North Pacific Fishery Management Council

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SCIENTIFIC AND STATISTICAL COMMITTEE
to the
NORTH PACIFIC FISHERY MANAGEMENT COUNCIL
March 31 to April 2, 2008

The SSC met during March 31 to April 2, 2008 at the Hilton Hotel, Anchorage, Alaska. Members present were:

Pat Livingston, Chair
NOAA Fisheries—AFSC
Bill Clark
International Pacific Halibut Commission
George Hunt
University of Washington
Franz Mueter
SigmaPlus Consulting
Doug Woodby
Alaska Department of Fish and Game
Keith Criddle, Vice Chair
University of Alaska Fairbanks
Sue Hills
University of Alaska Fairbanks
Kathy Kuletz
US Fish and Wildlife Service
Lew Queirolo
NMFS—Alaska Region
Robert Ames
Oregon Department of Fish and Wildlife
Anne Hollowed
NOAA Fisheries—AFSC
Seth Macinko
University of Rhode Island
Terry Quinn II
University of Alaska Fairbanks

Members absent were:
Gordon Kruse
University of Alaska Fairbanks
Farron Wallace
Washington Dept of Fish and Wildlife

C-1 Steller Sea Lion Issues

Bill Wilson (NPFMC) presented information on three issues, with assistance from others as noted under each item. Public testimony was taken on all items at once and was heard from George Pletnikoff (Greenpeace) and Paul MacGregor (At-Sea Processors Association).

C-1 (a) Review NMFS Response to Fast-Tracking two SSLMC proposals

This was an informational item only. NMFS recommended that the proposals not be fast-tracked, but rather stay with the rest of the SSLMC proposal package.

C-1 (b) Review Final Revised SSL Recovery Plan

Kaja Brix (NMFS, Alaska Region) presented the main changes made to the Recovery Plan since the last time we saw it, in August 2007, and introduced the new SSL coordinator, Dr. Lisa Rotterman (NMFS). **Although the Plan is final and no further changes will be made until the Plan is officially revised, the SSC provides comments to build the administrative record for the next revision.**

Overall, the SSC commends the agency on the improvements made to the Final Recovery Plan, noting that it is a well-written document, with better balance and fewer internal contradictions than

in previous versions. Although the document is final, the SSC suggests that a link to the data from the 2006 and 2007 partial surveys be provided on the web site on which the recovery plan is available. The data are central to understanding the change of trend for the Western DPS (wDPS), from increasing, to stable or decreasing, and should be made readily available, since they are not in the tables in the document (e.g., Table 1.1 and 1.2). The SSC notes that the implication of this change in population trend for the adequacy of the current SSL protection measures will be determined in the coming status quo Biological Opinion (BiOp).

In June and August 2006, and August 2007, the SSC commented on the two earlier draft revised Recovery Plans (RP). In previous sets of comments, the SSC suggested items that could be addressed fairly quickly and easily, and other items that would take considerably more work and analysis. In June and August 2006, the SSC commented on 7 main issue areas, addressed 36 more specific points, and made extensive comments and recommendations with respect to the PVA. NMFS responded either by disagreeing, making changes in the document, or by deferring the task to the implementation plan and future work. The 7 main issues were: 1) a need to address the implications of alternate population structures (e.g., metapopulations); 2) provision of biological justification for criteria for delisting/downlisting, such as the 3% rate of population increase; 3) a need for research plans for testing hypotheses; 4) a better discussion of efficacy of past management actions, 5) a review of critical habitat designation, 6) the apparently subjective ranking of impacts under threats assessments (for example, from the information in the RP, Toxics seem to be a low threat and disease a medium threat), and 7) the basis for priorities for plan actions. More specific points commented on by the SSC included the requirement for assessment of the Russian subpopulation, statistical significance of trend analyses, and the effects of fluctuating carrying capacity.

In the SSC's August 2007 comments, several issues from previous minutes were reiterated and new ones were raised. Again, NMFS responded to all comments in various ways: disagreeing, agreeing and changing the document, or deferring the issue to the implementation plan and future work. The SSC was pleased to see that our many comments on the lack of balance, confusing and contradictory statements, additional studies that should have been included, and clearer organization were addressed. **The change in the ranking of the killer whale predation threat, and dropping the requirement for vital rates were positive changes to the document. However, the SSC was surprised to see that the call for a large-scale "adaptive management plan" was still included.** Although the SSC long ago called for adaptive management, meaning carefully coordinated small scale experiments, it has been shown many times that a large-scale experiment that would give sufficient contrast among the treatments to yield useful information is extremely unlikely to be developed.

SSC concerns that were deferred for future work included: investigation of the management and recovery implications of different stock structures (e.g., metapopulations), reassessment of critical habitat designations, technical improvements to the PVA, and effects of a modified carrying capacity on recovery criteria. The SSC understands that the current definition of the wDPS includes the Russian subpopulation. The SSC encourages exploration of options (such as an international treaty) to accommodate SSL assessment and the associated funding to collect the necessary data. The SSC had requested that the agency develop a more structured and transparent method of weighting the evidence for determining threat assessment level, and improve the biological criteria for delisting or downlisting. For example, something like the proposal ranking tool, developed by the Steller Sea Lion Mitigation Committee, could be developed for this purpose.

Some new issues were also found in the revised RP. For example, if SSL move from the wDPS to the eastern DPS, this movement will impact the apparent rate of population change in the wDPS. This would affect our understanding of the recovery of the wDPS. This issue needs to be addressed in the future. Likewise, there is a possibility that octopus taken in the pot fisheries may cause local depletion of this

important component of SSL diets. This should be examined. There are also a number of statements of considerable importance that would be bolstered by inclusion of pertinent references to the literature.

