

North Pacific Fishery Management Council

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MINUTES Scientific and Statistical Committee Portland, Oregon January 13-15, 1992

The Scientific and Statistical Committee of the North Pacific Fishery Management Council met January 13-15, 1992 at the Portland Hilton. Members present were:

William Aron
John Burns
William Clark, Chair
Doug Eggers

Larry Hreha
Dan Huppert
Gordon Kruse
Rich Marasco

Marc Miller
Terry Quinn, Vice-Chair
Don Rosenberg
Jack Tagart

ELECTION OF OFFICERS

Drs. William Clark and Terrance Quinn were unanimously re-elected Chair and Vice Chair of the SSC.

C-1 MARINE MAMMALS

Amendment 20/25 (Sea Lions)

The SSC received a report from NMFS on the status of Amendment 20/25 and the change in the final rule providing a 20-nautical mile harvest closure around 5 rookeries in the Bering Sea/Aleutian Island area during the roe-bearing pollock fishery. It was explained that the enlargement of these five closed areas was believed to be prudent in light of possible shifts in fishing effort resulting from the Bogoslof District closure.

The views of the SSC on sea lion protection zones have not changed since its thorough discussion of this issue at the September 1991 meeting. At that time the Committee stated, among other things:

"While all of the proposed protective measures represent positive steps to reduce the possibility of local pollock depletion, it is unclear whether current fishing mortality rates cause such depletions. Moreover, it is uncertain whether these measures are needed or whether, if applied, they will actually benefit the sea lion population. Finally, even if sea lion abundance increases, it is unlikely that it can be demonstrated that these protective measures caused the sea lion population to increase."

Amendment 17/22 (Walrus Island)

The SSC notes that the Council recommended that the Secretary disapprove that portion of Amendment 17/22 that continued the 12-mile closures around Walrus Island. The SSC continues to support the closures, as detailed in its June, 1991 minutes, because the closures appeared to result in an increase of walrus utilizing haul-out sites in that area. The SSC urges continued monitoring of walrus and fishing activity in the area. Given the high level of subsistence take of walrus in the Bering Sea, the status of walrus populations may become an important issue under the management regime of the proposed amendments to the Marine Mammal Protection Act. The SSC notes that USFWS also supports continuation of the closure.

C-2 U.S. FISH & WILDLIFE SERVICE (USFWS) ALASKA SEABIRD MANAGEMENT PLAN

The SSC is pleased to see the development of the Alaska Seabird Management Plan by the USFWS. The document is generally well-prepared and extensive. The SSC also received written comments by Pat Livingston and Jim Coe of the AFSC.

There are some misstatements regarding the status of fisheries and the possible impact of commercial fisheries on the food supply of marine birds. There is, apart from the "donut hole" fishery, no evidence to support a view that groundfish fisheries in the North Pacific are overfished (p.34) or that commercial exploitation is increasing (p.32). There is no evidence at the current time that commercial fisheries in the North Pacific deprive seabirds of food. For a species like pollock in the eastern Bering Sea, the commercial fisheries harvest may make a larger supply of young fish available at some population levels by reducing cannibalism by the adults on the young for a species like pollock. The statement that the pollock fishery takes 50% of the annual production is also in error. Longline fisheries in Norway have not been banned, as the document suggests (p.37).

The SSC notes that other human activities are likely to have a more significant impact on seabird populations. These activities include exotic animal introductions, egg harvests, habitat alteration and human presence on nesting sites. Commercial fisheries that may have a measurable impact on seabird mortality are the gillnet fisheries and some longline fisheries, although available data are inadequate to say how much. In some situations, commercial fisheries may cause an increase in some seabird populations by providing food from fishing discards; these effects should also be the subject of research efforts by USFWS.

The SSC encourages research efforts planned by the USFWS and their plans to increase information and communication. The SSC concurs with the suggestions that there is a need for strengthening their coordination with the State agencies and NMFS, particularly to examine available fisheries data to better assess the interaction of fisheries and marine birds.

The SSC agrees that the USFWS should produce an information document aimed at fishermen to provide better understanding of birds and how they may interact with fisheries as proposed in the plan (Item C.5.8).

The USFWS apparently does not have management authority for seabirds outside of 3 miles (p.37); this lack of jurisdiction should be corrected. However, the Councils and other fisheries agencies should remain the lead agencies for determining how seabird information is incorporated into fisheries management plans and treaties.

C-3 NORTH PACIFIC FISHERIES RESEARCH PLAN

The SSC reviewed two documents: the framework for the observer program, titled *Outline for North Pacific Fisheries Research Plan* (hereafter referred to as "the plan") and a preliminary technical report on observer coverage levels, titled *Analysis of Levels of Observer Coverage*. The former document provides a framework for administration of the observer program, and the latter provides a preliminary analysis of levels of observer coverage required to meet program objectives for a halibut bycatch example. Our review of these two interrelated documents indicates that the plan, as currently structured, will not meet the objectives stated for the observer program.

