

North Pacific Fishery Management Council

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MINUTES Scientific and Statistical Committee September 23-25, 1990 Anchorage, AK

The Scientific and Statistical Committee of the North Pacific Fishery Management Council met September 23-25, 1990 at the Sheraton Hotel in Anchorage, Alaska. Members present were:

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

Dan Huppert
Bill Aron
Don Rosenberg
Terry Quinn
Bill Clark

C-1 Domestic Observer Program

Mr. Russ Nelson reported on accomplishments and problems encountered during 1990 by the Federal Domestic Observer Program.

C-2 Inshore/Offshore

The SSC received a report that summarized progress made on various status of Inshore/Offshore analyses being conducted. The SSC appointed the following members to a subcommittee to facilitate communication with individuals involved in the analysis and to ensure that SSC input is received at the earliest possible date: Bill Clark, Dan Huppert, Richard Marasco, and Gordon Kruse.

Regarding the design of the Social Impact Assessment, the SSC notes the difficulty of selecting specific communities outside of Alaska to "represent" the factory trawler/mothership fleet. Several Alaska communities are being studied to determine how they would be affected by an increased involvement in groundfish harvesting and processing. It is not clear how the study of Bellingham, Washington or Ballard, Washington and Newport, Oregon will accurately characterize the non-Alaska communities impacted by various inshore/offshore allocations.

C-3 Moratorium

Steve Davis reported on issues currently being debated by the Council, for example, cutoff date, fisheries to be included, and etc.

C-5 Halibut Management

The SSC supports proposal #11 to investigate mortality associated with hook and line gear, and recommends the appropriate agencies proceed with this needed research. The SSC has no comment on all the other proposals.

C-6 Marine Mammals

At its December, 1989 meeting the SSC reviewed Team membership. Given the concern over marine mammals, the SSC recommended the addition of a marine mammal scientist to the Groundfish Team. Dr. Richard Merrick's, National Marine Mammal Laboratory, resume was reviewed and a recommendation made to appoint him to the groundfish teams. No action was taken. We request that action on this recommendation be taken at this meeting.

D-1 Salmon Plan: Definition of Overfishing

The SSC believes the current salmon conservation policies that the State of Alaska and the Pacific Salmon Commission uses to manage the salmon fisheries of Alaska are adequate to ensure sustained yield and to provide for rebuilding of depressed stocks. The State of Alaska and other agencies that are parties to the Pacific Salmon Commission closely monitor the magnitude of the spawning stocks of salmon in Alaska, British Columbia, Washington, Idaho, and Oregon. The management objectives of sustained yield and stock rebuilding are evaluated based on estimates of spawning stock magnitude. This provides an objective and measurable basis to prevent overfishing. Since all of Alaska's salmon fisheries, except for the salmon bycatch in the EEZ groundfish fisheries, are managed by the State of Alaska or the Pacific Salmon Commission, the most consistent and efficient course of action for the Council is to seek secretarial exemption from the requirement of defining overfishing for salmon.

D-2 Crab Plan: Definition of Overfishing

The SSC reviewed Amendment 1 to the BS/AI king and Tanner crab Plan that treats four alternative definitions of overfishing.

The crab plan team prefers Alternative 2 - constant fishing mortality rate plus threshold. They believe that all directed and non-directed fishing should cease when stocks fall below threshold unless otherwise exempted through the multispecies exemption clause. On page 2 of their analysis, the team stated that overfishing should not occur under the current management system. The SSC noted, however, that crab stocks are subject to large natural fluctuations and have fallen below threshold in the past (see Table 2 in the EA for amendment 1), and that overfishing would be likely to occur in the future if it is defined in terms of threshold. The SSC does not prefer this alternative because of difficulties associated with defining thresholds.

The SSC recommends Alternative 3. This definition imposes a constant fishing mortality rate in the overfishing determination. Overfishing is defined as any level of fishing in excess of F_{msy} , as estimated by $F_{0.1}$ or instantaneous natural mortality (M), depending on the level of data available. These correspond to maximum allowable annual exploitation rates. These rates are fixed in Alternative 3. The number of crabs corresponding to overfishing is equal to the product of the maximum annual rate times crab stock biomass. Selection of Alternative 3 does not adversely affect the Alaska Board of Fisheries (BOF) crab management policy that provides for thresholds to be used to close directed fishing. The SSC believes that acceptable levels of crab bycatch should continue to be managed under the groundfish plans.

If selected, Alternative 4 would only apply to Bristol Bay red king crab, because this is the only stock for which the requisite estimate of B_{msy} is available. For all other stocks, Alternative 4 would default to Alternative 3.

