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Date:_____

REPORT
of the
SCIENTIFIC AND STATISTICAL COMMITTEE
to the
NORTH PACIFIC FISHERY MANAGEMENT COUNCIL
April 1st –3rd, 2013

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Terry Quinn
University of Alaska Fairbanks

Kate Reedy-Maschner
Idaho State University Pocatello

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Members absent were:

Vacant
Wash. Dept. of Fish and Wildlife

Vacant
US Fish and Wildlife Service

C-3 (a) Discussion paper on BS and AI Pacific cod ABC/TAC split

Jon McCracken (NPFMC) presented a discussion paper on splitting Pacific cod OFL and ABC between the Eastern Bering Sea and Aleutian Islands. Public testimony was provided by Dave Fraser (Adak Community Development Corporation), Jon Warrenchuk (Oceana) and Clem Tillion (Aleut Enterprise Corporation).

This paper was requested by the Council because the SSC informed the Council that it will be setting separate Pacific cod OFL/ABCs for the Aleutians and the Eastern Bering Sea. The current white paper explores some of the consequences of doing so. The SSC appreciates the clear presentation of the issue, the detailed summary of catches by area and sector, and an outline of the TAC-setting process necessitated by the split. We note that there are some obvious implications of this action for the SSL EIS, but that these implications will be explored and analyzed in the SSL EIS and the upcoming BiOp.

The paper also discusses Pacific cod sideboards that have been proposed previously as described in the document to protect shoreside processing opportunities, particularly in Adak. The discussion touches on

some of the economic and social issues that will be important when/if the Council moves forward with the proposed sideboards. The SSC notes that the design of the economic RIR and RFA will be crucial and highly dependent on the guidance provided by the Council in the form of a Purpose and Need Statement and the suite of alternatives. **Of particular significance to the analysis of economic and socioeconomic implications attributable to managing a Pacific cod split are the interactions between AI sector Pacific cod sideboard limits and efforts to facilitate a viable shore-based processing sector in the Aleutian Island communities of Adak and perhaps, Atka.**

As this analysis proceeds, it should include more focus with respect to the state of processing at the Adak facility. The Adak facility is critical to the management options and outcomes for the Aleutian Islands fisheries, following a Pacific cod ABC split. The structure of management alternatives depends upon the presumed operation of the onshore Adak facility, and the Adak facility's viability depends upon the provisions of the alternative selected (e.g., sideboard limits, responsive/flexible delivery rules). Finally, the SSC notes that constraints of both State and Federal confidentiality rules may impose substantial barriers to fully characterizing the implications of competing alternatives, in the context of SSL EIS actions.

C-3 (b) Initial review of Steller Sea Lion EIS

Melanie Brown (NMFS-AKR) presented the SSL EIS, Ben Muse (NMFS-AKR) presented the RIR/IRFA, and Michael Downs (AECOM) presented the community impact analysis. Public testimony was received by Jon Warrenchuk (Oceana), Chad See (FLLC), Simeon Swetzof (self), John Gauvin (Alaska Seafood Cooperative) and Dave Fraser (Adak Community Development Corp.).

EIS

Overall, the EIS is well written and organized, and provides a balanced treatment of the issues. The text is clear, mostly up to date, and provides the reader with a full picture of the strengths and weaknesses of the data available. This is an excellent compendium of information on the interactions of fishing and SSL. However, the document is long and difficult to navigate. This could be improved with a few slight changes. We recommend that the document include bookmarks for all chapters and major sections within chapters and that references to figures and tables in the text are hotlinked and/or have the page number provided so that moving back and forth from text to figures/tables is easier for the reader. In addition, some consistency in the location of figures and tables relative to the text would be helpful. Currently some tables and figures are inserted in the text, and some compiled at the end of a section. In addition, all figures should have legends that explain the color codes being used (and that figures display correctly if printed in black and white, to the extent possible). Finally, throughout the document there is a need for a careful check to ensure that references cited in the text are listed in the References Cited section. Since many references cited are in press, in preparation, or in the grey literature, it would be helpful to identify the web site from which these papers can be downloaded.

A central concept of the SSL EIS is the potential for prey competition between SSL and the fishery. This remains the core contentious issue, as documenting direct impact of the fishing industry on prey availability to SSL remains elusive. It is important to remember that competition, in an ecological sense, involves the use of a common limiting resource by two or more entities (individuals, demes, populations, species). In this instance, an unequivocal demonstration that the shared resource is limiting has yet to be documented either by direct or indirect methods (a negative correlation in prey use or demographics between the two potentially competing entities). Recognition of this could be accomplished by including reference to potential competition unless competition has been established (e.g., page ES-2 line 2) within the document.

The lack of clear proof of competition is central to many of the criticisms of the 2010 BiOp raised by independent reviews, and this EIS acknowledges these concerns both in the executive summary and in how it treats the evaluation of alternatives. However, as a result, the alternatives are only ranked as least

to most likely to cause impact to SSL populations, and no assessment of the magnitude of the impact is provided (e.g., Alternative 4 is more likely to have an impact than Alternative 1, but whether Alternative 4 is 10% or 80% worse than Alternative 1 is not assessed). The SSC appreciates the difficulty of doing anything more than ranking the alternatives, but the approach does make it difficult to evaluate the potential for a Jeopardy/Adverse Modification (JAM) finding should any alternative other than Alternative 1 move forward as the preliminary preferred alternative (PPA).

Assessing competition and the potential for JAM due to the changes proposed in Alternatives 2 through 4 clearly requires better information on seasonal and regional foraging behavior by SSL, and on spatially and temporally specific impacts of fishing activities on fish abundance and distribution (both within and outside the current critical habitat (CH) boundaries). Unfortunately, many of the data needed to make such assessments appear limited or absent. Consideration of the potential for exposure might be improved if the EIS were to include some evaluation of the sample size of telemetered sea lions needed to estimate total habitat range (by season, sex, rookery) so that the sample size of the current data could be compared to this. Such a discussion might also include treatment of how physical features of the habitat (bathymetry, current structure) influence the probability of that area being used by SSLs, as well as whether SSLs in the Western Distinct Population Segment (WDPS) are known to change their foraging locations in response to seasonal prey movements or concentrations (pages 5-27 to 5-32). Ultimately, information on the proportion of foraging by SSLs (by age and sex classes) that occurs within CH in each region (and the resulting increase in foraging activities that occur in CH opened to fishing under Alternatives 2-4) would be helpful. Similarly, information on changes in the abundance of pollock, cod and Atka mackerel by SSL region in the Aleutians should be included.

