

MEMORANDUM

TO: Council, SSC, and AP Members

FROM: Chris Oliver *Chris*
Acting Executive Director

ESTIMATED TIME
4 HOURS

DATE: May 30, 2001

SUBJECT: Groundfish Programmatic Supplemental Environmental Impact Statement

ACTION REQUIRED

Provide comments on Draft Alaska Groundfish Programmatic SEIS to NMFS.

BACKGROUND

The Draft Alaska Groundfish Fisheries Programmatic SEIS was released for public review on January 26, 2001. The public comment period (which has been extended twice in response to public and Council requests) is scheduled to end on July 25, 2001. Scheduled for this meeting, is Council review and comment on the draft SEIS. The principle question that needs to be answered is whether the Council is satisfied with the scope, alternatives, and analysis contained in the draft and whether it provides sufficient range of both policy and management options for addressing environmental issues during the next five to ten years?

The Council has been provided with regular status reports from NMFS on the programmatic SEIS. The draft document represents more than a year's effort in compiling, summarizing, and describing the principal environmental issues that were raised during the scoping process. This is the opportunity to provide the SEIS Project Team with comments specific to the draft SEIS. The Council is not selecting a preferred alternative at this point in time. NMFS will consult with the Council on a preferred alternative after the completion of the public comment period and the team has prepared a responses to comments and conducted follow-on analysis.

Due to its large size, Steve Davis, SEIS Project Manager, recommended we break up the draft into several pieces to facilitate both review and comment.

SSC Review

The SSC's review is focusing on **Chapter 4 Environmental Consequences**. Members of the SSC have each reviewed and commented on a particular section, based on the member's scientific expertise. Specifically, the SSC will determine the adequacy of the information contained in the analysis and comment on whether they concur with the SEIS analysts findings of impact. It will provide the Council with comments that can identify areas of strength as well as weakness. Recommendations on how to improve the draft will be provided to the Council and the SEIS Project Team.

AP Review

The AP will focus on the model regimes (e.g. action strategies) that were developed by the SEIS Team as illustrations on how the Council and NMFS might implement a particular suite of policy objectives (**Section 4.1.1 to 4.1.5**). The questions before the AP are: are the actions reasonable and are there any other combinations of actions and measures that should be analyzed for the final SEIS? The AP is particularly well suited to provide the SEIS Project Team with feedback on whether its model regimes truly capture the likely range of actions that the Council might consider over the next 5-10 years. The AP will provide the Council with its recommendations on ways that the SEIS Project Team can improve on the draft analysis.

Council Review

In April, the Council was advised to concentrate its review on the policy statements contained in Chapter 2 of the draft SEIS (**Section 2.4**). The question before the Council is whether you agree that the policy statements contained in the GOA and BSAI Groundfish FMPs are out of date and whether you agree that the proposed policy framework accurately reflects your current policy, and more importantly, whether your future vision for these fisheries are encompassed within the range of policy goals and objectives developed by the SEIS Team? The Council's Ecosystem Committee was tasked in April to examine the proposed framework and provide their recommendations to you.

The Council has a number of opportunities to consult with NMFS on the Programmatic SEIS project. At this meeting, the Council is in the role of "commentor" and not decisionmaker. Council comments will be summarized and addressed in the final SEIS. Following the completion of the public comment period, the SEIS Project Team will review all comments received and determine what revisions and further analysis is necessary to prepare a final SEIS. At the appropriate time, NMFS will provide the Council with a status report on the project and when necessary time can be allocated for more formal consultations on the SEIS and future actions.

STEVE DAVIS
NMFS 6/01
C-5

2.4 The Programmatic Alternatives

Analyzing environmental impacts of management policies requires knowing what actions could be taken to implement them. Policies are, by definition, high-level, overall statements or plans embracing the general goals and procedures of a government body. In the United States, policies are intended to reflect the values and wisdom of the citizens, as expressed by the nation's laws and agencies. Goals and objectives are often used to frame a policy and to make it clearer and easier to understand. Still, determining how a policy may affect human environment is difficult to analyze without some indication of how it might be implemented.

In this section the programmatic alternatives for this Supplemental Environmental Impact Statement (SEIS) are introduced, beginning with a presentation of the status quo regime. This management regime has evolved over the last 20 years and continues to be revised as new issues arise or new scientific information becomes available. This regime would continue to evolve if no action were taken. The programmatic alternatives in this SEIS therefore provide potential changes in direction for fisheries management.

During the scoping process, the National Marine Fisheries Service (NMFS) received numerous comments suggesting that various policy goals and objectives should be given greater emphasis by the North Pacific Fishery Management Council (the Council) than is currently the case. Based upon these comments, NMFS has selected several important policy goals and objectives to serve as the basic framework for programmatic alternatives to the status quo. These goals and objectives are derived from a number of sources, including the Magnuson-Stevens Fishery Conservation Management Act (Magnuson-Stevens Act), the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), the National Oceanic and Atmospheric Administration's (NOAA's) Fisheries Strategic Plan, NOAA's National Bycatch Plan, the Council's Comprehensive Fishery Management Goals, the Council's working definition for ecosystem-based management, and from the Gulf of Alaska (GOA) and Bering Sea and Aleutian Islands (BSAI) groundfish fishery management plans (FMPs) themselves.

NMFS believes that the programmatic alternatives must provide an appropriate range of alternatives so as to sharply define the issues and provide a clear basis for choice among the alternatives. Each programmatic alternative focuses on a particular set of objectives, which were selected to reflect public comment and define the issue. It is understood that the general effects that are determined from a particular alternative regime (Chapter 4) serve to illustrate many of the general effects of those prioritized policy objectives. Given the range of policy alternatives in this SEIS, one should expect that the consequences of emphasizing one set of objectives over others will illustrate the expected range of environmental effects that result from those decisions. Such effects could be offset, or reduced in terms of intensity, should the decisionmaker choose to combine sets of objectives or measures to create a modified policy emphasizing a different set of policy objectives than those presented in this analysis. Likewise, NMFS could choose to mitigate any significant effects without requiring a formal change in policy. In either case, NMFS expects that any effects during the next five years will fall within the broad range of effects described in this programmatic SEIS. This programmatic SEIS then serves as an overarching impact assessment of the Alaska groundfish fisheries on the natural and human environment.

2.4.1 Alternative 1 (No Action): Continue with Existing Management Policy

The current management policy affecting the Alaska groundfish fisheries is defined by the policy statements, goals, and objectives contained in the BSAI and GOA Groundfish FMPs and other Council documents. It can also be defined by the recent actions taken by the Council and implemented by NMFS. A review of the evolution of Alaska groundfish management, a description of the Alaska groundfish fisheries, a summary of the management process, and other mandated considerations are provided in Sections 2.7 through 2.10.

2.4.1.1 Fisheries Management Plan Policy Statements, Goals, and Objectives

Both the GOA and BSAI Groundfish FMPs state the Council's goals and objectives for managing the fisheries. These goals and objectives and their accompanying statements are intended to clarify the basis for the Council's decisions and recommendations to the Secretary of Commerce. They are also intended to provide the public and the stakeholders of the resource a clear sense of direction for the fisheries. These goals and objectives were developed using the Council's public process. They have been found to be consistent with the Magnuson-Stevens Act with their subsequent approval by the Secretary.

