status quo groundfish fishing is periodically evaluated in the environmental assessment (EA) that supports decisionmaking on harvest specifications for the BSAI and GOA groundfish fisheries (NMFS 2006). The analysis of Alternative 2 in NMFS (2006), which describes status quo fishing, is incorporated by reference. The EA has found that status quo groundfish fishery management does not result in significantly adverse social or economic impacts.

Under Alternative 1, the Council retains the ability to set TAC up to the maximum of 5% of the combined target species TACs, or 13,271 mt in 2007. In practice, since the passage of Amendment 69, the Council has elected to set TAC well below such a limit, at a level sufficient to accommodate incidental catch. Alternative 2 would restrict the overall maximum TAC that could be set for the 'other species' complex to be at or below ABC, which is recommended at 7,943 mt in this analysis (Table 1). While this amendment does preclude the ability of the Council to set a maximum permissible TAC of 5% of the combined target species TACs, which could allow for directed fishing of the 'other species' complex, the Council would be highly unlikely to take such an action. Almost of the catch of the 'other species' complex is taken incidentally in the directed groundfish fisheries. The Council has stated its intent to set the 'other species' TAC at a level appropriate to accommodate incidental catch, and in fact, should directed fishing occur on a species within the 'other species' complex, that species would likely be moved out into the target species category (as with skates in 2003), where it would be subject to biologically-based harvest specifications.

NMFS (2006) estimates earned gross revenue for the GOA 'other species' fishery in 2006 as \$700,000, when the catch was 3,526 mt. This represents a calculation of approximately \$198.5/mt. Using this calculation, the maximum foregone TAC between Alternative 1 and Alternative 2 would be 13,271 mt – 7,943 mt, or 5,328 mt, which could represent potentially \$1.1 million earned gross revenue. However, this figure is only 0.5% of the total earned gross revenue of the GOA groundfish fishery, so that even large changes in the retained catch of 'other species' will only have a small impact on industry gross revenues. Given that the 'other species' catch is frequently not retained, this suggests that it is not currently profitable to harvest the 'other species' complex up to its current reduced TAC of 4,500 mt, let alone to the maximum permissible TAC.

One consequence of the difference between Alternative 2 and Alternative 1 in that because an ABC and OFL are specified for the 'other species' complex, directed fisheries in which 'other species' are incidentally caught would be closed once the OFL is reached. However, in the last 30 years, the catch of 'other species' has never once exceeded the proposed OFL level of 10,588 mt. It is therefore unlikely that other groundfish fisheries would be impacted by a closure to prevent overfishing of the 'other species' complex.

Based on this discussion, and the comparison to Alternative 1, Alternative 2 is not considered to have significant social and economic impacts.

3.4 Cumulative Impacts

Analysis of the potential cumulative effects of a proposed action and its alternatives is a requirement of NEPA. Cumulative effects are those combined effects on the quality of the human environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of what Federal or non-Federal agency or person undertakes such other actions (40 CFR 1508.7, 1508.25(a), and 1508.25(c)). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The concept behind cumulative effects analysis is to capture the total effects of many actions over time that would be missed by evaluating each action individually. At the same time, the CEQ guidelines recognize that it is not practical to analyze the cumulative effects of an action on the universe but to focus on those effects that are truly meaningful.

The 2004 Final Alaska Groundfish Fisheries Programmatic Supplemental Environmental Impact Statement (Groundfish PSEIS; NMFS 2004) assesses the potential direct and indirect effects of groundfish FMP policy alternatives in combination with other factors that affect physical, biological and socioeconomic resource components of the BSAI and GOA environment. To the extent practicable, this

analysis incorporates by reference the cumulative effects analysis of the Groundfish PSEIS, including the persistent effects of past actions and the effects of reasonable foreseeable future actions.

Beyond the cumulative impacts analysis documented in the Groundfish PSEIS, no additional past, present, or reasonably foreseeable cumulative negative impacts on the biological, physical, or socioeconomic environment (including fish stocks, essential fish habitat, ESA-listed species, marine mammals, seabirds, marine ecosystems), fishing communities, fishing safety or consumers have been identified that would accrue from the proposed action. Cumulatively significant negative impacts on these resources are not anticipated with the proposed action because no negative direct or indirect effects on the resources have been identified.

