

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke
Executive Director



DATE: November 27, 1991

SUBJECT: Future Management Planning

ACTION REQUIRED

- (a) Finalize scope and work plan for a moratorium.
- (b) Initiate planning/scoping activities for comprehensive rationalization program.

BACKGROUND

Moratorium

In April the AP revised the objective and elements of a proposed moratorium, as contained in item C-3(a). At the September meeting, the Council directed staff to prepare a plan amendment, adopting for analysis the recommendations made by the AP. A moratorium work plan is at C-3(b), structured around two alternative versions of the options identified by the AP, and consistent with the notices published in the Federal Register in September 1990. The Council also extended the January 15, 1992 deadline for trawl operations to 20 days after the trawl groundfish seasons begin, due to the requested emergency action by NMFS to delay the trawl season opener to January 20 for 1992.

In the process of developing the moratorium work plan, it will be necessary to clarify the relationship between the moratorium and the comprehensive rationalization program. NMFS has prepared a report (item C-3(c)) suggesting an integration of the moratorium and IFQ system, in a phased approach beginning with the implementation of the moratorium in January 1993, followed by quota management programs for various fisheries in subsequent two-year intervals. It is questionable whether the moratorium proposal could be completed by April 1992 under this integrated approach. The staff needs direction on the appropriate scope of the moratorium work plan, and the degree of integration required with the comprehensive rationalization program.

Comprehensive Rationalization Program

The staff has prepared a tentative work plan for the comprehensive rationalization program, focusing on the problem, objectives, scope, and components of the proposed analysis (item C-3(d)). The comprehensive program will be a major undertaking, and requires careful consideration and direction by the Council, in that steps taken now will prove difficult to reverse a year or two later in the analytical process. A near-term planning/scoping effort by the Council may be necessary to establish a focused problem statement and policy objectives to guide the overall effort.

REVISED (as modified by AP on 4/23/91)
OBJECTIVE AND ELEMENTS OF A PROPOSED MORATORIUM

Moratorium Objective: To control continued growth in fishing capacity while the Council assesses alternative management measures including, but not limited to, limited and open access measures to address the overcapacity problem and to achieve the optimum yield from the fisheries.

Key Elements

1. **Earliest Qualifying Date:** Must have made landings at least once during or after:

Option 1: 1980
Option 2: 1976
~~Option 3: No date~~

[AP recommends deletion of Option 3; No need to go back to beginning of time; Motion passes 14-5]

2. **Latest Qualifying Date:** Must have made landings on or before:

~~Options 1 & 2 combined:~~ September 15, 1990 with due consideration given those vessels that are active by January 15, 1992 if contracts by September 15, 1990 (or contracted by January 1, 1991, if disadvantaged by January 19, 1990 cutoff), as described in paragraphs a and b

[AP recommends combining the option to reflect wording in FR Notice; Motion passes unanimously]

3. **No minimum qualifying poundage, just a legal landing in any qualifying year.**

4. **Exemption for Small Vessels**

Option 1: No exemptions for smaller vessels.
Option 2: Exempt vessels less than 40' LOA
~~Option 3: Exempt vessels less than 43' LOA in GOA and/or BSAI~~
Option 4: Exempt vessels less than 60' LOA in GOA and/or BSAI

[AP recommends deletion of Option 3; save staff time during analysis; Motion passes 17-2].

5. Exemption for Disadvantaged Communities

- Option 1: No exemptions.
Option 2: ~~Use size exemption approach above assuming that disadvantaged communities will use smaller vessels.~~
Option 3: Define disadvantaged communities, define vessels, and then exempt its vessels. (Council include additional landings requirements.)

[AP recommends deletion of Option 2; Options 1 and 3 are adequate for analysis; Motion passes unanimously]

6. Exemption for Qualifying Vessels Lost or Destroyed Immediately before Moratorium begins (Two options for defining "immediately"; since 1/1/90 or since 6/15/89.)

- Option 1: Can be replaced with similar capacity.
Option 2: ~~Can be replaced with increased capacity limited to, for example, 20% more in LOA and/or width.~~

[AP recommends deletion of Option 2; the AP is concerned that the 20% restriction may not allow compliance with anticipated US Coast Guard vessel safety regulations and deletion of this option also will prevent a person from increasing his vessel capacity under both Elements 6 and 10; Motion passes 11-9]

7. Moratorium will be applied equally to all sector of industry.
(Sectors tentatively defined to include catcher/processors, catchers, and mothership processors.)

8. Length of Moratorium

- Option 1: Until Council rescinds or replaces, not to exceed 4 years from implementation.
Option 2: Same as Option 1, but Council may extend for 2 years if limited access is imminent.

9. Fisheries Crossovers During Moratorium

- Option 1: Any boat that qualifies to fish at all, may fish in any fishery (groundfish, crab, or halibut).
Option 2: Same as Option 1, but Council would be able to use a regulatory amendment to limit participation in specific fisheries to those who participated in the fishery before the moratorium was imposed.

10. Replacement of Vessels Lost or Destroyed During Moratorium.

- Option 1: Can be replaced with similar capacity.
- Option 2: Can be replaced with increased capacity limited to, for example, 20% more in LOA and/or width.

(Caveat: replaced vessels cannot be salvaged and come back into fishery.)

11. Replacement or Reconstruction of Vessels During Moratorium

- Option 1: Can be replaced with similar capacity but replaced vessel must leave fishery.
- Option 2: May increase capacity of vessel by 20% in LOA and/or width, once during moratorium years.
- Option 3: May reconstruct vessel to upgrade processing equipment and stability, but not increase fishing capacity through changes in LOA, width or horsepower, or other suitable index of fishing capacity.
- Option 4: ~~May reconstruct vessel once during the moratorium to upgrade processing equipment and stability, but not increase catch carrying capacity by more than: (a) 20% for vessels 125' and greater, (b) 30% for vessels between 80'-125' (c) 40% for vessels 80' and less.~~

[AP recommends adding Option 4; Motion passes 15-3;]

12. Appeals Procedure: Use adjudication board of government persons ~~and nonvoting industry representatives.~~

[AP recommends the addition of active fishing industry representatives to the Board; this expertise will be necessary to properly evaluate appeals; Motion passes 15-3]

MORATORIUM WORK PLAN

I. BACKGROUND

In 1990, the North Pacific Fishery Management Council (Council) initiated a three step approach for establishing a moratorium on entry into all fisheries under its authority, except salmon. The first step was to publish a notice of the Council's intent to consider a moratorium, and specify a control date after which new entrants will not be assured future access to the fisheries if a moratorium is ultimately approved and implemented based on that control date.

This step was completed by the Council at its August 7-9, 1990 meeting. Notices were published in the Federal Register in September 1990, wherein the Council informed the public of its intent to develop measures to limit access to the groundfish, crab, and halibut fisheries off Alaska, and to establish a control date of September 15, 1990 for entry into the fisheries. Vessels that entered the fisheries after September 15, 1990 are not assured of future access to the fisheries if a moratorium is imposed. However, "due consideration" will be given to vessels that harvest or process fish before January 15, 1992, if either:

1. they were under construction, reconstruction, or under contract for construction, reconstruction or purchase as of September 15, 1990, for purposes of participating in the fisheries; or
2. they were under written option or contract for purchase, or written contract for construction or reconstruction before September 15, 1990, but that option or contract was canceled because of the previously proposed January 19, 1990 control date, provided these vessels were placed again under written contract for such activities by January 1, 1991.

At their September 1991 meeting, the Council extended the January 15, 1992 deadline for trawl operations to 20 days after the trawl groundfish seasons begin in the Gulf of Alaska, and Bering Sea and Aleutian Islands for 1992. This extension was in recognition of the Council's request for emergency action by NMFS to delay the trawl season opener to January 20 in 1992.