There is a strong linkage between program objectives, requisite observer coverage levels, and cost. Projected receipts from the 1% fee collection program would result in a \$1.43 million shortfall with respect to costs of the observer program with status quo levels of coverage, if implemented in 1992. Further, even with this shortfall, the levels of observer coverage in the status quo program are too low to meet stated program objectives. The preliminary technical analysis of halibut bycatch essentially suggests that 100% observer coverage is required to meet program objectives for estimation of total fishing mortality for each fishery and estimation of vessel bycatch rates for the individual vessel incentive program. (We note that 100% coverage means that 100% of the vessels have an observer who is able to sample only a subset of the hauls.) Additionally, as observed in the 1991 salmon and crab fisheries, ex-vessel prices and revenues are extremely volatile and mid-season adjustments in observer coverage may be required routinely to reconcile projected and realized fee receipts. Any future increases in fishery participants and declines in revenues will further compromise program objectives. Given these considerations, the SSC is not convinced that the proposed plan is an improvement over the status quo, pay-as-you-go program.

To address the above problems, the SSC recommends the following five actions:

1. The SSC recognizes that a 1% cap was congressionally mandated. However, we believe that alternatives leading to higher, more stable fee receipts should be sought so that prescribed levels of observer coverage can be funded to meet the program objectives. Indeed, the data collected by the 100% observer program may be worth the full cost. Aside from the program objectives of estimating total fishing mortality and bycatch rates, marine mammal considerations may be another reason for 100% observer coverage. Yet, as non-consumptive uses (e.g., viewing opportunities) of marine mammal and bird resources grow in importance, fee assessments based on harvest levels would seem to become less appropriate.
2. Inclusion of the halibut fishery in the observer program should be considered for the estimation of total bycatch. The SSC acknowledges that some halibut vessels cannot participate in the program for safety and other practical reasons. Nonetheless, other vessels have adequate accommodations to handle observers, and we believe that options for placement of observers aboard halibut vessels should be explored.
3. The SSC agrees that the three primary objectives stated in the technical report are the objectives that the Council is seeking in an observer program. The first objective is to estimate all components of total fishing mortality for purposes of monitoring TACs, PSCs, and overfishing levels. The second objective pertains to the individual vessel incentive program, and the third objective relates to biological monitoring. However, for the purposes of determining levels of observer coverage, we recommend that objectives of the technical report should be stated in terms of statistical power. For example, the first objective may be stated such as *to estimate total mortality (landings, discards, and bycatch) such that the total catch estimate is within 10% of the true estimate 90% of the time*. Similar statements should be

developed for the vessel incentive objective to test for differences in bycatch rates between individual vessels and mean rates for each fishery, and for the objective of estimating catch size/age frequencies for use in stock assessments.

4. Given the disparity between program costs and fee receipts, the analysis should examine alternatives for cost reduction. That is, guidance needs to be provided so that informed decisions can be made about where the program simply cannot afford to meet the stated objectives. We see two sets of alternatives. First, with respect to incentive programs, the analysis should appraise the number of fisheries that can be covered at the 100% rate, given anticipated receipts. Are there particular fisheries for which incentive programs are most critical? Second, with respect to estimation of total fishing mortality, what levels of coverage would be required for lower levels of precision (say, 10%, 20% or 30% of the true estimate)? Can we tolerate lower levels of precision for some fisheries than for others?
5. The analysis should consider the assumption that the presence of observers does not affect bycatch. The presence of significant bias may require 100% coverage. The SSC heard public testimony that individual vessel landings or catch-per-unit-effort may be directly related to bycatch rate. Vessels with poorer than average fishing performance may have higher bycatch rates. If so, catch rate may serve as a proxy for bycatch rate for comparison of observed and unobserved catches. Minimally, the analysis should contain a qualitative assessment of the possible effect of observers on bycatch.

Last, the SSC wishes to reiterate the critical importance of the observer program for purposes of fishery management.

C-5 MORATORIUM

The SSC reviewed the documents concerning the Council's moratorium proposal and prospective analyses. The SSC recommends that the Council clarify its objective for a moratorium program. The objective provided in the moratorium workplan is "... to control continued growth in fishing capacity...". It does not (1) freeze the number of vessels, (2) cap the harvesting capacity of the fleet, or (3) restrict investment in the fishing fleet at 1990 levels.

An expansion of harvesting capacity beyond levels that existed during the control year 1990 is possible under both management alternatives specified in the moratorium workplan. Vessels that didn't fish during the control year, but that fished sometime during the time period January 1, 1980 - September 15, 1990 would be included in the program under Alternative 2. Alternative 3 would include vessels that fished sometime during the period January 1, 1976 - September 15, 1990. In addition, this alternative would allow qualifying vessels to expand capacity by specified amounts.

The SSC recommends that the objective be stated in terms of freezing the number of vessels because of problems associated with selecting a measure of harvesting capacity and controlling investment.

The SSC views the moratorium as a temporary, interim measure, not as a solution to problems of over-capacity or economic inefficiency. Hence, the SSC hopes that the limited analytical resources of the Council will be focussed on the more important comprehensive plan. This would suggest that only a short and rudimentary EA and socioeconomic impact analysis be developed for the moratorium measure. If legal and administrative requirements force the Council to produce a voluminous and time consuming analysis for the moratorium, then we suggest that the Council consider dropping the moratorium and going straight into the comprehensive plan.

C-7 RESEARCH PRIORITIES

The SSC reviewed research recommendations made by the groundfish and crab teams. The SSC drew from these and last year's Research Priorities in coming up with this year's list. The SSC notes that these selected projects are in addition to the ongoing NMFS programs, which should not be curtailed. The SSC categorized recommendations into four general categories:

A. Alaska Fishery Monitoring: Data Entry, Storage, and Analysis System

The Alaska Fishery Research Plan covers the needs of the observer program in regard to fisheries management. The SSC notes that the fishery logbook information may provide important information for stock assessment and fishery evaluation. There is an important need for analysis of the logbook information, which requires additional funding.