One related future action that would interact with this proposed action is the development of an analysis to set individual harvest specifications for the component species groups of the 'other species' complex. That analysis has been initiated by the Council, but is on a longer-term track, as it is waiting national guidance regarding the annual catch limits specified in the reauthorized Magnuson-Stevens Act. However, that analysis is in effect a sequential extension of the one that is proposed here, and so any cumulative impacts will appropriately be discussed at the time of the future analysis.

4 Regulatory Impact Review (RIR)

4.1 Introduction

This Regulatory Impact Review (RIR) evaluates regulatory alternatives that would modify the annual determination of the harvest specifications for the 'other species' complex in the GOA. This RIR has been prepared to meet the requirement contained in Presidential Executive Order 12866, to evaluate the costs and benefits of regulatory actions.

The 'other species' complex includes shark, sculpin, octopus, and squid. These species are taken as incidental catches in directed groundfish fisheries. Skates were included in the 'other species' complex category until 2004; they were taken from this category and made a target species, after a commercial fishery targeting them emerged in 2003.

Currently, a TAC for the the GOA 'other species' complex is set at less than or equal to 5% of the sum of the TACs for the target groundfish species. The alternative under consideration in this RIR would allow the Council to set an ABC and OFL for the 'other species' complex.

4.2 What is a Regulatory Impact Review?

This 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 order:

In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but 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 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.

4.3 Statutory authority for this action

The National Marine Fisheries Service manages the U.S. groundfish fisheries of the Gulf of Alaska management area in the Exclusive Economic Zone under the Fishery Management Plan (FMP) for this area. The North Pacific Fishery Management Council prepared the FMP under the authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations implement the FMP at 50 CFR part 679. General regulations that also pertain to U.S. fisheries appear at subpart H of 50 CFR part 600.

4.4 Purpose and need for this action

Chapter 1 provides a detailed discussion of the purpose and need for this action, and a history of the evolution of the ‘other species’ complex in the GOA FMP. The following problem statement was adopted by the Council for this action:

The GOA Groundfish FMP requires that an annual total allowable catch (TAC) be set for the other species assemblage. That TAC is set less than or equal to the sum of the four groups that comprise the assemblage (sharks, squids, sculpins, and octopuses). However, the FMP does not authorize the specification of an overfishing level (OFL) or allowable biological catch (ABC) for the assemblage. The proposed action is intended to comply with National Standard 1 of the Magnuson-Stevens Act, MSA Section 303(a) for specifying annual catch limits in the FMP, and Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 Section 104(b)(1)(B) requirements that Annual Catch Limits be implemented in 2011, and other applicable laws.

4.5 Description of the alternatives under consideration

There are two alternatives under consideration in this analysis, listed below. The alternatives are described in detail in Section 2 of this document.

Alternative 1: No Action

Alternative 2: Set aggregate overfishing level (OFL) and acceptable biological catch (ABC) for the GOA other species assemblage.

4.6 Background information on the fishery

Sections 1.3 and 3.1 of this document provide background information on the role of the ‘other species’ complex in the groundfish fisheries of the GOA. Section 3.3 summarizes information on the economic and socio-economic environment, and provides information on the potential social and economic impacts to the human environment from the alternatives under consideration. Section 5.7 of the IRFA in this document provides estimates of the number of small entities (defining small entities using U.S. Small Business Administration criteria) that may be directly regulated by this action, and describes them. Section 5.8 of the IRFA discusses adverse economic impacts on these directly regulated small entities. Further background on the harvesting and processing sectors of the Alaska groundfish fisheries can be found in the Alaska Groundfish Programmatic Supplemental Environmental Impact Statement (NMFS 2004), and the harvest specifications EIS (NMFS 2006). Some key points include:

- Almost all ‘other species’ catches are currently made incidentally to harvests of targeted groundfish species.
- Limited markets exist for incidental harvests of some of these species, but markets elsewhere do support directed fisheries for these, such as spiny dogfish, octopus, and squid. It is possible for directed fisheries to emerge for some of these species. The likelihood of these markets emerging, or the likely magnitude of associated directed fisheries, cannot currently be predicted.
- Atka mackerel and skates were formerly included in the ‘other species’ complex in the GOA, and were removed when directed fisheries emerged for these species. A directed skate fishery emerged in 2003, and skates were given target species status in 2004.
- Even if the entire ‘other species’ complex had been caught and retained in 2006, the revenues generated would have been small compared to overall GOA fishery gross revenues (less than 1%).
- The annual catches of species in the ‘other species’ complex have been small compared to total GOA groundfish catches (on the order of 1% per year).

