

DRAFT
MINUTES
Scientific Statistical Committee
June 5-7, 2000

The Scientific Statistical Committee met June 5-7, 2000 at the Doubletree Hotel in Portland, Oregon. All members were present except Sue Hills, Terry Quinn, Richard Marasco, and Al Tyler:

Jack Tagart, Vice Chair	Keith Criddle	Doug Eggers
Steve Hare	Jeff Hartman	Dan Kimura
Doug Larson	Seth Macinko	

C-3(a) Inshore Co-op Structure, Definition of Qualified Catcher Vessel, and Calculation of the Open Access/Co-op Pollock Allocations

Inshore Co-op Structure

The SSC heard a presentation by Robert Halvorsen (University of Washington) on a “Discussion Paper on Inshore Sector Catcher Vessel Cooperatives in the Bering Sea/Aleutian Islands Pollock Fisheries.” Public testimony was provided by Joe Plesha (Trident Seafoods), Scott Matulich (Washington State University), Rebecca Baldwin (Economic and Environmental Analysis), John Young (Independent Catcher Vessels Association), Greg Baker (Westward Seafoods), Donna Parker (Arctic Storm), and Brent Paine (United Catcher Boats).

The paper by Halvorsen, Khalil and Lawarée has undergone minor revision from the version first presented in October 1999. The revisions include an expanded discussion of the potential distribution of benefits under the American Fisheries Act (AFA), discussion of additional options that the Council is considering that could affect the relative bargaining strength of catcher vessels *vis a vis* processors, and three alternative specifications of the benchmarks to use for comparison of the various options. While the discussion paper is an interesting analysis, it lacks the broader consideration of environmental and regulatory impacts that characterize an EA/RIR/IRFA. That is, it is but one piece of analytical information that normally would be used in the drafting of such a document. The lack of a full analysis is problematic because of the potential breadth and severity of the impacts involved. For example, it was suggested in public testimony that there could be profound impacts on selected catcher vessels, processing plants, and by extension, communities. The current document does not describe these types of potential impacts or address the likelihood of their occurrence. The last draft of an EA/RIR that the SSC has seen on this subject was presented in June 1999, well before Halvorsen and colleagues were contracted to do their report.

The paper by Halvorsen *et al.* provides a useful game-theoretic treatment of the potential distribution of gains and losses relative to three benchmark situations: pre-AFA, AFA without cooperatives, and the actual AFA. The choice of game theory as a modeling framework is reasonable. The author’s assumptions with respect to the intensity of cooperative and competitive behaviors among and between catcher vessels and processors are based on discussions with industry participants, the authors’ understanding of legal provisions for and barriers to cooperation, and their interpretation of the professional literature on cooperative bargaining theory. The conclusions drawn are plausible. However, because data are unavailable, the correctness of their assumptions cannot be unambiguously established. Moreover, there is little apparent agreement among the industry about some of the key assumptions made in the analysis, and there is little empirical evidence to

judge the accuracy of the assumptions. This is important because assumptions usually have a strong influence on the conclusions.

While there is broad support for the conclusion that measures such as the Dooley-Hall proposal will improve the relative bargaining position of catcher vessels *vis a vis* processors, public testimony suggested that there is considerable disagreement about the absolute bargaining power of individual processors, harvesters, and harvester cooperatives. Again, there is general agreement about institutional structures and legal conditions that contribute to the strength of bargaining positions, but not about the actual bargaining strength of the various entities. For example, the legal authority of harvesters to form cooperative bargaining units increases their strength in negotiations, but the absolute level of that bargaining strength depends on how much of the harvest is controlled by the bargaining association and whether the association is cohesive or easily fractured into individual negotiations. The presence of processor-controlled vessels reduces the strength of a catcher vessel bargaining unit. In the absence of data, weighing the relative importance of factors that contribute to the bargaining strength of catcher vessels and processors is subjective and reasonable people may reasonably arrive at divergent conclusions regarding the absolute bargaining strength of the protagonists.

Some of the key assumptions in the Halvorsen *et al.* paper are (a) that the processors have strong bargaining advantages due to their greater knowledge about costs and demand and due to their ownership/control of some harvesting vessels; (b) that the market interaction is best described by moderate competition rather than monopsony (sole buyer facing many sellers), monopoly (sole seller facing many buyers) or bilateral monopoly (sole buyer facing a sole seller); (c) that the strategic interaction is characterized as a repeated game; (d) that the degree of price competition will be moderate and processors will refrain from aggressive non-price competition; (e) that the cost of switching co-ops will be high; and (f) that there is a significant amount of “under-vested” fishing effort, i.e., boats whose qualifying catch history in 1995-97 is lower than their fishing power. Individual interactions between groups of catcher vessels and processors will differ due to variations in their individual circumstances.

