MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke
Executive Director

DATE: September 16, 1993

SUBJECT: Groundfish Regulatory Amendments

ESTIMATED TIME

2.5 HOURS

ACTION REQUIRED

(a) Receive status report on the Council's recommendation to release PSC bycatch rates by vessel name.

(b) Initial review of analysis to modify Directed Fishing Standards.

BACKGROUND

Publication of Bycatch Rates

At the June meeting, the Council recommended that NMFS develop rulemaking to publish individual vessel bycatch rates. NMFS intends to combine this rule with the salmon bycatch management rule (See Agenda Item D-5(a)). Information to be posted on the NMFS computer bulletin board will include: vessel name, number of salmon observed weekly, and halibut, red king crab, and Tanner crab weekly bycatch rates. Sue Salveson from NMFS-AKR is available with further details.

Directed Fishing Standards

Last December, the Council requested NMFS to develop a regulatory amendment to address Directed Fishing Standards (DFS) for rockfishes in the Gulf of Alaska. Further examination indicated that directed fishing standards should be revised for *all groundfish*. As currently applied, DFS reduce harvest rates of groundfish and PSC species when groundfish TACs or PSC limits are approached. After fishery closures, DFS reduce discards and waste by allowing retention of incidental groundfish bycatch until TAC is achieved. The current DFS, which are highly specific for bycatch species, areas, gears, and other objectives, are complex and difficult to enforce. They have neither prevented over- and under-harvesting of groundfish or prohibited species, nor eliminated undesirable fishing practices such as covert targeting. The primary goal of this proposed regulatory change is to improve management of groundfish TACs and PSC limits.

The analysis examines three main alternatives:

Alternative 1: Status quo.

Alternative 2: Simplify DFS regulations using: 1) 5%, 10%, or 20% as the DFS for all groundfish species; and 2) the same DFS for each species regardless of area, gear type, target fishery, or cause of the directed fishery closure. Additionally, this alternative would change the basis for calculating retainable groundfish bycatch.

Alternative 3: In addition to provisions of alternative 2, NMFS has authority to make in-season changes to a DFS among the 5%, 10%, and 20% levels.

An Executive Summary is provided under Item D-4(a). A draft copy of the analysis will be made available to the Council at the meeting.

EXECUTIVE SUMMARY FOR A REGULATORY AMENDMENT TO REVISE DIRECTED FISHING STANDARDS

The primary goal of inseason management is to conserve groundfish resources while promoting attainment of Total Allowable Catches (TACs), avoiding unnecessary waste and discards of groundfish, and limiting mortality of crab, halibut, herring, and salmon, species prohibited to retention in groundfish fisheries (PSC).

Directed Fishing Standards (DFS) are a crucial tool for managing groundfish TACs and PSC limits. Current DFS were intended to limit mortality of a groundfish species to "unavoidable bycatch" after a directed fishing closure. DFS reduce harvest rates of groundfish and PSC species when groundfish TACs or PSC limits are approached. DFS also reduce discards and waste by allowing retention of incidental groundfish bycatch, after fishery closures, until TAC is achieved.

Although current DFS are highly specific for bycatch species, areas, gears, and for other management objectives, they have not prevented over- and under-harvests of groundfish or prohibited species. Also, the proliferation of individualized DFS has not eliminated undesirable fishing practices such as covert targeting on high value species after fishery closures, or wasteful discarding that occurs after TAC is reached. Observer data indicate that bycatch rates are sufficiently variable that no single bycatch rate can adequately represent all "unavoidable bycatch" for any species; any particular DFS will at times result in the necessity to discard catch and at other times, provide opportunity for covert targeting. The increased complexity of DFS has therefore resulted in more burdensome regulations and in increased potential for fishery violations, but has not produced any equivalent improvement in groundfish or prohibited species management. DFS should be simplified and made more consistent to benefit the resource and industry, and made more easily enforceable and flexible to benefit management. Additionally, computational changes will reduce excessively liberal bycatch retention and improve predictability in managing anticipated fishing activities.

The North Pacific Fishery Management Council (Council) requested that NMFS develop a regulatory amendment to address DFS for rockfishes in the Gulf of Alaska. Further discussion and comment by NMFS management, the Council, and industry representatives have demonstrated the need for a general revision of the DFS regulations applicable to all groundfish. The goal of this proposed regulatory change is an overall improvement in the accuracy and precision with which groundfish TACs and prohibited species catch limits are managed, and increased understanding by industry of regulatory requirements. Specific objectives of this proposed regulatory amendment are: (1) to reduce complexity and inconsistency, and improve enforceability, of regulations defining directed fishing and establishing DFS; (2) to revise the basis for calculating retainable bycatch; and (3) to provide some management control of harvest rates through inseason changes to DFS.

Three alternatives were considered.

Under Alternative 1, the status quo: DFS would remain specific by bycatch species, target fishery, area, gear, and for other management objectives. Industry would bear costs of uncertainty about requirements and compliance; management would not have a means to control harvest rates inseason.

Under Alternative 2, DFS regulations would be simplified and consistency and enforcement would be improved:

(a) by using 5, 10, or 20 percent as the DFS for all groundfish species;
(b) by using the same DFS for each groundfish species regardless of FMP area (GOA or BSAI), harvesting gear type (e.g., pelagic trawl, non-pelagic trawl, hook-and-line, pot), or target fishery in which groundfish bycatch was caught; and
(c) by using the same DFS for each groundfish species regardless of the cause of the directed fishery closure (i.e., TAC constraints or PSC constraints). This latter would eliminate closures made "in the aggregate" when halibut, crab, or herring PSC limits caused the closure.

Additionally, this alternative would change the basis for calculating retainable groundfish bycatch. Retainable amounts of a species or species group would be calculated from round weight equivalents of fish retained on board a vessel at the same time during the same trip derived only from (1) other groundfish species open to directed fishing and (2) non-groundfish legally retained, but this basis would not include fish purchased for bait. This alternative does not provide a means for management to control harvest rates inseason through changes to DFS.

Under Alternative 3, in addition to provisions of Alternative 2, regulatory authority would be provided for NMFS to make inseason changes to a DFS among the 5, 10, and 20 percent levels. This alternative requires that NMFS develop a regulatory "framework" for DFS and maintain an updated list of all current DFS, accessible to the public.

Simplification and generalization of DFS is the primary strategy of this proposed regulatory amendment. The success of Alternatives 2 and 3 in meeting the aforementioned objectives depends largely on the degree to which a tendency to increase specificity can be resisted in the future.

RESULT OF AP REP (FRASER) WORKING W/ NMFS staff. D-4b

9-24-93

Summary of Alternative 4 to the Draft Environmental Assessment (EA) for changes to Directed Fishing Standards (DFS) as recommended by the Advisory Panel. NMFS will continue to work with members of the Advisory Panel to develop complete tables of DFS for inclusion in the EA prior to distribution for public comment.

Alternative 4: This alternative is most similar to the Status Quo in that it provides potential for a different directed fishing standard (DFS) for each species group as measured against each other species group, for each gear. Other features of this alternative are similar to those in Alternatives 2 and 3: a change to the calculation basis for retainable bycatch, and the ability to change the DFS inseason to manage individual Total Allowable Catches.

1. each DFS would be: 1, 5, 10, 15, or 20 percent;

2. the basis of retention of retainable bycatch would be:
   groundfish species groups open to directed fishing EXCEPT
   arrowtooth flounder, and
   non-groundfish legally retained on board.
   Purchased bait is excluded from the basis.

3. NMFS could change a DFS inseason among levels in (1).

In addition, NMFS will consider the following additions to Alternatives 2, 3, and 4:

1. the basis for retaining bycatch of pelagic trawl groundfish when non-pelagic trawling for pollock is closed would be 7 percent only of pelagic trawl pollock.

2. retainable demersal shelf rockfish would be: up to 1 percent of the aggregate amount of deepwater flatfish, flathead sole, sablefish, and all Sebastes and Sebastolobus; plus 10 percent of all other species.