In 1984, the Council undertook a review of its goals and objectives for all the fisheries being managed by NMFS in the Exclusive Economic Zone (EEZ) off Alaska. The fisheries were rapidly being "Americanized" (see Section 2.7.2), and the Council wanted to step back and assess progress made in the development of the domestic fisheries. As a result of this self-assessment, the Council developed nine Comprehensive Fishery Management Goals to serve as targets for future Council action. They were intended to provide the Council, the industry, and the public with a sense of direction for the course of fishery management for the next ten-year period (Appendix G).

The Gulf of Alaska Groundfish Fishery Management Plan

The GOA Groundfish FMP was the first FMP adopted by the Council. Following implementation of the Magnuson-Stevens Act in 1977 (Section 2.7.2), preliminary management plans (PMP) were prepared for the GOA and BSAI to establish a management regime to control the foreign fisheries. To control domestic harvest of groundfish required an FMP. The Council chose to prepare an FMP for the GOA first because at the time it was the only area with an existing small domestic groundfish fishery. As a result, the GOA FMP was a simple document and limited in scope, compared to the regime in place today. In 1985, a general omnibus amendment (Appendix B; Amendment 14) overhauled the GOA FMP by addressing a number of administrative weaknesses. It also updated the plan's policy statement to better reflect the thinking at that time. The policy statement that has been used since 1985 is summarized below.

The Council is committed to developing long-range plans for managing the GOA groundfish fisheries that will promote a stable planning environment for the seafood industry and will maintain the health of the resource and the environment. In developing allocations and harvesting systems, the Council will give overriding considerations to maximizing economic benefits to the United States. Such management will:

1. Conform to the National Standards and to the Council's Comprehensive Fishery Management Goals.
2. Be designed to ensure that, to the extent possible:
 - a. Commercial, recreational, and subsistence benefits may be obtained on a continuing basis;
 - b. Chances of irreversible or long-term adverse effects on fishery resources and the marine environment will be minimized;
 - c. Multiplicity of options will be available with respect to future uses of the resources; and
 - d. Regulations will be long-term and stable with changes kept to a minimum.

Principal Management Goal

GOA groundfish resources will be managed to maximize positive economic benefits to the United States, consistent with resource stewardship responsibilities for the continuing welfare of the GOA living marine

resources. Economic benefits include, but are not limited to, profits, benefits to consumers, income, and employment.

To accomplish this goal, a number of objectives will be considered:

1. The Council will establish annual harvest guidelines, within biological constraints, for each groundfish fishery, and mix of species taken in that fishery.
2. In its management process, including the setting of annual harvest guidelines, the Council will account for all fishery-related removals by all gear types for each groundfish species, sport fishery, and subsistence catches, as well as by directed fisheries.
3. The Council will manage the fisheries to minimize waste by:
 - a. Developing approaches to treating bycatches other than as a prohibited species. Any system adopted must address the problems of covert targeting and enforcement.
 - b. Developing management measures that encourage the use of gear and fishing techniques that minimize discards.
4. The Council will manage GOA groundfish resources to stimulate development of fully domestic operations.
5. The Council will develop measures to control effort in a fishery, including systems to convert the common property resource to private property, but only when requested to do so by the industry.
6. Rebuilding stocks to commercial or historic levels will be undertaken only if benefits to the United States can be predicted after evaluating the associated costs and benefits and the impacts on related fisheries.
7. Population thresholds will be established for economically viable species complexes under Council management on the basis of the best scientific information, and acceptable biological catches (ABCs) will be established as defined in this document. If population estimates drop below these thresholds, ABC will be set to reflect necessary rebuilding as determined in Objective 6.

The Bering Sea Aleutian Islands Groundfish Fishery Management Plan

The BSAI groundfish FMP, implemented in 1981, set new standards for fisheries management. It was the first FMP in the country to introduce a framework approach to decision-making. In this plan, management tools were authorized whereby subsequent application did not require a lengthy plan amendment process. Use of regulatory amendments to implement the actual management measures proved to be more efficient. The FMP was also the first to be based on ecosystem principles. Such principles were reflected in the policy goals and objectives. The policy statement, which has not been changed since 1981, is summarized below.

The Council has determined that all its fishery management plans should, in order to meet the requirements of its constituency, the resources, and the Magnuson-Stevens Act, achieve the following goals:

1. Promote conservation while providing for the optimum yield from the region's groundfish resource in terms of
 - a. providing the greatest overall benefit to the nation with particular reference to food production and recreational opportunities;

- b. avoiding irreversible or long-term adverse effects on fishery resources and the marine environment; and
 - c. ensuring availability of a multiplicity of options with respect to the future uses of these resources.
2. Promote, where possible, efficient use of the fishery resources, but not solely for economic purposes.
 3. Promote fair and equitable allocation of identified available resources in a manner such that no particular group acquires an excessive share of the privileges.
 4. Base the plan on the best scientific information available.

In accomplishing these broad objectives, a number of secondary objectives have been considered:

1. Conservation and management measures have taken into account the unpredictable characteristics of future resource availability and socioeconomic factors influencing the viability of the industry.
2. Where possible, individual stocks of fish are managed as a unit throughout their range, but such management is in due consideration of other impacted resources.
3. In such instances when stocks have declined to a level below that capable of producing Maximum Sustainable Yield (MSY), management measures should promote the rebuilding of stocks. In considering the rate of rebuilding, factors other than biological considerations have been taken into account.
4. Management measures, while promoting efficiency where practicable, are designed to avoid disruption of existing social and economic structures where fisheries appear to be operating in reasonable conformance with the Act and have evolved over a period of years as reflected in community characteristics, processing capability, fleet size, and distribution. These systems and the resources upon which they are based are not static, but change in the existing regulatory regime should be the result of considered action based on data and input.
5. Management measures should contain a margin of safety in recommending allowable biological catches when the quality of information concerning the resource and ecosystem is questionable. Management plans should provide for accessing biological and socioeconomic data in such instances where the information base is inadequate to effectively establish the biological parameters of the resource or to reasonably establish optimum yield. This plan has identified information and research required for further plan development.
6. Fishing strategy has been designed in such a manner as to have a minimal impact on other fisheries and the environment.

Subtle differences exist between the GOA and BSAI FMPs in terms of policy. Prepared by different authors, some of the differences in wording can be attributed to differences in writing style. Partially conflicting policy goals and objectives listed in both FMPs requires that the Council balance conflicting goals (e.g., stimulating the development of domestic fisheries versus rebuilding depressed stocks). Both policy statements reference the Magnuson-Stevens Act National Standards as the overarching principles for managing the groundfish fisheries. The GOA FMP policy places primary emphasis on maximizing positive economic benefits to the United States, consistent with resource stewardship responsibilities for the continuing welfare of the GOA's living marine resources. The BSAI FMP's policy is more neutral. The BSAI policy recognizes the dynamics

of the Bering Sea ecosystem and that the management regime should be flexible in order to accommodate new information as more is learned about the ecosystem. Among other secondary objectives, the BSAI FMP highlighted the importance of designing fishing strategies that have minimal impact on the environment as well as taking a precautionary approach when data on the stock or the ecosystem is lacking. The differences in wording of the BSAI policy goals and objectives reflect a broader ecosystem view of the fisheries. It is unlikely that the Council recognized the differences between these two policy statements. The Council has always managed the GOA and the BSAI groundfish fisheries as a whole, recognizing the close inter-relationships that exist between the fisheries and the two geographical areas.

