

# North Pacific Fishery Management Council

Don W. Collinsworth, Chairman  
Clarence G. Pautzke, Executive Director

605 West 4th Avenue  
Anchorage, Alaska 99501



Mailing Address: P.O. Box 103136  
Anchorage, Alaska 99510

Telephone: (907) 271-2809  
FAX (907) 271-2817

Certified: Laur Pautzke  
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## MINUTES Scientific and Statistical Committee April 23-24, 1990 Anchorage, AK

The Scientific and Statistical Committee of the North Pacific Fishery Management Council met April 23-24, 1990 at the Hilton Hotel in Anchorage, Alaska. Members present were:

Richard Marasco, Chairman  
Doug Eggers, Vice Chairman  
Jack Tagart  
Larry Hreha  
Gordon Kruse  
John Burns

Terry Quinn  
Bill Aron  
Don Rosenberg  
Dan Huppert  
Bill Clark

### **B-5** SEA LION STATUS

The SSC heard reports from NMFS on the Northern sea lion including a summary of the Federal Register notice listing the species as threatened throughout its range. The listing details specific protective measures including a ban on all shooting, creation of 3 mile buffer zones around critical rookery areas and new limits on the allowable take of sea lions in Alaska fisheries. The listing, under the Endangered Species Act does not alter subsistence harvests by Alaska natives.

The 1990 research activities were described. The work will involve a repeat of the 1989 population survey and the use of satellite tags to study at sea distribution and foraging behavior of the sea lion.

The above work, public comments on the emergency listing and the accompanying regulations along with recommendations from the Northern seal lion recovery team will provide the basis for developing further actions.

### **C-6** SABLEFISH MANAGEMENT

The SSC agrees that the sablefish amendment analysis is ready to be released for public review. We commend the drafters for providing a clear, readable appraisal of the complex issues examined in this

analysis. The SSC did receive public testimony on this amendment which expressed concern for the adequacy of the analysis with respect to an IFQ system's propensity to induce increased discards or highgrading. The SSC believes that the analysis is balanced on this issue. Additional public testimony criticized the analysis for its repeated suggestions that status quo management would lead to "increased" demands to raise the TAC while implying that the IFQ system would have no similar impact. The SSC believes that under an IFQ management system there is an incentive for increased lobbying by fishermen individually and collectively to increase the sablefish TAC since each IFQ holder has a vested interest in TAC.

### **C-9 POLLOCK ROE-STRIPPING/SEASON APPORTIONMENT AMENDMENT**

The SSC reviewed the Environmental Assessment/Regulatory Impact Review for Amendment 19 to the FMP for Groundfish of the Gulf of Alaska and Amendment 14 to the FMP for Groundfish of the Bering Sea/Aleutian Islands. The document identifies four management problems associated with the practice of roe-stripping. These management problems are 1) waste, 2) ecosystem impacts, 3) adverse effects on stock productivity, and 4) inappropriate allocation.

The SSC believes that the document provided sufficient information to evaluate the six alternatives. The SSC concurs with the analysis of pros and cons of the alternatives which is summarized on pages viii-xii of the draft EA/RIR.

With regard to biological problems (2) and (3) above, the document examines issues related to impacts on reproductive potential, sex ratio, predator-prey relationships to marine mammals, and nutrient cycling. The document could not demonstrate any large impacts due to inadequate information, lack of research studies, or the absence of any effect. The SSC believes that the seasonal distribution of fishing mortality has little effect on the productivity of the stock. The document suggests no significant adverse effect of fishing during the spawning season on pollock stock dynamics as opposed to fishing later in the year.

During public testimony, the analysis recommendation that the price of fish meal would decrease was disputed. Also during public testimony, the analysis recommendation that bycatch would increase with the alternatives was disputed. The SSC notes these concerns, but does not believe they affect the qualitative results of the analysis.

