

# North Pacific Fishery Management Council

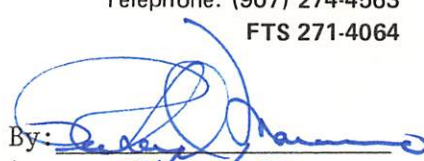
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## MINUTES

### SCIENTIFIC AND STATISTICAL COMMITTEE

Anchorage, Alaska  
July 19-20, 1982

The Scientific and Statistical Committee of the North Pacific Fishery Management Council met in Anchorage on July 19-20, 1982. The meeting was chaired by Rich Marasco, Vice-Chairman of the SSC. Members present were:

Rich Marasco, Vice-Chairman  
Al Millikan  
Larry Hreha  
Bud Burgner  
Jack Lechner  
Bill Aron  
Steve Langdon  
Ed Miles  
Phil Rigby, alternate for John Clark

#### C-2 Operational Guidance for PMT's and PDT's

The SSC reviewed the document, "Policy on Plan Team Composition, Tasking and Operations." In general, the SSC was in agreement with the policy statement. However, it recommends that the following modifications be made to the text:

1. Item (a), page 2 - insert "coordinate preparation of" between "and" and "supporting."
2. Replace Item (c), page 2 with - "summarize and evaluate the best data available related to the biological and socioeconomic implications of the plan or amendment."
3. In the first full paragraph on page 2 replace the sentence that begins "The team may be requested ..." with "The team will either: (a) recommend a preferred alternative, or (b) state that it has no preferred alternative, or (c) state that it was unable to reach a consensus on a preferred alternative."
4. In the last paragraph on page 2, first line replace "should set up" with "will recommend."

#### D-1 Salmon FMP

The SSC reviewed the draft policy statement on management of natural salmon stocks that was developed by Council staff. The SSC felt that the document was appropriate and represented a workable policy statement. It was suggested that since the document addresses only chinook salmon that the title be changed to "Draft Council Policy on Management of Natural Chinook Salmon Stocks."

#### D-2 Herring FMP

The SSC reviewed the "Final Herring PMT Report" of June 29, 1982 with members of the PMT. The team report is a result of PDT review of procedures in the plan to establish OY and to consider other issues recently raised by the State of Alaska.

We note that each of the four issues considered in the PMT report was addressed in detail during development of the FMP and was the subject of public comment during the formal public review process and at public comment periods of the PDT, AP, SSC and Council. Further, the SSC reviewed each draft of the FMP and suggested improvements which were routinely incorporated into subsequent drafts. The Final FMP is then a product of this extensive drafting process and ultimately of final Council approval.

The SSC recommends that the plan be submitted for final Secretary of Commerce approval. A comprehensive formal management program for Bering Sea/Chukchi Sea herring is needed as soon as possible to protect herring stocks and to effectively manage domestic and foreign fisheries. The SSC believes that the issues discussed in the PMT report can best be resolved after the plan is implemented. It is likely that a performance audit after a year or two of management under the plan will reveal additional management measures, policies, procedures, etc. which also need revision.

In reference to the four issues addressed in the PMT report, the SSC has the following comments:

##### A. Optimum Yield/Offshore Allocation

The status quo alternative provides a quantitative procedure to set OY and ABC which minimizes subjectivity and interpretation. Conversely, alternatives (2) and (3) are highly subjective.

##### B. Total Allowable Level of Foreign Fishing (TALFF)

The SSC advises that herring markets for U.S. fishermen are volatile and subject to extreme fluctuations. Competing fisheries such as the herring fishery developing in the western Bering Sea may result in decreased markets for U.S. fishermen. A procedure which prohibits a TALFF may be difficult to defend legally if market collapse results in a large surplus. The status quo option gives preference to U.S. fishermen but permits a TALFF only if large surpluses occur.

### C. Allowable Incidental Catch (AIC)

The SSC believes that the AIC procedures in the plan are adequate. The Bering Sea/Aleutian Islands Groundfish Plan should be revised to implement the herring AIC by reference to the herring FMP.