D-2(c) Shellfish Fishery Observer Program

The SSC heard a report by ADF&G regarding the mandatory observer program for shellfish catcher processors.

D-3(a) Gulf of Alaska groundfish SAFE report and preliminary ABC's

The updated SAFE report, incorporating 1990 data, is not yet available because important surveys were only recently completed. The SSC recommends that the ABC's adopted by the Council for 1990 be adopted as the preliminary ABC's for 1991, as proposed in the provisional SAFE report.

When determining TACs the Council must account for all sources of fishing mortality, i.e., directed, bycatch and discard. Since the allowable catch under the definition of overfishing equals the maximum possible TAC, the Council needs to decide on appropriate action which must be taken to avoid the consequences of invoking the definition of overfishing.

The SSC is concerned that the overfishing definition may force the closure of both directed and bycatch fisheries on any stock for which the TAC is set at the level of the overfishing definition. In such a case, all fisheries that take fish from the stock, even at very low bycatch rates, may be forced to close if the TAC is reached partway through the season. To prevent this from happening, good estimates of bycatch and discards will be needed so that directed fishing can be stopped early enough to keep total removals under the TAC level.

D-3(c) Gulf of Alaska PSC apportionments

The SSC reviewed the bycatch and bycatch mortality rates compiled by the Team for forecasting bycatch by season and fishery. Those rates are the best available for planning purposes. We believe that quarterly estimates of bycatch rates should be used instead of annual averages where sufficient data are available.

D-3(f) and D-4(f) Groundfish Proposals to Amend FMPs

Based on staff reports the SSC concluded that limited staff is available to prepare new amendments. The SSC believes the tasks already assigned are over-ridingly important and should be continued to completion. These tasks include (1) inshore - offshore, (2) moratorium - Limited Entry and (3) bycatch.

The SSC reviewed each of the proposals considering their importance and staffing requirements. The SSC has no comment on proposals that are allocative. The SSC recommends seven proposals for further development. They are:

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| Proposal | 2. Delete Federal Reporting Area's 621, 631, & 68. (GOA) |
| | 5. Adopt bi-annual SAFE document and Plan Amendment Cycle. (GOA,BSAI) |
| | 19. Require untended pots be removed from grounds. (GOA) |
| | 32. Modify definition of Groundfish Pots. (GOA,BSAI) |
| | 34. Provide in-season authority to close bycatch hot spots. (GOA) |
| | 41. Authorize Experimental fisheries. (GOA,BSAI) |
| | 42. Extend trawl closures to protect walrus. (BSAI) |

Proposals 2, 19, 32, 34, and 41 would require minimal staff and team effort with the major tasking carried by other agencies. Proposals 5 and 42 would require staff and team efforts.

The SSC review of the proposed amendment to limit pollock harvests by U.S. vessels in the donut hole. This is clearly an important problem, but the SSC believes its solution must be based on a combination of international negotiation, as currently being pursued by the U.S. and U.S.S.R and by the implementation of the Council's policy proposal found in agenda item D-4(g).

Bycatch Management:

The proposed amendments concerned with bycatch management should be deferred until the current and proposed bycatch regime is implemented and some experience is gained through one or more fishing seasons. Nonetheless, the SSC concurs in the desire of NMFS to be given in-season authority to close bycatch hot-spots. The amendments dealing with Chinook salmon under item 23 and 33 should be tabled pending completion of ADF&G analysis.

D-4(a) Review of Bycatch Model and Final Approval of Amendment 16(a)

The SSC reviewed the EA/RIR for Amendment 16a to the Bering Sea/Aleutian Islands FMP. Owing to the number of interaction among fisheries, areas, seasons, TACs, and PSCs, alternative bycatch control measures can only be evaluated by using a detailed bioeconomic model of the Bering Sea trawl fishery. We undertook a review and discussion of the bycatch model. The SSC received a presentation from the model developers on errors that have been identified in the model. These have been corrected, and modified text and tables were provided the SSC. The SSC commends the developers and notes to the Council that these errors are understandable in light of the short time available to develop the model and limited availability of staff. The modified model is a significant improvement over the original. It now simultaneously evaluates herring, halibut, and crab bycatch caps.