Relative to the sections on assessing causes of the ongoing population changes in the different regions, and whether changes can be linked to prey availability (within and outside CH), the SSC recommends that correlations between SSL abundance and regional prey density be considered. In addition, the SSC notes that examining the coincidence between changes in SSL population trends with the date of CH protection and regime shifts might inform analyses of impacts of fishing on CH or SSL population trends. Similarly, it would be helpful if the issue of density-dependent population change could be investigated. Perhaps the rapid growth of the WDPS east of Samalga Pass relative to population growth in SE Alaska is due to a rebound of the WDPS from being depressed relative to its prey base by some other mechanisms. Some comparison of population growth rate (Figures 5-2 through 5-10) by region in the WDPS relative to the theoretical r_{max} for SSLs, as well as to the growing Eastern DPS would be useful.

The SSC requests that the EIS include more detail on the age and/or size of the fish targeted by both the fishery and SSL. In addition, addressing the effects of fisheries impacts on forage fish and their habitat would be useful (e.g., fishery impacts on sand lance and sand lance habitat relative to ongoing cormorant declines, page 6-39).

The EIS includes consideration of the potential for fishing activities to have an indirect impact on SSLs via disturbance effects, and recognizes that one of the goals of the CH designations is to reduce this potential. In considering the potential for increased disturbance effects, should CH be opened to fishing under Alternatives 2-4, it might be useful to assess whether the Kanaga Island/Ship Rock haulout progressed to be a rookery in the presence of fishing activity nearby, or if the shift occurred after exclusion areas were imposed.

The seabird Chapter (6) is somewhat superficial, and needs work, particularly the sections on the impacts of the different alternatives, and the treatment of the current literature and terminology. For example, instead of using a new set of terms (e.g., page 6-25, Table 6-4) to describe seabird foraging methods, the chapter authors should use terms developed by Ashmole. In addition, the literature cited section needs to be updated to acknowledge the many papers now available on the distribution, abundance and feeding ecology of seabirds in the Aleutian Islands, and other endangered species such as the spectacled eider. The distribution maps need updating; they appear to reflect only data obtained before the mid-1980s.

Some additional care should be given to the consideration of disturbance to seabird colonies by fishing activities, and the fact that the impact of disturbance may vary by season. Table 6-5 should mention the impacts of night lights on storm-petrels, auklets and possibly murrelets, as there are accounts of massive strikes at night in Unimak Pass when auklets crash onto boats in the fog. Clarification of bycatch rates would be helpful. For example, are the numbers presented in Table 6-11 and on page 6-34 extrapolated from the observed boats or are they the raw numbers? Inclusion of information on the trends in bycatch rates and cumulative mortality estimates by seabird species would also be helpful.

The document ends with a section of research needs that does a good job of highlighting key needs relative to assessing the fishing impacts within the BSAI area as well as data gaps in the SSL literature. Research needs relative to seabirds and other marine mammals are not discussed, as the stated focus of this EIS is the impact of the fisheries on Steller sea lions. While the focus of this chapter is on 'data that would be useful to have' the SSC notes that data gaps identified in reviews of the previous BIOP are consistently included.

RIR/IRFA

Overall, the SSC was impressed with the scope of the analysis within the RIR and the manner in which SSC comments from October 2012 were addressed. The methods used in the analysis were appropriate given data and modeling limits, and were consistent with those presented to the SSC in October.

Based upon earlier SSC comments, the analysts dropped the use of variable cost data from the economic impact estimates. Although the SSC has long advocated for the use of cost data in analyses, in this particular case, the omission of cost data was appropriate because there was no meaningful way to estimate how the different alternatives would impact costs.

The SSC has concerns about how the revenue-at-risk and harvest-at-risk tables are presented. Given the lack of cost data, economic models of price impacts, and models of fishing behavior, this "at-risk" approach provides potentially useful information about the share of the historical catch that was harvested in areas that would be variously open under the different alternatives. However, these values should not be labeled as impacts in the table headings or in the discussion. To be appropriately labeled as estimated impacts, this analysis would need to include other factors such as changes in costs, prices, and fishing behavior. These additional factors are acknowledged in the analysis (e.g., page 8-88). The SSC recommends that the tables be labeled "Estimated Harvest at Risk" and "Estimated Gross Revenue at Risk" (e.g., Table 8-48 to 8-50, among many others). The discussion should be modified similarly. For example, page 8-89 contains the assertion "(Table 8-54) provides estimates of the reduction in retained catch associated with Alternative 1," which could be modified to "(Table 8-54) provides estimates of the retained catch that were historically harvested in areas that would be closed under Alternative 1." On page 8-89 is the statement, "Actual reductions in retained catch range between…" The values are not actual reductions, rather, they are estimates of the historical catch that was harvested in areas that are closed under the status quo and may be opened variously under the proposed alternatives to Alternative 1.

One way to deal with these concerns would be to include a separate section dedicated to a discussion of the concepts of revenue-at-risk and harvest-at-risk, including a rationale for the approach, its strengths and weaknesses, its role in estimating impacts to industry and net benefits to the Nation. Throughout the document, whenever this approach is used, there should be a cross-reference to this discussion. For the most part, this information is contained in various parts of the document, but it is not compiled in a single spot that is easily cross-referenced.

On a related note, gross revenue at risk should not be described as a cost to industry. For example, page 8-138 and Table 8-73 describe gross revenue at risk as the "Monetary Cost of Production Shortfalls." As already noted, these should be described as "Gross revenue at risk."

In multiple places, the document contains a discussion of the potential price impacts on Atka mackerel and Pacific cod. Although industry reports price impacts, on page 8-15, the analysis indicates that a statistical analysis of prices suggests otherwise. At subsequent points in the document, there appears to be more weight given to the anecdotal industry reports than the statistical analysis. During the presentation, the analyst indicated that there were concerns about the statistical model, and that the reports from industry were deemed more credible. Given this discrepancy and the potential for confusion about which sources to use, the document would benefit from a clearer discussion of this issue.

The summary on page 8-107 incorrectly states that the sector will not incur the costs of the harvest. In making adjustments to gross revenue at risk, however, the relevant adjustment is in changes to harvest cost. Similar summaries earlier in the document (e.g., page 8-98) correctly note that changes in variable costs should be deducted. These summary sections should use consistent language, where appropriate.

To the extent that new entrants are constrained by quota (e.g., pages 8-88 and 8-98), it is conceivable that existing fishery participants could benefit from an increase in the value of quota shares.