NMFS Alaska Region

Current as of: 9-24-93

EXAMPLE SUMMARY OF DIRECTED FISHING STANDARDS FOR RETAINABLE BYCATCH
Trawl Gear, Central Gulf of Alaska

BASIS sp.	PCOD (I)	PCOD (O)	ARTH	DFLT	SFLT	POP	SR/RE	DEMS	SABL	OTHR	AGG ROCK
STATUS	B	B	O	O	O	B	P	B	P	O	B
PCOD I	na	na	0	0	0			0	0	0	0
PCOD O	na	na	0	0	0			0	0	0	0
ARTH	0	0	na	0	0			0	0	0	0
DFLT	< 20	< 20	< 20	na	< 20			< 1	< 15	< 20	< 15
SFLT	< 20	< 20	< 20	< 20	na			< 10	< 5	< 20	< 5
POP	0	0	0	0	0			0	0	0	0
SRRE	0	0	0	0	0			0	0	0	0
DEMS	0	0	0	0	0			na	0	0	0
SABL	0	0	0	0	0			0	na	0	0
OTHR	< 20	< 20	< 20	< 20	< 20			< 10	< 5	na	< 5

Table values are maximum retainable amounts of a species group.
Table reflects current status of each species: O = OPEN; B = BYCATCH; P = PSC.
The basis for retention includes:
a. species open to directed fishing, except arrowtooth flounder arrowtooth flounder,
b. non-groundfish legally retained on board, EXCEPT purchased bait is excluded.
Aggregated rockfish means all Sebastes and Sebastolobus closed for directed fishing EXCLUDING demersal shelf rockfish.

PART 2. (bottom trawling for pollock is closed)

BASIS SPECIES	AGGREGATE AMT OF SPECIES CLOSED TO DF AND CAUGHT WITH PTR
STATUS	B
PLCK caught with pelagic trawl gear	< 7 %

Agenda C-4(b)

DRAFT FOR COUNCIL REVIEW

ENVIRONMENTAL ASSESSMENT
and
REGULATORY IMPACT REVIEW/INITIAL REGULATORY FLEXIBILITY ANALYSIS
FOR A REGULATORY AMENDMENT
TO REVISE DIRECTED FISHING STANDARDS

Prepared by

National Marine Fisheries Service
Alaska Region

September 20, 1993

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EXECUTIVE SUMMARY

The primary management goal of inseason management is to conserve groundfish resources while promoting attainment of Total Allowable Catches (TACs), avoiding unnecessary waste and discards of groundfish, and limiting mortality of crab, halibut, herring, and salmon, species prohibited to retention in groundfish fisheries (PSC).

Directed Fishing Standards (DFS) are a crucial tool for managing groundfish TACs and PSC limits. Current DFS were intended to enhance management by limiting mortality of a groundfish species to "unavoidable bycatch" after a directed fishing closure. DFS also reduce harvest rates of groundfish and PSC species when groundfish TACs or PSC limits are approached, and reduce discards and waste by allowing retention of incidental groundfish bycatch, after fishery closures, until TAC is achieved. To be effective, the standards must be understandable and must allow compliance with minimum disruption of fishing activities.

The proliferation of individualized DFS has produced a complicated suite of regulations that are difficult to understand and burdensome to apply during fishing operations. Also, in spite of increased specificity, DFS have not prevented over- and under-harvests of groundfish or prohibited species or eliminated undesirable fishing practices such as covert targeting on high value species after fishery closures, or wasteful discarding that occurs after TAC is reached. Examination of observer data indicate this is largely a result of the high variability of bycatch rates, no one of which can be appropriate for a species category in all fishing situations.

Discussion and comment by NMFS management, the North Pacific Fishery Management Council (Council), and industry representatives have demonstrated the need for a general revision of the DFS regulations applicable to all groundfishes. Increased complexity of DFS has resulted in increasingly burdensome regulations and potential for fishery violations, but has not produced any equivalent improvement in groundfish or prohibited species management. Therefore, DFS should be simplified and made more consistent and to promote compliance. Computational changes are necessary to correct unnecessarily liberal retention of groundfish bycatch. NMFS also proposes a new application of DFS; inseason flexibility of retainable bycatch rates. This feature is intended to provide inseason control of harvest rates and promote more complete harvests of groundfish TACs after directed fishery closures.

Specific objectives of this proposed regulatory amendment are: (1) to reduce complexity and inconsistency of regulations defining directed fishing and establishing DFS; (2) to reduce the potential for inadvertent violations of groundfish regulations; and (3) to revise the basis for calculating retainable bycatch. Alternative 3 has an additional objective (4) to provide

management with through the ability to change DFS inseason.

Three alternatives were considered.
Under Alternative 1, the status quo: DFS would remain specific by bycatch species, target fishery, area, gear, and for other management objectives. Industry would bear costs of uncertainty about requirements and compliance; management would not have a means to control harvest rates inseason.

Under Alternative 2, DFS regulations would be simplified and consistency and enforcement would be improved:

(a) by using 5, 10, or 20 percent as the DFS for all groundfish species (Tables 1,2)

(b) by using the same DFS for each groundfish species regardless of FMP area (GOA or BSAI), harvesting gear type (e.g., pelagic trawl, non-pelagic trawl, hook-and-line, pot), or target fishery in which groundfish bycatch was caught; and

(c) by using the same DFS for each groundfish species regardless of the management cause of the directed fishery closure (i.e., TAC constraints or PSC constraints). This latter would eliminate closures made "in the aggregate" when halibut, crab, or herring PSC limits caused the closure.

(d) by changing the basis for calculating retainable groundfish bycatch. Retainable amounts of a species or species group would be calculated from round weight equivalents of fish retained on board a vessel at the same time during the same trip derived only from (1) other groundfish species open to directed fishing and (2) non-groundfish legally retained, but this basis would not include fish purchased for bait.

Alternative 3, in addition to provisions of Alternative 2, would provide "framework" regulatory authority to make inseason changes to a DFS among the 5, 10, and 20 percent levels. This alternative requires that NMFS maintain an updated list of all current DFS, accessible to the public.

Simplification and generalization of DFS is the primary strategy of this proposed regulatory amendment. The success of Alternatives 2 and 3 in meeting the aforementioned objectives depends largely on the degree to which a tendency to increase specificity can be resisted in the future.

1.0 INTRODUCTION

The groundfish fisheries in the Exclusive Economic Zone (EEZ) (3 to 200 miles offshore) of the Gulf of Alaska (GOA) and Bering Sea/Aleutian Islands area (BSAI) are managed under the Fishery Management Plan (FMP) for the Groundfish Fisheries of the Gulf of Alaska and the FMP for the Groundfish Fisheries of the Bering Sea/Aleutian Islands Area. Both FMPs were developed by the North Council under the Magnuson Fishery Conservation and Management Act (Magnuson Act). The GOA FMP was approved by the Secretary of Commerce and become effective in 1978 and the BSAI FMP become effective in 1982.

Actions taken to amend Fishery Management Plans or implement other regulations governing the groundfish fisheries must meet the requirements of Federal laws and regulations. Among 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.) 12291 and the Regulatory Flexibility Act (RFA).

NEPA, E.O. 12291 and the RFA require a description of the purpose and need for the proposed action as well as a description of alternative actions which may address the problem. This information is included in Section 1 of this document. Section 2 contains information on the biological and environmental impacts of the alternatives as required by NEPA. Impacts on endangered species and marine mammals are also addressed in this section. Section 3 contains a Regulatory Impact Review (RIR) which addresses the requirements of both E.O. 12291 and the RFA that economic impacts of the alternatives be considered. Section 4 contains the Initial Regulatory Flexibility Analysis (IRFA) required by the RFA which specifically addresses the impacts of the proposed action on small businesses.

This Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) addresses concerns that current directed fishing standards are complex and burdensome, difficult to enforce, and not sufficiently flexible for current inseason management needs.

1.1 Purpose of and Need for the Action

This document provides background information and assessments necessary for the Secretary to determine if the amendment is consistent with the Magnuson Act and other applicable laws. It also provides the public with information to assess the alternatives that are being considered and to comment on the alternatives. These comments will enable the Council and Secretary to make more informed decisions concerning the resolution of the management problems being addressed.

The purpose of the proposed action is to address industry and management concerns about the proliferation of complex regulations defining directed fishing and governing retention of groundfish during fishery closures. It is intended to further the goals and objectives of the groundfish FMPs by improving control and management of groundfish and prohibited species catches.