B. Expanded Ecosystem Studies

Given the importance of marine mammal and seabird considerations in future fisheries management, further studies are needed in regard to interactions between fisheries and marine mammal and seabird populations. The Alaska Seabird Management Plan contains research priorities for seabirds to be carried out by USFWS; the Northern Sea Lion Recovery Plan contains research priorities for sea lions to be carried out by NMFS. Further studies of marine mammal/fishery interactions, relationship of oceanographic conditions and recruitment, and predator/prey studies are needed. In particular, a research effort regarding status and distribution of forage fishes for marine mammals, seabirds, and fishes is greatly needed.

C. Critical Assessment Problems

Priority 1 Issues:

1. Pollock stock structure, assessment, and management: The greatest need is the understanding of stock structure and population status in the Bering Sea, including the western shelf, basin, and eastern shelf.
2. Crab research: There is a great need for understanding stock structure and basic life history parameters. The highest priority is for a tagging study of handling mortality, an important but poorly known fishery parameter. This study is also supported by the Crab Team and industry.

Priority 2 Issues:

1. Rockfish: Current assessment methodology is inadequate and expanded research efforts are needed.

2. Sablefish: Discrepancies between the two longline surveys suggest the need for further experiments in standardization and calibration. In addition, ageing information for sablefish is needed.
3. Atka mackerel: There is a need for better assessment of Atka mackerel in the Aleutian Islands, which would require a dedicated research effort. This study might be carried out jointly with the rockfish assessment surveys.

The SSC also notes that additional studies are needed, such as ageing techniques, bathymetric mapping, gear studies, and mesh size studies.

D. Socioeconomic research

1. Economic research: Economic evaluation of the consequences of various bycatch management alternatives is the highest priority. This evaluation requires information on fisherman behavior and factors that influence it. Cost, price, and knowledge of various factors that impact them are important.
2. Social research: Groundbreaking research is needed to develop data sources and analytical frameworks to understand the social costs and benefits of management actions.

C-7(b) UNIVERSITY OF ALASKA FISHERIES INITIATIVE

The SSC received a summary of a request to the State of Alaska by the University for a budget increment of approximately \$700,000 to fund new faculty and graduate students in the areas of fishery research and education.

The Committee strongly endorses the University initiative. Research conducted at the University of Alaska (e.g., on sablefish and pollock) has been useful to the Council, and several faculty members are presently serving on the SSC and Plan Teams. A strengthening of the University's teaching and research in fisheries would be a real benefit to the Council and the industry.

C-8 COMPREHENSIVE RATIONALIZATION PROGRAM

Given that the Council is engaged in a strategic planning stage, the SSC believes that it is important to narrow the scope of options for analysis by eliminating some of the seven major possibilities (C-8a, p.2). This could be accomplished via a quick, qualitative evaluation. The analytical resources of the Council could then be directed toward evaluating the few most likely alternatives.

The Council needs to arrange for adequate resources to accomplish the social and economic assessments involved in a Fishery Impact Analysis. This is likely to be reviewed carefully, requiring more in-depth research than was done for the recent sablefish and halibut IFQ amendments. Because the content and standards for socioeconomic analysis need further clarification, the SSC intends to address this issue in the near future.

Specifically, the SSC requests that NMFS supply the Committee with copies of present agency guidelines for economic and social impact analysis prior to the April meeting, and that the Region be prepared to present and discuss the guidelines at that meeting. These guidelines, if available, will serve as the starting point for a discussion by the SSC of the kinds of socioeconomic data and analysis that will be required for a comprehensive rationalization program.

D-1 CRAB MANAGEMENT

The SSC heard public testimony and reports by NMFS and ADF&G regarding the emergency regulation recently adopted by the Alaska Board of Fisheries that prohibits the retention of male Chionoecetes crabs greater than 3.1" carapace width with at least one red eye during the snow crab (C. opilio) season (i.e., after Jan. 15th until the fishery is closed by emergency order). This regulation was adopted to provide more effective enforcement and to prevent the illegal retention of small Tanner crab (C. bairdi) during the snow crab season.

The report by NMFS documents the distribution and abundance of Bering Sea Tanner crab, snow crab, and their hybrids (C. bairdi x C. opilio). Hybrid crab occur in the area where the distributions of Tanner and snow crabs overlap. Depending on size categories considered, Tanner crabs are one to two orders of magnitude less abundant than snow crabs, and hybrid crabs are one to two orders of magnitude less abundant than Tanner crabs.

The ADF&G report documents the effectiveness of three methods of identification of these crabs: by morphological characters, genetic identification (based on protein electrophoresis), and eye color. The study shows that the emergency regulation where crabs are identified by eye color provides for protection of sub-legal Tanner crab while enabling some exploitation of hybrid crab greater than 5.5 inches (preliminary estimate of about 77%) during the Tanner crab fishery and some exploitation of hybrid crabs (preliminary estimate of 23%) during the snow crab fishery. The SSC supports the joint studies by ADF&G and NMFS to provide more effective methods of identifying crab species and their hybrids.

