

North Pacific Fishery Management Council

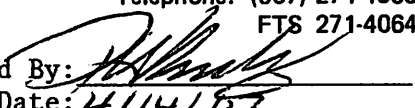
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Date: 4/14/83

MINUTES

NORTH PACIFIC FISHERY MANAGEMENT COUNCIL Scientific and Statistical Committee March 28-30, 1983 Anchorage, Alaska

The Scientific and Statistical Committee of the North Pacific Fishery Management Council met in Anchorage on March 28-30, 1983. Members present were:

Donald H. Rosenberg, Chairman
Richard Marasco, Vice Chairman
William Aron
Bud Burgner
John Clark
John Robinson, alternate for Larry Hreha
Steve Langdon
Al Millikan
Don Bevan
John Burns
Jack Lechner

C-1 Halibut Moratorium

The SSC notes that the Council has expressed the desire to encourage the development of an economically viable and efficient year-round domestic hook and line fishery that is unconstrained by regulatory seasons. In order to realize this goal, the SSC recognizes that implementation of a moratorium is a necessary first step. The SSC notes further that in order to be effective the moratorium should prevent the expansion of effort beyond current levels. The three moratorium options being considered would accomplish this objective if it is stipulated that the tonnage of any new vessel used in the fishery must be less than or equal in size to the one it replaces.

The issue of transferability of rights granted under a moratorium was also discussed by the SSC. It was indicated that there are at least two types of institutional arrangements that can be used to transfer rights: (1) the market and (2) a review board. Ease of transfer, low administrative costs, and prevention of development of a black market for the rights were some of the benefits associated with the market option. Several SSC members were concerned over allowing the rights to acquire value which would be collected by the holder upon sale. In specific, they felt that allowing this to happen could narrow the range of possible alternatives that could be considered in

the development of the final program. Allowance of transfer of rights in hardship cases and preventing the rights from acquiring a legal market value are two advantages associated with the review board method. Disadvantages include higher administrative costs than the market alternative and possible lengthy resolution time.

The SSC wishes to bring to the attention of the Council that if it adopts a "vessel" moratorium the value of the right may be capitalized into the value of the vessel, creating an implicit market for the right.

D-1 Salmon FMP

The SSC reviewed the report of the Salmon PDT which proposed the following:

- (1) General guidelines for coastwide management of chinook salmon along the lines outlined in the draft U.S./Canada Salmon Treaty.
- (2) A change in the annual chinook catch counting period and other control measures to reduce the possibility of a coho-only fishery during late summer.
- (3) Monitoring procedures to assess and assign chinook hook and release mortality, should a coho-only fishery be necessary.

At the January 1983 Council meeting the SSC reviewed and reported to you on these same issues in some detail. The SSC provides the following additional comments:

Need for Coastwide Management

The SSC strongly supports the PDT statement that unified coastwide management of chinook salmon is essential. We believe it is not possible to achieve unified coastwide management without implementation of a U.S./Canada Treaty. In this regard, we would like to reiterate the four points in our statement from the January meeting:

- (1) The SSC has pointed out that a conservation issue existed regarding the chinook stocks which originate to the South and that to address this conservation issue a plan for rebuilding the stocks to identified escapement goals should be developed. We noted that to manage these stocks effectively there must be a coastwide management program involving all of those interested in the fishery. The proposed treaty provides a basis for such a management program.
- (2) The present status of most of the chinook stocks are well below desired escapement levels. Southeast Alaska escapements are about 23% below desired levels but rebuilding is presently ahead of the established 15-year schedule.

British Columbia escapements are less than 50% of the interim management goals. In Washington some coastal natural runs are in reasonable condition, but Columbia River and Puget Sound stocks are below escapement goals. Many of the natural stocks that contribute

to the Alaska fishery are experiencing extreme conservation problems and immediate action is necessary. The proposed treaty takes steps to correct this identified conservation problem.