The need for revision of DFS is a function of attempts to improve appropriateness of DFS for each set of fishing circumstances including bycatch and target species, area, gear, and management objective. Major problems that have developed in DFS regulations are:

a. Current DFS are needlessly complex. Observer and industry data indicate that generally-applicable "unavoidable" bycatch is not a realistic concept for a species category; bycatch is highly variable with factors such as target species, fishing depth, targeting expertise, season, and biomass distribution of the bycatch species. Any particular DFS will at times require catch to be discarded and at other times, provide opportunity for covert targeting. For example, Pacific ocean perch biomass is distributed: 50, 28, and 22 percent in the Eastern, Central, and Western Regulatory Areas (EG, CG, WG), respectively. A single DFS for all areas based, for example, on CG data would result in discards in the EG.

b. DFS are inconsistent. DFS currently differ between the GOA and BSAI, among gear types, among target fishery species, between management objectives (i.e., whether the closure is necessary to control groundfish TACs or PSC limits), and between NMFS and State of Alaska regulations (for demersal shelf rockfish). For example, retainable amounts of bycatch for rock sole after a directed fishing closure in the BSAI depend on whether the closure was caused by concern for rock sole TAC (allowing retention of up to 20 percent rock sole) or as a result of a halibut allowance or limit (allowing retention of up to 20 percent of the aggregated amount of rock sole and other flatfish).

c. Compliance is difficult. Regulatory complexity and a circular calculation basis result in the necessity for frequent computations during fishing operations to insure regulatory compliance. Additionally, this attenuates vessel boardings, and makes it difficult to prepare and adjudicate violations. Computational inconsistencies with State of Alaska regulations weaken cooperative enforcement efforts.

e. The current "basis" calculation is too liberal. Computations of retainable bycatch are unnecessarily liberal in that the basis for bycatch retention includes species not open for directed fishing. This compromises the intent of using DFS to restrict bycatch of species after directed fishery closures. This also creates a circular process of allowing unlimited bycatch retention.

In addition, revision of DFS provides an opportunity to use these regulations in a new manner; to control the rate of groundfish harvest inseason. This is necessary because management has no direct way to limit fishing effort. Regulations authorize an open (unrestricted effort) directed fishery, retention at levels dictated by fixed DFS, or no retention. Inseason control of DFS is anticipated to (1) allow more complete harvests of TACs after directed fishing closures be allowing temporary increases in retention rates, and (2) help prevent exceeding TACs under current DFS which may become excessively liberal as fisheries progress throughout the year.

Specific objectives of this proposed regulatory amendment are:
(1) to reduce complexity and inconsistency of regulations defining directed fishing and establishing DFS;
(2) to reduce the potential for inadvertent violations of groundfish regulations; and
(3) to revise the basis for calculating retainable bycatch.

Alternative 3 has an additional objective (4) to provide management with the ability to change DFS inseason.

1.2 History of the Issue

Regulations establishing DFS define directed fishing and control retainable bycatch amounts during directed fishing closures. The current large number of species-, area-, gear- and management goal-specific DFS developed from the attempt to limit mortality of a groundfish species to the "unavoidable bycatch" that would occur in remaining groundfish fisheries after a directed fishing closure. The proliferation of individualized DFS has produced a complicated suite of regulations that are difficult to understand and burdensome to apply during fishing operations. Also, in spite of increased specificity, DFS have not prevented over- and under-harvests of groundfish or prohibited species or eliminated undesirable fishing practices such as covert targeting on high value species after fishery closures, or wasteful discarding that occurs after TAC is reached. Examination of observer data indicate this is largely a result of the high variability of bycatch rates, no one of which can be appropriate for a species category in all fishing situations (Tables 3-5).

The increased complexity of DFS has resulted in more burdensome

regulations but has not produced any equivalent improvement in groundfish or prohibited species management. DFS can therefore be simplified and to improve understanding of regulations, decrease disruption of fishing operations, and reduce potential for fishery violations, without compromising effective management. Proposed computational changes will eliminate species closed to directed fishing, or purchased bait, as a basis for retaining groundfish bycatch. This currently results in a circular calculation that undermines the intent to reduce harvests of a species category after a directed fishing closure. This would also prevent unlimited bycatch retention and improve predictability of fishing mortality.

Although the Council requested that NMFS develop a regulatory amendment to address this issue for rockfishes in the Gulf of Alaska, further discussion and comment among NMFS, industry, and the Council demonstrated the need for a general revision of the DFS regulations applicable to all groundfishes.

1.3 Alternatives Considered

Three alternatives were developed:

1.3.1 Alternative 1: Status quo: DFS would remain specific by bycatch species, target fishery, area, gear, and for other management objectives. Industry would bear costs of uncertainty about requirements and compliance; management would not have a means to control harvest rates inseason.

1.3.2 Alternative 2: Under this alternative, DFS regulations would be simplified and consistency and enforcement would be improved:

(a) by using 5, 10, or 20 percent as the DFS for all groundfish species (Tables 1,2);

(b) by using the same DFS for each groundfish species regardless of FMP area (GOA or BSAI), harvesting gear type (e.g., pelagic trawl, non-pelagic trawl, hook-and-line, pot), or target fishery in which groundfish bycatch was caught; and

(c) by using the same DFS for each groundfish species regardless of the management cause of the directed fishery closure (i.e., TAC constraints or PSC constraints). This latter would eliminate closures made "in the aggregate" when halibut, crab, or herring PSC limits caused the closure.

(d) by changing the basis for calculating retainable groundfish bycatch. Retainable amounts of a species or species group would be calculated from round weight equivalents of fish retained on board a vessel at the same time during the same trip derived only from (1) other groundfish species open to directed fishing and (2) non-groundfish legally retained, but this basis

would not include fish purchased for bait.

Discussion with industry representatives and examination of NMFS observer data indicate that for any species group the concept of a single rate representing "unavoidable bycatch" under all fishing situations is probably unrealistic. Table 5 shows that bycatch rates are highly variable, for example, with fishing area in the GOA perhaps the result of differences in the distribution of biomass of a species group. Other factors reported to cause such effects are depth, season, "topping-off" incentive, fishing expertise, and, within species complexes, target species. A lack of comprehensive data on bycatch may also result in apparent differences and inappropriate bycatch rates. If the concept of "unavoidable bycatch" is not supportable, justification for the current regulatory complexity is lost in view of costs to industry in lost of burdensome calculations, lost fishing time, discarded catch and potential enforcement violations caused by a lack of understanding of Federal requirements and fears of non-compliance. Proposed bycatch rates for each species were derived from current groundfish regulations, 1992 NMFS observer data for the GOA, and recent industry comments (Tables 1-5). BSAI observer data were not available at the time this analysis was conducted. In cases, the DFS selected represents the best compromise for bycatch experienced among gear types and areas, in consideration of the relative amounts of bycatch species and likely target species. For example, rockfish were assigned to the 5 percent category because of the large amount of rockfish that could be harvested even at that low rate in targets that are much more abundant.

1.3.3 Alternative 3, in addition to provisions of Alternative 2, would provide "framework" regulatory authority to make inseason changes from a default rate for each species group to 5, 10, or 20 percent, as appropriate for management needs. NMFS would make changes in accordance with established criteria, for example, to allow more complete harvest of groundfish TAC or prevent TAC from being exceeded under current DFS. This alternative requires that NMFS maintain an updated list of all current DFS, accessible to the public.

This alternative represents a new management application of DFS: inseason control of harvest rates other than when a TAC or overfishing level will be reached. This would promote better use of groundfish resources because there is currently no direct mechanism for regulating fishing effort. This flexibility would be useful, for example, in allowing complete harvest of a sablefish TAC during subsequent halibut fisheries, even after the directed fishery for sablefish, or directed fisheries for all hook-and-line groundfish fisheries, were closed. However, this alternative would provide a useful additional management tool, but at some cost: because each specified TAC would be a candidate for inseason change of the baseline DFS, adjacent areas could

have different DFS for the same species. The usefulness of this alternative requires a mutual responsibility of NMFS and industry to disseminate and be aware of current DFS.

Simplification and increased consistency of DFS constitute the strategy of this proposed regulatory amendment. The success of Alternatives 2 and 3 in meeting the aforementioned objectives depends largely on the degree to which a tendency to increase specificity can be resisted in the future.