The public testimony reflected the industry's concerns regarding insufficient opportunity to review and comment on recent Board of Fisheries actions to minimize the illegal harvest of sub-legal Tanner crab in the Bering Sea fishery. The industry believes that the emergency regulation un-necessarily limits the opportunity to harvest hybrid crabs. The industry also appears to be concerned about the different starting dates for the two fisheries, which it supported previously.

The SSC notes that no visual method is completely accurate in identifying hybrid crabs. The life history, size at maturity, and fecundity of hybrid snow crabs are not well known, but they are likely to be different from either snow or Tanner crab. The SSC supports initiatives to develop a long-term, comprehensive management strategy for the three forms of Chionoecetes in the Bering Sea.

D-2(b) DISCARD AND CATCH ESTIMATION

The SSC reviewed the product recovery rates used by NMFS to estimate the round weight of retained catches from the weight of final product. (For operations that produce more than one product from the raw fish, a "primary product" is designated and the round weight is estimated from the weight of the primary product.)

The rates in use are not based on NMFS data or experiments, but on statements from sources in industry. In most cases the rates are generally accepted, but there has been controversy over the product recovery rate for pollock surimi in shore-based and at-sea operations.

At best, the product recovery rates are correct on average. They do not reflect differences among seasons, areas, and operations, which can be substantial. The use of average recovery rates would probably not be acceptable in a fishery under QS/IQ management.

Because of the recognized drawbacks of catch estimation based on product weight, NMFS will use actual (weighed) weight of raw fish for all shoreside landings beginning in 1992, and is seeking some alternative to the use of product recovery rates for at-sea operations beginning in 1993.

For 1992, there is a potential for under-reporting of pollock catches in at-sea operations that take roe. Catch estimates for these operations are based on other products (i.e., roe is never designated as the primary product), and the percentage of roe is limited by regulation to no more than 10%. The concern is that operations with a roe recovery rate under 10% will top up to 10% and the raw fish used will not appear in the catch estimate. NMFS plans to avoid these potential errors by using observer estimates of catch weight in cases of doubt.

D-2(c) US/JAPAN LONGLINE SURVEY

The SSC received a report from Alaska Fisheries Science Center staff describing the cooperative US/Japan and domestic longline resource surveys and their histories. These surveys serve as the basis for sablefish stock assessment activities for Bering Sea, Aleutian Islands and Gulf of Alaska (GOA) management areas. Currently, the cooperative survey covers all three areas, while the domestic survey samples only the GOA. The SSC is aware of interest in halting the cooperative US/Japan survey. The importance of survey information to the assessment of the sablefish resource necessitates careful evaluation prior to altering current activities. Stopping the cooperative survey gives rise to the following concerns: (1) assessment of the sablefish resource in the Bering Sea and Aleutian Islands would require instituting a domestic survey at a cost of approximately \$500K, and (2) cooperative and domestic GOA surveys have produced divergent results for the last two years; i.e. the domestic survey indicates that stock abundance is increasing, while the cooperative US/Japan survey indicates the opposite. The SSC recommends that the cooperative survey continue until funding and comparability issues are resolved.

ABC AND OVERFISHING DEFINITION

The SSC again considered some questions and problems that have arisen in the course of applying the Council's overfishing definition during the last two years, namely:

1. The definition calls for scaling down fishing mortality when present biomass is below MSY biomass. (The ratio of present and MSY biomass is multiplied by F_{msy} to obtain a fishing mortality rate.) In the case of most rockfish species, neither the MSY biomass level nor F_{msy} is well known, and the SSC has recommended setting fishing mortality at the level of natural mortality in lieu of F_{msy} . For some rockfish such as Pacific Ocean perch, however, it is certain that present biomass is only about half the MSY biomass, and in those cases the SSC has calculated ABC by halving the fishing mortality rate that would otherwise have been used in accordance with the Council's overfishing definition. This interpretation has been questioned by some members of the industry.
2. Under the overfishing definition, in practice, much more caution is used with stocks that are better known than with those that are poorly known. This is because when F_{msy} is known, it is reduced by the ratio of present and MSY biomass levels. If F_{msy} is not known, the definition defaults to the rate of fishing mortality that reduces

spawning biomass per recruit to 30% of the unfished value, which usually is at least as large as F_{msy} , and this is not reduced at all. The SSC believes that the rule should require more caution when there is less information.

3. The Council's definitions of ABC and overfishing are identical for stocks above the MSY biomass level for which F_{msy} has been estimated. Setting TAC to ABC in these cases leaves no margin for bycatch, discards, or management imprecision, and has raised the danger of being forced to close all fisheries in some areas to avoid overfishing.
4. When the information on a stock is very poor, as in the case of rockfish in Southeast Alaska, the overfishing definition requires that ABC will inexorably be reduced year after year, as is happening in Southeast Alaska, even in the absence of any sign of trouble.

To address these and other problems, the SSC tasked a group (R. Methot, G. Thompson, T. Quinn, W. Clark) to develop a proposal for a plan amendment with a single preferred alternative to the present ABC and overfishing definitions. A report on this proposal will be submitted to the SSC at the June meeting.

For the purpose of setting ABC's in 1992 (for 1993), the SSC intends to interpret the Council's overfishing definition as it did in 1991. Specifically, whenever there is good evidence that present biomass is well below the MSY level, the SSC will apply a proportional reduction to the fishing mortality rate that would have been used otherwise to determine ABC, even if it is not the F_{msy} rate.