On page 8-89, the impacts are described as "significant." This sentence should be deleted. The term is not meant to imply statistical significance, nor "significance" under EO12866 or RFA. Rather, it is a subjective assessment about the size of the impacts. This raises the question of what the threshold is for determining whether a value is significant. Subjective assessments of the values in a table are not necessary and should be removed.

With respect to the community impacts in Chapters 8 and 10, the analysts effectively addressed every concern and suggestion previously made by the SSC in connection with this proposed action. They have produced an impressive product, given the data gaps for these communities and a tight timeline; including moving analytical treatment of the community of Atka to a more central location in the analysis, broadening the definition of community, thoroughly evaluating Adak's economic and social vulnerabilities, and carefully separating fishery engagement from dependency and vulnerability. In the subsistence hunting descriptions, the reasons for the decline in harvest are generally believed to be linked to the population of SSLs or to confusion among hunters about regulations. This section should also acknowledge that uncertainty about hunting regulations may affect reporting of harvest. It should include information describing changes in the population of SSL subsistence hunters in Atka. There were 92 people in Atka in 2000 (46 males and 46 females), and only 61 in 2010 (36 males and 25 females); this could indicate a loss of resident hunters.

Overall, the highest priority improvements to be made to the document before release for public review are: 1) improvements to navigating the document, 2) provide a definition of competition, and 3) appropriately characterizing the revenues and harvests at risk, as noted above.

C-3 (c) Update on BiOp analytical methods

Brandee Gerke (NMFS-AKR) provided an overview of the analytical methods that will be used in the 2014 Biological Opinion for Groundfish Fisheries (BiOp). Public testimony was received by Jon Warrenchuk (Oceana), Chad See (FLLC), John Gauvin (Alaska Seafood Cooperative), and Dave Fraser (Adak Community Development Corp.). The SSC appreciated the opportunity to review and consider these plans.

NMFS plans to limit their update to focus on the BSAI Action Area, with specific emphasis on the implications of proposed actions on Steller sea lions and their critical habitat, because the proposed alternatives in the draft EIS do not impact harvest strategies in the Gulf of Alaska. NMFS will continue to consider trends in three sub-populations within the AI region (western, central and eastern). While the boundaries for these three regions may make sense during the period of breeding and pupping, it is less clear whether these boundaries are appropriate during the winter.

NMFS plans to compile and summarize all of the existing tagging and tracking information for the region to inform the new BiOp. The SSC notes that this summary may provide an opportunity to assess whether the proposed sub-population partitions are appropriate in the winter season. The SSC suggests that the analysts consider the relationship between sample size (number of animals tagged) and the resulting estimates of habitat use (by season, sex, habitat features, etc.), and work towards identifying how many animals might need to be tagged in order to reliably characterize population level use. The sample size may be larger than can be achieved in the short term. However, such an analysis may provide a good basis to evaluate the completeness and reliability of the current data to inform an assessment of habitat use patterns.

The SSC recognizes that the EA-RIR for Steller sea lion protection measures and the BiOp are being developed in parallel and that the two documents are related. However, the planned timing may not be adequate to inform the Council about which alternatives avoid jeopardy and adverse modification to critical habitat. Due to the compressed timeline, it will be useful for the BiOp to provide clear guidance on the thresholds associated with these two critical designations. To the extent that this BiOp is also being developed in response to concerns with the previous BiOp and the external reviews of that document, the SSC requests that the new BiOp carefully works through the external review criticisms and either directly addresses the concerns raised or clearly explains why they were not accommodated.

NMFS outlined the suite of quantitative and qualitative evaluations that will be used to evaluate the risks associated with different options regarding proposals for time-area closures and regional TACs in the AI. The quantitative analyses include an updated and revised Population Viability Analysis (PVA), and a simulation study to examine the utility of pup/non-pup ratios as indicators of birth rates under different assumptions regarding key parameters. These analyses will inform the risk assessment. **The SSC would like to be briefed on the details of these quantitative studies at the June Council meeting.** The SSC encourages NMFS to consider the comments provided on previous PVA models used in earlier BiOps as a potential guide for construction of the updated model, as well as the limitations of using a diffusion versus vital rates approach. As the PVA methodology rests on an unpublished method, the SSC would appreciate being provided with a copy of the Johnson and Fritz manuscript, as well as any other unpublished/grey literature used in the development of the BiOp and its underlying analyses.

The planned risk assessment will consider the exposure to disturbance, direct mortality, and nutritional stress resulting from the proposed action and the expected response(s). Exposure to nutritional stress will be evaluated based on seven key questions, which were paraphrased as follows: a) What prey are consumed? b) Does a prey species represent more than 10% of the seasonal diet? c) What is the spatial overlap? d) What is the temporal overlap? e) What is the depth of proposed removals? f) What size of prey will be removed? g) What amount of prey will be removed? The SSC noted that these seven issues do represent a necessary condition for competition. However, they do not necessarily represent a sufficient condition for competition, as that also requires that the resource be limited (although such limitations may be confined to certain times or locations). If the available resources are not limited, then fishing and successful foraging by sea lions could co-occur. The proposed harvest rate analyses may be able to inform this issue since they will consider rates of removal over time, evidence for replenishment of resources, and rates of removal relative to available biomass in the region. In addition, an evaluation of the expected interannual variability in available prey due to fluctuations in year-class strength and shifts in spatial distribution due to shifts in oceanography might be considered as part of the baseline. The SSC also noted that the response schematic did not consider the potential impact of shifts in prey diversity as a potential nutritional stress exposure factor. In the development of the 'weight-of-evidence' conclusions, the SSC cautions the analysts to consider alternative explanations for changes in life history parameters, particularly where the results of such changes may mirror those of nutritional stress.

The SSC acknowledges that the frequency of occurrence (FO) of prey may have inherent biases related to the amounts and size spectrum of prey consumed, and that some of these biases cannot be removed by

correcting for factors such as differential retention or digestion of hard parts. However, these biases are unlikely to lead to the conclusion that there is significantly more overlap between target species and SSL diet than actually exists. The agency is supplementing diet assessment with alternate methods (FFA, Stable Isotopes, prey DNA) but given the short time frame proposed for this analysis, the SSC agrees that the FO data represents the most spatially and temporally complete information available.

Possible responses of SSL populations to potential competition with fisheries include: changes in birth rate, changes in pup and adult growth rates, and changes in survival. The SSC noted that the proposed analysis only addresses birth and survival rates, and that changes in individual growth rates are not assessed. The SSC requests an update on the information regarding individual growth rates, should such data exist. With respect to population growth rate, the SSC requests an analysis of the growth rate relative to r_{max} so the rates by sub-area can be compared to rates observed in recovered or recovering populations. With respect to the evaluation of pup/non-pup ratios that will inform the assessment of vital rates, the SSC encourages the analysts to consider whether detection probability of pups might vary by haulout, season, or total population size.