The second step is to develop the specific configuration of a moratorium and alternatives for purposes of analysis and public review. As a part of this process, the Fishery Planning Committee (FPC) held National Environmental Protection Agency (NEPA) scoping sessions in Seattle (August 23, 1990), and Kodiak (September 5, 1990). A moratorium discussion paper ("Moratorium Issues and Options for Council Consideration") prepared by NMFS and NPFMC staff was presented and discussed during the FPC meeting August 24, 1990 in Seattle. At their September 1991 meeting, the Council adopted for analysis the recommendations made by the Advisory Panel in April 1991 concerning the elements and options to be analyzed in the proposed moratorium. From this set of recommendations an amendment proposal, set of alternatives, analysis, and conclusions are being prepared by the analytical team. The moratorium project is to be given the highest priority and an implementation plan is due back to the Council in April 1992.

Finally, during the third step, the Council will consider public comments on the alternatives and their potential effects, and approve or disapprove a moratorium amendment for each of its fishery management plans. If approved, the moratorium amendments would be sent to the Secretary of Commerce for review, approval, and implementation. Action on the moratorium is to be followed by the development of a comprehensive fishery management program during 1992 and 1993 that could be implemented by January 1995.

II. SITUATION

The groundfish, crab, and halibut fisheries under the jurisdiction of the Council have evolved to their current status largely under conditions of open access to all domestic fishing and processing interests. Granted lenient entry conditions, preferential access to American firms, a variety of capital investment sources, and a perception of significant economic opportunities, the Alaska groundfish industry has witnessed dynamic growth of domestic fishing and processing since its tentative beginnings in the early 1980s. The rapid rate of domestic expansion in the Alaska groundfish industry has been accompanied by a proportional decline of the foreign fleets who once fished these waters, and later operated as at-sea processors in transitional "joint ventures" with the developing U.S. catcher fleet. The era of foreign presence in the EEZ fisheries off Alaska ended in 1990; in 1991 virtually all of the total allowable catch (TAC) for the combined Gulf of Alaska (GOA) and Bering Sea/Aleutian Islands (BSAI) fishery management areas was harvested and processed domestically.

The displacement of foreign fleets has been accomplished through the intensive capitalization of a new or reconfigured American groundfish fleet operating in the Alaska EEZ. The rapid capitalization has been in response to perceived economic opportunities. Up until the late 1980s, the "first-come, first-served" dictates of these fisheries created a great rush to catch and process the resources in the most expedient manner, with little regard for the consequences of parallel actions by others following the same course.

By the end of the decade, however, the signs of increasing capitalization among the newly "Americanized" Alaska groundfish fleet were becoming more apparent. Various conflicts among gear groups, fisheries, and ultimately inshore and offshore segments of the industry signaled that the catching and processing capacity of the domestic industry had met, or was fast approaching the availability of fishery resources in this region. Moreover, even though there were ample signs that the industry was approaching full capacity, the backlog of capital expansion plans fueled in the mid-1980s continued to add still more harvest and processing capability to the fleet in the early 1990s. Existing fishermen and processors find that rebuilding and expansion of their vessels may be warranted in order to take advantage of current technology, or to keep pace with new entrants, further adding to capacity. Still other entrepreneurs, believing that the end of open access fisheries in the North Pacific is approaching, may bring still more capacity on line in a speculative venture to "establish rights" before new entry is restricted.

III. PROBLEM

The consequences of such rapid capitalization and growth in this industry now saddle fishermen and processors alike with the prospect of an expanding race for fish and intensifying competition. The Council must deal increasingly with complex "non-market" issues such as roe stripping, bycatch, shortened seasons, and numerous allocation dilemmas. Domestic harvesting and processing capacity in the groundfish, crab, and halibut fisheries off Alaska is perceived to exceed the amount necessary to efficiently harvest the annual total allowable catch of most species of groundfish, halibut, and crabs under Council jurisdiction. Further, the Council has determined that continued entry of fishing effort into these fisheries will add to harvesting and processing capacity, and that open access conditions aggravate current fishery management difficulties.

The Council and fishery managers believe that excess capacity leads to allocation conflicts, excessive bycatch of non-target species, high grading or discard of lower valued but potentially useful fish products, poor handling of catch, insufficient attention to safety, economic instability, and reduced earnings by affected catcher and processor firms. In recent years, the Council has experienced these problems in most of the fisheries under its authority.

Under conditions of continued open access, it is anticipated that the industry and management problems will continue to build, threatening the ability of the Council to achieve optimum yield in the affected fisheries, from economic, biological and social perspectives. Thus, the Council is faced with a two-fold problem: 1) stemming the flow of additional, unneeded capital investment into the North Pacific EEZ fisheries; and 2) addressing the existent and emerging problems resulting from an overcapitalized fishing industry.

V. OBJECTIVE

The Council is considering a change in the open-access nature of the industry as part of a comprehensive long term solution to many of the problems confronting the fisheries. In response to problems associated with overcapitalization and excess industry capacity, the Council is appraising a management regime for the groundfish, crab, and halibut fisheries currently under the Council's authority that restricts new entrants into the fishery. This proposed moratorium on new entry into the fisheries may be necessary for an interim period to curtail the increase in fishing capacity, and permit the Council time to develop and assess the potential impacts of alternative long term solutions to several management problems.

The Council is aware that a moratorium on new entrants will not resolve the fundamental problems associated with excess capacity in the fisheries. Instead, the objective of the moratorium would be to control continued growth in fishing capacity while the Council assesses alternative management proposals including, but not confined to, limited and open access measures to address the overcapacity problem, and to achieve the optimum yield from the fisheries. The Council intended, in establishing the control date for entry into the fisheries, to discourage speculative entry into the groundfish, crab, and halibut fisheries off Alaska while potential access control management regimes are developed and analyzed by the Council.

VI. ALTERNATIVES

The fundamental consideration faced by the Council is whether the imposition of moratorium on new entry into the fisheries is necessary and if such action will be effective in curtailing the increase in capacity by the fishing industry. Thus, the first step is to carefully define the nature of the moratorium under consideration. Based on the two scoping sessions, the Moratorium Discussion Paper, FPC review, and industry input, the Council's Advisory Panel outlined a set of key elements and options to be considered in the analysis of the proposed moratorium. These key elements for consideration are summarized as follows: 1) the qualifying period, as defined by the earliest and latest dates during the time a vessel must have made landings; 2) exemptions for small vessels; 3) exemptions for disadvantaged communities; 4) exemptions for lost or destroyed vessels; 5) the duration of the moratorium; 6) fishery crossovers during the moratorium; 7) replacement or reconstruction of vessels during the moratorium; and 8) an appeals procedure. Under several of these elements, the AP has identified different options to be evaluated. The impact of these recommended elements and options will require analytical investigation in order to evaluate their individual and combined impact on the objectives of the proposed moratorium amendment.

In order to structure the AP's recommended moratorium elements and options into discrete choices suitable for analysis, it is suggested that two alternative specifications of a moratorium be established. Generally, these would reflect: 1) relatively "strict" rules governing new entry or reconstruction; and 2) relatively "liberal" guidelines. An intermediate or "moderate" set of rules might also be specified. The guidelines proposed by the AP would be fashioned around these two alternatives as follows.

Alternative 1: No action is taken through a moratorium to control the growth in fishing capacity.

The first alternative represents the status quo, an option the Council legally must consider. This alternative also serves as the base or reference against which directed action to limit capacity--as proposed in Alternatives 2 and 3--can be assessed. Given the dynamic nature of the fisheries under the Council's authority, it is likely that other regulatory and management actions will be undertaken that impact fishing effort, capacity or the associated problems prompting the proposed moratorium amendment. Thus, the "status quo" may well change in the near future independent of directed action towards a moratorium. For example, the Council's consideration of sablefish and halibut fixed gear management plans may lead to regulatory changes that directly or indirectly influence entry into these fisheries.

Alternative 2: Strict Moratorium

The moratorium under Alternative 2 would include the most limiting options for entry or inclusion into the fisheries, intended to provide a strict limit on capacity, including the following.