### D. Aleutian Islands/Alaska Peninsula Stocks and Preliminary Offshore Allocation

The FMP acknowledges the extreme lack of data on these stocks and establishes an ABC of 2,000 mt based on average catches during the 1930s. The ABC is included in the overall Bering Sea ABC but is allocated to offshore fisheries to allow existing small bait and food fisheries to continue. The SSC was informed that ADF&G is presently collecting and analyzing new data on these stocks. We believe a complete review of the Aleutian Islands' stocks should be high priority. Proposals for plan amendment should be presented after analysis is complete. There is no basis for a change in the FMP until the latest data analysis is submitted for review.

In addition to the PMT report the SSC examined a proposed adjustment of the Bering/Chukchi Sea FMP submitted by Marine Resources Company (MRC). In summary, MRC is proposing that for the first three years following implementation of the FMP that an experimental offshore domestic fishery be allowed at the minimum level of 5,000 mt. While the SSC did not address the merits of an experimental fishery of any size, it was pointed out that the concept of establishing a fixed quota for the offshore domestic fishery was considered when the plan was being developed. It was concluded at the time that the priorities for setting OY precluded this approach. That is, in light of the fluctuating nature of herring stocks and the use priorities specified in the plan, it might be difficult to insure a fixed minimum allowable harvest in this fishery. The SSC notes that if an experimental offshore fishery were allowed information could be obtained on how this type of fishery might affect inshore ones.

### D-5 Gulf of Alaska Groundfish FMP

#### 1. Gulf of Alaska Sablefish

The Council at its May 1982 meeting instructed the PMT to reconsider the issues of EYs and OYs for sablefish in the Gulf of Alaska on the basis of new information and report to the SSC at the July meeting. In addition, the Council asked the PMT to evaluate the possibility of extending the area closed to foreign fishing to 147°W and to present this evaluation to the Council in July.

The new information which the PMT had available consisted of:

- (a) The Preliminary Cruise Results of the NOAA R/V John N. Cobb, JC-82-2, (the pot survey data).
- (b) "Status of the Domestic Sablefish Fishery in the Eastern Gulf of Alaska Based on Fishery Performance, 1979-1982" by Barry E. Bracken.

- (c) A memorandum from Greg Baker of ALFA providing logbook data from domestic longline fishermen operating in the Southeastern Outside and Yakutat east of 140°W districts of the Eastern Regulatory Area.
- (d) Daily Catch Reports of the Fukuyoshi Maru No.8 operating in Yakutat west of 140°W in 1982.

On the basis of this new information, the PMT modified its recommendation in its Draft Report of June 28, 1982 concerning the EY for the Southeastern area. A majority of the PMT favored an EY of 1,850 mt over 1,290 mt on the basis of domestic catch per landing data in the Bracken Report and information in the ALFA memorandum. In other words, a majority of the PMT thought that the EY of 1,290 mt for the Southeastern area was wrong and that a better estimate of the EY would be the actual harvest for 1981, i.e. 1,390 mt outside and 460 mt inside.

At its March 1982 meeting the SSC had examined the basis for the EY of 1,290 mt in the Southeastern area and had approved it. The issue then became whether the SSC agreed with the majority of the PMT to change this recommendation to 1,850 mt. The SSC expressed considerable uneasiness about using catch per landing as a measure of CPUE; furthermore, the data presented in the ALFA memorandum were based on reports from only four boats and the pot survey data were seriously biased by problems concerning the bait used. Given the uncertainties in the new information, the SSC could not accept the new PMT recommendation on EY for the Southeastern area.

The PMT also proposed to combine the Yakutat East and West areas into a single area for the calculation of EYs. Given the SSC's earlier insistence on separating these areas for calculating EYs in its March meeting, the SSC considered at some length whether that position should now be reversed. The SSC eventually decided that the information presented did not warrant such a change.

The SSC then took up the question of the ABC which had not been discussed explicitly in its March meeting. The PMT continues to recommend that the ABC = 75% of EY. The SSC concurred in this view arguing that given prevailing uncertainties about growth and migration of sablefish, there was a need to be conservative on the Gulf-wide ABC.

EYs and ABCs

	Proposed Team		SSC		
			Recommendations		
	Southeast	Yakutat	Southeast	Yakutat	
			E of 140°	W of 140°	
EY	1,850	3,375	1,290	1,135	2,240
ABC	1,388	2,531	968	851	1,680

## Optimum Yield (OY)

The PMT in its June 28, 1982 report to the Council suggested that the OY for the Eastern Regulatory Area be set equal to DAH. In addition, the OY was constrained to be less than or equal to the acceptable biological catch (ABC) for the area. The team recommended also that no further allocations be given to the foreign longline fleet to conduct a directed sablefish fishery in the Eastern Regulatory Area. It was suggested further that if this action was taken that the management divisions of the Eastern Regulatory Area should remain Yakutat (137°W - 147°W), Southeast outside and Southeast inside.