The SSC supports the plan to compile a chronology of actions and population level responses as a qualitative evaluation of the efficacy of existing measures. In this analysis, it is essential to account for changes in the environment ('regime shifts") as confounding factors.

NMFS identified the need for winter surveys and dedicated assessments of local abundance and distribution of SSL and their prey. The SSC concurs that these are high priority research activities that would provide useful information for future BiOps.

C-4 Scallop SAFE

A presentation of the Scallop SAFE and February 2013 Scallop Plan Team Report was given by Diana Stram (NPFMC). She was accompanied by three members of the Scallop Plan Team. Brad Harris (Alaska Pacific University) presented an ongoing study of boring worms and mud blisters on scallops in Kamishak Bay. Ken Goldman and Rich Gustafson (ADF&G) provided information on survey gear, studies of selectivity and discard mortality, and an ongoing age-structured analysis in Kamishak Bay. There was no public testimony.

The Scallop Plan Team recommended setting the 2013/14 scallop ACL equal to an ABC of 1.161 million pounds of shucked meats and OFL equal to 1.29 million pounds. The ACL is estimated using the maxABC control rule of 90% of the OFL, which includes discards. **The SSC supports the Plan Team's recommended OFL and ACL for 2013/2014.**

The SSC appreciates efforts by the Plan Team to address the many questions and comments from the SSC in March 2012. Many of the SSC's questions and comments have been addressed in this year's SAFE. Lack of staff and funding has led the Plan Team to defer others (comments 3, 5, 12, 17, 18, 19, 22, 23, 26, and 28). The SSC appreciates the Team's attempts to schedule work on those in the future as possible.

This year, the SSC offers the following additional comments:

1. Last year, the SSC noted the closure of the Alaska Peninsula area since 2009-10 and Kayak Island west bed since 2010/11 owing to conservation concerns. Now, the Kayak Island east bed has been closed since 2012/13. District 16 has experienced declining catch-per-unit-effort (CPUE) since 2000/01 and the size distribution for the 2011/12 fishery implies a lack of recruitment (few scallops < 110 mm SH, Fig. 3-5), although the fishery remains open. Once last year's catch data are finalized, it might be worth taking another look at this district (p. 39-40). Also, guideline harvest levels (GHLs) for Yakutat, Kodiak-Shelikof, and Dutch Harbor were reduced from 2011/12 to 2012/13. The main beds in Yakutat (1-4 and B) that make up a majority

of the harvest are also showing a decline in CPUE over the last few years (p. 34). Over the same time, the statewide total of area-specific GHLs declined from 495,900 to 417,500 pounds. Although the statewide OFL and ABC appear to be precautionary (as justified in the SAFE) and the State of Alaska appears to be taking appropriate management action (by reduced GHLs, fishery closures) the SSC has concerns about these declines in fishery CPUE.

2. The above concerns formed the basis for the SSC's comments last year (comments 3, 5, and 28) regarding the need to reevaluate scallop fishery management, including biological reference points (e.g., natural mortality, F_{OFL}), target harvest rates, utility of Productivity Susceptibility Analysis, etc. In response, the Plan Team recommended a workshop on data-poor stocks to encourage evaluation and discussion of issues related to scallop stock assessment and management, as well as possible extension to other data-poor stocks in Alaska. **The SSC supports the Plan Team's proposal for a workshop on assessment and management of data-poor stocks.** The Pacific Fishery Management Council has some relevant experience on assessment and management of data-poor stocks. Alternative management strategies, such as rotational harvest, may be worthy of consideration. Experience with rotational harvest of shellfish resources in some other regions of the world suggest that such a rotational harvest strategy might lead to higher long-term yields. The cycle of rotation and target harvest rates should reflect recruitment cycles and full fishing mortality that may include cryptic mortality associated with dredge fisheries.
3. **The SSC appreciates the Scallop Plan Team's initial attempts to apply the stock structure template to weathervane scallops, as reported in the minutes of the February Plan Team meeting.** The SSC believes that continued work on this is critical, especially given the variability in growth rates, morphometrics and CPUE trends by region. **The SSC looks forward to the Team's further work on this project, including the review planned for the upcoming stock structure workshop in April 2013.** The Team should consult a recent scallop genetic study (Gaffney et al. 2010; CJFAS 55:2539-2547), although the stock units for management are likely to be smaller than population units. Also, weathervane scallops in Alaska may form a metapopulation, as was proposed for the Atlantic and other sea scallops.
4. The SSC wishes to clarify comment #6 in last year's review. For Kayak Island and Kamishak Bay, abundance estimates are generated by dredge fishery-independent surveys. Elsewhere, CPUE remains the primary index of abundance. Consider estimating statistical relationships (correlation/regression) between fishery-independent abundance estimates and fishery CPUE for Kayak Island and Kamishak Bay. The strength of these relationships could shed light on the validity of CPUE-based indices used elsewhere in the state.
5. Fig. 2-7 on p. 28 suggests that small Tanner crab dominate the bycatch in Yakutat and Shelikof Districts, whereas a broader size distribution that includes mature crab constitutes the bycatch in other districts. The SSC suggests that the Scallop Plan Team consider the merits of an "adult equivalents" approach to the bycatch cap enumeration, such as has been attempted for salmon PSC in the Bering Sea. Namely, should the bycatch of 40 mm CL Tanner crab count equally to a bycatch cap as 140 mm CL adult crab?
6. The SSC appreciates the information resulting from both fishery independent surveys in the tables on p. 43 and 50 in the SAFE, but it also might be useful to include some of this information graphically, such as estimated abundance with confidence intervals over time.
7. The SSC notes that discards were very low in the Bering Sea area in 2011/2012 (p. 71). It could be useful to see a comparison of discarded biomass over time among areas.
8. Some SSC comments from last year addressed ecosystem considerations (e.g., comments 18 & 19 on fishing effects and predators). To this list, the SSC wishes to add a request for brief discussion of climate change and ocean acidification and their potential to affect the scallop stock in section 4.2 Ecosystem effects on the stock (p. 80). There have been some interesting, recent findings on effects of ocean acidification on bivalves in the Pacific Northwest. Also, this issue was highlighted in the presentation received by the Plan Team.