1. **Qualifying date:** Must have made landings at least once between January 1, 1980 and the applicable 9/15/90, 1/15/92, or 2/9/92 control date as defined by the Council.
2. **Exemption for Small Vessels:** No exemptions for smaller vessels, the moratorium covers all vessel lengths.
3. **Exemption for Disadvantaged Communities:** No exemptions.
4. **Exemption for Vessels Lost or Destroyed Before the Moratorium:** Vessels lost since 1/1/90 can be replaced with vessels of similar capacity.
5. **Length of Moratorium:** Until Council rescinds or replaces, not to exceed 4 years from implementation, but Council may extend for 2 years if a follow-on limited access program is imminent.
6. **Fisheries Crossovers During Moratorium:** Any vessel that qualifies to fish may fish in any fishery, but Council would be able to use a regulatory amendment to limit participation in specific fisheries to those who participated in the fishery before the moratorium was imposed.
7. **Replacement of Vessels Lost or Destroyed During the Moratorium:** Can be replaced with similar capacity.
8. **Replacement or Reconstruction of Vessels During the Moratorium:** Can be replaced with similar capacity but replaced vessel must leave fishery. May reconstruct vessel to upgrade processing equipment and stability, but not increase fishing capacity through changes in LOA, width, or horsepower, or other suitable index of fishing capacity.

Additional criteria identified by the AP but uniformly applicable to Alternatives 2 and 3 include three more elements:

9. No minimum qualifying poundage, just a legal landing in any qualifying year.
10. The moratorium will be applied equally to all sectors of the industry, including

catcher/processors, catchers, and mothership processors.

11. The appeals procedure will consist of an adjudication board of government persons and nonvoting industry representatives.

Alternative 3: Liberal Moratorium

Alternative 3 represents a combination of the liberal options proposed under the AP's recommended elements for a moratorium. That is, the qualifying period is longer, exemptions are greater, and replacement/reconstruction provisions are more lenient.

1. Qualifying date: Must have made landings at least once between January 1, 1976 and the applicable 9/15/90, 1/15/92, or 2/9/92 control date as defined by the Council.
2. Exemption for Small Vessels: Exempt small vessels less than 60' [alternatively, 40'] LOA in GOA and/or BSAI
3. Exemption for Disadvantaged Communities: Exempt disadvantaged communities and affiliated vessels, as defined by the Council.
4. Exemption for Vessels Lost or Destroyed Before the Moratorium: Vessels lost since 6/15/89 can be replaced with vessels of similar capacity.
5. Length of Moratorium: Until Council rescinds or replaces, not to exceed 4 years from implementation.
6. Fisheries Crossovers During Moratorium: Any vessel that qualifies to fish may fish in any fishery (groundfish, crab, or halibut).
7. Replacement of Vessels Lost or Destroyed During the Moratorium: Can be replaced with increased capacity limited to, for example, 20 percent more in LOA and/or width.
8. Replacement or Reconstruction of Vessels During the Moratorium: May increase capacity of vessel by 20% in LOA and/or width once during moratorium years. May reconstruct vessel once during the moratorium to upgrade processing equipment and stability, but not increase catch carrying capacity by more than: (a) 20% for vessels 125' and greater, (b) 30% for vessels between 80'-125', (c) 40% for vessels 80' and less.

Items 9, 10, and 11 listed under Alternative 2 apply equally to Alternative 3.

Other Alternatives

The Council has expressed its intent to consider a moratorium as an interim step towards developing a long-term comprehensive management regime for all of the fisheries under its authority. Still in the early planning stages, the proposed comprehensive plan is intended to resolve the interrelated allocation dilemmas related to open access conditions, as discussed in the Problem section, above. Accordingly, the alternatives considered under the proposed Moratorium Alternative are only interim or partial solutions to the emerging problem areas. Other regulatory or management alternatives such as traditional tools (trip limits, gear restrictions, operational areas, etc.), or limited entry schemes (individual quotas, license limitations, etc.) will be considered in the development of the comprehensive plan. Such alternatives are

not, however, regarded as appropriate measures in reaching the near-term objective of curtailing speculative increases in fishing capacity. Nonetheless, the Council may interpret NEPA and Magnuson Act regulations to require that other alternatives be assessed as reasonable alternatives to a moratorium, such as traditional management tools or other forms of limited access.

V. SCOPE

A moratorium is considered to be a form of limited access management. Section 303(b)(6) of the Magnuson Fishery Conservation and Management Act (Magnuson Act) provides authority to limit access to a fishery ". . . to achieve optimum yield if, in developing such a system, the Council and Secretary take into account:

- A. present participation in the fishery,
- B. historical fishing practices in, and dependence on, the fishery,
- C. the economics of the fishery,
- D. the capability of fishing vessels used in the fishery to engage in other fisheries,
- E. the cultural and social framework relevant to the fishery, and
- F. any other relevant considerations."

Other considerations in developing access control programs include the distribution of economic and social benefits, transferability of fishing privileges, enforcement and monitoring costs, and simplicity of the program which can enhance public understanding and compliance.

Magnuson Act (Section 3(21)) further defines ". . . The term 'optimum' with respect to the yield from a fishery, means the amount of fish--(A) which will provide the greatest overall benefit to the Nation, with particular reference to food production and recreational opportunities; and (B) which is prescribed as such on the basis of the maximum sustainable yield from such fishery, as modified by any relevant economic, social, or ecological factor." This broad interpretation of optimum yield (OY) may be somewhat different than that reflected in the respective GOA and BSAI FMPs. As a result, the Council may wish to consider amending the definitions of OY in the groundfish and crab FMPs to provide an unambiguous definition consistent with the Magnuson Act. The halibut fishery regulations are not implemented under authority of the Magnuson Act, and so do not have an OY definition. However, the extensive analysis of the proposed halibut limited entry amendment provides reference criteria for examining this issue.

A threshold question concerning the scope of the analysis is whether a moratorium is necessary to achieve OY. More specific definitions of the economic, social, and ecological dimensions of OY in the groundfish and crab fisheries may be required as a part of this determination. While empirical measures of capacity utilization can be developed based on vessel statistics, conclusive measures of the social and economic dimensions of OY, and their relationship to capacity, may prove difficult in the short time schedule available for analysis.

Combining the Magnuson Act criteria for limiting access with the interpretation of OY creates an analytical framework that must address economic, social, and ecological (biological) aspects which encompasses both efficiency and equity considerations. In the absence of a singular quantifiable standard that expresses the above criteria, the scope of the analysis is expected to cover several interrelated indicators of fishery capacity and capitalization, expressed in terms of the economic, social, and biological dimensions relating to the proposed actions. This is expected to produce a variety of indicators which, when qualitatively aggregated, will produce a basis for reasonable judgements about the effectiveness of the proposed alternatives in resolving the problems identified. In addition, requirements of the regulatory

impact review (RIR) and Executive Order 12291 direct specific economic assessments of expected effects, benefit/cost analysis, and net benefits to the nation. Such measures are likely to rely upon the qualitative summary of various indicators, rather than definitive quantitative conclusions.

It is not expected that the moratorium--by itself--will achieve the OY criteria as expressed above. The moratorium is proposed as an interim measure to prevent further unnecessary capitalization creating superfluous capacity while the Council develops and implements a comprehensive management plan that can better achieve OY. However, the regulatory procedural requirements are no different for a moratorium than they would be for any other management plan with potentially significant effects. The NMFS likely would recommend that the Council prepare a supplemental environmental impact statement (SEIS) to support a moratorium proposal. Explicitly linking the moratorium proposal to the longer term comprehensive management plan provides a more convincing scope for resolution of the problems identified. There is, however, a difference in the conceptual approach suggested for the moratorium, compared to most IFQ systems. The moratorium is based on vessel accountability, whereas an IFQ system is based on the vessel owner. Thus, formally joining the moratorium and comprehensive plan will require additional design, pending further Council direction on the strategic elements of the comprehensive plan.