Further discussion of how this proposed amendment affects logistics and economics of fishing operations can be found in the RIR/IRFA sections of this document.

1.4 Alternatives dropped from further consideration

Four additional alternatives were considered and rejected.

The first undeveloped alternative would abolish DFS and instead implement a "PSC limit" for each groundfish and prohibited species, which, if reached, would halt all fishing activity. This was rejected as too costly to industry, as inviting a proliferation of such limits by gear, area, and species, which would be contentious to establish and would be similar to, but less flexible in application, to current regulatory provisions for inseason adjustments to prevent overfishing.

The second undeveloped alternative would require offloading of all product on board after the end of each trip, or would measure retainable bycatch against fish or fish products on board at any time instead of at any time during the same trip. This alternative would restrict the potential for "topping off," and eliminate the need for most retention calculations, thereby simplifying regulatory compliance. However, it would not address the proliferation of highly specific DFS and could also result in significant discarding after some hauls/tows or more frequent offloading if fisheries in adjacent areas were in different closure statuses (i.e., the "instant bandit" rebuttable presumption) This alternative was previously rejected by the Council and industry because of fears that enforcement would be too stringent, (especially for catcher vessels that do not sort at sea), that "instant bandit" situations would be frequent, that frequent offloading was impractical and costly, and that the opportunity to legally "top off" and maximize retention of unavoidable bycatch would not exist.

The third undeveloped alternative would implement a single DFS for all groundfish fisheries. This would reduce regulatory complexity and inconsistency and improve enforceability, but was rejected as overly wasteful. Inherent variability in groundfish bycatches would at times result in excessive discarding or

opportunity for "topping off," and was considered too inflexible for current management needs.

The fourth alternative would require total retention of all groundfish catch. This alternative was rejected at this time, because the required analysis is extensive and the Council is proceeding with analysis of a Comprehensive Rationalization Plan which will consider this concept for future implementation.

2.0 NEPA REQUIREMENTS: ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES

An environmental assessment (EA) is required by the National Environmental Policy Act of 1969 (NEPA) to determine whether the action considered will result in significant impact on the human environment. The environmental analysis in the EA provides the basis for this determination and must analyze the intensity or severity of the impact of an action and the significance of an action with respect to society as a whole, the affected region and interests, and the locality. If the action is determined not to be significant based on an analysis of relevant considerations, the EA and resulting finding of no significant impact (FONSI) would be the final environmental documents required by NEPA. An environmental impact study (EIS) must be prepared if the proposed action may cause a significant impact on the quality of the human environment.

An EA must include a brief discussion of the need for the proposal, the alternatives considered, the environmental impacts of the proposed action and the alternatives, and a list of document preparers. The purpose and alternatives were discussed in Sections 1.2 and 1.4, and the list of preparers is in Section 7. This section contains the discussion of the environmental impacts of the alternatives including impacts on species listed as threatened and endangered species under the Endangered Species Act (ESA).

The environmental impacts generally associated with fishery management actions are effects resulting from 1) overharvest of fish stocks which might involve changes in predator-prey relationships among invertebrates and vertebrates, including marine mammals and birds, 2) physical changes as a direct result of fishing practices affecting the sea bed, and 3) nutrient changes due to fish processing and discarding fish wastes into the sea. A summary of the effects of the 1993 groundfish total allowable catch amounts on the biological environment and associated impacts on marine mammals, seabirds, and other threatened or endangered species are discussed in the final environmental assessment for the 1993 groundfish total allowable catch specifications (NMFS, 1993a).

The proposed regulatory amendment is intended to result in two types of management improvements: (1) an overall improvement in the accuracy and precision with which groundfish TACs and prohibited species catch limits are managed, and (2) increased understanding by industry of regulatory requirements, such as decreased potential for enforcement violations and effects of the alternatives on fishing logistics. This section deals with impacts on the environment related to TAC and PSC management; economic and logistic impacts are discussed in the RIR/IRFA sections of this document.

2.1 Impacts of the Alternatives on groundfish and prohibited species resources

Proposed Alternatives 2 and 3 are intended to reduce complexity and inconsistency, and coincidentally improve enforceability, of regulations defining directed fishing and establishing DFS. Alternative 3 includes features and shares benefits with Alternative 2 and additionally enhances management by providing the flexibility to change DFS (control harvest rates) and address management imprecision and changing fishing patterns on an inseason basis.

The primary impact of either alternative on fishery resources is anticipated to be a reduction of waste and discards. Groundfish TACs and PSC limits would less often be exceeded through increased understanding of regulations by industry and increased predictability and control of harvest rates by management. Industry representatives report that confusion resulting from the complexity of DFS regulations can result in overharvesting and excessive discarding in order to insure that retainable amounts of valuable species are maximized and potential violations are minimized. Amounts of groundfish caught in excess of TAC must be discarded; however, unless fisheries are terminated to avoid overfishing, fishing mortality continues. Because amounts of PSC species caught are extrapolated to all groundfish from observed fishing activities, assumed amounts of PSC catch also are affected by any overharvest of groundfish. Much of the discarded catch experiences high mortality from gear encounters and handling and results in loss of groundfish and prohibited species resources both to industry and to future stock recruitment. Because of limitations in observer coverage and in enforcement of compliance with data collection requirements, this mortality is frequently not observed and may not be reported or incorporated in stock assessments.

Under Alternatives 2 and 3, adjustment of the basis for calculating retainable groundfish bycatch will also minimize the tendency to overharvest valuable species. At present, regulations allow groundfish bycatch to be measured against all other fish retained, including those not open for directed fishing. This encourages additional targeting after a closure to enter a circular process of allowable groundfish bycatch retention, the basis of which includes other species for which management also intended to halt directed fishing. Additionally, because in cases the allowable groundfish bycatch is caught in covert targeting ("topping-off") operations rather than as intended incidental bycatch, management expectations of anticipated bycatch species and amounts can be erroneous. This situation decreases predictability of groundfish harvests, including future groundfish and PSC bycatch needs, and increases difficulties of simultaneous management of groundfish TACs and PSC limits.

Alternative 3 additionally would promote better management of groundfish TACs and PSC limits through improved inseason control of harvest rates.

2.2 Impacts on Endangered, Threatened or Candidate Species Under the ESA

Species that are listed as threatened or endangered, or are candidates or proposed for listing under the Endangered Species Act (ESA), may be present in the BSAI and GOA. Additionally, nonlisted species, particularly seabirds, also occur in those areas and may be impacted by fishing operations. A list of species and a detailed discussion regarding life history and potential impacts of the 1993 groundfish fisheries of the BSAI and GOA on marine species can be found in an EA for the 1993 TAC specifications for the GOA and BSAI (NMFS 1993a). Insofar as this proposed regulatory amendment would help prevent groundfish harvests in excess of TACs and PSC mortality in excess of designated limits, the action would not be expected to cause any adverse effects additional to those noted in the EA. Better control of groundfish TACs under this proposed amendment could in fact benefit non-groundfish. Alternative 3 provides the most inseason management flexibility to regulate groundfish harvest rates, and would therefore be expected to have fewest impacts on non-groundfish species. Consultation under Section 7 of the ESA may be initiated if this proposed amendment is developed further.

2.2.1 Salmon

Listed species of salmon, including the Snake River sockeye salmon (O. nerka), fall chinook and spring/summer chinook salmon (both Oncorhynchus tschawytscha) may be present in the BSAI or GOA. These areas are believed to be outside the range of another listed species, the Sacramento River winter-run chinook salmon. An informal consultation conducted on effects of the BSAI and GOA groundfish fisheries concluded that these fisheries would not adversely affect listed species of salmon (NMFS 1993c). None of the alternatives are expected to adversely affect any listed salmon in a manner not already considered in previous consultations. Alternative 3 is likely to result in fewest impacts on these salmon because that alternative has the lowest probability of exceeding groundfish TACs and highest probability of minimizing catches of salmon and other prohibited species.