In evaluating the conclusions of the discussion paper, the key points to keep in mind are that the assumptions used and the benchmarks chosen directly affect the conclusions; there is little quantitative evidence to either support or refute the assumptions; and there is considerable disagreement among knowledgeable people in the industry about the “truth” of the assumptions.

In addition, we note that

1. While game theory is a reasonable tool for use in this analysis it is not, as Halvorsen *et al.* suggest, “the only” tool that could have been used. Each tool has advantages and disadvantages. Game theory is a mathematical model that can be useful for exploring certain hypothetical properties of stylistic models of interactions among economic agents.
2. Some of the characterizations in the text are too extreme, For example, while cooperatives may share a number of the attributes of IFQs, cooperatives are not “equivalent” to IFQs. For example in contrast to IFQs, while co-op members contribute their catch history to the co-op, the sub-allocation of catches within a co-op may be more reflective of the relative bargaining strength of co-op members than of the catch history they contribute.
3. While the decision to model the industrial organization of processors as one of moderate competition is not unreasonable, alternative arguably reasonable assumptions could lead to the adoption of alternative specifications (e.g., monopsony, bilateral monopoly) that might result in different conclusions about the ultimate bargaining strength of processors and catcher vessels.
4. In understanding the exvessel prices for pollock sales to processors, it is important to understand that distribution of the tax burden associated with the \$0.006/lb tax on landings intended to offset the \$75

million AFA buyout of 9 catcher-processors will depend on the relative bargaining strength of the processors and catcher vessels. If processors could exert monopsony power, the entire tax burden would be borne by catcher vessels. If catcher vessels could exercise monopoly power, the tax burden would be entirely transferred to the processors. In an intermediate case, the tax burden will be shared among catcher vessels and processors.

5. The analysis focused largely on price competition among processors. However, there are many avenues for competition, and the presence or absence of price competition may not adequately reflect the overall degree of competitive behavior
6. Anecdotal observations presented in public testimony suggest that the level of competition among processors may be fairly intense. For example, it was reported that some processors have offered to offset a portion of the transition costs for catcher vessels to move through the open access fishery into a new cooperative. Similarly, public testimony suggested that some processors have offered bonuses for catcher vessels that have agreed to remain in the co-op associated with their plant.

Definition of a Qualified Catcher Vessel

The SSC heard staff presentation from Kent Lind. Public testimony was provided by some of the individuals who addressed the SSC on the inshore co-op structure.

The rules for determining how a vessel qualifies for a co-op are one factor that influence how costly it is to maintain membership in the co-op. Present interpretation of provisions of the AFA serves as a disincentive to the retirement of excess harvesting capacity.

Open Access Quota Share Pool

The SSC heard staff presentation from Kent Lind. Public testimony was provided by some of the individuals who addressed the SSC on the inshore co-op structure.

The size of the open access quota share pool affects the cost incurred by catcher vessels that transition from one co-op to another. A large quota share pool, particularly one that is larger than the combined catch history of the vessels that choose to participate in it, improves the outside option for co-op members by increasing the credibility of their threat to move from one co-op to another. However, catch is allocated within the open access fishery through the race for fish. Consequently, a large open access quota share pool reduces the degree to which rationalization gains can be achieved and potentially attracts so-called “under-vested” vessels. The presence of these under-vested vessels could serve as a deterrent for fully vested vessels to switch co-ops. Moreover, the current formula could lead to the odd result that a portion of the TAC could be left unfished in the unlikely event that no vessels choose to participate in the open access fishery.

Moreover, it should be noted that to the extent that the open access pool is large and attractive to catcher vessels, the size of the open access pool may deter the development and continuation of co-ops.

C-3(b) Groundfish Processing Sideboards/Pollock Processing Excessive Share Caps

The SSC heard presentations by Darrell Brannan and Marcus Hartley (Northern Economics). Public testimony was given by John Gauvin (Groundfish Forum) and Ed Richardson (At Sea Processors Association). The SSC reviewed this analysis in detail in February, and requested that a number of changes be made. The authors were responsive to these concerns in their revisions.

The SSC recommends that the draft EA/RIR/IRFA be released for public review after the following issues have been addressed:

1. The SSC concurs with the analysts' suggestion that the matrix of effects on different industry groups (presented in the previous draft) be included in the package sent to reviewers (in blank form), with the request that reviewers fill out their best assessment of how the alternatives would affect them if they wish to, along with any other comments they might provide. This could be a useful way of focusing and directing commentators to provide information that would be of use to the Council.
2. The SSC requests an elaboration of the potential effects on rate of harvest and other consequences if the excess catcher processor capacity in the pollock fishery were to enter the flatfish fishery (e.g., a mothership operation).