Failure to take positive action in response to this identified conservation problem will lead inevitably to further reduction in the catch. Such reductions are apt to be substantially greater than those which are proposed in the treaty. Without a reversal in the escapement trends to the south, Southeast Alaska catches cannot be maintained at their present levels even if Alaska stream escapements are rebuilt to optimum levels.

- (3) The current status of the chinook salmon can be mitigated by rebuilding natural runs through careful management and/or through enhancement by hatchery production. In some cases enhancement is necessary to overcome the losses of spawning areas that have resulted from human activities, particularly the construction of power dams.

Restoration of natural runs can only occur by the reduction of current catch levels. However, unless such reductions are coordinated between all of the participants in the fishery, substantial inequities are likely, thus making it difficult to implement necessary changes on a state-by-state basis.

Likewise, proposed enhancement programs are expensive and will almost certainly not be undertaken unless there is assurance of a coastwide management program. Under the proposed treaty arrangement one may anticipate that both Canada and the United States (as part of the Columbia River work of the Northwest Power Council) will undertake major enhancement programs that will benefit fishermen all along the coast. In the absence of a treaty arrangement such enhancement programs are unlikely to occur, or if they do occur they are apt to be restricted to those actions that will only benefit local fishermen.

- (4) The long range benefits to be realized under the treaty from obtaining escapement goals in 10 years can optimally be expected to be over one million additional catch for the United States and Canada combined, an increase of about 30% above present harvest levels.

Estimates of enhancement fish are more difficult to make because of the uncertainty of many proposed projects. We consider it possible to obtain on the order of 2,100,000 fish, 200,000 from Alaska; 740,000 from British Columbia phase one; 560,000 from British Columbia phase two; 100,000 from Puget Sound and 500,000 from the Columbia River.

Options for achieving chinook harvest goals.

At the January 1983 meeting five options were presented by the PDT for management of the Southeastern chinook fishery, and the SSC recommended consideration of a sixth option for the 1983 season. One of the six options

included the proposed change in annual chinook counting period discussed again by the PDT in the present report. The SSC sees the need for more thorough evaluation of these and other possible alternatives to achieve the chinook harvest allocation, taking into consideration potential biological effects on the coastal stocks involved. We can illustrate this need by commenting on the PDT's suggestion of a new troll fishery accounting schedule starting on July 1 instead of October 1. This would reduce the probability of the need for a coho-only summer fishing period except during the first year. However, we anticipate that it would increase the proportion of the annual chinook catch taken in the July 1 - September 20 period. This could result in necessary restriction of the winter troll fishery and would throw the brunt of curtailment onto the spring fishery, including the likelihood of complete closure. This could have adverse biological implications. Whether or not a shift in time of taking the troll catch from spring to summer is biologically desirable depends on the stock composition during these periods. Undesirable shifts in relative harvest rates on the various coastal stocks could outweigh the benefits of avoiding a single species coho fishery with its attendant chinook "shaker" mortality.

The SSC recommends that further analyses are needed to form the basis for choice between chinook management options. These analyses should include:

- (1) Evaluation of coded wire tag and other data on the stock composition and maturity of chinook taken at different seasons of the year.
- (2) Further evaluation of the extent of hooking mortality of chinook in a coho-only fishery and means of reducing or avoiding this mortality.
- (3) Evaluation of the possible use of selected time-area closures suggested by the PDT to reduce in-season chinook catch rates during the coho season.
- (4) Consideration of the potential increase in catches during the winter chinook fishery.

We are in the process of preparing a request for funding to assist the PDT in making these evaluations. We recommend that such evaluations be completed in time for review at the December Council meeting. This evaluation must be completed before the SSC can make any recommendations on regulations for achieving chinook harvest goals.

Based on the above, we do not recommend adoption of the proposal to shift the chinook accounting year at this time.