SAFE REPORT GUIDELINES

The SSC reviewed guidelines for the organization and content of the annual Stock Assessment and Fishery Evaluation (SAFE) documents. Working from an "Outline of SAFE chapters" (Attachment 1) provided by Dr. Grant Thompson (NMFS/AFSC), the SSC focused attention on the stock assessment chapters of the SAFE document. While the SSC was in general agreement with the basic outline presented by Dr. Thompson, we have suggestions for some changes and some additional elements:

- (1) Each stock assessment chapter should present a complete catch history including catches prior to 1977.
 - (a) When known the catch history should include estimates of annual discards.
 - (b) Catch history should be presented by gear type and relevant management area.
- (2) Biological parameters should include elements recommended by Dr. Thompson plus:
 - (a) Length/weight function coefficients,
 - (b) Growth function coefficients (e.g. L_{∞} , K , t_0).
 - (c) Fecundity at-age (when derived from a functional relationship, present function coefficients).

- (3) Assessment methodology should include a summary of changes from past assessments.
- (4) Abundance and exploitation trends should include:
 - (a) An age specific schedule of selectivity to the fishing gear by sex as appropriate.
 - (b) Current knowledge of stock structure and supporting evidence.
 - (c) A comparison of previous estimates of stock abundance with the current estimates.
 - (d) A table of the standard error of the abundance estimate(s) and/or a discussion of the levels of uncertainty in the analysis.
 - (e) Annual estimates of instantaneous fishing mortality for fully-recruited (selectivity = 1.0) age classes.
 - (f) An analysis of threshold population size, if appropriate.
- (5) The annual estimate of recruits should be presented in a table with the corresponding spawning population size or biomass.
- (6) Each chapter should include a table entitled "Summary of critical population parameters", which should list at a minimum: M, unfished exploitable and spawning biomass, age of full recruitment, current exploitable and spawning biomass, unfished spawning biomass, projected yield at the preferred level of fishing mortality in the coming year, F_{msy} , B_{msy} , $F_{0.1}$, $F_{0.35}$, and $F_{overfishing}$. As in the historical summary, the full-recruitment fishing mortality rates should be given.

In addition to the above elements, each SAFE document should include a historical review of management actions such as fishing season dates, closures, trip limits, etc. Furthermore, the SAFE document should present a discussion of how well management objectives are being met. For example, has roe stripping of pollock diminished as desired by the Council; have annual harvests remained with the TACs; are bycatch caps effectively controlling bycatch mortality, are marine mammal protection measures having the desired effect? These latter points deal directly with "evaluation" of our fishery management practices.

The SSC recommends that the Plan Teams review the revised Guidelines and report their views at the April SSC meeting.

D-3 STAFF TASKING

D-3(a) Plan Teams Terms of Reference

The SSC reviewed the proposed terms of reference and supports the proposal which among other things suggests the Council take better advantage of the expertise contained in the Teams by again including them more directly in the plan amendment process.

D-3(b) Bycatch Team

The SSC reviewed the report and heard a presentation from the Team.

The goals and objectives are particularly well done. The SSC encourages the investigation of market-based solutions (IBQs). We feel that the Team's recommended schedule to develop this amendment is overly optimistic and that more time should be allowed for a full development of this novel solution to a chronic problem.

The SSC noted that the Bycatch Team recommends that no changes to the herring bycatch management time/area closure be undertaken in the next bycatch amendment package. Data will not be available until later in the year. The SSC recommends that the ADF&G undertake an evaluation of the current herring bycatch management regime as soon as possible.

SSC ORGANIZATION

The issues presented to the SSC, and the membership of the SSC, cover a broad range of disciplines in the natural and social sciences. The Committee discussed the desirability of dividing into two groups - a natural science group and a social science group - for the purpose of considering issues that fall mainly into one area of another. For example, the annual SAFE report would be handled by the biologists, and the inshore/offshore analyses would have been handled by the social scientists. While this division of work would be advantageous in some ways, the majority of the SSC felt that most issues are interdisciplinary and all issues benefit from an interdisciplinary examination. The Committee concluded that its present organization is satisfactory.

OUTLINE OF SAFE CHAPTER
(Revised November 1991)