4.7 Analysis of the alternatives

Alternative 1 represents the status quo, with no change to the harvest specifications for the ‘other species’ complex. Status quo groundfish fishing is periodically evaluated in the environmental assessment (EA) that supports decisionmaking on harvest specifications for the BSAI and GOA groundfish fisheries (NMFS 2006). The analysis of Alternative 2 in NMFS (2006), which describes status quo fishing, is incorporated by reference. The EA has found that status quo groundfish fishery management does not result in significantly adverse social or economic impacts.

Under Alternative 1, the Council retains the ability to set TAC up to the maximum of 5% of the combined target species TACs, or 13,271 mt in 2007. In practice, since the passage of Amendment 69, the Council has elected to set TAC well below such a limit, at a level sufficient to accommodate incidental catch. Alternative 2 would restrict the overall maximum TAC that could be set for the ‘other species’ complex to be at or below ABC, which is recommended at 7,943 mt in this analysis (Table 1). While this amendment does preclude the ability of the Council to set a maximum permissible TAC of 5% of the combined target species TACs, which could allow for directed fishing of the ‘other species’ complex, the Council would be highly unlikely to take such an action. Almost of the catch of the ‘other species’ complex is taken incidentally in the directed groundfish fisheries. The Council has stated its intent to set the ‘other species’ TAC at a level appropriate to accommodate incidental catch, and in fact, should directed fishing occur on a species within the ‘other species’ complex, that species would likely be moved out into the target species category (as with skates in 2003), where it would be subject to biologically-based harvest specifications.

NMFS (2006) estimates earned gross revenue for the GOA ‘other species’ fishery in 2006 as \$700,000, when the catch was 3,526 mt. This represents a calculation of approximately \$198.5/mt. Using this calculation, the maximum foregone TAC between Alternative 1 and Alternative 2 would be 13,271 mt – 7,943 mt, or 5,328 mt, which could represent potentially \$1.1 million earned gross revenue. However, this figure is only 0.5% of the total earned gross revenue of the GOA groundfish fishery, so that even large changes in the retained catch of ‘other species’ will only have a small impact on industry gross revenues. Given that the ‘other species’ catch is frequently not retained, this suggests that it is not currently profitable to harvest the ‘other species’ complex up to its current reduced TAC of 4,500 mt, let alone to the maximum permissible TAC.

One consequence of the difference between Alternative 2 and Alternative 1 is that because an ABC and OFL are specified for the ‘other species’ complex, directed fisheries in which ‘other species’ are incidentally caught would be closed once the OFL is reached. However, in the last 30 years, the catch of ‘other species’ has never once exceeded the proposed OFL level of 10,588 mt. It is therefore unlikely that other groundfish fisheries would be impacted by a closure to prevent overfishing of the ‘other species’ complex.

4.8 Summary of significance criteria

As noted in NMFS (2006), the estimate of current first wholesale gross revenue from the GOA ‘other species’ complex is \$700,000, based on the current TAC. This is based on a 2006 ‘other species’ catch of 3,526 mt. Under alternative 2, the Council would most likely continue to set TAC at similar levels (currently 4,500 mt), to accommodate incidental catch but prevent intensive fishing on a particular stock within the complex. This would not constrain directed groundfish fisheries’ incidental catch of ‘other species’. In the unlikely case that the Council were to set maximum permissible TAC for the ‘other species’ complex, the maximum foregone TAC, should it be fully harvested, could represent \$1.1 million earned gross revenue.

The specification of an OFL under Alternative 2 means that once the OFL for ‘other species’ is attained, the directed fisheries taking them incidentally may be closed to avoid overfishing of the ‘other species’ complex. However, the level of ‘other species’ catch has historically never reached a level where this would occur.

Therefore, these alternatives do not appear to have the potential to impose costs of \$100 million on the U.S. economy. These alternatives do not appear to “adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities...”

NMFS has not identified any factors that would (a) “Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency”; (b) “Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof”; or (c) “Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in the executive order.”