2.2.2 Seabirds

Listed or candidate species of seabirds include the endangered short-tailed albatross (Diomedea albatrus), the threatened spectacled eider (Somateria fischeri), and the candidate (category 1) Steller's eider (Polysticta stelleri), or (category 2) marbled murrelet (Brachyramphus marmoratus), red-legged kittiwake (Rissa brevirostris) or Kittlitz's murrelet

(Brachyramphus brevirostris). A formal biological opinion and conducted by the U.S. Fish and Wildlife Service (USFWS) on the potential impacts of groundfish fisheries and subsequent informal consultation on impacts of 1993 groundfish fisheries on these species concluded that groundfish fisheries may adversely affect, but would not jeopardize, the existence of the short-tailed albatross (USFWS 1989, 1993) if the incidental take allowance of up to two short-tailed albatrosses birds per year were not exceeded. The informal consultation also concluded that groundfish fisheries were not likely to adversely affect the spectacled eider, Steller's eider, or marbled murrelet. The USFWS did not comment on remaining candidate species at that time. None of the alternatives are expected to adversely affect any listed or candidate seabirds in a manner not already considered in previous consultations. Alternative 3 is likely to result in fewest impacts on these seabirds because that alternative has the lowest probability of exceeding TACs for groundfish that might be important forage species for these birds.

2.2.3 Marine Mammals

As with salmon and seabirds listed under the ESA, fishing activities under this proposed action are not likely to impact the threatened Steller sea lion (Eumetopias jubatus), in a manner, or to an extent, not previously considered in informal section 7 consultations for 1993 groundfish fisheries (NMFS, 1993c,d). The 10-nm annual trawl exclusion areas around Steller sea lion rookeries would be in place regardless of which alternative is chosen. These create refuges where no trawling ca occur in areas important for sea lion breeding and foraging.

Other listed marine mammals include the endangered fin whale (Balaenoptera physalus), sei whale (Balaenoptera borealis), humpback whale (Megaptera novaeangliae), and sperm whale (Physeter catodon). None of these species is anticipated to be adversely affected by this proposed amendment because total harvests and overall fishing effort would not change. None of the alternatives are expected to adversely affect any listed or candidate marine mammals in a manner not already considered in previous consultations. Alternative 3 is likely to result in fewest impacts on these marine mammals because that alternative has the lowest probability of exceeding groundfish TACs for species that might be important forage for marine mammals.

2.3 Impacts on Marine Mammals not listed under the ESA

Marine mammals not listed under the ESA that may be present in the BSAI or 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.)] as well as pinnipeds [northern fur seals (Callorhinus ursinus), and Pacific harbor seals (Phoca vitulina)] and the sea otter (Enhydra lutris). As previously mentioned, a list of species and detailed discussion regarding life history and potential impacts of the 1993 groundfish fisheries of the BSAI and GOA on those species can be found in an EA conducted on the 1993 Total Allowable Catch Specifications for the GOA and BSAI (NMFS 1993a). None of the alternatives are expected to adversely affect any listed or candidate marine mammals in a manner not already considered in previous consultations. Alternative 3 is likely to result in fewest impacts on these marine mammals because that alternative has the lowest probability of exceeding groundfish TACs.

2.4 Coastal Zone Management Act

Each of the alternatives would be conducted in a manner consistent, to the maximum extent practicable, with the Alaska Coastal Management Program within the meaning of Section 30(c)(1) of the Coastal Zone Management Act of 1972 and its implementing regulations.

2.5 Conclusions

Species that are listed, or proposed to be listed, under the ESA that may occur in the BSAI or GOA include: the endangered fin whale (Balaenoptera physalus), sei whale (Balaenoptera borealis), humpback whale (Megaptera novaeangliae), sperm whale (Physeter catodon), Snake River sockeye salmon (O. nerka) and short-tailed albatross (Diomedea albatrus); the threatened Steller sea lion (Eumetopias jubatus), Snake River fall and spring-summer chinook salmon (Oncorhynchus tshawytscha), and spectacle eider (Somateria fischeri). In summary, listed species of whales are not expected to be affected by the proposed alternatives. Other listed species are not anticipated to be adversely affected in a manner, or to an extent not considered in previous consultations, and could benefit from improved control of groundfish harvests and PSC limits under Alternatives 2 and 3. Additional consultation may be initiated at a later date if this proposed amendment is developed further.

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

Alternatives 2 and 3 are not likely to significantly affect the quality of the human environment; preparation of an environmental impact statement for selection of Alternatives 2 or 3 as the proposed action would not be required by Section 102(2)(C) of the National Environmental Policy Act or its implementing

regulations.

3.0 REGULATORY IMPACT REVIEW: SOCIAL AND ECONOMIC IMPACTS OF THE ALTERNATIVES

A review of the social and economic impacts of the alternatives provides information about those industry members affected by the proposed action and the economic gains or losses they are likely to experience as a result of the action. This section also addresses the requirements of both E.O. 12291 and the Regulatory Flexibility Act to provide adequate information to determine whether an action is "major" under E.O. 12291 or will result in "significant" impacts on small entities under the RFA.

Executive Order 12291 applies to the issuance of new rules, the review of existing rules, and the development of legislative proposals concerning regulations. The EO requires that:

> (1) regulatory objectives and priorities be established with the aim of maximizing aggregate net benefits to society, taking into account the condition of the particular industries affected by the regulations, the condition of the national economy, and other actions contemplated for the future;
>
> (2) decisions be based on adequate information concerning the need for and consequences of the proposed rules;
>
> (3) the chosen regulatory approach or alternative be the one with the least net cost to society, if practicable; and
>
> (4) regulatory action should not be undertaken unless the potential benefits outweigh the potential costs to society.

A description of the purpose and need for the action and alternatives considered to address these problems were described in Sections 1.1 and 1.3. The social and economic impacts of these alternatives are discussed in this section.

E.O. 12291 also requires the Secretary of Commerce to determine whether the impact of a regulation is "major" and, if so, complete a Regulatory Impact Analysis (RIA) of the alternatives. A major regulation is one that is likely to result in: (1) an annual effect on the economy of $100 million or more; (2) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (3) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of U.S based enterprises to compete with foreign based enterprises in domestic or export markets.

3.1 Alternative 1: Status Quo: This alternative imposes costs to fishermen, who must bear the burden of complicated and inconsistent regulations, and costs to managers, who must spend

time explaining regulations and assisting enforcement. Costs include time spent in understanding regulations, in the need to interrupt fishing operations to perform complicated and frequent calculations to assure compliance with DFS and complete reporting requirements, and at times, in losses due to fish discarded to insure compliance with confusing regulations, and in increased potential for fishery violations. Costs associated with this alternative are not quantifiable, but industry representatives report a high degree of anxiety is expended, and substantial interruptions in fishing time are associated with these issues.

3.2 Alternative 2: This alternative reduces the number of DFS to three percentages, and improves consistency with which those standards apply to groundfish bycatch species, target species, FMP areas, and gears. This amendment is not anticipated to affect net benefits from the groundfish fishery, increase consumer costs, or have significant adverse impacts on competition, employment, investment, productivity, innovation, or the ability of U.S. enterprises to compete in markets because groundfish TACs, fishery participation, and markets would not be affected. Computational changes would correct an unacceptable situation allowing overly liberal retention of groundfish bycatch amounts, resulting in lower acceptable bycatch percentages for what tend to be highly valued species. Retainable amounts of groundfish bycatch would decrease as a result of restricting the calculation basis to fish open for directed fishing. This restriction is justifiable, however, because at present regulations allow species closed to directed fishing to be included in the basis. This undermines management intent to reduce effort for at category of fishery and theoretically allows groundfish bycatch retention to increase without limit.

Fishermen are expected to benefit from this proposed amendment through decreased time spent understanding and complying with regulations, from decreased potential for enforcement violations, and from better management of groundfish and PSC fishery resources.

3.3 Alternative 3: This alternative has the same effects and benefits on groundfish fishing activities as does Alternative 2. Additionally, Alternative 3 contains added management flexibility to more closely control harvest rates of groundfish through inseason changes to DFS. This additional feature is expected to result in more complete harvests of available groundfish TAC amounts, and less wasteful fishing practices through reductions in TAC and PSC limit overruns. However, a new layer of complexity would result from the fact that each specified TAC would be independently subject to adjustments. Fishermen conducting operations in more than one area for which a species TAC is specified would have to keep apprised of inseason changes.

3.4 Reporting Costs

None of the alternatives is anticipated to result in recordkeeping and reporting costs additional to those already imposed by existing regulations. Simplification of DFS under Alternatives 2 or 3 would reduce time fishermen must spend in understanding regulations, making calculations of retainable amounts of groundfish bycatch necessary to insure regulatory compliance, and completing reporting requirements.