The SSC in its deliberations decided to consider the issue of OY for Southeastern and Yakutat separately.

### Southeastern

The SSC considered two options for this area:

#### Option 1: OY = ABC (ABC = 75% of EY)

ADF&G indicated to the SSC that the domestic catch in outside waters for this area was 992 mt as of July 16. Upon adding this figure to the 500 mt set aside for the inshore fishery, it was apparent that the domestic fishery would either: (a) exceed the EY if the initial estimate of 1,290 mt is accepted by the Council or (b) be subject to immediate closure if the team's modified EY of 1,850 mt is adopted.

#### Option 2: OY > ABC and possibly > EY

The SSC recognized that setting OY = ABC would place a severe constraint upon the domestic fleet. It was pointed out that this would represent rather harsh treatment of the domestic fleet. This was of some concern in light of the presence of foreign fishing for sablefish in the area west of 140°W. It was suggested that the domestic fleet could be allowed to exceed the ABC and even the EY for the area. If this were allowed, the domestic fishing fleet would reap short-term economic gains. However, it is possible that any potential long-term economic gains that might be realized from constraining  $OY \leq ABC$  would be foregone. The exact magnitude of the gains and losses is difficult to quantify. Furthermore, allowing a continuation of domestic fishing after ABC is reached would reduce the need for domestic fishermen to shift to the west.

### Yakutat

Two options have surfaced for the OY for this area:

#### Option 1: The team proposal

This option would set the OY = DAH + Incidental Catch (for both trawlers and longliners) for the whole area with the OY being constrained to be less than or equal to the ABC. This proposal suggested further that no allocations be given to the foreign longline fleet to conduct a directed sablefish fishery in the area. The SSC had a great deal of difficulty

with this recommendation. It was felt by the SSC that adequate biological and economic justifications were lacking for this exclusion.

#### Option 2: SSC option

This option would set the OY for the area east of 140°W equal to the DAH. The OY would be constrained further to be less than or equal to the ABC for the area.

The OY for the area west of 140°W would be set equal to 75% of EY. DAH would be determined in such a way that the unsatisfied needs in Southeast and east of 140° would be met. TALFF in the area would be equal to OY - DAH. The SSC received public comment which suggested that domestic fishermen would not expand into the area west of 140° as long as the foreign longline fleet was present. Reasons given for this included: (1) potential gear conflict, (2) grounds preemption, and (3) reduced CPUEs that would result from presence on the grounds of foreign longliners prior to initiation of domestic fishing.

The SSC wishes to point out that issues such as these have been worked out in the past by the parties involved. The SSC recommends that this approach be taken to resolve any conflict that might arise in this case.

## 2. Pollock in the Gulf of Alaska

At its May meeting, the Council instructed the PMT to re-examine the MSY for pollock in the Gulf of Alaska and determine if there was sufficient biological information to support an ABC higher than the current OY in the FMP.

The PMT and the subgroup considered one source of new information. This was a draft paper compiled by Loh-Lee Low and Miles Alton entitled "Information on Gulf of Alaska Pollock Resource." This paper summarized new information on CPUE, a cohort analysis and U.S. hydroacoustic and Soviet trawl surveys.

The PMT could not detect any significant trends in the CPUE data presented. They also had difficulty accepting the Soviet estimates of catch rates as determined by the R/V SHANTAR because they were based on "hailing rates" which are very unreliable. The cohort analysis was found to be suggestive though not definitive because the PMT was concerned about the sensitivity of the model's results to changes in the value of certain parameters. However, while the PMT thought that the original MSY range of 95,000 - 191,000 mt was still the best estimate, they thought that the cohort analysis suggested that an increase of 12,000 mt over the bottom of the MSY range of 95,000 mt could be taken with minimal risk to the stock. In addition, the team pointed out that a further 8,000 mt could be taken out of the Shumagin area.

While the team was unable to say what percentage of the stock of pollock in the Central Gulf was in the Shelikof Straits in March and April, they did indicate that the data suggest the presence of pollock in other parts of the Gulf of Alaska during that time period.