D-2 Herring FMP

The SSC reviewed the minutes of the March 2, 1983 Herring Workgroup meeting and the Council staff document entitled "Herring Workgroup Recommendations, Options and Considerations." In addition, the SSC reviewed the reasons for the withdrawal of the March 1982 FMP from Secretarial review.

In summary, the Herring FMP was withdrawn from Secretarial review after NOAA Counsel expressed concern over protection and conservation of subsistence stocks if a large offshore fishery were to occur.

In addition, the State of Alaska had voiced concerns regarding (1) the size of the potential offshore allocation; (2) the allowance in the plan for a foreign fishery; and (3) the inclusion of AIC in the plan. Subsequent to withdrawal, revisions were proposed to address these issues. The SSC reported that the proposed revisions were in conflict with several objectives of the plan and that the proposed management regime was seriously flawed since it was designed to significantly underharvest any available annual surplus.

A workgroup was then appointed to address the SSC concerns and to propose final revisions to the plan.

The SSC would like to reiterate our support for the FMP as submitted for Secretarial review. The SSC has considered the concerns of NOAA counsel regarding the protection and conservation of the subsistence stock. The SSC would like to point out that the March plan is extremely conservative. For example, the stock assessment techniques used to determine biomass and thus ABC provide conservative values. Other methods which have been used recently have all produced larger estimates of biomass. Also, the exploitation rate used in the plan decreases with decreasing biomass (below MSY), and is capped at a maximum of 20% regardless of stock size. Several SSC members feel that this upper limit on exploitation rate is too conservative and may prevent full utilization of the resource at large biomasses.

The SSC would also like to point out that the conclusion of the mixed stock fishery section of the Herring Symposium held February 19-20, 1980 concluded that:

"The general consensus of the workshop was that in a mixed stock fishery, the percentage removal is related to the percentage of mixing of the stocks, and that if management objectives are for a general level of exploitation, then underfishing of the smaller stocks is as likely as overfishing."

In the better studied herring stocks of the Atlantic the adult populations are known to be mixed. While the data are inconclusive for the Bering Sea, there is a higher likelihood of the stocks being mixed offshore than not.

In light of these comments, the SSC feels that the March version of the plan contains adequate measures to protect the subsistence stocks and, therefore, that any offshore allocation provided for by the plan could be fully harvested.

Thus, any reduction of the offshore allocation is not in the SSC's opinion a conservation issue. The attempts to justify a reduction on a scientific basis is what has led to the SSC concerns over earlier proposed amendments. If the Council wishes to make a reduction in the offshore allocation, such reductions should be supported on social and economic grounds.

With regard to the specific recommendations and issues which resulted, the SSC provided the following:

Workgroup Recommendations

- (1) That OY apply to the entire herring resource. The SSC concurs.

- (2) That the Nelson Island biomass be exempted in determining the ABC. The SSC concurs and recommends that the March plan be so modified.
- (3) That reference to a mandatory logbook program be eliminated, but that collection of effort data be allowed if necessary for management. The SSC concurs and recommends that the March plan be so modified.

Workshop Issues

- (1) A new OY formulation and a "guaranteed" annual 5,000 mt experimental/research fishery in the FCZ by either (a) a commercial vessel or (b) a state-chartered vessel.

In light of the plan objectives the SSC cannot support the new OY formulation or a guaranteed annual offshore fishery. Any offshore fishery under the plan should be considered in relationship to the ABC, the inshore harvest, and the plan's harvest priorities. An experimental/research fishery should be evaluated based on the status of the resource and the specific plan for that fishery, and should not be made a part of the FMP. The specific experimental fishery being proposed will be addressed later by the SSC.

- (2) Eliminating AIC from OY and the OY formula.

The SSC opposes this change. We believe that the incidental catch of herring should be included in the total OY and counted in the same manner that all other catches are counted. Further, we see no scientific merit in establishing herring as a prohibited species. A prohibited species cannot be retained and is thus discarded at sea and wasted.

The AIC procedure allows herring to be retained but stops all fishing when the AIC level is reached.