The SSC recommends that NMFS communicate the anticipated procedures and timeline for the next recovery plan revision that might consider the work suggested by the SSC, analysis and review of new data (e.g., new counts), and PVA improvements. It seems unlikely that the RP will be revised in five years, considering that this one took longer than that. With Biological Opinions on the horizon, the implementation plan to be developed, and the amount of work that would need to be done for the suggested analyses, a timely revisiting of the RP could be sidetracked. Therefore, it seems prudent to outline a procedure and timeline for analysis and revision, so that issues and concerns can be addressed and appropriate analyses undertaken.

C-1 (c) Receive report from the Steller Sea Lion Mitigation Committee (SSLMC) on preliminary recommendations for changes in SSL protections measures.

SSLMC chair Larry Cotter presented the committee's report. The SSLMC had originally planned to present a preliminary package of proposals at this meeting. However, at their March 2008 meeting, the SSLMC decided that until the status quo draft BiOp is released, it will be impossible to craft such a package. The timeline now will be to receive the BiOp in May, determine which, if any, proposals can be considered, and prepare the package of proposals to present to the Council in June.

C-3 GOA Groundfish Sideboards

The SSC received a report on an initial review draft EA/RIR/IRFA from Jon McCracken (NPFMC). There was no public testimony on this agenda item. This is an initial review draft of a discussion paper last reviewed by the SSC in October 2007. The analysis considers alternatives for adjusting sideboard exemptions.

The current draft purpose and need statement does not provide a concise or compelling expression of need for the proposed action. This draft appears to have missed the preliminary review stage, when direction from Council could have been provided. This places the analyst in the position of attempting to describe the Council's unarticulated intent, its expectations, and the range of acceptable courses of action the Council wishes to consider. **The SSC recommends that the Council provide clearer guidance as to its purpose, need, objectives, and "acceptable" suite of alternatives.** This will assist the analyst(s) in providing an analysis consistent with the requirements of MSA, E.O.12866, NEPA, and RFA (among other relevant legal mandates).

One aspect of this document that could be enhanced, to better address continuing administrative and procedural concerns expressed by DOC and NOAA General Counsel reviewers, would be to highlight the true range of "alternatives" before the Council. [This applies equally to other analyses prepared for Council review and Secretarial approval.] Specifically, there are formally two alternatives identified (for each of a series of independent actions), including the mandatory "No Action" alternative. However, functionally there are numerous alternative forms of the actions, addressed within the analysis, owing to the combinations of "alternatives", "options", and "sub-options", both complementary and mutually exclusive of one another. A more accurate description of these would facilitate public (and reviewer) understanding of the true range of actions before the Council, which, in turn, will expedite procedural advancement of the action.

Once the Council provides the requisite guidance to the analyst(s), cited above, the SSC recommends that the analyst(s) systematically address each of the required elements set-forth by the E.O. and MSA National Standards. For example, the draft analysis does not provide clear evidence that the sideboards

have been binding; it lacks a thorough discussion of the costs and benefits of the proposed action at the level of the affected sector, related sectors, communities, or the Nation; and, it lacks a discussion of the potential benefits of transferring unharvested TAC to the non-trawl sectors.

There appear to be confidential data presented in the document. Presumably, the release of these data was formally agreed to by the subject operator(s). If this is the case, that authority should be prominently displayed in the draft. If this authority has not been obtained, these confidential data must be removed from the document before release for public review.

The SSC supplied detailed analytical and editorial comments to the authors. **The SSC does not recommend release of this draft for public review.**

C-6 (a) Charter Halibut—Evaluation of the 2006 ADF&G Charter Logbook

The SSC received a report from Scott Meyer (ADF&G) on the ADF&G evaluation of the 2006 logbook data. Public testimony was received from Henry Mitchell (Southeast Alaska Guides Organization), Earl Comstock (Charter Halibut Task Force), Donald Westlund (Ketchikan), Alicia Busick (Seward), Rick Bierman (Juneau Charterboat Operator's Association), Dan Hull (Cordova District Fishermen United), Kathy Hanson (Southeast Alaska Fishermen's Alliance), Dan Falvey (Alaska Longline Fishermen's Association), and Jeff Wedekind (Ketchikan Guided Sportfish Association).

The State of Alaska reinstituted mandatory logbook reporting for charter operators targeting halibut in 2006. A number of changes were made to the logbook and to reporting requirements for the new logbook program. Among the most significant of these new requirements are: (1) reporting in the logbook of the State of Alaska fishing license number and catch (and release) by each individual charter client, and (2) weekly submission of logbooks. ADF&G conducted a review of the 2006 logbook data with four primary objectives in mind: (1) an assessment of the overall data quantity and quality, (2) a comparison between logbook data and end-of-season surveys regarding participation and harvest levels, (3) a comparison between logbook harvest numbers and estimates derived from the Statewide Harvest Survey (SWHS) by area, (4) a comparison between logbook data and on-site interviews, and (5) a comparison between logbook harvest data and estimates derived from creel surveys.

Results of the evaluation suggested that the new logbook/reporting requirements produced substantial improvements over the old discontinued logbook program. The analysts' conclusions were that the 2006 data were relatively clean, they were unable to detect false reporting, harvests as reported on logbooks are higher (+23% in Area 2C, +30% in Area 3A) than those estimated from the SWHS, and the mandatory reporting of each angler license number allows additional diagnostics.