The team did note that the existing fishery was conducted with off-bottom trawl gear which resulted in a considerable savings of halibut and much more than would be possible with on-bottom trawl gear.

During the public comment period, the representative of the Japan Deep Sea Trawlers Association referred to his letter of July 15 which detailed their position on this issue. In addition, he argued that the Japanese fleet had not foreseen such a rapid expansion of the joint venture fishery and had not, therefore, planned for it. They realize that in the near future, there was unlikely to be any TALFF for pollock in the Central Gulf. Their problem was an immediate one for this year only since the vessels were already on the grounds and they could not operate. He argued also that the rapid increase in the joint venture catch was in fact the result of Japanese cooperation on joint ventures with the U.S. fleet.

The representative of the Japan Deep Sea Trawlers Association challenged the original estimates of pollock biomass and asked what risks of overharvesting would be involved if an additional 25,000 - 30,000 mt of pollock were to be allocated to the Japanese fleet.

The SSC defined the issues before it in the terms of the following questions:

- (a) Is the current estimate of pollock biomass in the Central Gulf based on the best information available?
- (b) If not, are there specific reasons for change?
- (c) If there are reasons for change, what is the likely biological risk of an increased catch in 1982?

The SSC agreed with the PMT that the new CPUE data available did not indicate a trend. The SSC was also concerned over the discounting of Soviet survey data and results of the cohort analysis by the PMT. With reference to the Soviet survey, it was indicated that the practice of employing "hailing rates" to estimate catch weights would lead one to question the reliability of the information generated from the survey. Because of questions associated with the reliability of the data, there was an unwillingness to rely upon the data as an indicator of the relative abundance of pollock throughout the Gulf. In the case of the cohort analysis, it was indicated that information from 1976-1981 was used in the study. While the results of cohort analysis improve as the length of the time-series of data increases, it was felt that the indication of the increasing trend in abundance revealed by the study was valid. There was some concern over the fact that the sensitivity of the results to changes in key parameters had not been fully explored. Further, unexpected weight differences were observed in the data for three year old fish.

In summary, it was felt that the best information available was used in formulating the current estimate. There was concern over what appears to be the overly conservative nature of the estimate. The PMT indicated that it based its decision to go with the low end of the range on the following:

1. No strong year classes other than the 1976 year class are present in the fishery;
2. In 1982, the fishery took place on the spawning biomass; and
3. If the catch was held at 95,000 mt, it would be 28% larger than the 1981 catch. The team felt that this would be a prudent approach given the nature of the fishery and information.

The SSC noted that the PMT argued that maintaining the current MSY of 95,000 mt for the rest of 1982 for the Central Gulf represented zero risk but that the cohort analysis suggest that an additional 12,000 mt could be taken probably with minimal risk. The SSC asked the team what risk would be associated with a catch of 125,000 mt but the team could not assess this quantitatively. They argued only that risk would increase as catch increased. The SSC was unable, therefore, to assess quantitatively what risks would be associated with a catch of 125,000 mt.

While the SSC did not make a specific OY recommendation, it attempted to list both the pros and cons for each of the following options:

Option I: OY = 95,000 mt

Case for:

- (a) No increase in CPUE is apparent since 1976.
- (b) The estimate of the size of the spawning biomass in Shelikof Straits has been set equal to the lower end of the confidence interval around the U.S. hydroacoustic biomass estimate.
- (c) Failure to locate any spawning concentrations of any magnitude in areas of the Gulf other than Shelikof Straits.
- (d) There is no evidence of any strong year classes since 1976.
- (e) The nature of the pollock fishery in the Gulf has changed in recent years (i.e. fishing pressure on the spawning grounds has increased).
- (f) The catch in the Central area under the present estimated ABC will likely be about 95,000 tons for 1982. This is approximately a 28% increase over 1981.

Case against:

- (a) Would not accommodate a foreign fishery (Japanese directed fishery) operations planned on the basis of the 1/1/82 TALFF specified for the Central Area.
- (b) Doesn't take account of indications (for example, results of the cohort analysis) of increased biomass.
- (c) Relies on very conservative estimates of biomass which assume a trawl efficiency of 100%.

Option II: 107,000 mt

Case for:

- (a) Takes account of preliminary results of cohort analysis and other indications (for example, the indication that there are pollock in other parts of the Gulf at the time the Shelikof Straits survey occurs) of increased biomass strength.