- Introduction** (include scientific name, general distribution, and management unit[s])
- Catch History** (include table showing catch and TAC over time [to the nearest ton], beginning with 1977; indicate average catch since 1977; also, include description of current fishery)
- Biological Parameters** (for all items in this section, indicate any known changes that have occurred over time)
- Natural Mortality, Age and Size of Recruitment, and Maximum Age** (if recruitment is not knife edge, list the age of first recruitment instead of "the" age of recruitment)
- Length and Weight at Age** (equations or schedules)
- Maturity at Length and Age** (again, equations or schedules; also, include age and length at 50% maturity [by sex])
- Assessment Methodology** (describe methods used to estimate quantities presented in the remaining sections)
- Abundance and Exploitation Trends**
- Historical Abundance** (include table showing exploitable biomass [if true exploitable biomass is unavailable, use biomass above the age of first recruitment] over time from as far back as possible up to the present; indicate average abundance since 1977; also, include table showing the corresponding time series of exploitable numbers at age)
- Historical Exploitable Rates** (defined as $F(1-e^{-Z})/Z$ or annual catch [in numbers] divided by January 1 stock size [also in numbers]; include table showing F and exploitation rate by year since 1977; indicate average fishing mortality and exploitation rates since 1977)
- Recruitment** (include table and figure showing recruitment strengths by year class, extending over time as far back as possible; also, include stock-recruitment figure and equation)
- Biomass and Yield per Recruitment** (calculate $F_{0.1}$ and F_{max} ; include figures showing spawning biomass per recruit, exploitable biomass per recruit, and yield per recruit, all plotted against F [scale vertical axes so that maxima are equal to 1.0]; calculate F levels at which spawning biomass per recruit and exploitable biomass per recruit are reduced to 20, 25, 30, 35, and 40% of their respective maxima)
- Maximum Sustainable Yield** (include estimates of MSY, F_{msy} , B_{msy} , and pristine biomass; include figures showing equilibrium biomass [both spawning and exploitable], equilibrium numbers [both spawning and exploitable], and sustainable yield [in biomass] plotted against F)
- Projected Catch and Abundance** (include tables and figures showing projected catch [in biomass], spawning biomass, and exploitable biomass for the coming 5 years under each of the following harvest strategies [and any others desired]: $F_{0.1}$, F_{msy} , $F=M$, and F_{max})
- Prevention of Overfishing** (calculate values for both the fishing mortality rate and the catch corresponding to overfishing [see Plan Team Policy on Acceptable Biological Catch])
- Acceptable Biological Catch** (recommend a single ABC level for the coming year from the values listed in the "Projected Catch and Abundance" section; include justification)
- Ecosystem Considerations** (describe relevant ecological relationships, including major predator-prey interactions; discuss any marine mammal implications of the recommended ABC)
- Total Allowable Catch Considerations** (describe how TAC has compared with ABC in previous years; if appropriate, recommend a single TAC level for the coming year)
- References**

D-2 Groundfish Management

(a) Status of plan amendments, regulatory amendments, and emergency rules.

The Council was provided with a written summary of projects in progress. Steve Pennoyer clarified the timeline for the IFQ amendment package. The analysis will be revised and sent through the NEPA review period; comments received will be accommodated and then the final package will go to the Secretary. Mr. Pennoyer advised that sending the draft to the Secretary before the NEPA review period does not allow adequate time to finalize the action within the 95-day limit. (This report was given before action was taken under Agenda item C-9, Other Business, on the IFQ plan.)

(b) Catch and Discard Estimation Procedures

Ron Berg described the use of product recovery rates for catch monitoring purposes. He advised that a proposed rule on PRRs is in progress. Comments and information were gathered from industry for the rule which includes approximately 35 product types with PRRs associated with each. Industry has indicated that separate surimi PRRs for pollock may be appropriate for shoreside and at-sea processors. A 15% recovery rate was adopted for both shoreside and at-sea processors in conjunction with the Council's roe-stripping amendment. Information and comments from the shoreside processing industry during the rulemaking process, along with a new reporting requirement for shoreside processors to report landed weight, provided information to support a 20% surimi PRR for pollock for shoreside processors. However, requiring the at-sea processing fleet to report catch by weight hasn't been feasible to date. Until that is resolved, the 15% PRR for surimi pollock will remain in effect. NMFS hopes to have such a system in place by 1993.

Mr. Berg told the Council that there may be a problem in the upcoming pollock "A" season in the Bering Sea with regard to the roe-production rate currently in effect. That 10% rate was derived through consultation with representatives of the at-sea fleet and in response to the Council's ban on roe-stripping. NMFS feels that the rate is probably too high based on current information on the fishery and creates a potential where vessels could have product on board, top it off with roe, discard the carcasses and without an appropriate system in place to detect that practice, it would be hard to determine whether under-reporting is occurring. NMFS is concerned about this because of the potential of exceeding the TAC and will be using a best blend approach where observer data is compared to the skipper's data.

Russ Nelson reviewed discard accounting procedures for the Council and responded to questions. He pointed out that observers report catch, not discards, as they are not normally in a position to see what goes overboard. The skipper reports total catch and discards and these two reports are compared to estimate discard. Mr. Nelson said that reports comparing skipper and observer data are being prepared and should be available by April.

(c) Continuation of U.S./Japan Longline Survey

In December the Council discussed the need for the Japanese portion of the annual U.S./Japan joint longline survey. Some members felt that the survey should be fully replaced by U.S. participation for 1992 and beyond. Dr. Bill Aron provided the Council with information and comments on the current system. Dr. Aron pointed out that there is value in having replicate surveys to double-check data. Also, it is not economically feasible for U.S. vessels to do the survey in the Bering Sea and the Japanese won't participate in the Bering Sea unless they are also allowed to participate in the Gulf

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also for economic reasons. Dr. Aron indicated that it would not be in the best interest of gathering critical fishery information to discontinue the joint survey. If the survey was to be made totally a U.S. operation, costs would increase because the government would have to pay American vessels for the lost opportunity to fish in more lucrative areas.

Report of the Scientific and Statistical Committee

The SSC stressed the importance of survey information to the assessment of the sablefish resource and recommended careful evaluation before altering the current arrangement.

The was no Advisory Panel Report on this agenda item.