3.5 Administrative, Enforcement and Information Costs

None of the alternatives is anticipated to result in significant additional administrative, enforcement, or information costs other than those already imposed by existing regulations. Alternative 3 would require that NMFS maintain a current list of applicable DFS, available to the public and to agency and enforcement personnel. NMFS already maintains a computer "bulletin board" and has procedures for distribution of news releases and other information about the groundfish fisheries which may be of interest to the public. Additionally, enforcement costs could decrease under Alternatives 2 and 3 if calculations of retained groundfish bycatch and documentation of violations decreased as a result of simpler, more consistent and understandable regulations.

3.6 Summary of Economic Impacts: Distribution of Costs and Benefits

Alternative 1, the status quo, will continue to impose operational costs on fishermen as a result of overly complex regulations that are difficult to understand, and for which compliance is difficult to determine. An additional cost is the increased risk of violations. Alternatives 2 and 3 would benefit industry directly by simplifying DFS and reducing time spent understanding regulations and insuring compliance. Under Alternative 3, another benefit includes better management of groundfish TACs and PSC limits, which should allow more complete harvest of some TACs and reduced waste and discards of all species.

This action is not expected to have an annual effect on the economy of $100 million or more; cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or have significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of U.S based enterprises to compete with foreign based enterprises in domestic or export markets. Therefore, this action is not a "major" action under EO 12291 guidelines.

4.0 INITIAL REGULATORY FLEXIBILITY ANALYSIS

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

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

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

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

4.1 Description and estimate of the number of small entities

This proposed regulatory amendment would establish DFS that define directed fishing, and alter the basis for calculating retainable groundfish bycatch after fishing closures. These regulations apply to all vessels that harvest or retain groundfish. Through August, 1993, 2,162 vessels hold Federal groundfish permits as harvesting, harvesting/processing, or mothership vessels for the BSAI and GOA and would be affected by

this amendment. Of these vessels, 1,922 are capable only of harvesting and are considered small entities. Therefore, a significant number of small entities would be affected by this proposed amendment.

4.2 Economic Impact on Small Entities

Alternatives 2 and 3 would economically affect all groundfish fishing vessels, in several ways:

(1) time required to understand regulations, calculate amounts of fish on board and retainable groundfish bycatch, and maintain required records would decrease;

(2) the potential for these vessels to have costly enforcement violations resulting from confusing or inconsistent regulations would decrease; and

(3) vessels would be able to retain smaller amounts of groundfish closed to directed fishing than at present, because the basis for retention would no longer include species closed to directed fishing.

Quantitative costs of the status quo and of other alternatives depend on individual fishing practices and are not estimable. Although this proposed regulatory amendment would affect a substantial number of harvesting vessels, which are considered small entities, the effects on those vessels is not anticipated to cause a reduction in annual gross revenues by more than 5 percent, have annual compliance costs that increased total costs of production by more than 5 percent, or impose compliance costs for small entities that are at least 10 percent higher than compliance costs as a percent of sales for large entities. Therefore, this action would not be "significant" under the RFA. The change in DFS and basis for calculating retainable bycatch established by this proposed amendment could reduce revenues for some large and small entities to the extent: (1) that fisheries for desirable species are closed for directed fishing but are available as incidental retainable bycatch, (2) that fishermen seek to maximize that retainable bycatch of desired species, either as incidental catch or in "topping off" practices, and (3) that allowable bycatch retention for desirable species decreases from that currently allowed. The extent to which these conditions and fishing practices apply to any particular vessel is not known. However, regulations restrict the amount of "topping off" by relating groundfish bycatch retention to fishing "trips" and by limiting the length of trips. Additionally, although this amendment would limit amounts of groundfish retainable as bycatch amounts of groundfish TAC available for harvest would not be altered.

This amendment would affect both large and small entities in the same manner.

5.0 SUMMARY AND CONCLUSIONS

5.1 Effects on Listed Species and on the Alaska Coastal Zone

Consultations pursuant to Section 7 of the ESA on the impacts of 1993 fishing activities under the FMPs concluded that those activities are not likely to adversely affect endangered or threatened species, or their habitat, under the jurisdiction of NMFS or the USFWS, in a manner, or to an extent, not already considered in prior consultations. The proposed regulatory amendment is not expected to have any additional adverse impacts; additional consultations may be initiated if this proposed amendment is developed further.

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

5.2 Executive Order 12291 Requirements

Executive Order 12291 requires that the following three issues be considered.

1. Will the amendment have an annual effect on the economy of $100 million or more?

2. Will the amendment lead to an increase in the costs or prices for consumers, individual industries, Federal, State, or local government agencies or geographic regions?

3. Will the amendment have significant adverse effects on competition, employment, investment, productivity, or on the ability of U.S. based enterprises to compete with foreign enterprises in domestic or export markets?

Neither of the proposed alternatives to the status quo impose significant economic costs, nor cause redistribution of costs and benefits. The primary anticipated effects and benefits of this proposed action are (1) improvement of understanding of regulatory requirements by industry, (2) decreased potential for violations of regulatory requirements, (3) improved capability of enforcing fishery closures. Alternatives 2 and 3 of this proposed regulatory amendment simplify and improve consistency of existing regulations with respect to DFS that define directed fishing. Alternative 3 additionally provides authority to make inseason changes to DFS that would promote harvest of available groundfish TAC amounts and would also assist in preventing exceeding TACs and PSC limits. The proposed amendment would result in more accurate and precise management of groundfish TACs

and prohibited species PSC limits specified for groundfish fisheries, but would not alter groundfish TACs, fishery participation, or total fishing effort.

The proposed amendment would not have significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of U.S.-based enterprises to compete with foreign enterprises in domestic or export markets.

The proposed amendment would not lead to a substantial increase in the price paid by consumers, local governments, or geographic regions.

This proposed amendment would not have an annual effect of $100 million on the U.S. economy.

6.0 FINDING OF NO SIGNIFICANT IMPACT

For the reasons discussed above, implementation of either of the alternatives to the status quo would not significantly affect the quality of the human environment, and the preparation of an environmental impact statement on the final action is not required under Section 102(2)(c) of the National Environmental Policy Act or its implementing regulations.

_____ _____

Date

7.0 REFERENCES

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8.0 LIST OF PREPARERS

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Table 1. Current and Proposed Directed Fishing Standards (DFS) for the Bering Sea and Aleutian Islands. "Current DFS" refers to the amount of retained catch that would constitute directed fishing. [1][2]

GEAR	FMP	SPECIES	CURRENT DIRECTED FISHING STANDARD [3]	PROPOSED DIRECTED FISHING STANDARD		
				5%	10%	20%
Pelagic trawl	BSA	All species closed to directed fishing	in aggregate, >= 7% of all others	Delete		
Trawl	BSA	Arrowtooth flounder	in aggregate, >= 35% of rocksole			X
Trawl	BSA	Other flatfish	PLUS			X
Trawl	BSA	Yellowfin sole	>= 20% of all others			X
Trawl	BSA	Rock sole	>= 20% of all others			X
Trawl	BSA	Sablefish	>= 10% of Greenland turbot, rockfish PLUS >= 1% of all others	X		
Trawl	BSA	Greenland turbot	>= 10% of sablefish, rockfish PLUS >= 1% of all others		X	
Trawl	BSA	Other rockfish	in aggregate,	X		
Trawl	BSA	Other red rock	>= 10% of sablefish,	X		
Trawl	BSA	Pacific o. perch	Greenland turbot,	X		
Trawl	BSA	Sharp/Northern	open rockfish PLUS	X		
Trawl	BSA	Short/Rougheye	>= 1% of all others	X		
Trawl	BSA	Pollock	>= 20% of all others			X
Trawl	BSA	Pacific cod	>= 20% of all others		X	
Trawl	BSA	Squid	>= 20% of all others			X
Trawl	BSA	Other species	>= 20% of all others			X

H & L	BSA	Sablefish	>= 10% of Gr. turbot, rockfish PLUS >= 1% of all others	X		
H & L	BSA	Pacific cod	>= 1% of all others		X	
H & L	BSA	Greenland turbot	>= 20% of sablefish PLUS >= 1% of all others		X	
H & L	BSA	all other spp.	>= 20% of all others	see trawl	by	species
Pot	BSA	Sablefish	>= 1% of all others	X		
Pot	BSA	Pacific cod	>= 1% of all others		X	
Pot	BSA	all other spp.	>= 20% of all others	see trawl	by	species

Notes:

[1] Under this proposed amendment, the numeric basis for retention of groundfish closed to directed fishing would be derived from: all other groundfish open for directed fishing plus non groundfish legally retained on board at the same time during the same trip, all measures in round weight equivalents. Fish purchased as bait are not "retained" as defined in § 620 and are excluded from this basis.