- (b) Small enough increase at the low end of MSY range to ensure commensurately small increase in risk of harming the stock. Stock appears to be at MSY level. Mid-point of MSY range (95,000 - 191,000 mt) equals 143,000 mt.

Case against:

- (a) See the points made by the PMT in favor of Option I.
- (b) The cohort analysis results are preliminary.
- (c) Would not accommodate a foreign fishery operations planned on the basis of the 1/1/82 TALFF specified for the Central Area.
- (d) It is conservative since it relies on the low end of the biomass range obtained from cohort analysis.

Option III: 125,000 mt

Case for:

- (a) Accommodates needs of the foreign fishery (Japanese directed fishery) operations planned on the basis of the 1/1/82 TALFF specified for the Central Area.
- (b) It is in the lower half of the estimated MSY range. The mid-point of the range is 143,000 mt.

Case against:

- (a) Represents greater risk given PMT justification for 95,000 mt.

Option IV: 143,000 mt

Case for:

- (a) Range of 95,000 - 191,000 mt is based on assumptions of trawl efficiency of 100% and 50%, respectively. This seriously biases biomass estimates downward. Mid-point of this range is a safe choice since significant safeguards are already built-in.
- (b) Given projected increases in catch of domestic fleet in the near future, this option would give a better indication of response of a stock to increased fishing pressure. It is safer to do this now when the stock is at MSY levels.

Case against:

- (a) Risk highest of all given PMT's case for Option I.

In conclusion, both the PMT and SSC consider the Gulf of Alaska pollock stock to be capable currently of producing at MSY levels. It is considered, therefore, to be healthy.

## General Comment

The SSC wishes to note that this and other issues encountered recently suggest a need to re-examine the Fishery Management Plan for the Gulf of Alaska. The current regime permits only closures and not increases, if conditions warrant such action. It is recommended that the feasibility of moving to a framework FMP be explored.

### D-6 Bering Sea/Aleutian Islands Groundfish FMP

#### 1. Establishment of a U.S. Fishery Development Zone (Amendment #6).

The SSC reviewed the PMT's draft of Amendment #6. The SSC feels that the PMT has followed the Council's instruction in a satisfactory fashion. Therefore, it is not opposed to letting the amendment out for public review. The SSC wishes to reserve its comment until the amendment comes up for formal consideration.

#### 2. Proposal to allow foreign longlining year-round in the Winter Halibut Savings Area.

The SSC received and reviewed the PMT report that examines this issue. The SSC notes that the team report does not address how domestic fisheries other than the Pacific halibut fishery will be affected by the proposed change.

### E. Contracts and Proposals

#### 1. Contract Progress Reports

The SSC reviewed progress reports for the following contracts:

- (a) "An Economic Profile of the Southeast Alaska Salmon Industry", and
- (b) "Determination of Stock Origins of Chinook Salmon Incidentally Caught in Foreign Trawls in the Alaska FCZ".

The SSC notes that substantial work on these two contracts has been concluded and they appear to be on schedule.

#### 2. Proposals

##### (a) Marine Mammal Workshop

The SSC was informed that the intent of this workshop was to explore issues related to the development of models that can be used to study marine mammal/fishery interactions. Since this is an important issue, the SSC is supportive of the idea.

##### (b) Joint Venture Policy Study

Recently, the Council was asked to conduct a study of the relative merits of joint ventures. In specific, the Council was asked:

1. to examine if they have worked;
2. to determine how they have affected domestic fishermen;
3. to determine how they have affected domestic processors;
4. to determine gross value of the catch on an annual basis;
5. to determine what would have been gained annually if the joint venture harvest were processed on-shore;
6. to assess if joint ventures are necessary for development of the industry;
7. to evaluate the long-term impact of joint ventures on the domestic industry; and
8. to identify alternatives to joint ventures.

Results of a number of studies that have been completed over the past several years have explored some of the issues raised above. Data limitation make it difficult to address others. Given the limitations of the data and the fact that some of the questions have already been examined, it was concluded that the most viable approach to addressing the request would be to employ a graduate student from one of the local Universities to compile existing data and summarize the relevant analyses. A summary of the results of this effort would be prepared and made available to the Council. Arrangements to have this study undertaken are being finalized. It is the intent of the SSC to report on the details of the study at the September meeting.