This report provides a helpful review of the data generated through the logbook program and its relationship with data generated by the SWHS, port-sampling, creel surveys, and a post-season mail survey of charter customers. Differences between estimates based on the 2006 charter logbooks and estimates based on the 2006 SWHS are substantial; it is unlikely that this difference would be observed if the charter logbook data and SWHS survey responses each provided an unbiased estimate of the true magnitude of catches of halibut and other fish. **However, at this time, we do not know which method produces a more accurate reflection of the true harvest levels.** It is possible that both methods are unbiased, but the magnitude of the discrepancy suggests that one method is biased. While the report speculates on some possible reasons for the discrepancy between the estimates derived from the SWHS and the logbook data, the actual reasons for the difference are unknown and, thus, it is unclear if the difference will be repeated in 2007, or subsequent years. **The SSC concurs with the analysts' assessment that it is premature to conclude anything definitive about one method over the other.**

Logbook data were also collected for 1998 through 2001. However, concerns about the quality and validity of those data argue against their use in analyses. For example, in a September 21, 2001 memo, provided to the SSC and Council in October 2002, Allen Bingham (ADF&G) concluded that

> In IPHC area 3A the 1998 logbook data on halibut harvested on charter vessels appears to be reasonable when compared with SWHS estimates, but data from the 1999 and 2000 logbook programs are believed to be artificially inflated and should not be used in any management decision making process.

Consistency between the 2006 logbook and port sampling observations lends credibility to the logbook-based estimates of total removals. However, the logbooks and port-sampling observations are not independent. Differences between estimates based on the SWHS and the post-season mail survey were not directly examined, because the SWHS responses provide estimates of annual total catches, while the post-season mail survey responses describe catches associated with a single trip. Consequently, although SWHS and post-season mail survey responses can be matched by license number, there may not be many matched observations, and even fewer that are matched and where the respondent only took 1 charter trip. The SWHS estimates were substantially below the logbook-based estimates and the post-season mail survey estimates were substantially above the logbook-based estimates. Thus, it is likely that the difference between the SWHS and post-season mail surveys is substantial and significant.

There are some inconsistencies in the charter logbook data (e.g., ~7% of the respondents to the post-season mail survey of halibut charter customers indicated that they had not taken a charter trip). Nevertheless, because the logbook observations are a census of the trips taken, and because a sample of the logbook data was subject to verification, it is likely that the logbook data provide a superior basis for estimating charter-based halibut landings. However, one year of logbook data does not provide a credible basis for concluding that logbook-based estimates will always exceed SWHS-based estimates, nor that the magnitude of difference apparent in 2006 is an accurate characterization of differences to be expected in subsequent years.

While differences in the estimate of charter-based sportfish landings will affect estimates and trajectories of the halibut population, the differences are small and the effect would include changes in the estimated productivity of the stock, as well as estimates of current removals from all sources. The interplay of these two effects make it difficult to anticipate how new estimates of charter-based sportfish landings would affect the Constant Exploitation Yield (CEY). If the logbook-based estimates are consistently larger than the SWHS estimates, it would be inconsistent to derive estimates of the unguided sportfish landings as the difference between a SWHS estimate of total sportfish landings of halibut and a logbook-based estimate of total charter halibut landings.

The SSC commends the analysts for their evaluation and looks forward to a similar review of the 2007 data.

C-6 (b) Charter Halibut Catch Sharing

Jane DiCosimo (NPFMC), Jonathan King (Northern Economics) and Darrell Brannan (NPFMC) presented the initial review draft of the EA/RIR/IRFA. This draft analysis reflects many recommendations provided by the SSC in our October 2007 review of a discussion paper that outlined this analysis.

Public testimony was provided by Henry Mitchell (SE AK Guides Organization), Earl Comstock (Charter Halibut Task Force), Donald Westlund (Sportfishing Guide Ketchikan), Alicia Busick (Sportfishing Guide Seward), Rick Bierman (Juneau Charter Boat Operators Association), Dan Hull (Cordova District Fishermen United), Kathy Hansen (SE AK Fishermen's Alliance), Jeff Wedekind (Ketchikan Guided Sportfish Association), and Clay Slanaker (Ketchikan Guided Sportfish Association).

The alternatives considered in this amendment have the potential to create substantial changes in the distribution of economic opportunity, relative to the past or present. In addition, the alternatives may affect net national benefits. However, as noted in our October 2007 report,

> A complete characterization of net national benefits affected by this action would require consideration of the contribution to national welfare of all commercial removals (i.e., charter, halibut longline, other fixed gear fisheries, and trawl). Such an analysis exceeds reasonable expectations for the present action.

The draft EA/RIR/IRFA includes an appropriate discussion of most of the pertinent studies[1] and their implication for this analysis.

The analysts' choice of an ARIMA (2,0,1) model for projecting halibut charter catches is reasonable—past catches do not determine future catches, but past catches are a proxy for the time series of latent processes that determined past catches, and a reasonable basis for projecting future catches, so long as the latent processes are unchanged. The derivation of the model and estimation of model parameters should be clearly articulated in the analysis, or an appendix to the analysis. It is important to note that the projections of the model are based on the time series of SWHS estimates of charter-based catches. The model cannot be directly applied to logbook estimates of charter-based catches, because there is a four-year gap in the time series between the 1998-2001 and 2006 logbook data. Further, the 2006 data are not considered to be comparable to the 1998-2004 data. If the Council chooses to base the catch allocation on logbook values, and if the Council wishes to see catch projections based on those models, the analysts will need to adopt some simplifying assumptions, for example, treat the difference as a constant add-on to the SWHS-based projections, much as was done to scale the projections to reflect possible management actions (see e.g., Table 26).