VI. PROCEDURE

The analysis of the moratorium proposal is dependent upon: A) the nature of the investigation, primarily the ability to quantify or express the relationship between fishing capacity and the economic, social, and biological dimensions of optimum yield; B) the availability of data to establish measures of historical, current, and future participation or capacity in the fisheries; C) the analytical team available to contribute to the study ; and D) the time frame available to complete the analysis. Each of these component parts is reviewed briefly.

A. Analytical Components of the Study

1. The first step in the analytical examination of the proposed alternatives calls for a detailed examination of the present and historical participation in the Alaska EEZ fisheries. Such analysis is expected to produce comparative measures of participation, capacity, utilization, and catch that can be traced over time in order to assess trends in entry, exit, and capacity utilization. This information should establish the variability of capacity across different dimensions of the industry such as by vessel size, gear type, fishery, and so forth. A major thrust of this effort is the identification of appropriate economic, social, and biological indicators of open entry and/or overcapacity.

2. The second step is the analytical determination of overcapacity or overcapitalization. Although widely accepted as fact, analytically defensible indicators of overcapacity must be developed in order to assess the extent of the causal impacts on the optimal yield of the fishery. A preliminary assessment of the data and previous studies indicates that there is not a simple, consistent empirical measure of fishing capacity or capitalization that can be uniformly applied to all segments of the industry. Thus, it may be necessary to develop a standard, or series of indicators--such as the change, or rate of change in activity--that can be used to establish the extent of overcapacity in the fishery. The dynamic complexity of the affected industry and vessels poses significant challenges in developing realistic estimates of potential or optimal capacity. Conceptual models based on technical efficiency and/or financial feasibility may provide useful measures in characterizing capacity. Mathematical optimization, simulation, and financial break-even models have been applied to such questions with varying degrees of success. Such measures, if feasible, might be used as a basis for estimating the economic cost, or inefficiency associated with the suspected current overcapitalization in the industry.

3. Third, the suspected adverse economic, social, and biological impacts of overcapacity ultimately must be tied to observable variables within the fishery which can be traced to the causal influence of open access. The hypothesis in this case is that a moratorium may be warranted on the grounds that continued open access clearly leads to observable adverse consequences on optimum yield. In the absence of strictly causal evidence, some observable correlation or compelling relationship between the adverse impacts and open access will likely be required to accept this hypothesis.

4. If the direct relationship between open access, overcapacity, and adverse impacts on OY is confirmed, the fourth step is to determine whether or not the imposition of the proposed moratorium is warranted to either correct or limit the identified problems. Given the Council's objective of reducing speculative entry into the fishery during the period when limited entry management is being considered, some projection of future entry might be developed in order to assess expected conditions with and without a moratorium. Alternatively, it may be sufficient to analyze whether or not current capacity is excessive, detracting from achievement of OY, in which case any further increase in capacity is detrimental to the fishery.

5. The last step in the analysis will be to evaluate the relative merits of the strict and lenient alternative moratorium proposals, relative to the status quo, in achieving the Council's objectives, given the assessment of overcapacity conditions and the relationship to attaining OY. This will include a summary comparison of economic, social, and biological impacts identified in the analysis. Both qualitative and quantitative results are anticipated in this regard, given the analytical considerations called for in regulatory procedures.

B. Data Requirements

The analysis as outlined above will require an extensive examination of past and present fishing and processing activity in the affected industry. Preliminary assessment of information requirements indicates that basic data relating to annual landings, vessel characteristics (gear type, size, power, capacity, etc), fishery, effort, processing volume, and entry/exit statistics will be required for individual vessels during the period 1976 through the present. Information from these data bases is needed to estimate total potential capacity of all qualifying vessels, in addition to actual or observed capacity of the active fleet at a given point in time. While it is acknowledged that much of this information has been recorded, the data resides piecemeal in several different data bases, including vessel registration files, fish tickets, limited entry permit files, intent to process files, and so forth. The component data bases must be identified, compiled and summarized in order to obtain and evaluate the particular series of interest in the analysis.

Indicators of future entry or expansion plans with and without a moratorium will likely prove difficult data to obtain. Examination of Capital Construction Fund deposits, estimates of vessels under construction or under contract in the "pipeline", and the projection of potential vessels outside the region could provide insight into such projections.

In addition to the capacity utilization information requirements noted above, it will be necessary to collect data regarding associated economic, social, and biological variables linked to the capacity issue. The impact of open access conditions on social issues in the affected fisheries might be apparent from an examination of employment, economic activity, community stability, and similar variables over time. Biological dimensions of OY--such as waste, discard, and bycatch--will be evaluated in terms of the correlation of such impacts with open entry or capacity utilization. Related economic data, such as vessel costs, returns, prices, investment, and employment may be required to judge optimum economic yield and the economics of the fishery.

The evaluation of specific data relationships, such as vessel numbers by size, over time, can be expressed

through relatively simple transformation of records, and illustrated in tabular or graphic form. It might prove useful, however, to estimate more complex, dynamic capacity relationships through the estimation of statistical relationships such as least squares regression techniques, or simulation models of the fishery.

C. Analytical Team

The primary examination of the proposed amendment will require the full time attention of a data analyst and an economist over the next five months, as well as the part time input from professionals with expertise in the fields of biology, statistical modeling, sociology/community development, and industrial engineering/naval architecture. The capability exists from staff analysts within affiliated agencies (NPFMC, NMFS, ADF&G, CFEC, and others) to perform most of the rudimentary data analysis called for in this project. Certain features, however, such as developing a mathematical or simulation model, estimating social impacts, or the accurate characterization of vessel capacity measures may call for outside assistance. Depending upon staff availability in the above agencies, the analysis may require the use of contractors or other resources, particularly under a tight time schedule. The concentrated staffing suggested for this team reflects the relatively short time period available for the analysis, as discussed below.

D. Schedule

The target date for completion of the moratorium analysis and implementation plan established by the Council is April 1992. Working backwards from that date, the following schedule offers a very optimistic time-line for completion of the study, review, and potential implementation, assuming a collaborative effort and an immediate commitment of the necessary resources.

| <u>Date</u> | <u>Action/Progress</u> |
|-----------------|---|
| December 1991 | Council meeting: Finalize Moratorium Problem Statement/Work Plan |
| December 1991 | Initiate Planning Process for Comprehensive Rationalization Plan |
| December 1991 | Identify analytical team, individual assignments |
| December 1991 | Begin data gathering; inventory sources of information |
| January 1992 | Preliminary results of data assessment; analyze measures of capacity |
| January 1992 | Formulate model for evaluating capacity utilization |
| January 1992 | Council Meeting: Progress report |
| February 1992 | Preliminary results on degree of capacity utilization/capitalization |
| February 1992 | Estimate linkage between capacity utilization and OY |
| February 1992 | Model impacts of proposed alternatives |
| February 1992 | Estimate entry/expansion with and without moratorium |
| March 1992 | Preliminary assessment of proposed alternatives |
| March 1992 | Preliminary draft of SEIS/RIR |
| March 1992 | In-house review; supplemental analysis as required |
| April/June 1992 | Preparation of draft SEIS for Council review |
| April/June 1992 | Council Meeting: Deliberation of Moratorium SEIS; Possible Identification of Preferred Alternative |
| April/June 1992 | Draft Moratorium SEIS released for Public review (45 day review) |

| | |
|----------------|---|
| June/Sept 1992 | Council Meeting: Consider adoption of Moratorium Amendment |
| July/Oct 1992 | Moratorium Amendment SEIS forwarded to Secretary (90 day review) |
| Jan/March 1993 | Implementation of Moratorium |

As this tentative schedule indicates, it is questionable whether the proposed moratorium amendment analysis can be completed in time for action at the April 1992 Council meeting, depending upon the work necessary to integrate the moratorium proposal into the larger comprehensive plan. Formally incorporating the proposed moratorium as the first phase of a larger comprehensive management plan may delay completion of the moratorium component by at least one Council meeting due to the coordination required between the two efforts. NMFS has suggested to the Council in September 1991 a plan for integration of the moratorium and a quota management system based on a ten month schedule, compared to the five to seven month period indicated above. The anticipated results of the moratorium analysis conducted within the December-April time frame may leave some issues unresolved, or result in relatively general, qualitative findings.