9. In the Kodiak Southwest district, the fishery in the 2011/12 season encountered quite a few older scallops (p. 65). Is there any evidence of maternal effects (e.g., as in certain rockfish species), where older scallops contribute disproportionately to recruitment? This is probably unknown, but could be added as a future research priority.
10. The SSC was somewhat surprised to hear about the exploratory fishery in the Alaska Peninsula in 2012/13 (p. 68), given the recent poor CPUE in this district. The additional description about this exploratory fishery in the Unimak Bight area in the Scallop Plan Team minutes was helpful and should be included in the SAFE document.
11. The SSC is very supportive of ongoing research by Dr. Harris on boring worms and mud blisters. The SSC wishes to emphasize the importance of analyzing results with respect to age of affected individuals. This will be important when trying to evaluate whether these infections affect mortality.
12. The SSC is very supportive of ongoing research by ADF&G Central Region staff on gear selectivity of the sledge-dredge, scallop discard mortality, and development of an age-structured analysis for scallops in the Kamishak District. The SSC looks forward to reviewing results from these studies.
13. From the perspective of the SAFE's economic report, the very small number of participants in the scallop fishery, and the substantial operational concentration and affiliations among even these few entities, makes reporting more than aggregate catch amounts and aggregate gross receipts legally impossible (without securing a formal waiver from each member of the participating fleets). Even when, as the analyst reported, data on operational economics have been volunteered by one fishery participant, these cannot be reported without 100% cooperation and concurrence. Functionally, State and Federal confidentiality constraints make any disaggregate data reporting impossible for the Federal scallop fisheries. Unfortunately, the SSC is not able to recommend a solution to this problem other than continuing to seek voluntary waivers on confidential data from fishery participants.

C-5 Initial Review/Final Action on CQE halibut/sablefish block restrictions

The SSC received a presentation of the RIR/IRFA from Sam Cunningham (NPFMC). Public testimony was offered by Herman Squartsoff (Ouzinkie Community Holding Company(CQE)), Gene Anderson (Village of Ouzinkie), Chuck McCallum (GOAC3), Darren Muller (Ouzinkie Native Corp.), and Duncan Fields (Cape Barnabas, Inc., Old Harbor CQE).

The action alternative (with options) would modify the original CQE Pacific halibut IFQ and sablefish IFQ Program to relax constraints on quota share (QS) purchases by Community Quota Entities (CQEs). Originally, the Council was concerned that CQEs might exercise disproportionate and destructive market power, leading to excessive control over small (especially 'blocked') QS in the halibut and sablefish fisheries. To date, excessive concentration of QS ownership by CQEs has not been a problem and, indeed, the original restrictive provisions imposed upon CQE access to certain forms of QS, have been found to be counter-productive in achieving the Council's principal objectives for CQEs in these fisheries (i.e., maintenance of QS holding in remote rural communities, maintaining entry level opportunities, development of small community-based QS assets). As such, the action alternatives (listed as one alternative with three distinct "options") would, to a greater or lesser degree, relax the offending constraints on CQEs, with the expectation that small, remote, fishery dependent communities will more likely realize the benefits envisioned by the original "Purpose and Need" statement of the Council.

The draft RIR/IRFA before the SSC is concise and clearly prepared, given the stage of development of the amendment action. The draft identifies the empirical evidence supporting the asserted purpose and need statement, reasonably attempts to interpret available data, and draws from that interpretation some initial conclusions about the relative economic performance, social welfare effects, and distributional impacts associated with the three action choice.

The SSC believes that several discussions of "efficiency implications" have been mischaracterized. The analyst should reexamine interpretation of action alternative outcomes with respect to economic efficiency. The SSC is concerned with the way some of the welfare changes are characterized with respect to net benefit to the Nation. These arguments could be enhanced, elaborated, or extrapolated, especially in light of the public testimony, discussed below.

The SSC received informative testimony from the public that added substantially to our understanding of the evolution of the CQE Program and the unanticipated consequences that have emerged from original provisions limiting access of CQE entities to some forms of QS. From this testimony has come a recognition that previously adopted program changes, such as increases in the size of 'sweep up' amounts from 3,000 lbs.to 5,000 lbs., have had implications for CQE success. Some consideration for these effects is warranted.

The document's treatment of impacts on communities, small entities, etc., is incomplete, as one would expect, given the Council has not selected a Preferred Alternative. This presents a disconnect in the draft, where the author has forged ahead with preparation of aspects of the analysis, in the absence of the information and guidance necessary to do so. That will have to be corrected before finalizing the IRFA.

The SSC notes that a *CQ Entity* is not identical to a *CQE-qualified community*. Indeed, the interests and objectives of each may not be identical in all respects. Maintaining this distinction is important in understanding the distribution of impacts. There are several deficiencies or errors of a substantive nature in both the RIR and IRFA that need to be resolved before final release. These include clarifying or removing misleading tables and statements (e.g., latent vessel treatment). Furthermore, each CQE community has different features, histories, facilities, and locations that affect capacity to participate in the CQE program. It would be useful if the document could include a few examples demonstrating this range. Characterizing details of social science studies on the CQE and IFQ programs, as opposed to passive reference currently found in the document, would begin to address socioeconomic and cultural issues involved in the prospects for success of this program. The SSC believes these shortcomings in the analysis can be readily corrected in short-order. **The draft represents a technically sound analytic basis for informing the public and the Council of the economic and socioeconomic implications of the competing alternative actions.** However, the SSC noted the difficulty they are placed in when presented with a document that is presented for Initial review/Final Action. Ideally, we would hope there is a sufficient timeline for improvements to be made to the document before Final Action is taken. In this case, we note that the draft could be finalized in a reasonably short time if the Council takes Final Action at this stage.

C-6 (e) Salmon genetics update

Jeff Guyon (NMFS-AFSC) gave an overview of genetic stock composition analyses of chum salmon sampled from the 2011 pollock fishery PSC in the Bering Sea, and Chinook salmon sampled from the 2011 pollock fishery PSC in the Bering Sea and the Gulf of Alaska. Public testimony was provided by Arni Thomson (Alaska Salmon Alliance).