[2] At present, directed fishing closures implemented for the purpose of managing fishery-specific PSC allowances or limits under § 675.21 provide bycatch for aggregated species categories. This proposed amendment would implement species-specific DFS, and eliminate aggregate calculations regardless of the cause of the closure.

[3] "all other" always excludes the species for which retainable bycatch is being calculated.

Table 2. Current and Proposed Directed Fishing Standards (DFS) for the Gulf of Alaska. "Current DFS" refers to the amount of retained catch that would constitute directed fishing.[1][2]

GEAR	FMP	SPECIES	CURRENT DIRECTED FISHING STANDARD[3]	PROPOSED DIRECTED FISHING STANDARD		
				5%	10%	20%
Pelagic trawl	GOA	All species closed to directed fishing	in aggregate, >= 7% of all others	Delete		
Trawl	GOA	Arrowtooth flounder	>= 20% of all others			X
Trawl	GOA	Deep water flatfish	>= 20% of all others			X
Trawl	GOA	Shallow water flatfish	>= 20% of all others			X
Trawl	GOA	Flathead sole	>= 20% of all others			X
Trawl	GOA	Sablefish	>= 15% of deep flats, flathead sole, all rockfish and thornyheads PLUS >= 5% of all others	X		
Trawl	GOA	Pollock	>= 20% of all others			X
Trawl	GOA	Pacific cod	>= 20% of all others		X	
Trawl	GOA	Other rockfish	in the aggregate but (excludes Demersal shelf), >= 15% of deep flats, flathead sole, sablefish, and open rockfish PLUS >= 5% of all others	X		
Trawl	GOA	Pacific o. perch		X		
Trawl	GOA	Short/Rougheye		X		
Trawl	GOA	Northern rockfish		X		
Trawl	GOA	Pelagic shelf rock		X		
Trawl	GOA	Thornyhead rockfish		X		

Trawl	GOA	Demersal shelf rock	>= 1% of deep flats, flathead sole, sablefish, "other rock" and thornyheads PLUS >= 10% of all others	X		
Trawl	GOA	Other species	>= 20% of all others			X
H & L	GOA	Sablefish	>= 4% of all others	X		
H & L	GOA	Demersal shelf rock	>= 1% of deep flats, flathead sole, sablefish, "other rockfish", thornyheads PLUS >= 10% of all others	X		
H & L	GOA	all other spp.	>= 20% of all others	see trawl	by	species
Pot	GOA	all spp.	>= 20% of all others	see trawl	by	species

Notes:

[1] Under this proposed amendment, the numeric basis for retention of groundfish closed to directed fishing would be derived from: all other groundfish open for directed fishing plus non groundfish legally retained on board at the same time during the same trip, all measures in round weight equivalents. Fish purchased as bait are not "retained" as defined in § 620 and are excluded from this basis.

[2] At present, directed fishing closures implemented for the purpose of managing fishery-specific PSC allowances or limits under § 675.21 provide bycatch for aggregated species categories. This proposed amendment would implement species-specific DFS, and eliminate aggregate calculations regardless of the cause of the closure.

[3] "all other" always excludes the species for which retainable bycatch is being calculated.

Table 3. Bycatch Rates of Groundfishes in Groundfish Fisheries of the Gulf of Alaska (GOA). Bycatch rate of each species is calculated by combining hauls in the GOA when the bycatch species could notbe retained. Data are derived from 1992 total catch haul-by-haul data in the NMFS oserver program "NORPAC" database. "Mean %" represents the unweighted mean of all included hauls. Means are based on ratios of total catch of bycatch and target species. Mean bycatch percents are based on total catch; target assignments are based on retained tonnage; discarding of bycatch may result in overestimated means and bycatch over 100 percent.

BYCATCH SPECIES	GEAR	NUMBER OF HAULS	TOTAL GF MT	MEAN % BYC/TGT	STD DEVIATION	LOW %	HIGH %
POP	TRW	2007	29120	4.229	15.283	0.000	97.991
SRRE	TRW	693	6016	1.175	5.642	0.000	65.295
ROCK	TRW	37	106	0.045	0.274	0.000	1.668
PCOD	TRW	286	10708	9.174	16.299	0.000	102.804
SABL	TRW	93	394	10.083	22.583	0.000	129.742
SRRE	HAL	570	520	4.138	12.460	0.000	99.339
PCOD	HAL	555	502	2.055	11.015	0.000	91.942

Species: POP = Pacific ocean perch
PCOD = Pacific cod
ROCK = other rockfish
SABL = sablefish
SRRE = shortraker/rougheye rockfish

Table 4. Bycatch Rates of Groundfishes in Groundfish Fisheries of the Gulf of Alaska (GOA), by Target Fishery. Bycatch rate of each species is calculated by combining hauls in the GOA during periods when the bycatch species could not be retained. Data are derived from 1992 total catch haul-by-haul data in the NMFS oserver program "NORPAC" database. "Mean %" represents the unweighted mean of all included hauls. Mean bycatch percents are based on total catch; target assignments are based on retained tonnage; discarding of bycatch may result in overestimated means and bycatch over 100 percent. Data with fewer than 3 hauls are indicated by asterisks.

BYCATCH SPECIES	GEAR	TGT	NUMBER OF HAULS	TOTAL GF MT	MEAN % BYC/TGT	STD DEVIATION	LOW %	HIGH %
POP	TRW	AMCK	21	65	0.000	0.000	0.000	0.000
		DFL1	152	580	7.594	16.470	0.000	82.510
		OCTO	1	*******	*******	*******	*******	*******
		PCOD	120	564	0.633	2.635	0.000	19.146
		PELS	49	412	13.759	25.692	0.000	97.991
		PLCK	711	19162	0.588	4.437	0.000	71.739
		SABL	131	840	3.769	9.458	0.000	61.661
		SFL1	243	1229	0.022	0.240	0.000	3.033
		SLR1	395	5076	5.423	13.004	0.000	97.197
		SRRE	145	694	3.988	10.900	0.000	79.680
		THDS	11	27	13.314	23.567	0.000	73.166
SRRE	TRW	AMCK	8	16	0.000	0.000	0.000	0.000
		DFL1	14	57	2.470	5.555	0.000	15.752
		PCOD	68	367	0.047	0.350	0.000	2.872
		PELS	111	683	0.323	1.582	0.000	11.839
		PLCK	54	656	0.109	0.631	0.000	4.554
		POP	56	679	2.678	6.243	0.000	34.331
		SABL	61	448	4.697	12.889	0.000	65.295
		SFL1	116	524	0.218	0.978	0.000	8.073
		SLR1	195	2564	0.703	3.499	0.000	23.935
		SQID	1	*******	*******	*******	*******	*******
		THDS	9	20	15.066	21.489	0.000	59.258
ROCK	TRW	AMCK	1	*******	*******	*******	*******	*******
		DFL1	2	*******	*******	*******	*******	*******
		PCOD	5	15	0.000	0.000	0.000	0.000
		PLCK	2	*******	*******	*******	*******	*******
		SFL1	27	79	0.062	0.321	0.000	1.668
PCOD	TRW	AMCK	201	8220	9.773	15.150	0.000	86.818
		PLCK	58	2093	2.630	10.292	0.000	56.557
		POP	6	62	15.113	27.341	0.000	68.333
		SLR1	18	321	23.117	28.196	0.000	102.804
		SRRE	1	*******	*******	*******	*******	*******
		THDS	2	*******	*******	*******	*******	*******
SABL	TRW	AMCK	4	3	0.000	0.000	0.000	0.000
		DFL1	3	2	50.259	40.153	25.153	96.569
		PCOD	5	15	1.020	1.703	0.000	3.928
		PELS	31	145	9.889	15.044	0.000	66.738
		PLCK	5	13	5.640	6.041	0.000	12.281
		POP	1	*******	*******	*******	*******	*******
		SFL1	27	79	0.316	1.348	0.000	6.974
		SLR1	17	111	25.796	38.783	0.000	129.742
SRRE	HAL	AMCK	6	5	0.000	0.000	0.000	0.000
		PCOD	23	24	0.939	3.389	0.000	15.393
		PLCK	1	*******	*******	*******	*******	*******
		SABL	519	477	3.832	11.206	0.000	91.992
		THDS	21	14	16.589	31.131	0.000	99.339
PCOD	HAL	AMCK	5	4	0.000	0.000	0.000	0.000
		PLCK	1	*******	*******	*******	*******	*******
		SABL	519	477	1.923	10.594	0.000	91.942
		SRRE	9	8	15.826	30.109	0.000	76.901
		THDS	21	14	0.000	0.000	0.000	0.000