With regard to the experimental/research fishery proposal, the SSC has only been able to provide a superficial review. Based upon this, the SSC provides the following:

- (1) Given the status of the resource, the SSC feels that an experimental fishery at this time will not be detrimental to the resource. The magnitude of this fishery needs to be assessed based on current information on status of stocks.
- (2) The SSC still feels that data on offshore distribution and age structure of the stocks will be of benefit in the development of the management plan.

Thus, if the Council wishes to proceed with the development of the research/experimental fishery, the SSC will review any plans in detail and make recommendations on experimental design and magnitude.

D-3 King Crab FMP

The SSC heard reports from the PMT on two issues: (1) improvements necessary to the ABC/OY section of the FMP, and (2) modification of the size limit for Bering Sea Brown king crab.

Changes to ABC/OY Section of the FMP

The PMT has determined that a problem exists with the procedure for determining ABC and OY as described in both the Board's and Council's king crab plans. In specific, problems with the procedure occur when the number of fertilized females in Bristol Bay drops below the accepted minimum required by the spawner-recruitment relationship; and when stock and pre-recruitment levels in other areas are so depressed that a fixed 0.4 exploitation rate may be dangerously high. There may also be instances where stock conditions encourage an exploitation rate above 0.4 in these areas.

The SSC was told by the team that they intended to recommend adoption of the following change to the language in the Bristol Bay ABC section of the FMP:

"If the female spawning stock drops below the level which maximizes recruitment, either because of reduced clutch size, barrenness, or lowered abundance of mature females, the ABC will be based on the exploitation rates in Table 2 for depressed populations, applied to that part of the male stocks above the minimum biological size."

Further, the PMT also planned on recommending adoption of the following fifth step to the OY procedure:

"5. If in the case an OY cannot be determined due to the female spawning stock dropping below the level which maximizes recruitment, either because of reduced clutch size, barrenness, or lowered abundance of mature females, the OY will equal the ABC be based on the exploitation rates in Table 2 for depressed populations."

The SSC is opposed to making these modifications to the plan at this time. It recommends that prior to adoption of these changes that the team explore the possibility of specifying a framework procedure that would not lock the Council into specific exploitation rates. However, in the interim the SSC recommends that the method proposed by the team be used.

In areas (i.e. Dutch Harbor, Adak and Bering Sea) where data are insufficient to determine a spawner-recruitment relationship, the SSC recommends Table 2 be used to determine exploitation rates.

Prior to use of Table 2 the SSC recommends the definitions for the various population size and pre-recruitment abundance categories be developed.

Brown king crab

The SSC reviewed a report prepared by the Northwest and Alaska Fisheries Center entitled "A Summary of NMFS Data on Golden King Crab with Proposed Size Limits and Fishing Seasons." This document reports the results of an analysis

which was based on the data available on the biology of golden (or brown) king crab. The SSC feels that the analysis conducted was scientifically sound and concurs therefore with the findings of the study summarized below:

- (1) The legal size should be 143 mm (5.6 inches) carapace width for the Northern District.
- (2) Due to limited data and a possible larger size at maturity, the size limit should remain at 165 mm (6.5 inches) carapace width in southern districts of the Bering Sea and in the Aleutians.
- (3) Data on the timing of spawning and molting indicate that current fishing seasons (September - February) are reasonable for southern districts of the Bering Sea and the Aleutian Islands but should be later (November - April) in the Northern District of the Bering Sea.

D-4 Tanner Crab FMP

The SSC reviewed the current bases used for establishing the size limit for Tanner crab in the FMP.

Original size limits specified in the FMP were based on scientific information for the Kodiak area. New data and analyses have recently become available. This information suggests that a lowering of the size limit to 5 inches in the Southeastern and Pribilof districts is scientifically supportable. The SSC recommends that the PMT examine this information and initiate drafting of a plan amendment if deemed appropriate.