To some extent, the more complex social and economic dimensions of the overall problem are also a part of the larger comprehensive management plan under development, and may be more appropriately addressed in that undertaking. Nonetheless, there are key policy issues concerning the comprehensive rationalization plan--alternatives available, objectives, bycatch, allocation criteria, monitoring and enforcement--that require thought and direction as the comprehensive plan is formulated. This process will require time, and if it is a necessary prerequisite to the moratorium action, could delay the moratorium, as well. A three or six month extension of the schedule proposed above will provide the analytical time to explore and quantify certain areas in greater detail, such as social impacts, cost/benefit analysis, net national benefits, and alternatives available to affected vessels in other fisheries. The inclusion of other management alternatives, such as traditional management tools, will likely impose additional time requirements on the analysis, as well.

VII. REMAINING ISSUES

Based on the tentative work plan presented above, the following issues may require further deliberation or action by the Council:

1. The moratorium and comprehensive rationalization plan clearly are associated, but may require a coordinated planning and scoping effort to insure compatibility. Preliminary data gathering and analysis of the moratorium can begin immediately, but the scope of the SEIS needs to be resolved.
2. The moratorium criteria and options summarized by the AP can be characterized as two alternative forms of a moratorium, representing a strict and lenient version of the proposed action. Some fine-tuning or interpretation of the elements listed may be necessary as a part of the analysis, leading to additional options.
3. The alternatives under consideration are the two versions of the moratorium, along with a "status quo" alternative. Regulations specify that all reasonable alternatives be considered; has this requirement been met?
4. The April time schedule for completion of the proposed moratorium may prove inadequate, depending upon the scope adopted.

JUNE 17, 1991

NMFS REPORT TO THE NORTH PACIFIC COUNCIL
June 1991 Meeting Agenda Item C-8

PLANNING FOR MORATORIUM AND INDIVIDUAL FISHING QUOTAS

The Problem

The North Pacific fisheries under Council jurisdiction are showing classic signs of excess fishing capacity. These problems stem from a "race for fish" as fishermen attempt to harvest as much as possible before attainment of a TAC or bycatch limit prompts an area closure. Allocation conflicts are the most significant of these problems; the current "inshore-offshore" issue is a case in point. As a result, we either have or are experiencing: gear conflicts, excessive bycatch of non-target species, discard of lower valued but potentially useful fish products, poor handling of catch resulting in decreased product quality, insufficient attention to safety, and economic instability from boom-and-bust cycles.

The Council has tentatively found that domestic harvesting and processing capacity in the groundfish, crab and halibut fisheries off Alaska currently exceeds the amount necessary to harvest the annual TAC of most species of groundfish, halibut and crabs under Council jurisdiction.

Is A Moratorium The Answer?

In response, the Council is considering a moratorium on further entry into the groundfish, crab and halibut fisheries. As discussed frequently at recent Council meetings, a moratorium appears to have substantial support as a means of "putting a lid" on fishing effort and "buying time" until a better scheme can be developed.

There are several difficulties with a moratorium, however. Foremost of these is that a moratorium does not solve the problem of harvesting overcapacity. This problem occurs when the addition of one more unit of harvesting capacity will not produce an additional unit of fish. At best, a moratorium will slow the growth in harvesting capacity in the short term. At worst it will guarantee the continuation of overcapacity and delay a long-term solution. It took the Mid-Atlantic Council 12 years to advance beyond a moratorium in the surf clam fishery. Other difficulties include the arbitrary decision of where to draw the line on entry (are vessels "in the pipeline" to be allowed in and which ones?), potential social inequities, and the fact that a moratorium will not balance fishing capacity with the amount of

fish to be harvested in a year.

Increasingly, fishermen and managers alike are discussing market mechanisms as a means of striking this balance. The NMFS currently favors market mechanisms as a means of allocating access to wild fish resources and as a long-term solution to balancing fishing capacity with TAC. But market-based allocation schemes, such as individual fishing quotas (IFQs), also come with numerous practical and political problems. In large multi-species and multi-gear fisheries, such as those off Alaska, these problems are intimidating. While the Council struggles to resolve these problems, fishing capacity continues to grow, and involve the Council in a morass of allocation disputes.

For this reason, using a moratorium as a stepping stone to a market-based IFQ program may be acceptable providing there is some assurance that such a program will be recommended to the Secretary within a certain time frame. If the Council wishes to proceed with a moratorium, it should be with an understanding that a moratorium will not solve the overcapacity problem in the long run, and that the Secretary is unlikely to approve a moratorium that does not lead to a definite long-term solution to that problem.

Procedural Difficulties.

The administrative procedures for implementing a moratorium under the Magnuson Act are no different than for any limited access form of management. The Council's or the Secretary's intent for a moratorium to be temporary does not relieve any of the legal requirements for implementing a limited access program. Hence, it is unlikely that a moratorium could be implemented any quicker than any fundamental plan amendment and probably would take longer than most.

The Magnuson Act, at section 303(b)(6), provides authority for fishery management plans to

"establish a system for limiting access to the fishery in order to achieve optimum yield if, in developing such a system, the Council and the Secretary take into account--

- (A) present participation in the fishery,
- (B) historical fishing practices in, and dependence on, the fishery,
- (C) the economics of the fishery,
- (D) the capability of fishing vessels used in the fishery to engage in other fisheries,
- (E) the cultural and social framework relevant to the fishery, and
- (F) any other relevant considerations."

Other considerations in developing access control programs include the distribution of economic and social benefits, transferability of fishing privileges, short-term and long-term social and economic effects, enforcement and monitoring costs, and simplicity of the program which can enhance public understanding and compliance.

A moratorium recommendation to the Secretary also does not escape the requirements of the National Environmental Policy Act (NEPA). The NMFS likely would recommend that the Council prepare a supplemental environmental impact statement (SEIS) to support a moratorium proposal because of potentially significant socio-economic effects of the action. The NEPA implementing regulations require a SEIS to "rigorously explore and objectively evaluate all reasonable alternatives" (40 CFR 1502.14(e)). Because a moratorium is a form of limited access, the Council would be advised that other forms of limited access also should be assessed as reasonable alternatives to a moratorium.

Other applicable laws would require the Council to consider economic assessments consistent with Executive Order 12291 and the Regulatory Flexibility Act. These assessments are done in a regulatory impact review (RIR) that is typically combined with the SEIS. The RIR would identify expected effects, provide a benefit/cost analysis, and estimate net benefits to the nation.

In summary, the procedural requirements are no different for a moratorium than they would be for any other management regime with potentially profound effects. The idea that a moratorium would be quick and easy to implement does not appear realistic especially if, in the process of assessing the effects of a moratorium, the Council must consider and reject other alternatives that may work better to solve the overcapacity problem.

A Possible Solution.

One approach, however, may be to fully integrate a moratorium into a long-term solution. A moratorium proposal on its own will suffer the above procedural difficulties in addition to running the risk of being disapproved as not solving the problem. But a moratorium combined with the scheduled phase in IFQ measures may enjoy more procedural success. The moratorium program, in this approach, could be phase one of a multi-phased plan to achieve a market-based regime to distribute access rights to fishery resources under Council jurisdiction.

The SEIS/RIR for this approach would describe, as one alternative, an overall plan to implement IFQs in selected fisheries in an iterative fashion. The analysis for this approach would be necessarily generic in its consideration of IFQ or license limitation programs as was done in the SEIS/RIR for

the sablefish limited access proposals in November 1989. Descriptive sections of the omnibus SEIS/RIR for groundfish, crab and halibut resources and fisheries would form a basic reference document. Economic and social analyses for all phases except the moratorium phase would be general, but expanded as each new phase became more refined.