### **D-3(b)(1) GOA Amendment 21 and BSAI Amendment 16**

#### **Chapter 2 - Revise bycatch management measures (crab and halibut) in the BSAI**

The SSC received this chapter to the amendment package at the start of our meeting. This did not provide SSC members sufficient time to provide an in-depth review and comment for this meeting. The SSC has appointed a subcommittee to review and provide comments on the document to the drafters within the next two weeks. Members of the subcommittee include Marasco, Huppert, Clark and Kruse. The SSC will provide a full SSC review of this section at the June meeting.

#### **Chapter 3 - Define overfishing in the GOA and BSAI**

The 602 guidelines require the Council to adopt an "objective and measurable" definition of overfishing, which is described as "a level of fishing mortality that jeopardizes the long-term capacity of a stock or stock complex to produce maximum sustainable yield on a continuing basis."

An important question raised by this document is whether a low level of stock biomass can, by itself, cause a stock to collapse. The Team's analysis is based on a population model that allows a stock to collapse, even in the absence of fishing. In most stock assessment models, it is assumed that stocks will recover from low levels of abundance if fishing is suspended.

The analysis derives estimates of the critical biomass level and the corresponding fishing mortality rate that would lead to stock collapse, and uses them as the basis for rules to prevent overfishing. It should be understood that following these rules might not prevent a stock collapse. Recruitment fluctuations, when the stock is at a low level might cause a collapse even in the absence of fishing. Thus, an implication of the model is that stock sizes must be kept well above the critical level, leading to further constraints on the fishery.

A more conventional definition of overfishing is fishing so hard that average long-term yield is reduced. The SSC believes that this definition is consistent with the guidelines and with the Council's demonstrated preference for avoiding resource depletion, and encourages the Council to consider adopting it as the guiding principle in developing rules to prevent overfishing. Furthermore, this definition is more conservative than the definition based on stock collapse.

This conventional definition of overfishing, and conventional population models, can lead to virtually the same protective measures as obtained from the Team analysis, namely a minimum biomass of about 20% of the pristine level, or a fishing mortality rate that maintains spawning biomass per recruit at or above about 30% of the unfished level, or a fishing mortality rate lower than natural mortality.

The SSC recommends that both the more conventional approach and the stock collapse model be used in the justification of the alternatives. In cases where only natural mortality is known, the upper bound for fishing mortality is natural mortality, in conformity with past practice, rather than 80% of natural mortality. The SSC recommends that it be made clear in the document that the stock collapse model is not necessarily representation of the current dynamics of groundfish populations but rather a theoretical model for investigating limiting cases. With these modifications the document can be sent out for public review.

#### Chapter 4 - Establish Procedures for Interim TAC Specifications

This amendment provides for the adoption of interim TAC's which are proposed at the September Council meeting so that management authority is in place on January 1. The final TAC's, determined at the December Council meeting would then replace the interim TAC's as soon as possible after the December meeting. In past years, because of bureaucratic problems, the regulations have not taken effect on January 1, and have been delayed to as late as March 21. This is a housekeeping measure. The SSC recommends that this amendment be sent out for public review.

#### Chapter 5 - Modify authorization language for demersal shelf rockfish management in the GOA

The SSC recommends that this amendment be sent out for public review subject the following clarifications and additions:

1. That a clarification be included in Section 5.5.1 "State Regulations" item number 5 that indicates this regulation would apply only to demersal shelf rockfish species. As written it is possible to infer that 10% retention applies to all rockfish harvested in the management area.

2. That under Section 5.5.2 Economic Considerations, Alternative 2, a discussion be included that describes the economic effects of implementing the state regulations (Section 5.5.1 items 1-7) in the FCZ. The SSC believes that this discussion is necessary to allow for full public review of the alternative.
3. That a reference be included in the document regarding the increases in time needed to repopulate an area once the population is reduced (top of page 5-7).
4. That the use of the word "overfishing" (Section 5.1) be changed to localized depletions and the ability to manage the fishery. The SSC does not believe that the problem is created by "overfishing" but by concern for localized depletion and problems in management.