It is important to recognize that at the time these policy statements were prepared, the Alaska groundfish fisheries were going through a remarkable transition, from a foreign-dominated fishery to a purely domestic fishery. Goals and objectives developed during this period reflect the issues and needs of the time and may not necessarily represent today's perspective and understanding of the fisheries and the ecosystem (Sections 2.7.1 and 2.7.2 contain descriptions of the fisheries prior to and after implementation of the Magnuson-Stevens Act).

2.4.1.2 Recent Federal Actions

Another way to characterize the current policy of the Council and NMFS, as it pertains to the Alaska groundfish fisheries, is to review recent actions taken by the Council.

Section 2.7.2 presents a summary of the evolution of the FMPs and the significant issues and management actions that have shaped the regime in place today. A review of the FMP plan amendment and regulatory amendment summaries provided as Appendices A, B, and C provide considerable detail of the management history that transpired during the 1980s and 1990s. A review of the major actions taken in the 1990s illustrates the Council's recent policy emphasis and direction.

Significant Gulf of Alaska Actions

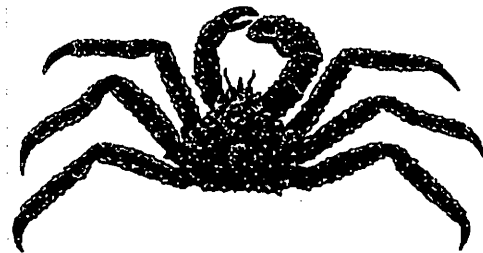
Over the last ten years, significant federal actions taken by the Council (grouped by general issue or primary purpose) are as follows:

Reduce Bycatch and Discards

Amendment 15: Kodiak Trawl Closure—established bottom trawl closure areas based on historic king crab abundance to enhance protection of king crab stocks.

Amendment 18: Kodiak Crab Closure—continued bottom trawl closures established by Amendment 15.

Amendment 26: Permanent Kodiak Crab Protection Zones—permanently extended bottom trawl closures established by Amendments 15 and 18.

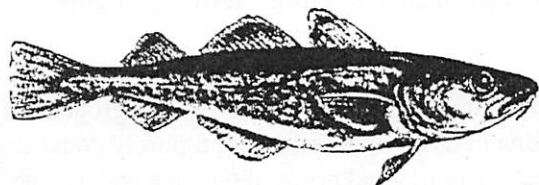


King crab

Amendment 37: Processing of non-individual fishing quota (IFQ) Species—increased efficiency by freezer-longline vessels and increased product quality of non-IFQ groundfish caught incidentally to the harvests of IFQ sablefish and halibut.

Amendment 49: Improved Retention/Improved Utilization—applied to all groundfish fisheries to reduce discards. Beginning first with pollock and Pacific cod in 1998, all vessels catching these species had to retain them. The program will be extended to shallow water flatfish fisheries beginning in 2003.

Amendment 53: Full Retention of Demersal Shelf Rockfish in Fixed Gear Fisheries—approved by the Council but awaiting Secretarial approval. It is intended to eliminate discards of these species.



Pacific cod

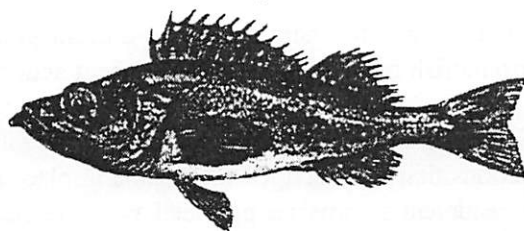
Protect Target Groundfish Species

Amendment 32: Pacific ocean perch Rebuilding Plan—established a rebuilding program for Pacific ocean perch stocks in the GOA.

Amendment 38: Pacific ocean perch Rebuilding Plan—allowed the total allowable catch (TAC) to be set at or below the amount dictated by the Amendment 32 formula based on biological or resource conservation concerns.

Amendment 44: Overfishing Definitions—redefined ABC and overfishing to facilitate more conservative risk-adverse decisions when stock size and mortality rates are not fully known.

Amendment 56: Revised Overfishing Definitions—revised Tiers 2–4 established in Amendment 44 by changing the default fishing mortality rate to a more conservative rate.



Pacific ocean perch

Protect Non-Target Species

Amendment 39: Forage Fish Protection—prohibited the development of commercial fisheries for forage fish in recognition of their importance to the marine food web and the ecosystem.

Increase the Economic Benefits to the Nation

Amendment 20: Sablefish and Halibut IFQs—established an IFQ program for these fisheries. Benefits included regulatory stability, increased product quality, and increased vessel safety.

Amendment 23: Inshore/Offshore Allocations—established inshore/offshore processing allocations to avoid a return to the “free-for-all” that existed previously. The intent was to stabilize the fisheries until a comprehensive control program could be developed.

Amendment 28: Moratorium—established a vessel moratorium on new entry into the groundfish fisheries until the License Limitation Program could be put into effect.

Amendment 29: Salmon Retention for Food Banks—established a mechanism for retaining and distributing salmon taken as bycatch by the trawl fisheries (that otherwise would have been discarded by regulation) to the needy.

Amendment 35: Quota Share Blocks—modified the sablefish and halibut IFQ Program to protect small producers, part-time participants, and entry-level participants by preventing excessive consolidation of quota shares.

Amendment 36: Transfer of Community Development Quota Compensation Quota Shares—benefits focused on making more accessible areas available to small boat fishermen.

Amendment 37: Processing of Non-IFQ Species—permitted non-IFQ species caught incidentally to sablefish, to be kept and frozen, thereby increasing product quality and reducing discards.

Amendment 40: Inshore/Offshore Allocations—extended the processing allocations established in Amendment 23 to avoid a return to a free-for-all. Such actions were intended to stabilize the fisheries until a comprehensive effort control program could be developed.

Amendment 41: License Limitation Program—considered the first step toward preventing comprehensive rationalization of the fisheries, this action prevented additional vessels from entering the groundfish fisheries and adding to the tragedy of the commons.

Amendment 42: IFQ Vessel Buy Down—increased the flexibility of quota share use and transfer by small vessels.

Amendment 43: IFQ Sweep Up Provisions—increased the consolidation of small quota shares to provide for greater use of quota shares.

Amendment 50: Halibut Donation Program—established a mechanism for retaining and distributing to the needy halibut taken as bycatch in the trawl fisheries (which by regulation would otherwise have been discarded).

Amendment 51: Inshore/Offshore Allocations—continued the processing allocations established in Amendments 23 and 40, as modified by implementation of the AFA in 1999.

Amendment 54: Indirect Ownership and Use Caps (IFQ)—would clarify rules of ownership in the Sablefish IFQ Program (currently in the pipeline; not yet implemented).

Amendment 57: Moratorium Extensions—extended the moratorium established by Amendment 28 on new entry into the groundfish fisheries until the License Limitation Program (LLP) could be put into effect.