COUNCIL DISCUSSION AND ACTION

Larry Cotter asked for clarification and status on the emergency rule to implement portions of the bycatch plan amendment 19/24. The question was asked with specific regard to chinook bycatch measures. Steve Pennoyer responded that the Council had recommended that NMFS take emergency action to implement those parts of the bycatch program that could be implemented quickly. Ron Berg reviewed the portions of the amendment covered in the emergency rule, including re-definition of fishery categories and assignment of PSC amounts to those categories, reduction of the trawl bycatch cap to 5,033 mt; and delaying the rockfish season in the Gulf of Alaska. The other parts of the amendment will be pursued by the normal amendment process, becoming effective approximately mid-June: continuation of the January 20 starting date, establishing the 750 mt non-trawl PSC, expanding the vessel incentive program to all of the fisheries with respect to the halibut bycatch rates, establishing hotspot authority, changing the directed fishing definitions, and implementing that part of the VIP program with respect to salmon.

Mr. Berg explained that the VIP program with respect to salmon is being pursued on the regular amendment timeframe because it is a very rigorous program applied to individual vessels under strict standards. In order to be as accurate as possible on salmon bycatch rates, NMFS felt that further work needed to be done before implementing the program to ensure it will work.

Joe Blum asked Steve Pennoyer to review for the Council their plans with respect to product recovery rates, discards, weighing of catch, etc.

Mr. Pennoyer told the Council that nearly all of the management programs, PRRs, the VIP program, expansion of incentive programs, etc., depend on the Service's ability to accumulate and quickly process accurate data on catch and bycatch. Currently they are not able to do that because of out-of-date reporting systems and insufficient interactive communications with observers to get data in a timely fashion. NMFS believes the ability is now there to correct these situations and suggested an advanced notice of proposed rulemaking to solicit public input. They would hope that after Council discussion in April a regulatory amendment could be initiated and implemented by 1993.

Steve Pennoyer then moved that the Council instruct the National Marine Fisheries Service to send out an advanced notice of proposed rulemaking, outlining the Council's intent to develop regulations that would require accurate estimation and reporting of total catch by species, and installation of communications systems capable of daily interactive reporting of harvest and observer data. The motion was seconded by Joe Blum and carried without objection.

Mr. Pereyra asked for clarification that the notice would cover all fisheries under Council jurisdiction and the various fleets involved. Mr. Pennoyer said that would be the intent. Mr. Pennoyer also pointed out that he would consider this a high priority item when the Council took up staff tasking later in the meeting.

Henry Mitchell urged NMFS to monitor the pollock fishery very closely because of their earlier discussion on recovery rates. Mr. Pennoyer said they will be taking measures to assure the TAC will not be exceeded.

Larry Cotter moved that the Council adopt an emergency rule to redefine the PRR for roe at 3%, however after discussion regarding the feasibility of implementing such a rule and the possibility that such an action could force additional discards, the motion was withdrawn.

Larry Cotter moved to recommend that NMFS issue a press release and contact various companies participating in the pollock fishery that they will closely monitor and enforce the roe stripping prohibition and that any vessel discovered with a sufficient quantity of pollock on board to indicate roe-stripping is occurring will be prosecuted. The motion was seconded by Joe Blum and carried with Pennoyer abstaining.

CDR Joe Kyle said this would be a difficult thing to prosecute but they will do the best they can.

Groundfish Trawl Testing Zone.

The Advisory Panel recommended the Council undertake a plan amendment to establish a trawl test area to provide trawlers with a means of testing gear prior to the opening of trawl fisheries.

Joe Blum moved that the Council approve formation of an industry/staff working group to formulate a proposal for a trawl testing zone to allow testing of gear in an area(s) that would otherwise be closed for quota or bycatch reasons, providing the test fishery is done in a manner that does not negatively impact the resource. The motion was seconded by Wally Pereyra and carried without objection.

(d) Proposed delay in the BSAI pollock "B" season.

Council members asked for clarification of the discussion at the December Council meeting regarding analysis of changing the BSAI pollock "B" season. Staff reported that in December Council members agreed to pursue this analysis, however it was pointed out that accelerating the moratorium analysis would delay work on the pollock regulatory amendment. Staff pointed out that the analysis could be more rigorous analysis than might be expected because of the variety of dates being considered as well as effects of any change on other fisheries.

Larry Cotter moved that the Council initiate a regulatory amendment to modify the BSAI B season opening dates for 1993 and beyond, using July 1 through September 15 as possible dates. The motion was seconded by Clem Tillion and carried without objection.

Joe Blum moved to initiate an emergency rule to delay the BSAI B season to August 15 for 1992. The motion was seconded by Henry Mitchell.

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Oscar Dyson expressed concern about having the pollock seasons in the Gulf of Alaska and Bering Sea synchronized.

Wally Pereyra moved to amend the motion to change the date to July 15. The motion was seconded by Bob Alverson and failed, 9 to 2, with Pereyra and Alverson voting in favor.

The original motion failed, 6 to 5, with Alverson, Blum, Mitchell, Pereyra and Tillion voting in favor.

(e) Delay of GOA 2nd Quarter Pollock Opening

In December the Council discussed the issue of postponing the second quarter pollock release in the GOA until June 1 to be concurrent with the start of the BSAI "B" season to help avoid the possibility of a large shift in effort from the Bering Sea in April and May. NMFS had asked the Council in December to postpone the discussion until this meeting so they could research the feasibility of such a delay in light of marine mammal protective measures which would mandate a quarterly release of the quota.