Finally, as noted in our February 2000 minutes: "the Council is likely to face a continuing stream of AFA mitigation measures. In essence the Council is progressing down a path of piecemeal modification of the structure of North Pacific groundfish fisheries. A piecemeal approach may or may not be preferred to a comprehensive approach; nevertheless, caution is warranted to ensure that undesirable consequences are avoided."

Socioeconomic (Cost/Earnings) Data Collection

The SSC heard a presentation from Dan Holland and Todd Lee of the (NMFS AFSC), who are implementing the a cost/earnings survey of the pollock industry. Public testimony was provided by Glenn Reed (Pacific Seafood Processors Association) and Ed Richardson (At-Sea Processors Association).

The cost/earnings survey instrument developed by NMFS is an attempt to gather data that could contribute to analyses that would provide the Council with better information about the potential economic consequences of alternative management actions. The lack of such data has often been identified as a limitation in RIR/IRFA analyses that have been conducted in support of Council actions. While NMFS has worked closely with industry to develop an instrument that closely mirrors the form in which industry currently retains information, some of the information is potentially confusing or sensitive and industry has instead proposed providing aggregate values for some of the requested individual values. The SSC is sympathetic with the industry's major concerns that certain questions seem intrusive, that the purpose for requesting certain information is unclear, and that confidentiality cannot be absolutely assured.

However, it is likely that highly aggregated economic data will limit the Council's ability to fulfill the statutory and regulatory requirements (MSFCMA, RFA, etc.) to analyze the economic consequences of Council actions. For such analyses, models predicting economic behavior are needed, and aggregation to the sector level loses the critical detail on individual actions, which is required to estimate such models. While aggregate values may provide useful information and may be sufficient for certain analyses, other types of analyses require disaggregate information. As presently envisioned, the NMFS cost/earnings survey is voluntary. Consequently, it will be ineffective without strong industry support. Even if the survey were mandatory, industry support would be necessary to ensure accuracy and timeliness.

The SSC recommends that the Council's Socioeconomic Data Committee be asked to meet this summer to review progress and industry concerns. The review should revisit data needs in the context of the types of analyses that could be supported by various levels of data; specifically the differences between analyses supportable with aggregate vs. disaggregate data.

C-4 STELLER SEA LION PROTECTION

NMFS PRD staff made a brief presentation of a “Discussion paper on potential interactions between Steller sea lions in the BSA and GOA Pacific cod fisheries”.

The discussion paper was not provided in advance of the presentation and was not reviewed by the SSC.

D-1 AMEND THE TAC SETTING PROCESS

The SSC reviewed the draft EA/RIR for Amending the Process by Which TAC Specifications are Established for Alaska Groundfish. The draft EA/RIR was presented to the SSC by Sue Salveson and Jill Stevenson (NMFS). Public testimony was provided by Glenn Merrill (Aleutians East Borough) and Ed Richardson (At Sea Processors).

The current TAC specification procedure is grossly inefficient. The public is asked to comment on interim specifications that are published as a proposed rule and eventually published as a final rule, even though it is known that this information will be outdated by the time it is published. Therefore, the TAC setting procedure needs to be changed. The alternative TAC setting procedures offered by this EA/RIR balance the needs of fulfilling administrative requirements under NEPA, ESA, APA, and RFA with the desire to base TAC's under current survey and biological information. Alternatives 2-4 eliminate problems associated with reporting on interim TAC. The SSC questioned whether Alternatives 3 and 4 will provide sufficient “extra” time to allow the fulfillment of administrative requirements.

The SSC believes that there are several aspects of the alternatives that need to be addressed in a revised document. The SSC recommends the analysis be revised to address the following comments. The revised document should be reviewed at the October meeting.

Alternative 2A (Issue proposed and final specifications based on previous year's stock assessment surveys) has associated benefits to the stock assessment process. The alternative has the “downside” of not utilizing the most current survey information in the stock assessment process. In terms of meeting the public review requirement and relaxing the often-harried pace at which the annual stocks assessments take place, this Alternative solves certain problems associated with the status quo. Under this alternative, stock assessments – based on the previous year's survey and catch-age data – could be prepared earlier in the calendar year. Conceivably, the assessments could be ready for SSC review by the April meeting, Council review by the June meeting, with recommended TACs, public review and comment, and publication of final TACs occurring before January 1.

While it is generally preferable to utilize the most current survey data, there are a number of reasons why it is not necessarily disadvantageous to shift the stock assessment process as noted above and restrict the analysis to the previous year's data. Technically, the stock assessments would still be based on the most recently available data since the assessments would be conducted in the spring through summer and survey results not available until fall. The expanded timeline would allow for thorough review by all parties and a more complete comment and response interaction between analysts and commentators than is currently practical.