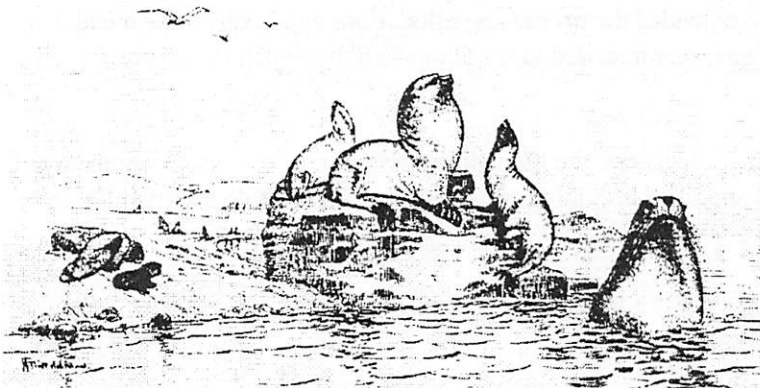
Amendment 58: LLP—approved by the Council but not yet been approved by the Secretary of Commerce. Many years in the making, this program permanently restricts new entry into the groundfish fisheries.

Amendment 61: American Fisheries Act (AFA) Implementation—currently in the pipeline; approved by the Council, and temporarily implemented by NMFS emergency order. The amendment implements nondiscretionary elements of the AFA, which include sector allocations for pollock to eligible harvesting vessels, processors, and cooperatives.

Protect Threatened or Endangered Species

Amendment 25: Steller Sea Lion Buffer Zones—established year-round closure areas within 10 nautical miles of key Steller sea lion rookeries. Also established time and area restrictions on pollock harvest adjacent to selected rookeries. The Council has also used regulatory amendments to take further protective actions. In the last five years, the most important perhaps, was the implementation of reasonable and prudent actions (RPAs) for Steller sea lions authorized under Amendment 25. These RPAs, for example, made modifications to measures approved previously by returning the fishery to a quarterly distribution of pollock harvest. Such

an action is intended to spread out the catch and reduce the possibility that the fisheries compete with the marine mammals for food. Other actions require longline vessels to utilize avoidance measures to reduce the chance of taking short-tailed albatross in their gear.



Steller sea lions

Protect Habitat

Amendment 55: Essential Fish Habitat—defined essential fish habitat for all managed groundfish species and identified Habitat Areas of Particular Concern.

Amendment 59: Sitka Pinnacles Marine Reserve—would establish a no-fishing marine reserve containing important fish habitat near Sitka, Alaska. Approved by the Council, it is awaiting Secretarial review and action.

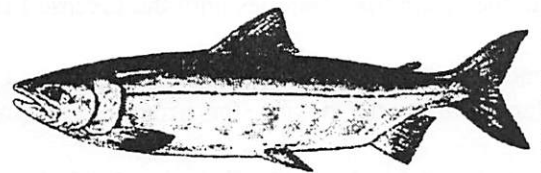
Amendment 65: Habitat Areas of Particular Concern (HAPCs)—precludes commercial fisheries on corals and sponges from developing. Awaiting Secretarial review and action.

Significant BSAI Actions

During the 1990s, the following significant federal actions were taken by the Council (grouped by general issue or primary purpose):

Reduce Bycatch and Discards

Amendment 21a: Pribilof Islands Habitat Conservation Area—established trawl closures near the islands to reduce the incidental catch of crab.



Chum salmon

Amendment 21b: Chinook Salmon Savings Area—established a time and area management strategy aimed at reducing the amount of chinook salmon taken as bycatch in trawl fisheries.

Amendment 33: Processing of non-IFQ Species—increased efficiency by freezer-longline vessels and increased product quality of non-IFQ groundfish caught incidentally to the harvests of IFQ sablefish and halibut. Reduced discards.

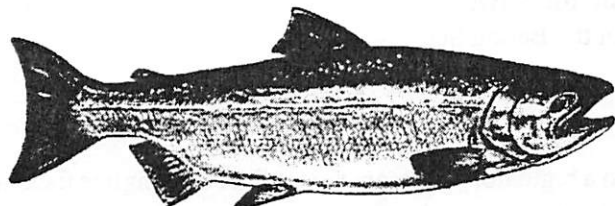
Amendment 35: Chum Salmon Savings Area—established a temporal and spatial management measure aimed at reducing the amount of chum salmon taken as bycatch in the trawl fisheries.

Amendment 37: Red King Crab Protection Measures—established year-round closure areas and modified the prohibited species catch (PSC) limit for trawl fisheries as steps toward rebuilding king crab stocks in the Bering Sea.

Amendment 40: Opilio Bycatch Limits—established for the first time, PSC limits for snow crab as a measure to limit incidental mortality in the groundfish trawl fisheries.

Amendment 41: Reduced Bairdi Limits—reduced PSC limits for Tanner crab and established a temporal and spatial measure that closed areas once a PSC limit was reached.

Amendment 49: Improved Retention/Improved Utilization—applied to all groundfish fisheries to reduce discards. Beginning first with pollock and Pacific cod in 1998, all vessels catching these species had to retain them. The program will be extended to rock sole and yellowfin sole fisheries beginning in 2003.



Chinook salmon

Amendment 57: Pollock Bottom Trawl Gear Prohibition—prohibited the use of bottom trawls (beginning in 1999) in the pollock fishery to reduce the impact of trawl gear on the bottom and reduce the bycatch of crab and halibut.

Amendment 58: Reduced Chinook Salmon Bycatch Limits—further reduced salmon bycatch in the BSAI trawl fisheries.

Increase Economic Benefits to Alaska Coastal Communities

Amendment 18: Inshore/Offshore Allocations—established the Community Development Quota Program for western Alaska communities.

Amendment 32: Transfer of Community Development Quota (CDQ) Compensation Quota Shares—increased fishing opportunities to coastal communities.

Amendment 34: Atka Mackerel Jig Allocation—intended to increase fishing opportunities for local, small boat fishermen.

Amendment 38: Inshore/Offshore Allocations—reauthorized the CDQ Program established by Amendment 18 by extending previously set processing allocations to avoid a return to a free-for-all fishery. Such actions were intended to stabilize the fisheries until a comprehensive effort control program could be developed.

Amendment 45: Reauthorize CDQ Fisheries—continued the CDQ Program, which brought significant economic opportunities to western Alaska coastal communities.

Protect Target Groundfish Species

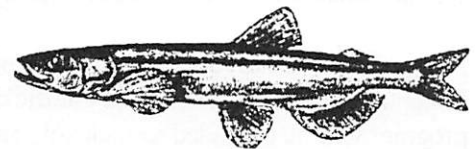
Amendment 44: Overfishing Definitions—redefined acceptable biological catch (ABC) and overfishing to facilitate more conservative risk-adverse decisions when stock size and mortality rates are not fully known.

Amendment 53: Shortraker/Rougheye Rockfish Allocation—reduced the chance of overfishing these species.

Amendment 56: Revised Overfishing Definitions—revised Tiers 2–4 by changing the default fishing mortality rate to a more conservative rate.