D-5 Gulf of Alaska Groundfish FMP

The SSC received a presentation by Steve Johnson on behalf of the Japan Deep Sea Trawlers Association regarding their request for an increase in the OY for pollock in the Western and Central Gulf of Alaska. In addition we received a paper providing a review of cohort analysis. The SSC did not undertake any detail review of this issue at this meeting. The SSC recommends that the PDT review the various documents and the best available information on the status of the stocks involved and prepare a presentation for the May Council meeting. Likewise, the SSC groundfish subgroups will review all available documents. The SSC will be prepared to make a recommendation at the May Council meeting.

E-1 Contracts and Proposals

Review of Current Contracts

Contract 81-5 - Incidental Salmon Catch Study. The SSC reviewed the quarterly report for the period October 1982 - December 1982 for Contract 81-5 entitled "Determination of Stock Origins of Chinook Salmon Incidentally Caught in Foreign Trawls in the Alaskan FCZ." The SSC finds work on the contract is proceeding and experiencing no difficulty.

Contract 82-4 - Halibut Limited Entry Study. The SSC reviewed the March 8, 1983 draft of the report on Contract 82-4 entitled "Limited Entry in the Pacific Halibut Fishery: the Individual Quota Option."

The absence of an appendix which describes the assumptions and methods used to estimate the benefits and costs of the proposed limited entry program presented in the report made it impossible for the SSC to complete its review of this document. Therefore, the SSC recommends against public release of the document at this time. The SSC notes that Dr. Stokes has done a very competent and thorough job of conceptually discussing various impacts that a share system would have on fishermen, processors and consumers.

Given the interest that exists among members of the fishing community relative to how they would be affected by the share system, the SSC recommends that a condensed version of the document, that would help fishermen make this determination, be prepared. The SSC suggests that this document be developed by Council staff. The following is the proposed Table of Contents:

- I. Introduction
- II. Definition of the Nature of the Entitlement
- III. Specification of Important Characteristics of the Share System
- IV. Examples of How the Share System Would Affect Various Types of Fishermen

In addition the SSC will be submitting minor editorial comments to the contractor.

Phase I Report - Fishermen's Perceptions of Halibut Limited Entry. The SSC reviewed the final draft of the report entitled "Fishermen's Perceptions of Halibut Limited Entry as Reflected by the Press, Oral and Written Comments: January - September 1982."

The SSC has determined that the authors of this report have made revisions requested by the SSC as the result of its review of the first draft of the document. The SSC recommends that the document be released to the public after a qualifying statement has been added to both the Executive Summary and Introduction of the report. The statement would indicate that while fishermen's views on limited entry are presented in the report, no attempt was being made to examine their logical validity.

Contract 83-1 - Social and Cultural Aspects of the Pacific Halibut Fishery. The Chairman of the SSC was notified of some minor modification to Contract 83-1. Due to the limited time the SSC did not review these minor changes. Although individual members do not see any problem the contract will be reviewed at our next meeting. Members contacted supported the proposed changes.

Proposals for Funding in FY83

A Joint Venture Trawl Logbook Interview and Collection Program. The SSC reviewed the proposal to provide interim coverage at three major ports for the initial year of the joint venture logbook program. The effort proposed will be supplemental to the existing port sampling program of ADF&G and will rely heavily on that existing program for support.

The SSC finds that there was significant cost savings to be realized by utilizing the existing ADF&G program. The SSC therefore recommends that the proposal be funded and that the contract be sole sourced to ADF&G.