In our October 2002 minutes related to the then proposed halibut charter IFQ program, the SSC noted that the MSFCMA does not require that catch history serve as the basis for an initial allocation of quota shares, only that it be considered, along with several other elements. In setting a sector allocation between the halibut longline fishery and the halibut charter fishery, the Council is not limited to basing the allocation on a particular estimate of the catch history during a particular qualifying period. For example, the inshore-offshore and AFA allocations were not based on the ex-ante status quo. Similarly, the Council could choose to base a longline-charter allocation on historic catch shares, as suggested by the SWHS, the 2006 logbook estimates, the GHL, or some other criterion that is perceived to be equitable and unlikely to grossly distort net benefits to the Nation. Reliance on an allocation criterion, such as a fixed proportion of the CEY, would offer the advantage of avoiding an irresolvable (in the near term) argument about whether the logbook entries, or the SWHS responses, provide the least variance unbiased estimate of charter catches.

The SSC notes that, if Guided Angler Fish (GAF) are denoted in numbers, there may be an incentive for operators to selectively harvest fish that are heavier than the average weight assumed when IFQ pounds are converted into GAF numbers. If GAF are assigned in numbers, rather than pounds, it would be prudent to devise a scheme for sampling fish lengths in the GAF fishery, as a check on the appropriateness of the average weight assumed when IFQ pounds are converted into GAF numbers.

The SSC recommends that the draft analysis be released for public review, after it has been edited to address minor revisions noted above. We also recommend the inclusion of a section that explicitly discusses the processing sectors associated with longline and charter sectors and a section that raises the policy issues associated with definition of economic sustainability of individual firms and sectors in the charter and longline fisheries.

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[1] Herrmann and Criddle (2006) An econometric market model for the Pacific halibut fishery. *Marine Resource Economics* 21:129-158. reports an updated model of exvessel market relationships for halibut from Alaska.

S. Todd Lee, NMFS—Seattle is developing an updated model of angler surplus for halibut in Alaska.

D-1 (a) BSAI Salmon Bycatch EIS

Diana Stram (NPFMC) presented a discussion paper reviewing the draft suite of alternatives for an Environmental Impact Statement (EIS) on managing bycatch of Chinook and "other" salmon in the Bering Sea pollock trawl fishery. Gretchen Harrington (NMFS Alaska Region) presented a scoping report for the EIS, Jim Ianelli (NMFS AFSC) presented a draft report on development of an Adult Equivalency (AEQ) model for estimating the impacts of salmon bycatch on salmon returns, and Bill Templin (ADF&G) responded to questions about genetic stock identification data used to parameterize the AEQ model. Public testimony was presented by Donald Westlund (Ketchikan Charter Boat operator), Jon Warrenchuk (Oceana), Don Rivard (Office of Subsistence Management, USFWS), George Pletnikoff (Greenpeace), and Chris Stark (Bering Sea Fishermen's Association).

The SSC wishes to recognize the outstanding effort by Council staff, as well as by NMFS staff and cooperating staff from ADF&G, to provide and summarize information on this issue on an accelerated schedule. Recognizing the large effort that will be needed to draft the complete EIS, which on the accelerated schedule is to be available for release following the June 2008 Council meeting, the SSC recommends removing or trimming alternatives and options to a more tractable set of those that are clearly within reason and in keeping with the problem statement. **Specifically, the SSC recommends removing Option A (modifying the PSC accounting period to begin at the start of the B season) recognizing that seasonal accounting, which is expected to be done, will make this option unnecessary. Also, the SSC recommends deleting alternatives that do not meet the problem statement's goal of reducing bycatch. To this end, the Council should consider removing alternatives for fixed closed areas and triggered closures that would be similar, in kind, to past implementation of the triggered closures of the Salmon Savings Areas. Over time, these area closures have been found to be insufficient to reduce bycatch.** The rationale for dropping the various types of closed area configurations is that the Bering Sea environment is expected to continue to change in both subtle and remarkable ways, and the spatial and temporal use of this environment by salmon and pollock is also expected to change, such that closure boundaries identified at this time cannot be expected to be effective over the longer term. Compounding this problem is the considerable uncertainty of the effects that will be realized if the pollock fleet is excluded from the most productive grounds. Potential effects include increased effort to achieve the TAC and increased bycatch of smaller pollock, perhaps also of salmon. Unfortunately, the quantitative information on which to base analyses of the effects of fishing outside of the productive grounds is extremely limited. This limitation would be most severe for the large closed area alternatives that encompass large percentages of productive pollock fishing areas.

The SSC has a few suggested improvements to include in the upcoming draft EIS. The first suggestion is to more fully consider the potential impacts on salmon returns to other systems, including West Coast rivers, particularly those with ESA listed species. The SSC also recommends inclusion of an analysis of bycatch in relation to what is known, or suspected, in regards to salmon migration routes. If there is to be continued evaluation of closed areas, the SSC recommends that the identification of high catch rate areas include an analysis of the variation in bycatch rates, specifically to identify those blocks (e.g., 10 km square areas) that are consistently hot spots for salmon.

The model of "adult equivalents" (AEQ) incorporates genetically-based stock composition estimates of the proportion of Chinook salmon taken as bycatch in each of two trawl regions and seasons, as well as catch-at-age estimates, mortality rate estimates, and maturation schedules. The model incorporates estimates of uncertainty, and once fully developed, could be used to select a bycatch limit, based on the sum of estimates of run size impacts, or to evaluate run size impacts given a specific bycatch limit.