5 Initial Regulatory Flexibility Analysis (IRFA)

5.1 Introduction

This Initial Regulatory Flexibility Analysis (IRFA) evaluates regulatory alternatives that would modify the annual determination of the harvest specifications for the ‘other species’ complex in the GOA. This RIR has been prepared to meet the requirement contained in Presidential Executive Order 12866, to evaluate the costs and benefits of regulatory actions.

The ‘other species’ complex includes shark, sculpin, octopus, and squid. These species are taken as incidental catches in directed groundfish fisheries. Skates were included in the ‘other species’ complex category until 2004; they were taken from this category and made a target species, after a commercial fishery targeting them emerged in 2003.

Currently, a TAC for the the GOA ‘other species’ complex is set at less than or equal to 5% of the sum of the TACs for the target groundfish species. The alternative under consideration in this RFA would allow the Council to set an ABC and OFL for the ‘other species’ complex.

5.2 What is the Regulatory Flexibility Act?

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, both large and small, 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, focusing on the complete range of available alternatives (including the designated “preferred” alternative), has been prepared and is included in this package for Secretarial review.

5.3 IRFA Requirements

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.

5.4 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 businesses. 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 US 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 \$4.0 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 \$4.0 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% 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% 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 control 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.

5.5 Reason for Considering the Proposed Action

Chapter 1 provides a detailed discussion of the purpose and need for this action., and the evolution of the ‘other species’ complex in the GOA FMP. The following problem statement was adopted by the Council for this action:

The GOA Groundfish FMP requires than an annual total allowable catch (TAC) be set for the other species assemblage. That TAC is set less than or equal to the sum of the four groups that comprise the assemblage (sharks, squids, sculpins, and octopuses). However, the FMP does not authorize the specification of an overfishing level (OFL) or allowable biological catch (ABC) for the assemblage. The proposed action is intended to comply with National Standard 1 of the Magnuson-Stevens Act, MSA Section 303(a) for specifying annual catch limits in the FMP, and Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 Section 104(b)(1)(B) requirements that Annual Catch Limits be implemented in 2011, and other applicable laws.

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

The objectives of this action are to: (1) protect the long-term sustainability of the stocks that comprise the ‘other species’ complex; (2) comply with the Magnuson-Stevens Fishery Conservation and Management Act requirement to set annual catch limits in the FMP.

The National Marine Fisheries Service manages the U.S. groundfish fishery of the Gulf of Alaska management area in the Exclusive Economic Zone under the Fishery Management Plans for this area. The North Pacific Fishery Management Council prepared the FMP under the authority of the Magnuson-Stevens Act. Regulations implement the FMP at 50 CFR part 679. General regulations that also pertain to U.S. fisheries appear at subpart H of 50 CFR part 600.

5.7 Number and description of directly regulated small entities

The directly regulated small entities are those entities that fish for groundfish in the GOA, and which make incidental catches of sculpin, shark, octopus, and squid in the course of these operations.

In 2006 (the most recent year for which complete information on the number of participating vessels has been compiled), 648 small catcher vessels and 6 small catcher-processors were directly regulated under the SBA criteria. Most of these (486 catcher vessels and 4 catcher-processors) were hook-and-line vessels. In addition, there were 144 vessels using pot gear (143 catcher vessels and one catcher processor) and 77 vessels using trawls (76 catcher vessels and one catcher-processor) (Hiatt et al 2007, Table 37).

These estimates of small vessel numbers are probably high for several reasons. The analysis only takes account of operational revenues from Federally managed groundfish fisheries. It does not include revenues from other Federally managed fisheries, or from State managed fisheries. These other revenue sources, however, would be relevant to the determination of operation size under SBA criteria. Thus, at least some of these operations are likely to have gross revenues greater than \$4.0 million. Moreover, this analysis has not taken account of affiliations among operations. In many instances, operations are affiliated. For example, many fishermen own shares in more than one fishing vessel in order to diversify their risks. AFA catcher vessels also operate in the GOA and these vessels are considered large by reason

of their participation in AFA cooperatives in the BSAI. AFA affiliation may particularly bias the small trawler count upwards.