This (2011) was the first year of implementing a systematic sampling protocol, with a 1-in-10 and 1-in-30 sampling rate for Chinook and chum salmon, respectively. Observers successfully implemented this approach with genetic tissue samples taken from 3.2% of chum salmon and 9.7% of Chinook salmon PSC. There was strong coherence spatially and temporally between the PSC of Chinook and chum salmon and the number of individuals sampled, with the exception of samples from the GOA region where opportunistic sampling was employed. Overall composition estimates of Chinook salmon PSC from the Bering Sea in 2011 did not differ substantially from previous years, with Alaska-origin fish making up the majority of the PSC samples (>60% in 2011). The analyst did note that the composition of 2011 chum salmon PSC in the Bering Sea differed from previous years in that there were lower proportions of Asian stocks and higher proportion of Eastern GOA/PNW stocks. An opportunistic sample

of Chinook salmon PSC taken from the 2011 pollock fishery in the GOA continued to indicate the presence of GOA, Canadian, and PNW stocks in the PSC.

The SSC appreciates the hard work done by the fishery observers to plan and implement the new sample design and thorough reporting of results by the analyst. We also have the following recommendations for the collection, analysis, and reporting of genetic stock composition data:

- Although there appears to be consistency among years, it remains unclear how much bias there is in stock composition estimates from 2005-2010 in relation to the improved information obtained in 2011. A graduate student at UAF is working on an analysis that examines and attempts to correct for bias in Chinook salmon stock composition from the Bering Sea. We would like to see the results of this work once it is available and support this type of analysis for chum salmon PSC in the Bering Sea.
- The sample design for chum salmon resulted in many samples that were not analyzed. Only 1,472 of 6,102 samples taken were used in the analysis. A reassessment of the 1-in-30 sampling approach should be undertaken and the sampling rate revised accordingly.
- We would appreciate a statement of the objective(s), as well as the intended use and the application of the genetic tissue sampling and stock composition estimates in the introduction sections of the two reports. Specifically, an explanation of how these data are critical in the adult equivalent analyses would be helpful. The introduction of the reports should also underscore the importance of this information in many fishery management realms, including the Pacific Salmon Treaty and State of Alaska terminal salmon fisheries.
- As was summarized for the chum salmon PSC report, we would like to see, if possible, finer spatial and temporal stratification of stock composition for Chinook salmon in the Bering Sea.
- For genetic information to aid in the reduction of salmon PSC, it will have to be analyzed and reported on much more rapidly than has been achieved to date. Efforts should be made to achieve a more efficient turnaround of collecting and processing samples.
- Efforts should be made to update the current genetic baseline for chum salmon so that it includes populations in Cook Inlet. These populations are not in the baseline used to estimate stock composition for 2005-2011. Also, we look forward to an updated baseline for Chinook.
- **The SSC recommends that a comprehensive report of genetic stock identification along with stock-based adult-equivalency, run reconstruction, and PSC harvest rate analyses be produced for selected stocks of Chinook salmon to better inform the Council of the efficacy of its efforts to reduce Chinook salmon PSC in the Bering Sea pollock fishery.**

D-1 (a) Preliminary review vessel transit corridors near Round Island

The preliminary draft EA/RIR/IRFA was presented by Steve MacLean (NPFMC). Public testimony was provided by John Gauvin (Alaska Seafood Cooperative).

This is a preliminary review of a draft EA/RIR/IRFA that analyzes the potential impacts of a proposal to establish one or more transit corridors through the Pacific walrus protection areas at Round Island and Cape Newenham. These are intended to allow vessels with Federal Fisheries Permits (FFP) to transit through the areas while participating in state-managed herring and salmon fisheries in Togiak Bay, Cape Peirce and Cape Newenham area, and Security Cove. This action was expanded to include transit for Amendment 80 vessels participating in the yellowfin sole fishery that deliver product to processors in Togiak or in the Hagemeister roadstead. Component nine of the GOA FMP Amendment 83, implemented in September 2011, prevents vessels from surrendering their FFP and reapplying for it within a three year period. As a result, vessels that temporarily gave up their FFP in order to transit through these areas are now at risk of either being out of compliance with federal regulations, or at risk of losing their FFP if they choose to surrender their federal permit. The proposed action is intended to remedy these unintended consequences, while continuing to manage the potential disturbance of walruses in northern Bristol Bay due to fishing activities.

Overall, this draft was well-organized and as complete as it can be at this point. The SSC commends the author on the efforts made thus far. It is apparent from this preliminary draft that the highest priority moving forward should be to further refine the alternatives by making some key decisions. The SSC wishes to note at the outset of its review that the early assertion in this draft that "*a corridor is necessary*…" appears to prejudge the range of solutions and alternatives that could be considered to address the identified problem. At this stage in development, an inclusive examination of available strategies seems desirable (e.g., take action to exempt FFP holders operating as a tender in the Togiak fisheries from Amendment 83 provisions during that period).

However, if transit corridors are to be proposed, the immediate decision points include, but are not limited to, the latitude and longitude coordinates, track, and size of any transit corridor(s), whether or not the corridor(s) should be charted, and which vessels should be allowed to transit through these protection areas. Input from industry, as well as the Enforcement Committee, will be critical to both refining the alternatives and informing the analysis. Additionally, the Council may want to consider if/how to incorporate tender vessels with FFPs that need to access Kulukak Bay, where a large portion of the state managed herring fishery is prosecuted. Until the alternatives are further developed, it is difficult to comment in detail on the approach taken in the analysis or to discern potential impacts of those alternatives.

In addition to the proposition that a transit corridor through currently protected habitat is necessary to alleviate potential time and /or fuel costs associated with longer transit times for FFP vessels participating in state fisheries, there seems to be an implicit preference embedded in this draft to allow an increase in vessel transit disturbance of presently protected walrus sites (resulting from establishing new corridors), in order to extend protection from disturbance to a potential or developing haulout on Hagemeister Island associated with the current (i.e., status quo) traffic patterns. Similarly, the potential reduction of current disturbance levels of FFP vessels avoiding walrus protection areas by transiting though state waters, closer to haulout sites, is not emphasized, though it is mentioned. However, once the alternatives are refined, these tradeoffs in the movement of the fleet and potential shifts in disturbance should be expanded upon and clarified.

The entire draft would benefit from a careful proof-read, as several errors distract from the message being presented (e.g., FFP is referred to as FMP). A figure showing the current transit pathways and the proposed transit corridors (should such be identified and charted) should be included in future versions.

Environmental Assessment: The SSC's main comments on the content of the EA are centered on Section 3.0, Affected Environment. For Section 3.2.1 on the herring fishery, it would be useful to include timing of the fishery in past years, as there are seasonal changes in walrus distribution in this area and variable timing of the fishery could result in different impacts. Inter-annual variability in tendering participation, including those with FFPs, is also essential to establish a baseline of potentially impacted vessels. Further investigation is required to determine the potential for both the state-prosecuted salmon fishery and the northern Bristol Bay halibut fishery to be impacted by this action. Currently, the description of these two fisheries is not sufficient and will need to be substantially expanded. Additional information should include details on landings, timing of each of these fisheries, and vessel participation.