This analysis is primarily intended to provide information about the implicit allocation of salmon between user groups. Allocation of salmon resources found in and off Alaska is traditionally the purview of the Alaska Board of Fisheries (BOF), so it would be helpful to provide the model results in a framework for

comparison, similar to that which the BOF has used for many years in their public process. **Therefore, the SSC requests that the estimates of run size impacts also be presented in tables that include corresponding estimates of salmon run sizes, escapements, escapement goals, subsistence harvests, commercial harvests, and sport/personal use harvests for affected rivers of origin for representative years. The SSC also requests that information be provided to show run size trigger levels at which commercial and subsistence harvests are limited or prohibited for those river systems where these limits have or may be imposed.**

Understanding that the AEQ model will undergo further development, the SSC encourages further improvements in estimation of critical parameters. These critical parameters include estimates of at sea survival, which might be improved based on tagging related estimates derived for hatchery-produced or wild salmon. The mortality estimates in the model may need adjustment (equation 4 on page 4 of the draft working paper) to account for the partial year between the A or B season of capture and the time of entry into the river of origin for the expected year of spawning.

D-1 (b) GOA Crab and Salmon Bycatch

Diana Stram (NPFMC) reported on a discussion paper on Gulf of Alaska salmon and crab bycatch in groundfish fisheries. This issue was originally included in the GOA Rationalization EIS and only recently has been elevated as an independent issue. The last time the SSC reviewed this issue was in 2005. Further action on this issue is dependent on a request from the Council. The current analysis is dated. Some aspects of the analysis will be updated, if the Council requests further action on this issue. The present document does include additional information on actual observed coverage levels in the GOA groundfish fisheries, based on new information provided by Jennifer Hogan (NMFS). Public comment was provided by Julie Bonney (Alaska Groundfish Databank), John Gauvin (Head and Gut Workgroup), and Therese Peterson (Alaska Marine Conservation Council).

The report shows bycatches of Tanner crab and Chinook salmon have increased in recent years. The majority of Tanner crab is taken in the flatfish and cod fisheries. The majority of Chinook is taken in the pollock fisheries. In the case of Pacific cod and flatfish, a large fraction of the fleet has been unobserved, making accurate bycatch accounting problematic. The proposed alternatives currently included in the discussion paper are the same as those considered in the BSAI salmon bycatch initiative. **The SSC concludes that the document does not provide sufficient information to assess whether current trends in salmon or crab bycatch are either a conservation or an economic concern. The SSC recommends adding the following information to improve the analysis, in the event that the Council chooses to have this analysis go forward.**

Where possible, the SSC requests that bycatch trends be compared to trends in stock status, and the target fishery, to differentiate between an increase in fishing mortality and an increase in encounter rates with PSCs. For example, it is not clear whether the increase in Tanner crab bycatch is a result of unrepresentative expansion of a small number of observed catch records, recovery of crab populations in the GOA, or a change in the groundfish target species. To aid in differentiating between these factors, the SSC requests a table, showing ADF&G's trawl survey crab abundance data and a summary of salmon run size relative to escapement goals.

The SSC does not recommend using CPUE to assess chum salmon abundance. This estimator could be biased. Also, SSC requests that Table 7 be edited to include units of measurement.

The SSC is concerned about the low levels of observer coverage in the GOA groundfish fisheries. There appear to be high levels of uncertainty in the bycatch estimates of salmon and crab in the GOA, and this should be discussed relative to the ability to properly identify the impacts of

alternatives. Furthermore, implementation of a trigger-dependent bycatch program is likely to be ineffective, due to the large portion of the fleets that are unobserved.

If this analysis goes forward, the Council may want to consider splitting the alternatives or the amendment to separate the crab analysis from the analysis for salmon. This might be necessary in order to account for the differences in crab and salmon behavior and, thus, differences in mitigation measures needed to reduce bycatch for each species.

D-2 (a) Salmon Excluder EFP

Melanie Brown (NMFS) provided the SSC with an overview of the draft EA produced for the EFP to continue developing a salmon excluder device for the pollock trawl fishery. No discernable effects on target and non-target species were concluded from the draft EA analysis of the proposed action. The proposed action could have future economic and conservation benefits to the pollock industry. However, the magnitude of these benefits is unknown at this time. Public testimony was received from Don Westlund (Ketchikan).

John Gauvin (Gauvin and Associates LLC) provided a presentation and a report that detailed the outcomes, to date, of the salmon excluder experiments. Mr. Gauvin and Mr. John Gruver (United Catcher Boats) also described the EFP application for further development and testing of the salmon excluder device, from September 2008 through March 2010, in both the pollock A and B seasons. The EFP application requests an exemption from the Chinook and Chum Salmon Savings Areas, the Bering Sea Pollock Restriction Area, Steller Sea Lion Conservation Area, Catcher Vessel Operating Area, NMFS observer monitoring, and from the pollock TAC specified in the annual harvest specifications. Additionally, a bycatch level of 2,500 chum salmon for each B season, and 2,500 Chinook for each A and B season have been requested to support the project. The project also requests 2,500 MT of pollock, in each of the A and B seasons that would not be subject to TAC limits for pollock. The 2008 pollock TAC was set at the ABC level. The SSC discussed the potential to exceed the ABC under this proposed action and determined that if the ABC was exceeded the magnitude of overage would be negligible and would have no discernable effects to the pollock population. These catch levels are based on the lessons learned from past work and a plan to optimize the amount of testing to achieve an adequate sample size and statistical power for a sufficient evaluation of the "flapper" salmon excluder device.