For example, the immediate implementation of a moratorium as phase one could be followed by an IFQ program for longline fisheries as phase two on a specific date. This could be followed by phase three, say expansion of the IFQ program to Bering Sea crab fisheries on a specific date, and followed by phase four, say expansion to certain trawl fisheries and so on. With each iteration, an environmental assessment (EA) and RIR would be submitted in support of the regulatory changes to implement the next phase. The EA/RIR would be simpler than the omnibus EIS/RIR, and would examine alternative refinements or details of an IFQ program for the particular fishery affected by that phase.

One benefit of this approach, over a stand-alone moratorium with a sunset date, is that it provides greater assurance that the Council is committed to proceeding with development of a long-term solution to the overcapacity problem. After gaining Secretarial approval of its omnibus limited access program and generic SEIS/RIR, the Council would have to maintain a firm work schedule to meet the successive implementation dates of each phase.

Potential Event Schedule For Omnibus Limited Access Plan

| <u>Task</u> | <u>Who</u> | <u>When, Time</u> |
|---|---|------------------------------------|
| Problem statement | Council, FPC | September, 1991 |
| Draft and publish FR notice of intent/scoping | NMFS - Region and Central Office | October, 1991, two weeks |
| Scoping | Public, Council, NMFS - Region | November-December 1991, 30-60 days |
| Specification of alternatives for analysis | Council, FPC | January, 1992 |
| Data collection and analysis | NMFS - Center and Region, Council staff or a contractor | February - March, 1992, two months |

| | | |
|--|---|--|
| Analysis, writing first draft | NMFS, Council staff or contractor | April 1992, one month |
| Peer and internal review | Staffs of Council, NMFS - Center and Region, and selected university scientists | May, 1992, one month |
| Review by Council, AP and SSC, approval for public review | Council | June, 1992 |
| Publish FR notice of availability of SEIS | NMFS - Central Office and EPA | July, 1992, two weeks |
| Public review of draft SEIS | Public | August-September, 1992, 45 days |
| Approval for Secretarial review | Council | September, 1992 |
| Draft FR notice of proposed rulemaking | NMFS - Region | October, 1992 |
| Submission for Secretarial review | Council; NMFS - Region | November, 1992 |
| Implementation of omnibus limited access plan and Phase I moratorium | NMFS - Central Office | April, 1993, 140 days after receipt from Council |
| Begin analysis for Phase II, first stage IFQ program | Council, NMFS Region - Center staff or contractor | January, 1993 |
| Implementation of Phase II, first stage IFQ program | NMFS - Region | January, 1995 |

And so on at roughly two-year intervals.

COMPREHENSIVE RATIONALIZATION PROGRAM

Background, Discussion Issues, and Tentative Work Plan

I. BACKGROUND

A. Problem. During the past decade the groundfish, crab, and halibut fisheries under the authority of the North Pacific Fishery Management Council (Council) have come under increasing pressure from domestic harvesting and processing components of the fishing industry. While overall total allowable catch (TAC) of the combined species within the Gulf of Alaska (GOA) and Bering Sea and Aleutian Islands (BSAI) is closely monitored and regulated, the competitive "race for fish" among the different elements of the industry has intensified. One consequence has been an increase in the number of contentious allocation issues confronting the Council. These concerns, such as inshore-offshore TAC apportionments, bycatch management, roe stripping, early season closures, or the arbitrary allocation of a fishery among gear groups, are thought to result from excess fishing and processing capacity relative to the availability of fishery resources.

An important theme connecting these issues is the open access conditions that have been an integral part of domestic fishery management in the EEZ off Alaska. Prior Council policy has maintained open access conditions with limiting TACs. Now, domestic fishing and processing activity in the Alaska EEZ has grown to the point where excess capacity and the associated race for fish is threatening the ability of the Council to achieve the balanced economic, social, and environmental dimensions of optimum yield from the fisheries under its authority.

B. Concern over open access and excess capacity. The various groundfish, crab, and halibut fisheries in the region have evolved along different developmental paths over time, but concern over open access and excess capacity has been a recurring theme dating back to the early 1980s. While allocation conflicts over pollock surfaced in 1989, the Council first attempted to limit entry into the halibut fishery off Alaska with a moratorium in 1983. This initial action was prompted by a combination of concerns over depressed halibut stocks, inefficient harvesting, low incomes, and poor marketing to consumers. The halibut moratorium proposal was ultimately turned down by the Secretary of Commerce (Secretary) on the basis that "...the moratorium would have interfered with some fundamental social and economic freedoms, especially those that relate to fishing traditions off Alaska...", and that it "...failed to solve economic problems of the industry and created economic inefficiencies." Underlying this determination was the fact that the Council did not have specific management objectives to be achieved by the moratorium.

In September 1987, the Council again focused on their concerns regarding open access by adopting a statement of commitment as follows:

Expansion of the domestic fleet harvesting fish within the EEZ off Alaska has made compliance with the MFCMA's National Standards and achievement of the Council's comprehensive goals more difficult under current management regimes. The Council therefore is committed to pursue alternate management methods that will support the Comprehensive Goals adopted by the Council and achieve more productive and rational effort and harvest levels in the groundfish fishery.

At that time, the Council identified three initial steps towards this commitment: 1) develop strategies for license limitation or ITQs in the sablefish longline fishery; 2) develop a management strategy for groundfish fisheries of the GOA and BSAI by 1990, including an assessment of alternative management techniques; and 3) consider effort management in the halibut and crab fisheries.

Comprehensive planning efforts continued with the formation of the Future of Groundfish (FOG) committee. At the January 1989 meeting, the Council began consideration of limited access for all fisheries under its jurisdiction. Allocation conflicts between inshore and offshore components of the Alaska groundfish industry during 1989 drew attention to the overcapitalization and excess effort being expended in the pollock fishery. In 1989 and again in 1990, the Council considered a moratorium on new entry into the fishery as a means of limiting further aggravation of several problems rooted in the rapid expansion of fishing and processing capacity which had occurred during the latter half of the 1980s. Concurrently, the Council developed limited access programs, and approached final action in late 1991 on specific limited entry management plans for the fixed gear halibut and sablefish fisheries. These limited entry proposals are based on individual quota (IQ) allocations of the available stocks that would effectively end the traditional open access characteristics of these two fisheries.

C. Moratorium. Following the concerns dating back to the early 1980s, the Council initiated a three step approach in 1990 for establishing a general moratorium on entry into the fisheries under its authority. The first step was to publish a notice of the Council's intent to consider a moratorium, and specify a control date after which new entrants will not be assured future access to the fisheries if a moratorium is ultimately approved and implemented. This control date was established as September 15, 1990. Due consideration for vessels already under contract or construction ("in the pipeline") was also made, resulting in an extension of the deadline for vessels meeting certain criteria. The second step--began in September 1991--consists of the specification and analysis of the proposed moratorium. The final action would be implementing the moratorium--perhaps in 1993--assuming Council and Secretarial approval. The intent of the proposed moratorium is to limit or restrict the entry of new vessels into the fisheries under Council jurisdiction to the extent that vessels seeking to enter the affected fisheries after the control date would be denied open access.

The Council is aware that a moratorium on new entrants will not resolve--by itself--the fundamental problems associated with excess capacity in the fisheries. Accordingly, the Council is considering a change in the open-access nature of the industry as part of a comprehensive long term solution to many of the problems confronting the fisheries. In response to problems associated with overcapitalization and excess industry capacity, the Council is appraising a management regime for the groundfish, crab, and halibut fisheries currently under the Council's authority that restricts new entrants into the fishery. The proposed moratorium on new entry into the fisheries may be necessary for an interim period to curtail the increase in fishing capacity, and permit the Council time to develop and assess the potential effects of alternative long term solution to several management problems. The Council intends, by establishing the control date for entry into the fisheries, to discourage speculative entry into the groundfish, crab, and halibut fisheries off Alaska while potential access control management regimes are developed and analyzed.