The Marine Mammals section (3.3) is well organized and well written. Information on the methodology of the ADF&G surveys on Round Island would be useful to incorporate, as the draft relies heavily on this dataset. Updated observer data for incidental mortality of walrus, if this is available, should be included as well (Table 3-2, pg. 24). Finally, the discussion of each of the walrus haulout locations *separately* makes it difficult to assess the overall walrus population trend in northern Bristol Bay. A section synthesizing this information would be a helpful addition.

In both Section 4.0 (Environmental Effects) and within the RIR, there should be an expanded treatment of the cumulative impacts of the potential selection of both Alternatives 2 and 3, especially once the Council has provided some more guidance on the details of those alternatives. While the document suggests that risk of disturbance from opening transit corridors is low, opening both corridors would expose a larger proportion of the local population to disturbance, and remove potential sites of refuge from disturbance. The actual risk is likely to depend on some of the follow-on decisions that the Council must make (as above).

Regulatory Impact Review/Initial Regulatory Flexibility Analysis: In the RIR, there are assertions made that are not supported by either data or logical extrapolation of the underlying arguments. These should be examined and, where appropriate, elaborated upon to more fully present the potential economic and operational trade-offs. There appear to be several opportunities to explore existing information to enhance these assertions within the RIR, for example, by consulting industry sources on distances and running times for vessels tendering herring or salmon when: (a) not permitted transit, and (b) if permitted transit. Simply asserting there "may" be fuel savings, or there "may" be product quality improvements owing to (presumably) substantially shorter run times, could be more rigorously assessed or fully characterized.

Likewise, records on VMS capability should be available for every FFP vessel with a potential to benefit from the proposed action, allowing a narrowing of the range of possibly adversely impacted operations. Currently, the text states that 43 vessels functioned as Togiak tenders, but only 18 have VMS. Given the requirements in most federal groundfish and crab fisheries, it seems surprising that such a large number of (implicitly) FFP vessels (i.e., 43-18=25) would not have VMS. The SSC's expectation would be that some of the 43 are not FFP holders. This is an empirical question that should be answered.

Extending from this same point is the matter of the cost of extra VMS reports. If the frequency of VMS signaling must be increased for enforcement purposes, what is the cost to fishermen? It is not clear how one interprets and extrapolates the $25.88/mo/additional VMS filing. Once that is clear, one should be able to estimate the approximate number of FFP vessels that typically serve as tenders, how many operational days each tender works on average, and what the per vessel and aggregate VMS increased costs should be. The same questions could be explored with respect to the yellowfin sole operations, should they be permitted transit privileges, or salmon or halibut fisheries, if necessary.

The IRFA awaits several decisions of the Council (e.g., PPA), and so cannot be developed at this stage.

Minor editorial comments:

- Figure 3.1 (p. 9): Please match the description of the closure areas in the legend to those in the text descriptions. Also, would it be possible to zoom in and allow for more detail in this figure?
- Figure 3.3 (p. 13): The text within the figure is too small to be read. Can the text or the figure be made larger?
- Figure 3.4 (p. 14): A key is needed for this figure. What is the difference between the black and red lines?
- 3.2.3 Halibut Fishery (p. 14): Please clarify the IPHC statistical areas referred to in the text.
- There are several locations where it is stated that Hagemeister Island is a part of the Togiak National Wildlife Refuge (e.g., top paragraph of p. 21). However, Figure 3.8 (p. 20) does not include this island as part of the Togiak NWR.
- Section 5.1 (p. 33): There is no mention of the expansion of the action to include vessels participating in the yellowfin sole fishery in these two paragraphs of the introduction.

Overall, these additions and corrections do not appear excessively burdensome, and should probably be undertaken before this package moves forward.

D-1 (d) Crab modeling report

André Punt (University of Washington) presented an overview of the crab modeling workshop held in Anchorage, AK, during February 26 – March 1, 2013. He was assisted by Diana Stram (NPFMC). There was no public testimony.

The workshop was chaired by André Punt, and was attended by members of the Crab Plan Team, three members of the SSC, and individuals from the public and the fishing industry. The workshop focused on input data, CPUE standardization, and stock assessment models for the Aleutian Island golden king crab and Norton Sound red king crab stocks. General conclusions from the workshop report are: (1) CPUE standardization to remove factors that are not related to abundance does not guarantee that the resulting index will be proportional to abundance, (2) assembly of model input data should be reconstructed from the primary (raw) data and documented such that it is repeatable by the next generation of scientists, and (3) there is a need for thorough simulation testing of all assessment models. Progress toward a generic crab model was also reviewed and discussed. SSC comments on these three activities appear below. The SSC noted that the workshop was very productive and commended Drs. Punt and Stram for their organization and leadership.

Aleutian Islands Golden King Crab

Available catch and effort data for Aleutian Islands golden king crab (AIGKC) show a large increase in CPUE after fisheries rationalization in 2004. Also, size composition data trend towards larger average size over time. It is unclear if these changes in size composition and CPUE are a result of changes in abundance or changes in fishing behavior. Post-rationalization in 2004, soak times in the fishery have increased significantly and the proportion of zero catch in pots has decreased, indicating a change in fishing practices that may have caused an increase in CPUE. But the change in soak time cannot be separated from a potential increase in abundance and a higher probability of catching crab. An industry survey, using modified pots with smaller mesh size and no escape rings, has demonstrated that the size composition of the population does contain sub-legal crab in the areas fished. The industry survey could be used in the future to develop an index of abundance for a broader range of size classes that are presently excluded in the standardized CPUE index.

There are two primary sources of data available for developing a CPUE index: observer data detailed on a pot-by-pot basis, and the fish ticket data detailed at the trip level. The fish ticket data lack information about soak time. Therefore, these data are not suitable for standardization. The workshop recommendation for CPUE standardization is to focus only on the observer data, including soak time as a covariate. Additional recommendations include splitting the CPUE series into pre- and post-rationalization (split at 1995/96), because the number of participating vessels decreased post-rationalization.

The AIGKC stock is currently a Tier 5 stock and an assessment model for this stock has been in development for a couple of years. The assessment is split into two areas, one east and one west of 174 degrees. Two separate models are currently in development for each of these areas. The workshop focused on model structure and not the model results. It was noted that there were a number of coding issues that may lead to spurious results associated with initial starting conditions and or constants that are hard-wired into the code. The model is not ready for adoption in its current form and requires a considerable amount of work to bring it up to standards where it would be recommended for guiding management advice. The workshop provided a long list of recommendations for the AIGKC model including issues relating to coding standards, simulation testing, and developing a standard set of model diagnostics and summary plots for residual fits to observed data.