The flapper design salmon excluder has shown the greatest potential, over previous excluders tested (EFP 05-02), for lowering salmon bycatch, with the least negative effects on fishing and associated net repairs. The new EFP will repeat the testing of the flapper design, as suggested by the SSC in October of 2007. **The SSC recommends approval of this EFP permit and is hopeful that this research will aid in mitigating incidental catch of salmon by the pollock trawl fleet in the future.**

D-2 (b) CGOA Rockfish Electronic Monitoring EFP

Julie Bonney (Alaska Groundfish Data Bank) presented her request for an Experimental Fishing Permit (EFP) to continue and enlarge a feasibility study of the use of electronic monitoring (EM) in the Rockfish Pilot Program, as a mechanism for accurate quantification of halibut discards. Work in 2007 was concerned with the feasibility of installing and operating the cameras on the small trawlers in this fishery. Proposed work in 2008 would be concerned with the feasibility of collecting video data from several vessels, and processing and storing those data.

In principle, the SSC supports the development of EM technology, including this project. As a matter of procedure, the SSC believes that the application should contain more analytical detail concerning the data to be collected and the methods to be used. If hypotheses are to be formally tested, a

valid experimental design needs to be prepared and should include a power analysis. A clear linkage between the goals of the study and the plan of action is also necessary. We expect that a report of the 2005 work and results obtained in 2007 will be presented at the June 2008 meeting.

D-2 (c) VMS Dinglebar Exemption

The SSC received a report from Diana Evans (NPFMC), John Olson (NMFS), and Melanie Brown (NMFS) on a draft EA/RIR/IRFA to exempt GOA dinglebar fishermen from VMS requirements. Public testimony was provided by Donald Westlund (Ketchikan).

The draft EA/RIR/IRFA presents several statistics pertaining to dinglebar fishing activity depth profiles (from the 2007 fishery) and to the depths at which HAPC are believed to occur. It is also reported that "any" bottom contact (e.g., anchoring) results in destruction of HAPC (e.g., Gorgonian corals), imposing long-term habitat losses.

The depth observations reported for HAPC, and those for dinglebar fishing, are interpreted in the EA/RIR/IRFA in ways that do not appear to be supportable, as presented. For example, the analysis asserts that dinglebar fishing "typically" occurs at depths of less than 50 fathoms. It, elsewhere, asserts that Gorgonian coral habitat occurs at depths in excess of 80 fathoms. In combination, this leaves the impression that there is approximately a 30 fathom buffer between the two. The document does acknowledge, at one point, that "... some fishing occurs ... somewhat deeper than 80 fathoms", but clearly implies that it is not important in this context. Data referenced in other sections of this document, however, reveal that a non-trivial amount of dinglebar effort occurred in depths in excess of 100 fathoms. Substantial portions of the subject HAPC areas coincide with depths between 80 and 110 fathoms (e.g., 78% of the subject HAPC in FN1 and 75% in FS2). However, the analysis asserts that none of the alternatives (to the status quo) are expected to have a significant adverse impact on protected habitat. This conclusion appears to be based on inconsistent interpretation of the conflicting information on the extent of overlap between fishing depth and HAPC depth.

The document should highlight the limitations on knowledge of the distribution of Gorgonian coral habitat in this region of the GOA, which are based on a very limited number of submersible dives. Bottom-contact in these habitats should be explicitly recognized as having the potential to impose long-term and cumulative habitat losses.

The analysis acknowledges the "deterrent" effect of VMS and the likelihood that observed location of fishing was changed by the monitoring. Nonetheless, the summary interpretation (table p.vii) concludes "... it does not appear that dinglebar fishermen would have an incentive to fish in the (HAPC) area." A different conclusion might reasonably be reached, based on the same information.

The economic analysis should more carefully distinguish between costs uniquely imposed by the proposed action, versus those which have been incurred previous to this action (sunk costs). For example, all current participants must have already incurred the costs of complying with existing regulations (in place in 2006). Furthermore, a substantial portion of those costs were subsidized (e.g., through rebates, tax/depreciation provisions, etc.) The actual burdens imposed on operators by retaining the VMS requirement (or the benefit accruing from exemption) are those annually recurring variable operating costs (estimated to be less than $188.00 per vessel per year).

Over time, replacement of VMS equipment, maintenance, and variable operating costs may be expected to recur. The draft analysis characterizes some of these, and derives sector-wide aggregate net present value (NPV) estimates. The parameters employed in this assessment should be carefully reconsidered and estimates should be recalculated and presented on a mean "per vessel" basis.

The SSC does not find the analytical arguments presented in the RIR section entitled "Total Social Costs" to be germane to this analysis and recommends that the section be deleted. In addition, we recommend that the cost-benefit discussion be revised to more appropriately characterize the fixed and variable costs of the alternatives, before the analysis is released for public review.

The SSC recommends release of the draft document only after resolving the above-noted inconsistencies and apparent contradictions in the HAPC depth characteristics, relative to dinglebar fishing and after correcting the economic analysis.

D-2 (d) GOA Other Species ABC/OFL Specifications

Diana Evans (NPFMC) presented an Environmental Assessment for proposed amendment 79 to the GOA groundfish FMP to specify ABC and OFL for the "other species" complex in the GOA. Alternatives considered are the Status Quo (Alt 1), under which only a TAC would be specified, and Alternative 2, which would establish an aggregate ABC and OFL for the "other species" complex to comply with National Standard 1. **The SSC recommends adoption of Alternative 2, which for the first time provides a biological basis for setting aggregate ABC and OFL for this complex.** We note that this is intended as an interim measure, while the Council considers breaking out component groups and setting individual harvest specifications (OFL, ABC, TAC) for each group.

D-2 (e) Area 4E Seabird Avoidance Measures

The SSC received a presentation from Kristen Mabry (NMFS) and Scott Miller (NMFS) on a revised draft EA/RIR/IRFA for a regulatory amendment to revise regulations for seabird avoidance measures in the hook-and-line fisheries in IPHC Area 4E, to reduce the regulatory requirements on fishermen, without increasing the incidental take of the short-tailed albatross and other seabird species. There was no public testimony.