Protect Non-Target Species

Amendment 36: Forage Fish Protection—prohibited the development of commercial fisheries for forage fish, such as capelin, in recognition of their importance to the marine food web and the ecosystem.



Capelin

Amendment 37: Red King Crab Protection Measures—established year-round closure areas and modified the PSC limit for trawl fisheries as steps toward rebuilding king crab stocks in the Bering Sea.

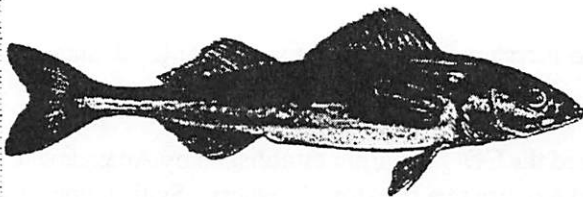
Increase the Economic Benefits to the Nation

Amendment 15: Sablefish and Halibut IFQ—established a regulatory program to stabilize the longline fisheries for sablefish and halibut, improve product quality, and increase vessel safety.

Amendment 23: Moratorium—established a vessel moratorium on new entry into the groundfish fisheries until the LLP could be put into effect.

Amendment 24: Pacific Cod Allocation—established allocations of Pacific cod TAC between the trawl, fixed gear, and jig gear fisheries. This amendment was intended to stabilize the fishery.

Amendment 26: Salmon Retention for Food Banks—established a mechanism for retaining and distributing to the needy, incidentally caught salmon that, by regulation, would otherwise have to be discarded.



Sablefish

Amendment 31: Quota Share Blocks—prevented excessive consolidation of quota shares to ensure a diverse participation in the IFQ fisheries.

Amendment 33: Processing of Non-IFQ Species—increased efficiency by freezer-longline vessels and increased product quality of non-IFQ groundfish caught incidentally to the harvests of IFQ sablefish and halibut. Reduced discards.

Amendment 38: Inshore/Offshore Allocations—reauthorized the CDQ Program established by Amendment 18 by extending the processing allocations set previously to avoid a return to a free-for-all fishery. Such actions were intended to stabilize the fisheries until a comprehensive effort control program could be developed.

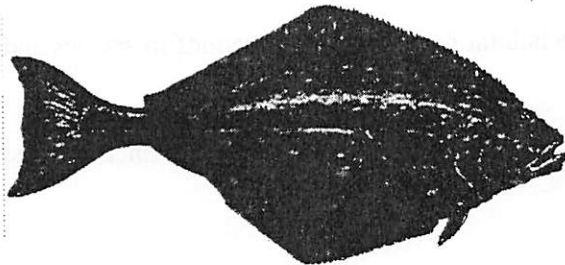
Amendment 39: LLP—considered the first step toward comprehensive rationalization of the fisheries, this action prevented additional fishing vessels from entering the groundfish fisheries and adding to the tragedy of the commons.

Amendment 42: IFQ Vessel Buy Down—increased the flexibility of quota share use and transfer by small vessels.

Amendment 43: IFQ Sweep Up Provisions—increased the consolidation of small quota shares to provide for greater use of quota shares.

Amendment 46: Pacific Cod Allocation—extended the TAC allocations established by Amendment 24 to the trawl, hook-and-line and pot gear, and jig fisheries.

Amendment 50: Halibut Donation Program—established a mechanism for retaining and distributing to the needy halibut taken as bycatch in the trawl fisheries (which by regulation would otherwise have to be discarded).



Pacific halibut

Amendment 51: Inshore/Offshore Allocations—continued the processing allocations established by Amendment 18, as modified by implementation of the AFA in 1999.

Amendment 54: Indirect Ownership and Use Caps (IFQ)—would clarify rules of ownership in the sablefish IFQ program (not yet implemented).

Amendment 59: Moratorium Extensions—extended the moratorium established by Amendment 23 on new entry into the groundfish fisheries until the LLP could be put into effect.

Amendment 60: LLP—approved by the Council but, not yet approved by the Secretary of Commerce. Many years in the making, this program permanently restricts new entry into the groundfish fisheries.

Amendment 61: AFA Implementation—approved by the Council, and temporarily implemented by emergency order. The amendment implements the nondiscretionary elements of the AFA that include sector allocations for pollock, to eligible harvesting vessels, processors, and cooperatives.

Amendment 64: Pacific Cod Fixed Gear Allocations—provides further refinement to the Pacific cod allocations to hook-and-line and pot fisheries.

Amendment 67: Pacific Cod Species and Gear Endorsements—establishes new rules to prevent transfer of LLP vessels into the Pacific cod fishery that had no, or limited, history in that fishery. This amendment has been approved by the Council, and is awaiting Secretarial approval.

Protect Threatened or Endangered Species

Amendment 25: Steller Sea Lion Buffer Zones—established year-round closure areas within 10 nautical miles of key Steller sea lion rookeries. Also established time and area restrictions on pollock harvest adjacent to selected rookeries. The Council has also used regulatory amendments to take further protective actions. In the last five years, the most important perhaps, was the implementation of reasonable and prudent actions (RPAs) for Steller sea lions authorized under Amendment 25. These RPAs, for example, made modifications to measures approved previously by returning the fishery to a quarterly distribution of pollock harvest. Such an action is intended to spread out the catch and reduce the possibility that the fisheries were competing with the marine mammals for food. Other actions include the requirement that longline vessels utilize avoidance measures to reduce the chance of taking short-tailed albatross in their gear.

Protect Habitat

Amendment 21a: Pribilof Islands Habitat Conservation Area—established trawl closures near the islands to reduce the incidental catch of crab and protect benthic habitat.

Amendment 55: Essential Fish Habitat—defined essential fish habitat for all managed groundfish species and identified Habitat Areas of Particular Concern.

Amendment 65: Habitat Areas of Particular Concern—would preclude commercial fisheries on coral and sponges (not yet approved).

Summary of Current Policy

Review of recent Council actions illustrates a history of decision-making by the Council in which it has attempted to balance a number of policy objectives. Review of this history suggests that the policy emphasis of federal managers has changed from one dominated by economic development objectives (during the 1980s) to a policy that emphasizes a reduction in groundfish discards and comprehensive rationalization of the fisheries. These changes in policy emphasis demonstrate the benefits of a policy framework. The main concern of U.S. managers in the 1970s and 1980s was to control the target catch of foreign fleets, which by then had fished down many stocks, and to shield domestic fisheries for crab and halibut from foreign bycatch, gear conflicts, and grounds preemption. Many of these control measures were brought forward into the PMPs for foreign fisheries, and then into the initial FMPs in 1978–1982. By 1985, the basis for target species protection had been established, but managers still spent considerable time and effort fashioning measures to limit the impacts of the burgeoning domestic groundfish fishery on more traditional fisheries for salmon, halibut, and crab. This review of policy emphasis on protecting target species should not be interpreted as a lack of attention. Rather, the basic management approaches were now in place, and they did not require any major changes over time, except for fine tuning. The processes for establishing ABCs, TACs, overfishing levels (OFLs), and other such levels were changed to provide additional protection.