D. Comprehensive Rationalization Plan. The proposed moratorium on new entry is designed to be an interim measure to prevent the aggravation of existing problems while the Council develops a long term remedy. Thus, the challenge facing the Council is to develop the appropriate comprehensive solution. Following a planning effort tracing back to at least 1987, in June 1991 the Council undertook for consideration the development of a plan to rationalize the GOA and BSAI groundfish and crab fisheries. This action was included as a component of the proposed Amendment 18/23 Inshore-Offshore motion. At that time, several general possibilities were identified for consideration, including:

1. Individual Transferable Quotas (ITQs)
2. License Limitation
3. Auction
4. Traditional Management Tools (seven specific suggestions)
5. Continuation of Inshore/Offshore Allocation

6. Community Development Quotas
7. No Action

The Council also solicited ideas and recommendations from the industry and general public that might supplement the above seven items, although no such comments have been received.

Subsequent deliberation by the Council during the September 1991 meeting focused on narrowing the breadth of alternatives. Explicitly, the Council would like to consider the comprehensive use of Individual Fishing Quotas (IFQs) as the primary management scheme for resolving the allocation problems in the fisheries under its authority. In order to ensure a balanced evaluation of the management alternatives available, a preliminary assessment of all feasible alternatives--including those enumerated above--might be undertaken first, followed by a thorough analysis of the IFQ alternative and selected options. This presumes that the preliminary assessment would confirm the Council's judgements that IFQs represent the greatest potential to resolve the interrelated problems involving open access and allocation disputes.

Conceptually, an IFQ-based comprehensive rationalization plan might utilize much of the same logic and justification established in the Sablefish and Halibut Fixed Gear Management Plans currently under consideration by the Council. Numerous complications exist, however, in extrapolating from these two fisheries to the fishery resource base as a whole. Issues such as bycatch, preemption, allocation criteria, user fees, or enforcement have yet to be resolved. That is, a comprehensive plan will involve more than simply duplicating the halibut and sablefish IFQ management plans.

A quick overview of the planning, analytical, and implementation process confirms that the proposed comprehensive plan will be a major undertaking, both from an operational as well as policy perspective. The Council will need to first: 1) assess the extent of current and emerging problems; 2) clarify relevant objectives; and 3) develop a comprehensive plan to meet these challenges, including the relevant alternatives to be considered. Then, 4) an analysis of the alternatives can be designed and undertaken, including the formulation of specific strategies on issues such as bycatch, allocation criteria, species-specific programs, and monitoring/enforcement. The analytical scope of the proposed plan will likely entail the consideration of significant institutional changes in the management and operation of the affected fisheries. Lastly, assuming such a scheme can be identified and justified, 5) the implementation phase will present special problems, at least in its initial stages. A graduated phase-in of the plan may be appropriate in some instances where significant readjustments are anticipated for the affected industry. Various program elements that are unclear or uncertain initially may need a more flexible implementation and management framework that can better adapt to changes in the fleet and industry over time. Generally, any change of significant magnitude will likely require some time for fine tuning as the industry and fishery managers adjust to the new regime.

Framed in these dimensions, it appears that the development and implementation of a comprehensive plan of the scope suggested will require a 2 to 4 year effort, possibly in sequential phases, requiring the collective support and input from the affected industry, as well as the Council and fishery managers. The tentative timeline established by the Council for the comprehensive rationalization plan calls for completion and implementation by January 1995.

II. TENTATIVE WORK PLAN

The framework for a comprehensive rationalization plan as outlined above serves as the basis for the preliminary specification of a work plan to accomplish this task. Four basic elements of a work plan are discussed: 1) Planning and Development; 2) Analysis; 3) Implementation; and 4) Resource Requirements.

A. Planning and Development. The first and a continuing phase of the comprehensive plan is one of planning and development of the proposed action. This can be separated into two parts: a) establishing the strategic or broad guidelines, and b) developing the tactical or issue-specific plan. The strategic planning is one of the most critical phases in the overall undertaking. This is analogous to the "management by objectives" approach common in organizational planning. Using this approach, the strategic development of the plan must: 1) address the status of the current situation in the fishery, industry, and Council (where are we?); 2) clarify the Council's objectives (where do we want to go?); and 3) identify the plans capable of achieving these objectives (how do we get there?).

The public record covering Council actions during the past decade provides ample documentation of the problematic concerns regarding the status of the fisheries under the Council's authority; the essence of these issues is spelled out in the background discussion section, above. As an example, in 1989 the Council identified a list of specific problem areas in the initial investigation of sablefish management alternatives, summarized as follows:

1. allocation conflicts
2. gear conflicts
3. deadloss
4. bycatch loss
5. excess harvesting capacity
6. product wholesomeness
7. safety
8. economic stability
9. rural community development
10. enforcement
11. administration
12. fishermen's fees
13. fleet operating costs

The identification of the problem has been an ongoing part of the Council process, and does not need to be started from scratch. This is not to conclude that the problem statement has been completed; the interrelated problems confronting the Council present a complex dilemma in terms of cause and effect. One fisherman's solution can easily be another person's problem. Moreover, the manifestation of these problems changes and develops over time. In order to direct the comprehensive planning effort, a concise summarization of existing and emerging problems is needed, cast in terms of the status of the fishery, and the likely trade-offs involved.

The second step in the strategic planning process is the development of the Council's goals and objectives. To some extent, these are contained in the published goals of the Council and the accompanying FMPs, as well as the specific language of the Magnuson Act. Because these goals are often broad, encompassing statements it would be helpful if the Council provides some clarification and prioritization, in order to avoid ambiguous or vague interpretation. For example, the potential apportionment of IFQs is likely to raise the threshold economic question faced by the Council concerning the importance of efficiency versus equity in allocation decisions. Initial guidance from the Council on such fundamental objectives is crucial in directing the ensuing analysis.

The third strategic input--the plan itself--requires the guiding perspective of the Council, and appropriate regulatory interpretations, although the specific details of the plan may be more productively formulated in conjunction with qualified fishery managers. The record of the Council provides direction in this regard; limited entry and IFQs have been identified as potential management alternatives. A distinction can be made, however, between identifying possible alternatives, and determining how those alternatives

might work, in application. Given the scope and magnitude of the prospective undertaking, the strategic planning process would benefit from the development of basic plans, or strategies, rather than just the identification of alternative policy tools. For example, the comprehensive plan might be patterned after the New Zealand Quota Management System, or the Pacific Council's proposed license limitation program, or even "fine tuning" of the Council's existing management plan. As a part of the initial examination of sablefish management alternatives, the Council enumerated 23 specific concerns associated with alternative management strategies. The policy development challenge of the proposed undertaking lies in crafting the scope and elements of the comprehensive plan, as well as the identification of appropriate management tools.

At some point, development of the overall strategic plan must address specific operational issues. This marks the transition to tactical or operational planning. The parameters and guidelines established by the Council direct this work, though the Council itself may not be actively involved in all phases. The tactical planning must come to grips with the focal issues such as: bycatch, monitoring, enforcement, allocation, overcapacity, preemption, community development, social impacts, efficiency, equity, program costs, consumer impacts, conservation, and national interests. To the extent these and other considerations represent the issues to be resolved, they must be addressed in the formulation of specific plans.

An important objective of this stage in the planning process is narrowing down the range of alternatives to a manageable level. As noted earlier, this might be accomplished in a two-stage process. The first step is a preliminary assessment of all practical tools and alternatives that might be fashioned together into discrete alternative plans. This assessment would include a careful examination of the underlying rationale, features, pros and cons, expectations, historical performance, and applicability to the objectives of the comprehensive plan. In some instances, existing applications and analyses of specific alternatives already exist, and can be used to support this process. For example, the National Marine Fisheries Service (NMFS) has recently sponsored a project to design an individual quota scheme for the North Pacific fisheries. The results of this investigation are expected to provide useful guidance and information for the comprehensive plan.

Depending upon the conclusion drawn at the initial review stage, the one or two most promising alternatives, perhaps with some options, would be selected and recommended for thorough development and analysis. Thus, certain strategic determinations regarding scope, criteria, expectations, and applications would be made relatively early in the development process, focusing latter effort on the development of the eventual plan, itself.