The SSC recommends continued development of CPUE standardization and diagnostics for the AIGKC and recommends that the time series be split into pre- and post-rationalization periods. The SSC also

endorsed the list of recommendations for the AIGKC model in the workshop report (most of which involve recoding the existing model). The SSC also discussed and recommend including the AIGKC as a case study for the Generic Crab Model (GCM) that is being developed over the next year.

Norton Sound Red King Crab

One of the most important data issues is re-analysis of the NMFS survey data. Large differences occurred when survey estimates were recomputed from raw data. So-called "pot survey" values were actually mark-recapture estimates; estimates from 1980-1982 were adjusted by a factor not based on data from those years. The choice of CV = 0.34 for the "pot survey" estimates needs justification. The SSC agreed with the workshop recommendation regarding standardization that interactions not be considered for years 1978-1992, but that interactions with year should be considered for later years, perhaps treating them as random effects or performing additional data filtering to reduce the magnitude of interactions. The SSC did not necessarily agree with the workshop recommendation that imputation not be used, but recommended that, if used, they be accompanied by a thorough justification.

In terms of assessment issues, the SSC learned that harvest specifications will be made in April starting next year to accommodate management of the summer fishery. While there is an approved assessment model, there is concern that the model does not fit the 1976 and 1979 indices very well. There is also evidence that catchabilities differ between ADF&G and NMFS surveys but are assumed equal in the assessment. The SSC agreed with the workshop report that initial size composition should be estimated and that an additional variance term is needed for CPUE data. The SSC notes that additional work is needed to prevent incomplete convergence from occurring. Finally, the SSC recommends that the analyst conduct a sensitivity analysis of natural mortality, including examination of higher natural mortality and also time-varying natural mortality if time permits.

Generic Crab Model

At the workshop, Athol Whitten, a post-doc working with André Punt at the University of Washington, discussed the development of a Generic Crab Model (GCM) based on equations developed by Mark Maunder and the development of a library of functions, compatible with ADMB, commonly used in fisheries stock assessments (https://code.google.com/p/admb-cstar/). The goal is to develop an open-source software platform that can serve as the basis for all crab stock assessment models. The principle is the same as the Stock Synthesis platform, but differs in that it is a completely open source project and the owners of the code are stock assessment authors who contribute to the project. If successful, this will greatly facilitate future crab stock assessment reviews, reduce errors in model formulation, expedite the development of new models for other stocks, and facilitate the transfer of models to future assessment scientists.

The SSC supports the development of a GCM, including the plan to test the GCM against two established assessment models (Bristol Bay and Norton Sound red king crab). It will be important to validate the GCM using simulation modeling. Also, a minimum set of coding standards, model documentation, and use of version control ("an undo button") should be established and this may be better facilitated through a developer's workshop. Due to the open source nature, the SSC also recommends a series of benchmark tests that must be satisfied to ensure any future changes to the code do not "break" the code. Finally, as Athol Whitten's post-doc lasts only two years, it will be important to establish a permanent home for the administration of the GCM project, including identifying an administrator who is responsible for maintaining the GCM website, code-repository, and other administrator activities.

D-1 (e) Research Priorities

The SSC received a report from Diana Stram (NPFMC) following up on our request from the June 2012 meeting to develop a more orderly process for submitting and prioritizing proposals for research priorities

through the Plan Teams. The Plan Teams and Council staff have proposed a process to identify and describe research priorities, which have been incorporated in a spreadsheet and will eventually be made available online as a searchable database. Diana summarized the discussions of the Plan Teams and the structure of the database as currently envisioned. Michael Fey (AKFIN) provided a brief overview of how the Plan Teams and the SSC would enter and update priorities through a web-based interface.

The SSC discussion focused on the proposed process and the structure of the database. The review of updated research priorities and their relative rankings suggested by the Plan Teams were delegated to an SSC working group. **The process should provide an efficient means for prioritizing research and monitoring activities that are needed to support the Council's needs.** The proposed database should be designed to make it easy for the Plan Teams and for the SSC to annually (or more frequently, as needed) review and update research priorities and for users to easily view and search the Council's research priorities. The target audience includes funders, in particular NPRB, agencies, and researchers who wish to identify research that is important to the Council, managers, and the public.

The SSC suggests some fairly substantial modifications to the current database structure as the research priorities are moved from a relatively static document to an online database. The rationale for the proposed modifications is that the research priorities should clearly flow from the management objectives and priorities of the Council. **Therefore, the SSC requests that the Council provides an updated list of ongoing (long-term), current, and upcoming management actions, along with a prioritization of these management actions, by April of each year.** These management priorities will guide the SSC in ranking corresponding research priorities and each research priority should be clearly linked to a management priority to clarify **why** the research is needed (purpose/management context). In addition, each research priority should have specific **scientific objectives** and should identify **what** type of research is needed to address these objectives and possibly **how** the research may be accomplished (data needs, analytical approaches). The research priorities should further identify the geographic scope, the species of interest, the fishery/fisheries affected, and the scientific expertise (discipline/sub-discipline) required to address the objectives. The SSC further suggests eliminating the categories 'ongoing' and 'immediate concerns' that have led to unnecessary confusion and instead rely on the prioritization of research activities (High, Medium, Low), regardless of whether they are routine monitoring activities (e.g., trawl surveys), relate to ongoing research (e.g., ocean acidification), or address immediate concerns (e.g., research on skate nurseries).

The SSC discussed and refined a draft proposal for modifying the current suite of fields and associated keywords/phrases in the proposed database. These specific recommendations will be finalized by e-mail correspondence and will be forwarded to Council staff for further input and for moving current research priorities and proposed changes to the new format. A separate SSC working group will review research priorities as modified and ranked by the Plan Teams, as well as halibut research priorities from the IPHC that may be relevant to Council actions.

Other SSC matters

Aleutian Islands groundfish stock assessment authors asked for a clarification from the SSC about its December 2012 recommendation for AI assessments to use the same set of years in the AI survey time series. The SSC was asked to comment on whether it would be acceptable for assessment authors to deviate from this recommendation if there was a strong rationale for doing so. The SSC had a brief discussion on this matter and determined that it would be acceptable for assessments to use different sets of years in the AI survey time series if this was accompanied by a scientific rationale for doing so.