The SSC had extensive discussions regarding how the benefits and costs were calculated. The model provides insight into the relative magnitude of costs and benefits. Using the model to evaluate the various bycatch options yields the following conclusions:

- (1) For the option permitting the RD to set a limit on the amount of the pollock TACs that can be taken in other than the mid-water pollock fisheries: changing the percent of the pollock caught by mid-water trawl from 75% to 50% (with a penalty box and no PSC caps), causes a slight increase in halibut and crab bycatches and a reduction in herring bycatch. Groundfish catches are increased.
- (2) For the option to establish PSC limits equal to 50%, 100%, or 150% of the Amendment 12a limits: the 150% level has little or no effect. Caps set at 100% of 12A levels reduces the total groundfish catch and revenues and 50% caps further reduce the catch and revenues. Bycatch for the 100% caps is reduced for all species and further reduced at the 50% levels.
- (3) To control herring bycatch: adding a herring bycatch cap of 1% and a winter closure (area B) to the Amendment 12A caps with the penalty box system reduces herring bycatch with slight reductions in the groundfish catch. Changing the winter closure to area C further reduces herring bycatch with slight reductions in the groundfish catch. Herring caps of 2%, 4% and 8% result in slight herring bycatch reductions.

The SSC noted several directions for improvement and research on the bycatch model. In addition to checking the model for internal validity and accuracy, the SSC recommends the following:

- (1) Evaluation of two alternative approaches to account for trawl fishery costs (i.e., costs can be taken as proportional to gross revenue or proportional to effort);
- (2) Further analysis of CPUE data to determine how they vary in space and time;
- (3) Evaluation of model assumptions concerning original spacial distribution of effort;
- (4) Develop a uniform method of assigning economic value to all fisheries (e.g., use wholesale value minus all costs);
- (5) Examine the method to account for discards in the calculation of economic value; and
- (6) Expand the model to include possible increases in non-trawl catch to compensate for some fish lost to trawl fisheries under bycatch caps.

D-4(b,c,d) Bering Sea/Aleutians SAFE Document, ABCs

The SSC recommends that the ABC's for 1990, as presented in the table in Agenda Item D-4(c)(1), be used as the preliminary ABC's for 1991. In November, the groundfish plan teams will complete analyses of status of stocks, which will incorporate new information from 1990 surveys and data collections. This may result in new estimates of biomass for each species and area and updated exploitation rates for determining ABC. The ABC's presented in December may differ from the preliminary ABC's due to changes in stock biomass and potential reduction of exploitation rate for some stocks due to limits imposed by the definition of overfishing, approved at the June meeting, which awaits Secretarial approval. For example, the target fishing mortality rate (F) for Pacific Ocean perch in the BS/AI area was 0.06 in 1990. The overfishing definition would cap F at 0.05 (Amendment 21/16).

To provide stability in management advice, the SSC recommends, that the Teams should use the exploitation rates used by the Council for 1990 ABC's for the 1991 calculations wherever possible. At that time the Teams and SSC spent a great deal of time developing consistent biological justifications for exploitation rates. If a change is recommended, the resulting ABC should be thoroughly justified and contrasted with the one using the prior exploitation rate.

When determining TACs the Council must account for all sources of fishing mortality, i.e., directed, bycatch and discard. Since the allowable catch under the definition of overfishing equals the maximum possible TAC, the Council needs to decide on appropriate action which must be taken to avoid the consequences of invoking the definition of overfishing.

The SSC considered the biological basis for seasonal apportionment of the pollock TAC in the BS/AI. Discussion of potential biological benefits of seasonal apportionment appears in the pollock roe-stripping amendment analysis (Amendment 19/14). Among these potential benefits are: (1) reduced chance of overharvesting possible stock components, (2) reduced targeting on spawning females in the roe fishery, (3) less disruption of spawning behavior, and (4) reduced competition with marine mammals. There is however, no conclusive evidence to show biological benefits from any apportionment scheme.

D-4(g) Donut Hole fisheries

The SSC believes that it would be desirable to obtain stock structure and age composition information on fish in the Donut hole. The SSC supports allowing a limited fishery to collect information by requiring a scientific sampling plan and having observers on all vessels operating in the Donut Hole.

The SSC notes that it is not clear how to adjust pollock ABC and TAC if a U.S. fishery for pollock in the Donut Hole occurs. Most catches of pollock in the Donut Hole are taken by non-U.S. vessels. Thus any consideration of adjustment of ABC and TAC should include not only the U.S. catch but all catches from the Donut Hole. Also, the stock in the Donut Hole is probably not a unique self-sustaining population and may include a significant component of fish derived from the Soviet and U.S. zones. Therefore, stock contributions from other areas need to be included in the calculations, depending on the degree of stock intermingling with other areas. The proper approach requires understanding of pollock stock structure, migration patterns, and age structure, all of which are poorly understood at the present time.