In the 1980s, various closures to foreign fisheries and joint ventures conferred economic benefits on other domestic fisheries, but the real catalyst for economic growth was the allocation priorities established in the Magnuson-Stevens Act. As is described in greater detail in Section 2.7.2, giving priority to domestic fisheries brought about the “Americanization” of groundfish fisheries much earlier than anyone had anticipated. The domestic-foreign joint venture, which peaked in 1987, served as the proving grounds for many restrictions that would eventually be placed on the fully domestic fisheries. For example, the yellowfin sole fleet in the eastern Bering Sea demonstrated to managers how limited they were in implementing very precise measures to

control—or even monitor—individual vessel bycatch without comprehensive observer coverage on the vessels.

The 1990s may be viewed as a period of continual modification of measures to manage groundfish operations to minimize their impact on non-groundfish fisheries, on marine mammals and seabirds, and on habitat. Direct catalysts for the latter measures came first from the ESA, then from the Sustainable Fisheries Act of 1996. The 1990s also may be viewed as the time when managers struggled with the problems of intense competition for a robust, but limited, groundfish resource. Managers made allocations of cod and pollock to various gear sectors to insulate one from the other. Capacity control measures, such as individual fishing quotas and license limitation, were also introduced. The AFA provided further rationalization of the pollock fishery by reducing the number of factory trawlers and introducing fishing cooperatives.

Partially conflicting policy goals and objectives in the BSAI and GOA FMPs, require the decision-maker to strike an appropriate balance. The FMPs themselves, and their implementing regulations describe a “management regime.” The current regime is described in Section 2.7 as the “Federal Action of this Programmatic SEIS.” It is therefore logical that a practical way to evaluate alternative policy objectives is to construct model management regimes that can be compared to the current regime. In this way, the model regimes serve as an example of how a particular policy may be implemented and analysis of those model regimes will provide information to allow, to some degree (Chapter 4), for a comparative analysis among alternative policies.

2.4.2 A New Policy Framework: The Common Denominator Among Alternatives to the Status Quo

To fulfill the purpose and need of this programmatic SEIS, NMFS has selected particular policy objectives as “primary objectives” as a method of defining the “policy emphasis” for each programmatic alternative. These goals and objectives were derived from a review of the Magnuson-Stevens Act, the NOAA Fisheries Strategic Plan, NOAA’s National Bycatch Plan, the ESA, the MMPA, the Council’s Comprehensive Fishery Management Goals, and the Council’s working definition for ecosystem-based management. By constructing each alternative around a different policy emphasis, the environmental issues raised during scoping can be clearly defined and examined. Such a presentation of alternatives also illustrates the flexibility of the policy framework to address particular environmental issues. The policy emphasis contained within each alternative will present a marked contrast to the Council’s stated management policy and to the other alternatives, whereas the Council currently strives to seek a balance of objectives. If adopted, the new or changed policy emphasis could restrict the range of future management actions. Combining two or more suites of alternative policy objectives could similarly result in changes (though possibly less distinct from the status quo) on how the fisheries are managed and regulated compared to the status quo.

2.4.3 Alternative 2: Adopt a New Fisheries Management Policy Framework that Emphasizes Increased Protection to Marine Mammals and Seabirds

This policy would emphasize reducing conflicts and adverse interactions between groundfish fishing activities and marine mammals and seabirds, while providing a future in which the American people are able to enjoy the wealth and benefits of diverse and self-sustaining living marine resources. The following four overarching goals will serve the Council and NMFS as long-term achievements:

1. Provide sound conservation of living marine resources.
2. Provide socially and economically viable fisheries.
3. Allow no human-caused threats to protected species.
4. Maintain a healthy living marine resource habitat.

In accomplishing these broad goals, the following fourteen policy objectives will be considered when making decisions. Those objectives being used to illustrate greater emphasis (e.g., to increase protection to Steller sea lions, other marine mammals, short-tailed albatross, and seabirds) in shaping policy decisions under Alternative 2 are in bold:

1. **Emphasize protection of marine mammals and seabirds by reducing potential adverse impacts of groundfish harvesting; adverse impacts may include direct take, competition for prey, disturbance, and degradation of habitat (primary objective).**
2. Maintain healthy stocks important to commercial, recreational, and subsistence fisheries.
3. Prevent overfishing and rebuild depressed stocks important to commercial, recreational, and subsistence fisheries. Increase long-term economic and social benefits to the nation from living marine resources.
4. **Recover and maintain protected species populations.**
5. **Reduce fishing conflicts that involve protected species and seabirds.**
6. Protect, conserve, and restore living marine resource habitat.
7. **Conform to the National Standards and the Council's Comprehensive Goals.**
8. Fully integrate MMPA, ESA, Fish and Wildlife Coordination Act (FWCA), and Federal Power Act (FPA) procedures into the Magnuson-Stevens Act decision-making process.
9. Promote a stable planning environment for the seafood industry by keeping regulations stable when possible.
10. Promote efficient use of the resources, but not solely for economic purposes.
11. Minimize discards by developing management measures that encourage the use of gear and fishing techniques that minimize discards.
12. Establish minimum stock size thresholds for all managed groundfish stocks based on the best scientific information available.
13. Maintain a margin of safety in recommending acceptable biological catches when the information concerning the resource is questionable and obtain additional biological and socioeconomic data in such instances.
14. Use the precautionary approach when making decisions.

2.4.4 Alternative 3: Adopt a New Fisheries Management Policy Framework that Emphasizes Increased Protection to Target Groundfish Species

Alternative 3 places greater emphasis on objectives aimed at preventing overfishing, maintaining healthy fish stocks of target species, and rebuilding depressed stocks of target species while providing a future in which the

American people are able to enjoy the wealth and benefits of diverse and self-sustaining living marine resources. The following four overarching goals will serve the Council and NMFS as long-term achievements:

1. Provide sound conservation of living marine resources.
2. Provide socially and economically viable fisheries.
3. Allow no human-caused threats to protected species.
4. Maintain a healthy living marine resource habitat.

In accomplishing these broad goals, 14 policy objectives will be considered when making decisions. Those objectives being used to illustrate greater emphasis (e.g., to increase protection to target groundfish species) in shaping policy decisions are in bold:

1. **Provide more or improved protection for target species while also providing for sustainable fisheries (primary objective).**
2. **Maintain healthy stocks important to commercial, recreational, and subsistence fisheries.**
3. **Prevent overfishing and rebuild depressed stocks important to commercial, recreational, and subsistence fisheries. Increase long-term economic and social benefits to the nation from living marine resources.**
4. Recover and maintain protected species populations.
5. Reduce fishing conflicts that involve protected species and seabirds.
6. **Protect, conserve, and restore living marine resource habitat.**
7. **Conform to the National Standards and NPFMC Comprehensive Goals.**
8. Fully integrate procedures of the MMPA, ESA, FWCA, and FPA into the Magnuson-Stevens Act decision-making process.
9. Promote a stable planning environment for the seafood industry by keeping regulations stable when possible.
10. Promote efficient use of the resources, but not solely for economic purposes.
11. Minimize discards by developing management measures that encourage the use of gear and fishing techniques that minimize discards.
12. **Establish minimum stock size thresholds for all managed groundfish stocks based on the best scientific information available.**
13. **Maintain a margin of safety in recommending acceptable biological catches when the information concerning the resource is questionable and obtain additional biological and socioeconomic data in such instances.**
14. Use the precautionary approach when making decisions.