#### Chapter 6 - Develop herring bycatch management measures in BSAI

The SSC recognizes the need to conserve herring stocks in the Bering Sea. At present, herring stocks are declining for several key areas of western Alaska.

The SSC reviewed the draft EA/RIR document for implementing herring bycatch management measures and recommends that the document not go out for public review. The SSC recommends that the team redraft the document and address the following comments. The redrafted document should then be reconsidered at the June Council meeting, with final action taken at the September Council meeting.

#### Specific Comments:

1. The SSC noted that the use of the term bycatch rate was inconsistent throughout the draft EA/RIR. The SSC recommends that the term **"bycatch exploitation fraction"** be used to reference bycatch as a percent of the aggregate biomass of the western Alaska herring stocks and **"bycatch rate"** be used to reference bycatch as a percent of the groundfish catch.
2. The SSC noted that time and area resolution of the Smith model was too gross to estimate herring bycatch under the alternatives. The team suggested, with SSC concurrence, that the Smith model be reformulated with finer area and time resolution and more realistic estimates be developed for herring bycatch under the bycatch cap alternatives. In addition, these changes in the model would help address finer time/area closures. The SSC also recommends that for the Bering Sea groundfish fisheries, the analytical treatment of herring bycatch be integrated with that of halibut, king and tanner crabs. The SSC also noted that the results of the model suggests that bycatch restrictions shifts the fleet into areas of higher groundfish CPUE which is counterintuitive. We recommend that the team re-examine the CPUE data implicit in the model.
3. The document inferred that herring bycatch rates have increased since 1983. The SSC notes that the inter-annual variability in bycatch and bycatch exploitation fraction was not documented in the draft EA/RIR. The SSC suggests that data documenting the inter-annual variability in these variables be presented in the draft and discussed relative to specific changes in the groundfish fishery that may be responsible for the increasing bycatch rate.
4. The SSC suggests that the draft be rewritten to reflect the importance of herring to coastal ecosystems as forage prey of seabirds and marine mammals during the critical spring and

summer months. Herring are unique in that migration occurs into near shore areas during the spring and summer months.

#### Chapter 7 - Change fishing gear restrictions in the GOA and BSAI

The SSC recommends that this chapter be sent out for public review.

#### Chapter 8 - Expand halibut bycatch management measures in the GOA

The SSC recommends that this chapter be sent out for public review.

### MISCELLANEOUS ITEMS

#### Sitka II

The SSC heard a report by Aron and Eggers on the pollock symposium held in Khabarovsk, USSR, April 1990. Poland, Japan, Korea, China, Canada, USSR and the USA were in attendance. The session reached a consensus on the critical issue of stock identification, agreeing that while three or more stocks of pollock occur in the Bering Sea, there is no identifiable self-sustaining pollock stock unique to the "donut hole" area. There was no agreement either on the population estimate for Bering Sea pollock or for the status or level of the exploitable population. U.S. scientists suggested that the data from the Japanese, Korean and Polish commercial fisheries all showed a downward trend in CPUE consistent with population trends based on U.S. and USSR survey analyses.

The symposium participants agreed to two workshops, one on aging methods (to be hosted by the Poland, Fall 1990), the other on cohort analyses (to be hosted by the U.S.) following the aging workshop. The U.S. also agreed to serve as a focal point for the receipt and distribution of commercial fisheries data from all countries participating in Bering Sea fisheries. Data collection would be dependent on a standard set of data collected by all countries. The Japanese suggested a data set for collection. This set is under revision, but it appears that the data required will be less than that required by current U.S. regulations. Thus, any U.S. obligations that would occur, would not impose any new burdens on the U.S. fleet, but could be met through our existing data base.

#### **Election of Officers**

Drs. Richard Marasco and Doug Eggers were elected Chairman and Vice-chairman for the year.