The SSC recommends releasing the draft analysis for public review, pending additional consideration of the following issues:

The SSC recognizes that the draft EA/RIR/IRFA for this amendment has come a long way since February and that the authors have responded well to many of the comments provided by the SSC in its minutes of the February 2008 meeting. The inclusion of a brief section on page 19, detailing some of our comments and the responses to them, was appreciated. There remain, however, several issues that should be addressed:

It would be most helpful to ensure that all figures and tables are presented in the order that they are called out in the text. It is difficult to be flipping back and forth through the figures and Appendices. Figures need better legends and captions with larger fonts and margins to improve readability.

'Other Species' are still given cursory treatment, simply referring to an old EIS that found no significant population level effects, which are not explained. In particular, the lack of discussion of the immense numbers of short-tailed shearwaters that forage from just offshore of the inner front to almost the shore off Cape Newenham, is surprising. Chapter 40 in the Hood and Calder volumes on the Bering Sea (1982) has maps of seabird distributions as determined in the OCSEAP studies. Additional data are available in the North Pacific Pelagic Seabird Database, as well as from G. Hunt and colleagues. There are also several recent publications on shearwaters in this region. **A lack of evaluation of this issue remains an important deficiency,** as shearwaters are one of the two species most frequently taken as bycatch in the hook and line fisheries of the Bering Sea. Although there is a seasonal mis-match between parts of the fishery and when shearwaters are present, there is overlap in June through September. It is, thus, possible

that the fisheries in Area 4E will overlap with shearwaters and that there may be increased bycatch of this species, if the regulations are relaxed. Such bycatch, in and of itself, is not sufficient reason to forestall the relaxation of the regulations, as these birds are abundant and there is little likelihood of population-level threats to the species from bycatch in area 4E. However, **the Council and NMFS should be made aware that this is an area where increased bycatch of shearwaters could occur,** and they may wish to weigh this potential in making their decision.

There were some errors in background information presented on some bird species, and specifically the status of Kittlitz's Murrelet has changed from low priority to high priority for ESA listing as a threatened species.

There are several papers in the recent Supplemental Volume of Fisheries Oceanography (November 2005) on the Aleutian Islands that discuss the importance of the Aleutian Passes for seabirds, though not for short-tailed albatrosses, per se. In particular see the paper by Jahncke et al.

Minor comments:

Fig. 9: Get a different version with lighter background so tracklines can be seen. (contact K.Kuletz, and, if preferred, get the data to map with respect to 4E boundaries).

p.6 Summary of Cumulative Effects: Red-legged Kittiwakes and Kittlitz's Murrelets should not be included with others listed as affected by stressors mentioned in this paragraph, though they are or have been affected by oil spills, gillnets (Kittlitz's Murrelets), and climate change.

p. 6 (4th paragraph): another threat specific to Kittlitz's Murrelets is tour vessels, though not in the Bering Sea.

p. 19: The list of responses to our earlier comments references incorrect pages and figure numbers, making it difficult to locate relevant text and figures.

Table 6.2: This table concludes no impact on STAL and non-listed species. However on p.35 there is reference to potential direct affects on 'other non-target species', but these aren't specifically identified.

p. 36: Habitat and Ecosystem Effects: Regarding lost/discarded gear, wouldn't the avoidance gear at some point (at least the lines) wind up on the seabed or washed up on the beach? Lines on beaches entangle marine mammal and some bird species. This also contradicts discussion on p. 70, which states that the risks from discarded gear will be minimized by relaxing requirements for streamer lines.

p. 38: The list of web sites could also include USFWS Migratory Bird Management as there is a link for the Alaska Seabird Colony Database, and the N. Pacific Pelagic Seabird Database.

p.39: There is a more current STAL population estimate (Balogh, pers comm).

p.39, 3rd paragraph: Spectacled Eider and Steller's Eider are not always "well off-shore." Specify season; in spring and fall migration periods they are often near shore, especially in NW Alaska. (Note, change spelling of 'spectacles' eider.). Also, there are interactions with fisheries from vessel strikes.

p.42: N. Pacific Seabird Program: Note that although no albatross were observed inside IPHC Area 4E, the southern (STAL) portion of 4E was not well covered by these surveys (see Fig. 9). Also, although the figure used in this draft is from 2007, USFWS data includes 2006, so totals are 443 days at sea, > 41,000 km surveyed.

p. 42 IPHC surveys: As in previous draft, the report from the IPHC surveys ends with the conclusion that few seabirds were observed in this management area, but still does not clarify why that was so. The authors should clarify by describing the surveys, which were not typical seabird surveys. These were 'stern counts' of birds < 50m from the boat immediately after a trawl. Thus, only birds attracted to trawling activity and to boats were recorded. Other species that are abundant in the area (auklets, murres, loons, seaducks, etc) would not show up in these surveys, and in fact would likely avoid the boats. The difference in species that are attracted to vs. not attracted to fishing vessels is addressed as background on p. 49, but this point is most relevant here. Also, although 'no birds of conservation concern were observed', species like Kittlitz's murrelet and marbled murrelet would have likely been lumped with 'alcids' in these surveys.

p. 45: The sentence 'The Aleutian Islands in particular were a primary foraging destination for STAL' is important, but currently buried in the middle of a big paragraph; highlight it better.

p. 47. – 2nd paragraph: Note that black-footed albatrosses also were observed near the shelf edge SW of area 4E (see Fig. 9).