Oscar Dyson moved to request the Regional Director to delay the opening of the 2nd quarter GOA pollock fishery from April 1 to June 1 by emergency rule. The motion was seconded by Larry Cotter.

Steve Pennoyer reported that the action would be possible, but the Council will also need to look at the total workload of staff in light of other actions taken at this meeting and in December.

The motion carried, 9 to 2, with Mitchell and Pereyra voting no.

Wally Pereyra moved to ask the Regional Director to proceed with an amendment to institute exclusive registration for pollock trawl fisheries in the Gulf of Alaska and Bering Sea/Aleutian Islands. The motion was seconded by Clem Tillion.

Henry Mitchell moved to amend to include all species, trawl only, for analysis purposes. The amendment was seconded by Clem Tillion and carried without objection. The main motion carried without objection.

D-3 Staff Tasking

The Council received a "Terms of Reference" document from the plan teams outlining their suggestions for the structure and operational guidelines for the groundfish plan teams. The Council also received a report from the agency Bycatch Team on strategic plans for bycatch management, and a report from the Alaska Department of Fish and Game and the IPHC regarding the status of their analyses of bycatch management measures.

Report of the Scientific and Statistical Committee

Plan Teams Terms of Reference. The SSC reviewed the proposed terms of reference and supports the proposal which suggests, among other things, that the Council include the teams more directly in the plan amendment process.

Bycatch Team. The SSC reviewed the team's report and agreed with the goals and objectives stated. The SSC encourages the investigation of market-based solutions for bycatch (Individual Bycatch Quotas [IBQs]), however felt that the team's recommended schedule to develop such an amendment is overly optimistic and that more time should be allowed to fully develop this new approach to bycatch issues. The SSC also noted that the team recommends no changes to herring bycatch management time/area closure be undertaken in the next bycatch amendment package because data will not be available until later in the year. The SSC recommended that ADF&G undertake an evaluation of current herring bycatch management regimes as soon as possible.

Report of the Advisory Panel

The AP recommended the Council approve the bycatch team's report with respect to work on long-term solutions to bycatch problems. They recommended that one item, "options to allocate groundfish TACs or PSC limits for fisheries with lower bycatch mortality rates," be put on a priority track. The AP did not review the working document on IBQs, and therefore had no comment on that subject.

COUNCIL DISCUSSION AND ACTION

This subject was taken up late in the meeting and discussion was limited. Council members expressed concern over the bycatch team pursuing the IBQ concept rather than more traditional measures.

Steve Pennoyer reviewed bycatch measures which need more immediate attention, including the current sunset in 1992 of the trawl cap in the Bering Sea of 5,033 mt and 750 mt allocation of bycatch to the longline fishery. A plan amendment process should be initiated immediately for 1993 and beyond, frameworking future caps to be set by regulatory amendment. Mr. Pennoyer also stated that in addition to working on a longer-term solution for bycatch programs, the Council needs to pursue more immediate steps to address bycatch issues.

The Council discussed a possible teleconference to continue consideration of staff direction on bycatch issues. Mr. Pennoyer pointed out he would be attending the IPHC meeting in two weeks and needed Council input before then. Because of difficulty in arranging a teleconference when all Council members would be available, one was not scheduled. Council members continued discussion of bycatch issues which needed immediate attention.

Steve Pennoyer moved to begin work on a plan amendment to replace the regulation which sunsets this year for halibut bycatch caps on the trawl and longline fisheries in the Bering Sea. The motion was seconded by Bob Alverson and carried without objection.

Steve Pennoyer moved that the Council initiate analysis of cod gear allocation in the Bering Sea, as time permits. The motion was seconded by Wally Pereyra and carried without objection.

Regarding the IPHC recommendation that the Council pursue a 10% per year bycatch reduction, Steve Pennoyer said that, in concert with the bycatch team's recommended measures, he feels the percentage reduction will be achieved in 1992. However, he recommended that the bycatch cap issue remain a Council concern, with work on that measure beginning in 1993 after the incentive program is in place.

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Steve Pennoyer moved to approve the recommendations found in the Bycatch Team's report, items A1-4, for the analysis for the next bycatch amendment package. Those recommendations were:

- 1. extend the sunset date for the king crab protection zones near Kodiak Island;**
- 2. options to improve chinook salmon bycatch management measures in the BSAI;**
- 3. options to prohibit bottom trawling adjacent to the Pribilof Islands; and**
- 4. switch to (halibut) bycatch mortality limits in the BSAI.**

The motion was seconded by Larry Cotter.

Joe Blum moved to amend to include the recommendation to include analysis of IBQs. The motion was seconded by Wally Pereyra.

Bob Alverson moved to amend the amendment that those options identified by the plan team that would require Magnuson Act amendments or that cannot realistically be implemented with the existing observer coverage be dropped as options. The motion was seconded by Henry Mitchell.

After discussion of the IBQ option, the analysis required, and the questions raised with regard to the ability to implement it without changes in the FCMA, it was suggested that it be dropped from the amendment package but be pursued to scope out the issues involved. The team will report back to the Council in April. **Mr. Blum withdrew his motion.**

The main motion carried without objection.

E. FINANCIAL REPORT

There was no financial report at this meeting.

F. PUBLIC COMMENT

There was no further public comment.

G. CHAIRMAN'S REMARKS AND ADJOURNMENT

Chairman Lauber adjourned the meeting at 5:45 p.m. on Friday, January 17, 1992.