2.4.5 Alternative 4: Adopt a New Fisheries Management Policy Framework that Emphasizes Increased Protection to Non-Target and Forage Species

This policy places greater emphasis on maintaining healthy fish stocks of non-target and forage fish, reducing bycatch and bycatch mortality, reducing discards, and using a precautionary approach when making decisions, while providing a future in which the American people are able to enjoy the wealth and benefits of diverse and self-sustaining living marine resources. The non-target species list is found in Appendix H. The following four overarching goals will serve the Council and NMFS as long-term achievements:

1. Provide sound conservation of living marine resources.
2. Provide socially and economically viable fisheries.
3. Allow no human-caused threats to protected species.
4. Maintain a healthy living marine resource habitat.

In accomplishing these broad goals, 14 policy objectives will be considered when making decisions. Those objectives being used to illustrate greater emphasis (e.g., to increase protection to nontarget groundfish species) in shaping policy decisions are in bold:

- 1. Prevent overfishing, maintain healthy stocks, and rebuild depressed stock of nontarget species (primary objective).**
- 2. Maintain healthy stocks important to commercial, recreational, and subsistence fisheries.**
- 3. Prevent overfishing and rebuild depressed stocks important to commercial, recreational, and subsistence fisheries. Increase long-term economic and social benefits to the nation from living marine resources.**
4. Recover and maintain protected species populations.
5. Reduce fishing conflicts that involve protected species and seabirds.
- 6. Protect, conserve, and restore living marine resource habitat.**
- 7. Conform to the National Standards and the Council's Comprehensive Goals.**
8. Fully integrate procedures of the MMPA, ESA, FWCA, and FPA into the Magnuson-Stevens Act decision-making process.
9. Promote a stable planning environment for the seafood industry by keeping regulations stable when possible.
10. Promote efficient use of the resources, but not solely for economic purposes.
- 11. Minimize discards by developing management measures that encourage the use of gear and fishing techniques that minimize discards.**
12. Establish minimum stock size thresholds for all managed groundfish stocks based on the best scientific information available.

13. Maintain a margin of safety in recommending acceptable biological catches when the information concerning the resource is questionable and obtain additional biological and socioeconomic data in such instances.
14. Use the precautionary approach when making decisions.

2.4.6 Alternative 5: Adopt a New Fisheries Management Policy Framework that Emphasizes Increased Protection to Habitat

This policy places greater emphasis on objectives to protect, conserve, and restore living marine resource habitat, while providing a future in which the American people are able to enjoy the wealth and benefits of diverse and self-sustaining living marine resources. The following four overarching goals will serve the Council and NMFS as long-term achievements:

1. Provide sound conservation of living marine resources.
2. Provide socially and economically viable fisheries.
3. Allow no human-caused threats to protected species.
4. Maintain a healthy living marine resource habitat.

In accomplishing these broad goals, 14 policy objectives will be considered when making decisions. Those objectives being used to illustrate greater emphasis (e.g., to increase protection to habitat, including essential fish habitat) in shaping policy decisions are in bold:

- 1. Protect and restore essential fish habitat while accruing benefits to marine ecosystems (primary objective).**
2. Maintain healthy stocks important to commercial, recreational, and subsistence fisheries.
3. Prevent overfishing and rebuild depressed stocks important to commercial, recreational, and subsistence fisheries. Increase long-term economic and social benefits to the nation from living marine resources.
4. Recover and maintain protected species populations.
5. Reduce fishing conflicts that involve protected species and seabirds.
- 6. Protect, conserve, and restore living marine resource habitat.**
- 7. Conform to the National Standards and the Council's Comprehensive Goals.**
8. Fully integrate procedures of the MMPA, ESA, FWCA, and FPA into the Magnuson-Stevens Act decision-making process.
9. Promote a stable planning environment for the seafood industry by keeping regulations stable when possible.
10. Promote efficient use of the resources, but not solely for economic purposes.

11. Minimize discards by developing management measures that encourage the use of gear and fishing techniques that minimize discards.
12. Establish minimum stock size thresholds for all managed groundfish stocks based on the best scientific information available.
13. Maintain a margin of safety in recommending acceptable biological catches when the information concerning the resource is questionable and obtain additional biological and socioeconomic data in such instances.
14. Use the precautionary approach when making decisions.

2.4.7 Alternative 6: Adopt a New Fisheries Management Policy Framework that Emphasizes an Increase in Socioeconomic Benefits

Two distinct alternative policies are considered under Alternative 6. Alternative 6.1 is much broader than 6.2, in terms of both the range of benefits that would be considered and the time period over which benefits would be considered. This policy would place greater emphasis on increasing the long-term net economic benefits from the commercial groundfish fisheries. It seeks to include socioeconomic benefits without increasing TAC (e.g., get more value from what is currently harvested). Alternative 6.2 is a narrower policy that emphasizes short-term economic benefits. As with Alternatives 2 through 5, Alternative 6 shares the following four overarching goals:

1. Provide sound conservation of living marine resources.
2. Provide socially and economically viable fisheries.
3. Allow no human-caused threats to protected species.
4. Maintain a healthy living marine resource habitat.

Alternative 6.1: In accomplishing these broad goals, 13 policy objectives will be considered when making decisions. Those objectives being used to illustrate greater emphasis in Subalternative 6.1 are in bold:

- 1. Increase the long-term net economic benefits from the commercial groundfish fisheries to those who harvest and process groundfish, to the associated fishing communities, and to those who consume groundfish seafood products.**
- 2. Prevent preemption of one sector or fishing community by another.**
- 3. Maintain or increase levels of protection for protected species, target species, non-target species, and their habitat.**
4. Reduce fishing conflicts that involve protected species and seabirds.
5. Protect, conserve, and restore living marine resource habitat.
6. Conform to the National Standards and the Council's Comprehensive Goals.
7. Fully integrate procedures of the MMPA, ESA, FWCA, and FPA into the Magnuson-Stevens Act decision-making process.
8. Promote a stable planning environment for the seafood industry by keeping regulations stable when possible.

9. Promote efficient use of the resources, but not solely for economic purposes.
10. Minimize discards by developing management measures that encourage the use of gear and fishing techniques that minimize discards.
11. Establish minimum stock size thresholds for all managed groundfish stocks based on the best scientific information available.
12. Maintain a margin of safety in recommending acceptable biological catches when the information concerning the resource is questionable and obtain additional biological and socioeconomic data in such instances.
13. Use the precautionary approach when making decisions.

Alternative 6.2: The narrower alternative policy would place greater emphasis on the objective of increasing the short-term net economic benefits from the commercial groundfish fisheries to those who harvest and process groundfish, to the associated fishing communities, and to those who consume groundfish seafood products by allowing a substantially more aggressive harvest strategy. We recognize that actions taken to meet the narrower policy objective may be counterproductive with respect to meeting the broader policy objective.