Use of Scale Pattern Analysis to Identify Bering Sea Herring Stocks. The SSC reviewed the proposal entitled "Feasibility of Using Scale Analysis Methods to Identify Bering Sea Herring Stocks." This proposal has been developed by the University of Washington and will rely heavily on the collection of scale samples by ADF&G personnel, NMFS foreign observers and by NMFS research vessels. The proposed work is a logical extension of research funded by the Alaska Department of Fish and Game to the University of Washington for scale pattern analysis to estimate the origin of herring in the Dutch Harbor fishery. This initial study indicated the feasibility of the method and this proposed study builds upon the data base developed in the initial study. The SSC recommends the funding of the proposed study. Because the proposed method depends on the methods and data developed by the University of Washington, we recommend that the contract be sole sourced to the University of Washington. The SSC notes that at least a second year of funding will be required at approximately the same level in order to effectively complete this work. Additionally, funding of the project must be immediate so that the contractor can establish the required sampling program with ADF&G and NOAA personnel.

Photo-census of Sea Lion Pups in the Gulf of Alaska. The SSC reviewed correspondence regarding a program to undertake a photo-census of the Sea Lion pups in the area of the Shelikof Strait joint venture fishery. The data collected would then be compared to pre-joint venture baseline data. The SSC recommends that the proposal for this study be developed and sent out for agency and SSC review. If possible, we recommend that the study be funded under this year's programmatic funding.

Analysis of data on stock distribution and hooking mortality in the chinook fishery. The SSC has identified the need for additional analyses regarding the various options proposed for management of the 1983 chinook salmon season. These analyses are:

- (1) Evaluation of coded wire tag and other data on the stock composition and maturity of chinook taken at different seasons of the year.
- (2) Further evaluation of the extent of hooking mortality of chinook in a coho-only fishery and means of reducing or avoiding this mortality.
- (3) Evaluation of the possible use of selected time-area closures suggested by the PDT to reduce in-season chinook catch rates during the coho season.
- (4) Consideration of the potential increase in catches during the winter chinook fishery.

Agency personnel will not be available to carry out these analyses in the time required. The SSC therefore recommends that the Council provide the required support to carry out these analyses. We estimate the cost at \$20,000 to \$30,000.

FY84 Programmatic Funds

The SSC reviewed the limited responses that the Council received for FY84 programmatic funding. The SSC recommends that the two proposals received from

the University of Alaska be sent out for agency review. In addition the SSC has developed four additional proposals which we wish to have submitted for agency review. In summary there are:

- (1) Stock Assessment Methodology for Sablefish. This proposed research would evaluate current stock assessment methodology for sablefish, develop estimates of the sablefish biomass using different techniques applied to existing data and make recommendations for future assessment methodology. This would be a two-year study and would be supplementary to research being considered by the Pacific Council. We estimate the cost of this project at approximately \$30,000 for the two years.
- (2) Study effects of various system-wide limited entry options on fish stocks, fishermen and processors. This proposed research will be to determine the applicability of various limited entry mechanisms in the system-wide context and evaluate how harvesters, processors and consumers would be affected by the various alternatives. We estimate the cost of this study at \$30,000 for one year.
- (3) Lowell Wakefield Symposium on Non-fishing Induced Changes in Populations of Crustaceans. The SSC reviewed the correspondence regarding the subject for a symposium related to biology and management of fisheries. The SSC recommends that the next symposium be on non-fishing induced changes in population of crustacea. This subject would allow the scientists to bring together information on the effects of environmental change etc. on the king and Tanner crab and shrimp populations. The SSC has requested that the University of Alaska modify and submit a proposal. We estimate the Council participation to be \$4,000.
- (4) Economic impacts of fishing activities on the Central and Western Regions of Alaska. Objectives of this study include: (1) development of employment information by type of fishing activity, (2) development of information that indicates how employment changes in the fishing industry affect employment in other sections of these regional economies, and (3) translation of the employment effects into changes in regional income. The SSC estimates that this study will cost \$100,000.

In addition to these specific studies, the SSC considers that the following additional funding may be required.

Scientific studies in support of an experimental/research offshore herring fishery if approved.	\$130,000
Additional studies related to the halibut limited entry.	50,000
Additional research on the sablefish resource as identified by the symposium.	40,000
Fiberglass inserts in king crab pots to reduce the incidental catch of halibut.	?