In order to facilitate a policy that is adaptable to the requirements of different fisheries, it has been suggested that the comprehensive plan provide an omnibus structure for a limited entry system that can evolve over time. Thus, a general moratorium may be a discrete element of the omnibus plan implemented early in the process. Bringing individual fisheries under a quota management system may progress over time, as would a phased implementation of the bycatch, enforcement and operational features of the comprehensive plan. This omnibus approach might also reduce the procedural steps called for under NEPA, relative to the requirements applicable to a series of separate fishery management actions.

B. Analysis. The broad purpose of the analysis is to establish the scope and appropriate criteria for evaluation, gather and develop the necessary information, and ultimately measure and evaluate the effectiveness of the alternatives in meeting the Council's objectives. The analysis needs to be guided by the underlying problem and Council objectives, to ensure that the proper data, questions, models, and measures are oriented towards the same purpose.

Certain questions relevant to the investigation arise from existing regulatory mandates (Executive Order 1229, the Magnuson Act, NEPA, etc) or stated Council goals. It seems clear that economic, social, and

environmental (biological) concerns need to be addressed relative to the status quo and prescribed alternatives such as an IFQ system. A review of numerous reports and scientific investigations relating to effort limitation in fishery management indicates that system design and implementation are also important in realizing a successful management strategy. The analysis will likely include consideration or measures of variables such as:

1. economic efficiency
2. equity among components of the industry
3. employment and income effects
4. consumer impacts
5. net benefits to the nation
6. biological impacts on the stocks and related environment
7. costs of implementation/administration
8. community impacts
9. economic and social stability
10. conservation and productive use of the resource
11. competitive behavior within the industry
12. monitoring and enforcement requirements
13. ease of operation/managerial requirements

In terms of analytical procedures, there are features of the comprehensive plan that will likely require specific attention, based on the nature of the fisheries. Several problematic issues can be identified that might influence the overall analytical design. First, the development of the groundfish, crab, and halibut fisheries has evolved over a dynamic, unpredictable path such that future projections are difficult, even under the status quo. Projecting industry actions and performance under a significantly changed regulatory environment will be even more conjectural. A consistent procedure for evaluating future developments would be useful for examining the impact of selected alternatives. Some type of industry simulation or dynamic adjustment model may be necessary to analyze these questions.

Secondly, a significant change in fishery access conditions, coupled with the use of IFQs, raises direct questions concerning potential efficiency gains, and the allocation (equity) impacts on various parties involved. The value that accrues to quota shares under limited access is of particular interest in this regard. It may be appropriate to measure economic and social impacts arising from such alternatives in the context of net national benefits, or economic welfare analysis. Quantitative models of these variables might be tested, but will likely prove challenging given the complexities involved. It is also anticipated that the consumer impacts of an IFQ system could be significant, in which case an examination of consumer demand for the affected seafood products would be appropriate, including--perhaps--an examination of international trade impacts.

A third analytical challenge relates to the multispecies nature of the fishery. Such examination might focus on the basic premise of TAC setting as a function of fish population dynamics. The bycatch management dilemma confronting the Council illustrates the complexity of multispecies interactions. A quota management system may entail significant changes in the economic and biological incentives influencing incidental catch, or fishing effort in general. Alternative bycatch management policies will likely require particular attention in the development and analysis of the comprehensive plan, from both biological and economic perspectives.

Given the emphasis placed on social and community impacts in allocative decisions, the analysis will be charged with tracing certain consequences of proposed plans through to relevant social considerations. Economic input-output models may be used to assess distribution questions, but additional analysis of sociological issues may be necessary to evaluate the impacts on the individuals and communities involved.

Depending upon the scope and alternatives identified by the Council, the analysis may examine fundamental issues of system design such as the feasibility and design of resource rentals for IFQs, or the use of an auction system for allocation. While such topics may be premature at this stage, this illustrates the sensitivity of the analysis to the perceived scope of the problem. The overall structure of the analysis will require the adaptive development of measures and procedures as the comprehensive plan is assembled.

The various components of the analysis will rely heavily upon the availability of information regarding these issues. As a starting point, time series vessel-specific operation and catch data are required to trace participation in the individual and collective fisheries since the mid 1980s. The basic biological record of the affected fisheries, and the multispecies interactions also is essential. Market supply and demand information, covering price and product quantity data likely will be required. A fourth category of necessary data covers the pattern of social and economic activity related to the affected fisheries. While much of the fundamental fishery biology, participation and catch data is thought to be available from existing sources, the market demand and sociological data bases require an assessment to determine the possible need for data gathering or empirical survey.

C. Implementation

Even the best efforts in development and analysis of a comprehensive rationalization plan are incomplete without an effective means of implementing the plan. Experience with quota management programs in other fisheries around the world, as well as the halibut and sablefish IFQ proposals currently before the Council, demonstrates that the implementation process is crucial to meeting overall management objectives. As illustrated in the New Zealand quota management program, an integrated monitoring, enforcement, and operational design has been instrumental in the industry acceptance of and success with ITQs.

While a detailed implementation plan may be inappropriate during the formative planning stages, it is important to consider the implementation requirements that might be associated with alternative management schemes. Such considerations include: 1) information gathering and monitoring requirements; 2) enforcement; 3) public and private program costs; 4) simplicity/reliability; 5) sequence and timing of implementation; 6) provisions for future program adjustments; 7) industry and public education requirements; and 8) compatibility with existing management policies. Coordinating the various implementation considerations early in the planning and analysis process will enhance the comprehensive nature of the plan, and help avoid the piecemeal addition of "last minute" measures. In this regard, the implementation plan should be rooted in the Council's underlying management objectives, rather than as separate regulatory considerations.

D. Near Term Action

The foregoing discussion of the planning and analytical components of the proposed comprehensive rationalization plan is intended to provide perspective to the task at hand, without creating unnecessary limits on what may be undertaken and accomplished. In order for the proposed Council initiative to move forward, more focused effort can be directed towards certain components of the work plan. These efforts include: 1) Strategic planning and direction by the Council; 2) formation of an analytical team; 3) preliminary examination of alternatives; and 4) assessment of data and analytical model needs.

As developed previously, the strategic planning provided by the Council is necessary to efficiently direct the comprehensive plan development and analysis. The Fishery Planning Committee (FPC) may elect to provide this guidance, perhaps in conjunction with industry scoping sessions, and input from the Advisory Panel (AP). Given that the Council is considering an IFQ plan for halibut and sablefish, along with bycatch and--possibly--moratorium amendments, it is important to link these elements together in a broad

comprehensive plan that is consistent with the perceived problems and management objectives.

Depending upon the scope of the comprehensive plan adopted by the Council, an omnibus limited entry system might be developed short of directed plans for each individual fishery. A generic framework for limited entry/quota management might be approved and implemented by mid 1993, followed by IFQ systems for individual fisheries as appropriate. Such a plan has been developed by NMFS, and submitted in report form to the Council during the September 1991 meeting.

The formation of an analytical team is necessary both to develop the necessary dimensions of a comprehensive plan, as well as conduct the analysis and develop an implementation plan. The analytical team can be formed around the economic, social, and biological disciplines involved. In addition, the team may want to orient itself around planning, analytical, and management/implementation phases. The analytical team needs to work closely with the Scientific and Statistical Committee (SSC), particularly in the early phases of analytical design and objectives.

The initial examination and development of alternatives will require the joint efforts of the Council, committees, industry, and analytical team. The identification of reasonable alternatives could serve as an important near term goal in the work plan. A standardized format for describing and summarizing potential management alternatives could be developed to serve as the basis for selecting the most promising alternative(s) for rigorous development and analysis.

The analytical team also must complete a review of available data, research findings, and analytical models applicable to development of the comprehensive plan. This assessment can serve as the base for projecting necessary data gathering, research, outside expertise, and realistic time schedule and resource requirements for the analysis.