Given the current timeline, survey biomass estimates are not available until October, shortly before stock assessment results and preliminary ABCs are given to the SSC for review. There are legitimate questions whether this rushed use of data is warranted and whether the process would benefit from a lengthier review

and validation period. There is also a tendency to place a disproportionate amount of weight on the most recent data points. In particular, much attention is paid to the newest recruitment estimate, which is possibly the most poorly estimated parameter in the stock assessment model. The utility of these data increases with time and the addition of auxiliary data. Finally, in the Gulf of Alaska and the West Coast, where surveys are conducted biennially or triennially, assessments have long been based on survey data collected 18-30 months previously.

Alternative 2B (Issue proposed and final specifications based on an alternative fishing year schedule) appears to both take advantage of the most recent survey data and relieve many of the problems currently associated with the TAC specification process. The SSC, however, would like to see a more complete discussion about the expected consequences of this alternative. In particular, the SSC is concerned about the following issues:

1. The impact of a revised fishing season on the stock assessment process. Presumably, the assessments would be modified to provide biomass estimates in April or May rather than December. There is some question as to how the models would be adapted and whether the data are amenable to this change.
2. How would these new fishing years interact with the January-December managed fisheries that impact the groundfish fisheries such as Pacific halibut, sablefish, ADF&G managed fisheries including crab and salmon.
3. The implications of having the high value/high volume fisheries at the end of the fishing calendar, furthest removed from the biomass surveys.

Analysts ranked alternative 2c high in its ability to use current survey data. However, the technical feasibility of a late-winter survey is questionable, and must be addressed in the revised document. Specific issues include:

1. The ability to conduct a consistent and comprehensive stock assessment surveys in the Bering Sea during the late winter months due to presence of ice and hazardous inclement weather, and;
2. The consistency of the late-winter and conventionally timed stock assessment surveys.

Here the stock's spatial distribution and availability to a late winter surveys would be different from the distribution and availability during historically timed stock assessment surveys. Some period of concurrent late-winter and conventional surveys would be required to calibrate the late-winter survey in order to maintain continuity of the stock assessment data

The SSC notes that the proposed non-discretionary procedure for determining interim TAC's under Alternative 3 (Interim specifications calculated from ABC, followed by proposed and final specifications) depends on the ABC's and TAC's (where Council-recommended TAC's are lower than calculated TAC's) set at the December Council meeting, and may not satisfy APA standards for public review and input. It was noted in public testimony that there could be problems with area apportionments under this alternative. The SSC suggests this be clarified in the revised document.

HALIBUT CHARTER IFQ – ANALYTICAL DESIGN

The SSC received a presentation of the documents, Analytical Design of the Halibut charter IFQ Analysis, for SSC Review, and Supplemental to Analytical /Design of the Halibut Charter IFQ Analysis for SSC Review by Council staff members Jane DiCosimo and Chuck Hamel. Public testimony was received from Sheri Gross (Halibut Association of North America), and Bob Ward (Homer Charter Vessel Owners Association). The Council has directed staff to prepare a “preliminary analysis of Charter IFQ issues for the October meeting, initial review for the December meeting, and final review at the February 2001 meeting.

The Charter IFQ analysis is on a very tight schedule. Council staff noted that there was a possibility of an additional amendment involving a set aside for communities. This proposed amendment might be added on to the Charter IFQ analysis, further burdening the analysts.

Some problems with the proposed Analytical Design document follow:

1. The problem statement expresses some potentially overly optimistic results for the charter IFQ program, including; “Extending the existing halibut quota share program to include the guided sport sector, with provisions to recognize the unique nature of the guided sport sector, *will resolve future allocation conflicts between the commercial and guided sport sectors*, and provide access opportunities for halibut fishermen, processors and consumers. “ While halibut IFQ’s provide promise for reduction of some allocation conflict, it may not fully extinguish regional conflict over halibut allocation.

2. We note that datasets on personal identifiers and data on potentially qualified IFQ recipients are incomplete. These data problems could create a significant obstacle to identifying the population of participants and associated history in the fishery. It was noted in the Analytical Design document that:

“While a definitive count of vessels and owners can be produced from available data, it will not be possible to match these data to the options under Issue 4. Further, it will not be possible to match those missing records to harvest history qualification criteria for the options under Issue 3.”

These data shortcomings will handicap the analysis in terms of identifying appropriate strata for the population, impacts on quota price and rents, and in determining the probable outcomes of the distributional effects on various groups in the recreational sector, other fishing sectors, and localities.

3. Without substantial additional resources, Council staff indicated that it would be unlikely that the charter IFQ analysis would be as detailed as the halibut GHL analysis. The SSC encourages the Council to consider the use of additional technical assistance through contracts or other means to increase the probability of developing an analysis that will withstand scrutiny.