Species: AMCK = Atka mackerel
DFL1 = deep water flatfish
OCTO = octopus

PCOD = Pacific cod
PLCK = pollock
POP = Pacific ocean perch
ROCK = other rockfish
SABL = sablefish
SFL1 = shallow water flatfish
SLR1 = slope rockfish
SQID = squid
SRRE = shortraker/rougheye
THDS = thornyhead rockfish

Table 5. Bycatch Rates of Groundfishes in Groundfish Fisheries of the Gulf of Alaska (GOA), by Target Fishery and Regulatory Area. Bycatch rate of each species is calculated by combining hauls in the GOA during periods when the bycatch species could not be retained. Data are derived from 1992 total catch haul-by-haul data in the NMFS oserver program "NORPAC" database. "Mean %" represents the unweighted mean of all included hauls. Mean bycatch percents are based on total catch; target assignments are based on retained tonnage; discarding of bycatch may result in overestimated means and bycatch over 100 percent. Data with fewer than 3 hauls are indicated by asterisks.

BYCATCH SPECIES	GEAR	TGT	NUMBER OF HAULS	TOTAL GF MT	MEAN % BYC/TGT	STD DEVIATION	LOW %	HIGH %
POP	TRW	AMCK C	18	62	0.000	0.000	0.000	0.000
		AMCK E	3	3	0.000	0.000	0.000	0.000
		DFL1 C	150	576	7.595	16.558	0.000	82.510
		DFL1 E	2	*******	*******	*******	*******	*******
		OCTO C	1	*******	*******	*******	*******	*******
		PCOD C	120	564	0.633	2.635	0.000	19.146
		PELS C	12	219	24.268	36.636	0.000	97.991
		PELS E	37	193	10.351	20.523	0.000	83.691
		PLCK C	706	19155	0.577	4.445	0.000	71.739
		PLCK E	5	7	2.109	2.968	0.000	6.241
		SABL C	129	830	3.709	9.471	0.000	61.661
		SABL E	2	*******	*******	*******	*******	*******
		SFL1 C	243	1229	0.022	0.240	0.000	3.033
		SLR1 C	372	4874	5.259	12.090	0.000	97.197
		SLR1 E	23	201	8.081	23.569	0.000	87.405
		SRRE C	144	692	3.891	10.875	0.000	79.680
		SRRE E	1	*******	*******	*******	*******	*******
		THDS C	10	24	7.329	13.390	0.000	39.158
		THDS E	1	*******	*******	*******	*******	*******
SRRE	TRW	AMCK C	5	13	0.000	0.000	0.000	0.000
		AMCK E	3	3	0.000	0.000	0.000	0.000
		DFL1 C	12	53	1.322	4.356	0.000	15.138
		DFL1 E	2	*******	*******	*******	*******	*******
		PCOD C	67	362	0.048	0.353	0.000	2.872
		PCOD E	1	*******	*******	*******	*******	*******
		PELS C	1	*******	*******	*******	*******	*******
		PELS E	110	680	0.326	1.589	0.000	11.839
		PLCK C	49	649	0.120	0.662	0.000	4.554
		PLCK E	5	7	0.000	0.000	0.000	0.000
		POP C	1	*******	*******	*******	*******	*******
		POP E	55	676	2.726	6.290	0.000	34.331
		SABL C	48	337	5.570	14.397	0.000	65.295
		SABL E	13	111	1.474	2.122	0.000	5.587
		SFL1 C	116	524	0.218	0.978	0.000	8.073
		SLR1 C	157	2171	0.033	0.134	0.000	1.010
		SLR1 E	38	393	3.470	7.372	0.000	23.935
		SQID E	1	*******	*******	*******	*******	*******
		THDS C	4	4	24.306	25.179	0.000	59.258
		THDS E	5	16	7.673	17.157	0.000	38.364
ROCK	TRW	AMCK C	1	*******	*******	*******	*******	*******
		DFL1 C	2	*******	*******	*******	*******	*******
		PCOD C	5	15	0.000	0.000	0.000	0.000
		PLCK C	2	*******	*******	*******	*******	*******
		SFL1 C	27	79	0.062	0.321	0.000	1.668
PCOD	TRW	AMCK W	201	8220	9.773	15.150	0.000	86.818
		PLCK W	58	2093	2.630	10.292	0.000	56.557
		POP W	6	62	15.113	27.341	0.000	68.333
		SLR1 W	18	321	23.117	28.196	0.000	102.804
		SRRE W	1	*******	*******	*******	*******	*******
		THDS W	2	*******	*******	*******	*******	*******
SABL	TRW	AMCK C	1	*******	*******	*******	*******	*******
		AMCK Y	3	3	0.000	0.000	0.000	0.000
		DFL1 C	2	*******	*******	*******	*******	*******
		DFL1 Y	1	*******	*******	*******	*******	*******
		PCOD C	5	15	1.020	1.703	0.000	3.928
		PELS Y	31	145	9.889	15.044	0.000	66.738
		PLCK C	2	*******	*******	*******	*******	*******
		PLCK Y	3	3	5.306	5.905	0.000	11.668

Table 5 (continued). Bycatch Rates of Groundfishes in Groundfish Fisheries of the Gulf of Alaska (GOA), by Target Fishery and Regulatory Area. Bycatch rate of each species is calculated by combining hauls in the GOA during periods when the bycatch species could not be retained. Data are derived from 1992 total catch haul-by-haul data in the NMFS oserver program "NORPAC" database. "Mean %" represents the unweighted mean of all included hauls. Mean bycatch percents are based on total catch; target assignments are based on retained tonnage; discarding of bycatch may result in overestimated means and bycatch over 100 percent. Data with fewer than 3 hauls are indicated by asterisks.

BYCATCH SPECIES	GEAR	TGT		NUMBER OF HAULS	TOTAL GF MT	MEAN % BYC/TGT	STD DEVIATION	LOW %	HIGH %
		POP	Y	1	*******	*******	*******	*******	*******
		SFL1	C	27	79	0.316	1.348	0.000	6.974
		SLR1	C	1	*******	*******	*******	*******	*******
		SLR1	Y	16	104	27.408	39.462	0.000	129.742
SRRE	HAL	AMCK	W	6	5	0.000	0.000	0.000	0.000
		PCOD	W	23	24	0.939	3.389	0.000	15.393
		PLCK	W	1	*******	*******	*******	*******	*******
		SABL	W	519	477	3.832	11.206	0.000	91.992
		THDS	W	21	14	16.589	31.131	0.000	99.339
PCOD	HAL	AMCK	W	5	4	0.000	0.000	0.000	0.000
		PLCK	W	1	*******	*******	*******	*******	*******
		SABL	W	519	477	1.923	10.594	0.000	91.942
		SRRE	W	9	8	15.826	30.109	0.000	76.901
		THDS	W	21	14	0.000	0.000	0.000	0.000

GEAR: TRW = trawl; HAL = Hook-and-line
TGT: Targets based on haul-by-haul observer data
REG: GOA regulatory area: W = Western, C = Central, E = Eastern
Y = West Yakutat

Species:
AMCK = Atka mackerel
DFL1 = deep water flatfish
OCTO = octopus
PCOD = Pacific cod
PLCK = pollock
POP = Pacific ocean perch
ROCK = other rockfish
SABL = sablefish
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