In accomplishing this narrower policy emphasis, 13 policy objectives will be considered when making decisions. Those objectives being given greater emphasis in shaping policy decisions are in bold:

- 1. Maximize harvest of groundfish stocks while preventing overfishing (primary objective).**
- 2. Prevent overfishing and rebuild depressed groundfish stocks important to commercial, recreational, and subsistence fisheries.**
- 3. Maintain or increase levels of protection for protected species, target species, non-target species, and their habitat.**
4. Reduce fishing conflicts that involve protected species and seabirds.
5. Protect, conserve, and restore living marine resource habitat.
6. Conform to the National Standards and the Council's Comprehensive Goals.
7. Fully integrate procedures of the MMPA, ESA, FWCA, and FPA into the Magnuson-Stevens Act decision-making process.
8. Promote a stable planning environment for the seafood industry by keeping regulations stable when possible.
9. Promote efficient use of the resources, but not solely for economic purposes.
10. Minimize discards by developing management measures that encourage the use of gear and fishing techniques that minimize discards.
11. Establish minimum stock size thresholds for all managed groundfish stocks based on the best scientific information available.

12. Maintain a margin of safety in recommending acceptable biological catches when the information concerning the resource is questionable and obtain additional biological and socioeconomic data in such instances.
13. Use the precautionary approach when making decisions.

BACKGROUND FOR COMMENTS

- **NEPA — CONSIDER ENVIRONMENTAL CONSEQUENCES IN DECISION-MAKING ALONG WITH ECONOMIC AND TECHNICAL MATTERS**

— EIS FOR MASAQHE*

Major Actions having significant affecting on Quality, Health & Environment?

CEQ REGULATIONS

- (1) DEFINITIONS AND CONCEPTS (SCOPING)
- (2) 3 LEVELS OF ANALYSIS — CE, EA, EIS
- (3) SIGNIFICANCE
- (4) MITIGATION
- (5) 40 QUESTIONS

- **NOAA ADM. ORDER 216-6**

- **PARALLELS CEQ REGULATIONS**

- **ADDED FISHERY MANAGEMENT PERSPECTIVE TO 3 LEVELS AND TO SIGNIFICANCE DEFINITION**

- **SEIS VS. EIS**
 - (1) **CHANGES IN PROPOSED ACTION RELEVANT TO ENVIRONMENTAL CONCERNS**

 - (2) **NEW CIRCUMSTANCES OR INFORMATION RELEVANT TO ENVIRONMENTAL CONCERNS**

PROGRAMMATIC VS. PROJECT-LEVEL EISs

- (1) PROGRAMMATIC — POLICY, PLAN, OR PROGRAM**
- (2) PROGRAMMATIC IS BROADER IN SCOPE (ACTIONS, AREA, TIME), ALTERNATIVES, AND MITIGATION MEASURES**
- (3) PROGRAMMATIC IS LESS SPECIFIC IN DETAILS**
- (4) LESS EXPERIENCE ON PROGRAMMATIC, AND FEWER COURT CASES**
- (5) INCREASING USE OF PROGRAMMATIC EISs IS OCCURRING**

OBSERVATIONS ON DPSEIS

- LENGTHY DOCUMENT WITH CONSIDERABLE INFORMATION**
- EARLIER EISs SHOULD BE SUMMARIZED**
- EXECUTIVE SUMMARY SHOULD STRESS MAJOR CONCLUSIONS, AREAS OF CONTROVERSY, AND ISSUES TO BE RESOLVED**
- PURPOSE AND NEED SHOULD BE MORE FOCUSED**
- INFORMATION ON ALTERNATIVES SHOULD BE AGGREGATED**

- **TECHNICAL TOOLS FOR STOCK ASSESSMENTS, OFLs, ABC, TAC, AND MSST, AND EFFECTS PREDICTIONS ARE WELL-DESCRIBED**
- **OPTIONS CONSIDERED IN ARRIVING AT CURRENT MANAGEMENT MEASURES SHOULD BE EMPHASIZED**
- **ISSUE OF INCOMPLETE OR UNAVAILABLE INFORMATION SHOULD BE ADDRESSED**
- **THE AFFECTED ENVIRONMENT DESCRIPTIONS ARE THOROUGH; HOWEVER, MORE EMPHASIS NEEDED ON EJ, AND ON OTHER ACTIVITIES OF HUMANS**

- **FULL ECONOMIC INFLUENCES OF FISHERIES UNDER CURRENT CONDITIONS ARE UNDERSTATED**
- **ENVIRONMENTAL AND ECONOMIC CONSEQUENCES ARE THOROUGHLY ADDRESSED**
- **USE OF EFFECTS RATINGS FOR STATUS QUO (ALT.1) ARE GOOD - NS, CS(-), ETC; SHOULD THEY BE USED IN COMPARISON TABLES FOR ALTERNATIVES?**
- **USE OF INTENSITY OF EFFECTS RATINGS FOR ALT.2 TO 6 IS GOOD — NEED TO BE CHECKED FOR CONSISTENCY IN DEFINITIONS AND RATIONALE FOR ASSIGNMENTS**

- **ARE DIRECT LINKS PROVIDED BETWEEN ALTERNATIVES 2-6 AND THEIR SOCIO-ECONOMIC CONSEQUENCES?**
- **ECOSYSTEM-BASED MANAGEMENT GOALS AND LEVEL OF ACHIEVEMENT**
- **THE CEA MAY BE TOO LIMITED IN ITS TIME BOUNDARY AND ACTIONS BOUNDARY**
- **THE DESCRIPTIVE SUMMARY (TABLE 4.14-1) IS GOOD FOR ANALYSIS OF TRADE-OFFS**

Cumulative Effects Assessment

THE DPSEIS AND JUDGE ZILLY'S DECISION

- **PSEIS IS NEEDED — DPSEIS IS UNDER REVIEW**
- **LEVEL OF DETAIL OR SPECIFICITY IS LESS IN PEIS — DEMONSTRATED IN DPSEIS**
- **RANGE OF ALTERNATIVES WAS INADEQUATE — STILL AN ISSUE AND UNDER DISCUSSION**
- **NEED FOR RIGOROUS EXPLORATION AND OBJECTIVE EVALUATION OF ALL REASONABLE ALTERNATIVES — EFFECTS OF 6 ALTERNATIVES ON 7 FEATURES OF NATURAL ENVIRONMENT AND 3 FEATURES OF HUMAN ENVIRONMENT**

- **NEED TO ADDRESS CUMULATIVE EFFECTS
— CEA INCLUDED**
- **EFFECTS OF ALTERNATIVES NEED TO BE
SYSTEMATICALLY IDENTIFIED,
EVALUATED, AND COMPARED — CH.4 AND
SUMMARY TABLES IN SEC.4.14**

CONCLUSIONS

- **THIS DOCUMENT IS VALUABLE AS AN
INFORMATION SOURCE FOR FUTURE EAs OR
EISs — TESTING AND UPDATES NEEDED**
- **IMPROVEMENTS ARE NEEDED IN
INFORMATION FLOW, SUMMARIZATION OF
DETAILS, AND CONSISTENCY**
- **INFORMATION ON ALTERNATIVES NEEDS TO
BE GROUPED TOGETHER AND INCLUDE ALL
MANAGEMENT MEASURES PERTINENT FOR
EACH ALTERNATIVE**
- **JOINT DISCUSSIONS ARE NEEDED WITH ALL
STAKEHOLDER GROUPS TO BETTER
ESTABLISH REASONABLE MANAGEMENT
ALTERNATIVES**