p. 47 (under Kittlitz's Murrelet): Need to update the end of the paragraph to indicate that the Kittlitz's Murrelet status has been upgraded (2007) from level 5 to level 2 priority for listing, due to additional evidence of continued population declines and increasing threats. Also on p. 48, the 2006-2007 USFWS surveys found Kittlitz's Murrelets in the Bering Strait area (near and in 4E) and Chukchi Sea.

p. 51: It should be possible to update bycatch data; estimates through 2006 are available from NMFS.

p.63: (Effects on other species): Mention shearwaters in the first sentence with others, even though they are discussed later. Although relaxation of mitigation techniques in 4E may not have population level effects, Council should be aware that there is likely to be bycatch of these other species (mainly shearwaters, gulls, fulmars). Fairly high densities of shearwaters can occur in fall in the northern portion of 4E, and from summer through fall in the STAL subarea (as shown in your figure 21).

p. 70, table 7.1: Add eiders as a species affected by 'collisions with fishing vessels'. Eiders are also affected by gillnet fisheries (albeit more by subsistence / inland in Alaska). Why are auklets included here, since they are not a 'species of concern' in Alaska? Also, at end of 3rd paragraph, add 'vessel traffic' specifically for Kittlitz's Murrelet.

p. 73, (Purpose & Need for Action), 4th sentence: "The proposed action has the dual purpose of continuing to protect STAL - *not all other seabirds* – while eliminating seabird avoidance gear requirements...where STAL are rarely observed". As written, the statement is misleading with respect to gulls, fulmars, shearwaters in the non-STAL areas of 4E. Even though they are not species of concern, they are covered under the MBTA (note the goals and objectives of the MBTA mentioned in the next paragraph).

D-4 Scallop SAFE

Diana Stram (NPFMC) presented minutes from the February 2008 Scallop Plan Team (SPT) meeting, and also presented the March 2008 SAFE report for the weathervane scallop fishery. Public testimony was presented by Jim Stone (Alaska Scallop Association)

As reflected in the SPT minutes, the past chairperson of the SPT, Jeff Barnhart has retired from service with the Alaska Department of Fish and Game, and Diana Stram was elected to serve as interim chair. The SSC wishes to thank Mr. Barnhart for his many years of service as chairperson, and we heartily welcome Dr. Stram and commend her for her willingness to lead the team on an interim basis.

The SSC finds the SPT minutes from February to be informative and we thank the authors for their attention to detail. In regards to research priorities (specifically item 5), the SSC encourages the team to consider including the objective of investigating whether scallop beds coincide with retention zones, as determined by circulation patterns, and how this relates to stock structure. Additionally, the SSC would like to see the investigation of movement of scallops within beds as a research priority, with the purpose of determining whether scallops can and do fill in areas that have been previously harvested.

The SSC commends the SAFE authors for providing a greatly improved document that is better organized and easier to read than previous versions. We are particularly appreciative of the attention given to our previous comments, as summarized in section 1.2. The SSC requests that next year's SAFE report include an explanation in the management chapter (section 2.1) describing the process by which changes to GHLs are determined each year. Additionally, the SSC requests that an explanation be provided for all GHL changes that have been made for each registration area, to be included in the Stock Status chapter (section 3) for each registration area. More generally, the SSC encourages the development of a control rule to aid in a more transparent, biologically-based GHL determination.

The SSC appreciates the information provided in the Ecosystem Considerations chapter (section 4), and asks the SAFE authors to consider modeling this section after the format of Ecosystem Consideration sections that have recently been prepared for individual groundfish SAFE chapters. The SSC requests that information be provided on predator-prey relationships, including effects on scallop predators, as well as considerations of habitat effects, and of bycatch, as included in the current SAFE. This added information, if not presented separately for each registration area, should at least highlight area specific concerns.

In regard to the potential sunset of the State of Alaska's vessel limitation program, the SSC wishes to strongly express its concern over potential biological conservation issues regarding the scallop resource, in the event that State waters are once again subject to open access.

D-7 Crab Model Review

Diana Stram (NPFMC) reviewed for the SSC the schedule for producing crab SAFEs and OFLs to satisfy the provisions of Amendment 24, which should soon be approved. Crab SAFEs will be produced for the 10 stocks identified in Amendment 24, and the Crab Plan Team drafted two documents to assist in this effort: a set of suggestions for the assessments and a guide to preparing the SAFEs. There was no public testimony.

The SSC approves these documents, in principle, but notes that stock assessment authors may not be able to address all of the suggestions in time for the Plan Team meeting in May. The same is true for suggestions from the CIE review that was recently released. Nevertheless, these documents provide a logical structure and a good start toward developing a consistent and complete set of SAFE chapters.

In the first document (D-7(a)), the SSC recommends changing item 11 under General Comments to be more flexible: authors should consider plotting abundance on an arithmetic scale, but there are surely cases when plotting on a logarithmic scale is more appropriate. In the second document (D-7(b)), the SSC recommends that there be a single executive summary, containing all ten stocks, which precedes the individual SAFE chapters. This allows a better overview of trends among the stocks, and provides a single location for summaries of important information. Also, it is likely that the Crab Plan Team will do the executive summary, rather than the stock assessment author. The SSC notes that the list of information to include in the executive summary is more extensive than is provided in the groundfish SAFEs, and could be difficult to summarize effectively. The Crab Plan Team should reconsider the content of the executive summary at its May meeting. Under management performance, it seems that ABC should be replaced with TAC.

The SSC was also provided the current procedure to be followed for an external stock assessment review. The SSC recommends that the Crab Plan Team review the allowable timing of such a review, in light of the change to the annual cycle for producing the crab SAFE.