These vessels had average gross revenues of \$190,000 from Federally managed groundfish fishing. Average revenues were \$380,000 (at ex vessel) for catcher vessels. Hook-and-line catcher vessels grossed \$300,000, pot catcher vessels grossed \$470,000, and trawl catcher vessels grossed \$910,000. Because of confidentiality restrictions, there are not enough catcher-processor pot or trawl vessels to permit the reporting of average gross revenues. There are enough small hook-and-line catcher processors to report this average; these vessels averaged \$2,670,000 (first wholesale) (Hiatt et al 2007, Table 39).

5.8 Adverse economic impacts on directly regulated small entities

A detailed discussion of the impacts of the alternatives may be found in Section 4.7 of the RIR. The following analysis draws on this earlier discussion.

All alternatives provide for the ‘other species’ incidental catch needs of fisheries targeting groundfish in the GOA. No existing fisheries should experience adverse impacts from any of these alternatives. No small entity participating in an existing groundfish target fishery should be adversely impacted by these alternatives.

Alternative 1 is the status quo. This alternative does not appear to create adverse impacts on directly regulated small entities.

Alternative 2 allows the Council to continue providing for incidental catches, while ensuring the continued sustainability of these species. The Council retains the flexibility to adjust TAC levels to accommodate future incidental catch as well as developing fisheries. Like Alternative 1, this alternative does not appear to create adverse impacts for directly regulated small entities.

5.9 Recordkeeping and reporting requirements

The analysis did not identify any new “projected reporting, record keeping and other compliance requirements” associated with the proposed FMP amendment and regulatory changes.

5.10 Duplicating, overlapping, or conflicting Federal rules

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

5.11 Comparison of preferred and other alternatives

The Council is proposing alternative 2 as a change from the status quo. As noted in Section 5.8, neither alternative creates adverse impacts for directly regulated small entities. Alternative 2 better meets the action objectives and the MSA National Standard requirement to specify annual catch limits.

6 Preparers, Agencies and Persons Consulted

Preparers:	Diana Evans, NPFMC
Agencies and persons consulted:	AFSC SAFE authors Josh Keaton, NMFS AKR

7 References

- Conners M.E. and E. Jorgensen. 2006. Appendix D: Octopus Complex. Gulf of Alaska Stock Assessment and Fishery Evaluation Report. NPFMC. December 2006.
- Courtney D., C. Tribuzio, K. Goldman, J. Rice. 2006. Appendix E: GOA Sharks. Gulf of Alaska Stock Assessment and Fishery Evaluation Report. NPFMC. December 2006.
- Hiatt T., R. Felthoven, M. Dalton, B. Garber-Yonts, A. Haynie, K. Herrmann, D. Lew, J. Sepez, C. Seung, L. Sievanen, staff of Northern Economics. 2007. Economic Status of the Groundfish Fisheries off Alaska, 2006. NMFS. Seattle, WA. October 2007.
- NMFS. 2006. BSAI and GOA Harvest Specifications for 2006-2007. Environmental Assessment (EA) and Final Regulatory Flexibility Analysis (FRFA). NOAA NMFS Alaska Region Office, Juneau, Alaska. January 2006.
- NMFS. 2005. Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Proposed Amendment 69 to the Fishery Management Plan for Groundfish of the Gulf of Alaska to modify the Total Allowable Catch Calculation for the 'other species' Complex. Alaska Regional Office, National Marine Fisheries Service. Juneau, Alaska. September 2005.
- NMFS. 2004. Alaska Groundfish Fisheries Final Programmatic Supplemental Environmental Impact Statement, U.S. Dept. of Commerce, NOAA Fisheries, Alaska Region. June 2004.
<http://www.fakr.noaa.gov/sustainablefisheries/seis/intro.htm>.
- NPFMC. 2008. Fishery Management Plan for Groundfish of the Gulf of Alaska. North Pacific Fishery Management Council. Anchorage, AK. January 2008.
- Reuter R., T. TenBrink, S. Gaichas, S. Lowe. 2006. Appendix B: 2006 GOA Sculpins. Gulf of Alaska Stock Assessment and Fishery Evaluation Report. NPFMC. December 2006.
- Ormseth O. and E. Jorgenson. 2007. Appendix C: Gulf of Alaska Squids. Gulf of Alaska Stock Assessment and Fishery Evaluation Report. NPFMC. December 2006.