

Minutes of the Joint Plan Teams for the Groundfish Fisheries of the Gulf of Alaska (GOA) and Bering Sea Aleutian Islands (BSAI)

North Pacific Fishery Management Council
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November 16 - 20th, 2015

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Administrative

Documents and presentations: All documents provided prior to or during the meeting as well as presentations given during the meeting were posted to the [Council's Granicus site](#) or the plan team draft assessments site.

Introductions: The Joint meeting of the Gulf of Alaska (GOA) and Bering Sea Aleutian Islands (BSAI) Groundfish Plan Teams convened Monday November 16, 2015 at 9:00AM at the Alaska Fisheries Science Center in Seattle, Washington. Introductions were made. The Joint, BSAI, and GOA Groundfish Plan Teams adopted a revised agenda.

Halibut DMR update: Jim Armstrong provided an overview of revised halibut DMRs for use in 2016-2018. Halibut DMR estimates are used for in-season management as well as in the halibut stock assessment. The IPHC has provided DMRs in the past, but that will change given the retirement of Gregg Williams (the IPHC staff member who ran the calculations). The transition in responsibility will be used as an opportunity to explore improvements in estimation methods. A revised methodology will be

provided to the Council for review in April 2016. Although the DMRs are typically applied for three-year periods, current methods may be applied only for the upcoming 2016 fishing year while improved methods are established.

In the updated DMR estimates provided by the IPHC, DMRs consist of averaged annual DMRs by target fishery, and years with less than 50 halibut sampled for viability (in the past three years) are deemed unreliable and are not used in the estimates. Jim Armstrong extended that threshold to all years in the DMR estimates to provide a consistent alternative to the Plan Team. The options for selecting DMRs, therefore, included the IPHC estimates, to apply the sampling threshold to all years (not the just the latest 3 years), and the status quo which includes viability estimates from the under 50 observations. The teams discussed that a more appropriate method would be to pool the years rather than average over them.

Revised information on recalculating halibut DMRs will be provided to the Council in April 2016 and to the Plan Teams in September 2016. Therefore while the recommendation on DMRs is for 2016-2017 for specifications purposes, the expectation is that revised DMRs using a different methodology will be available to adopt for 2017-2018.

The Teams recommended applying the minimum sample size threshold to all of the years to calculate the DMRs.

Some Team members noted that they would like to have the opportunity to comment to the working group on approaches for estimating DMRs. Some additional analyses that are requested to be considered by the working group include: using information on survival from IPHC studies on hook timing; factors such as gear type, tow duration, and season; applying statistical rigor to the data; potential observer training differences over time in reflecting viability estimation. The teams endorse the working group efforts to more rigorously evaluate appropriate analyses and methodologies for establishing revised DMRs. The Teams questioned to what extent historical discard mortality would be revised in the halibut assessment. It was noted that this recommendation is being considered by the IPHC based upon recommendations from their science board.

Julie Bonney, a member of the public, noted that how the calculations are done and over which time frame are important in creating incentives for the fishery to do a better job. The time frame should be reflective of fleet behaviors and individual sector-specific practices (i.e., more recent time periods to reflect deck-sorting, improved procedures, etc).

Observer deployment plan

Craig Faunce reported on the observer deployment plan. The proposed deployment plan was developed in September, and then a final plan will be adopted in December. The portion of the fleet that is not subject to human observation will be increasing. In 2015, vessels that fished jig gear, troll gear, and fixed gear if also < 40' LOA were not subject to human observation. In addition, 12 vessels did not carry human observers because they participated in Electronic Monitoring (EM). In 2016, the number of EM boats will increase to as many as 60 vessels, nearly all of these are hook and line vessels 40-58' LOA. These pre-implementation EM strata are meant to facilitate eventual use of EM in catch estimation in 2018 (EM data will not be going into Catch Accounting System for 2016). The proportion of the hook and line partial coverage fleet in the EM strata increases from less than 1% to near 6% between 2015 and 2016.

For the remaining vessels participating in the partial coverage program, trip selection will be the sole method used to assign observers. Conditional releases for lack of bunk space or life raft capacity that were prevalent in 2014 will be discontinued due to the expansion of the EM volunteer fleet in 2016. In 2016, preliminary rates of coverage for deployment strata were as follows: trawl (39%), longline (14%), and pot

gear (14%). No change to observer protocols for genetic sampling of salmon bycatch in the GOA pollock fisheries is proposed.

One of the challenges for the Observer Deployment Plan is to project fishing effort for the next year. These values, when combined with expected budgets, produce the selection rates for observer deployment. Predictions for 2015 fishing effort made in December 2014 for the 2015 Annual Deployment Plan are close to updated estimates based on actual fishing.

For 2017, the Council has requested that the sampling allocation for observer deployment in the partial coverage fleet be adjusted so that it is more skewed towards optimizing based on total discarded weight rather than being a 50:50 blend of retained and discarded weight, since the retained catch is already documented on fish tickets.

Research Priorities

Jim Armstrong provided the overview of current research priorities. He reviewed the annual process of Plan Team review and Council recommendation as well as the revisions that have occurred in terms of maintenance of priorities in an online database and new terminology. In preparation for the meeting, a spreadsheet was made available to the Teams to collect comments on existing research priorities. Jim expressed gratitude to members who contributed to the distributed document. Nevertheless, the number of comments collected was insufficient to provide the basis for a Joint Plan Team recommendation. It was suggested that a number of working groups be formed from the Joint Teams and that each be assigned bundles of research projects so that they can provide comments. This exercise would be followed by an online meeting for overall JPT review and endorsement of recommendations. This exercise will be conducted within the next couple of months.

Economic Status report

Ben Fissel provided an overview of the contents of the SAFE report chapter on economic status for 2014. Planned changes for next year's economic SAFE were also discussed. For example, data collected under Amendment 91, Bering Sea Chinook salmon bycatch program, will be added to the report for 2015. The presentation covered standard data tables (e.g, catch, effort, discards, ex-vessel and first-wholesale production, price, and total dollar values) plus supplementary data tables (e.g., Amendment 80 program ex-vessel cost data, Alaska groundfish exports, employment). Electronic (.csv) versions of these tables can be downloaded from the web ([link](#)). These tables aggregate flatfish and rockfish, which may (depending on interest) be disaggregated in future years. Some highlights include increases in total catch and value in 2014 compared to 2013 levels. In addition, pollock catch in the GOA increased to the highest level in the past decade and was accompanied by large increases in GOA flatfish and arrowtooth catches. In particular, the GOA arrowtooth catch increased 70% in 2014 relative to 2013 but price was not the primary driver and a strong relationship between arrowtooth catch and halibut PSC was observed. This relationship was apparently due to a management action that created a special 6-week fishing season in the GOA. In contrast, BSAI flatfish catches decreased substantially in 2014 compared to 2013 catch levels. Atka mackerel provided another interesting example where reductions in the TAC due to Steller sea lion conservation measures impacted the market. In this case, reductions in the TAC co-occurred with reductions in supply from other major producers, Russia and Japan, and the market demand-supply led to increased prices that partially offset effects on first-wholesale revenues from reductions in the TAC. Indices presented in the economic SAFE report decompose changes in economic value for individual species into separate price and quantity effects. Positive price effects were seen in 2014 for Atka mackerel, rockfish, Pacific cod, and sablefish. To address the 1-year lag associated with Alaska fisheries economic data, the economic SAFE presents statistical "nowcasts" for 2015 wholesale prices and work is underway to extend nowcasts for ex-vessel prices. The Team had general questions about validation

methods for the statistical models used for the nowcasts. The nowcasts were introduced last year and this year's Economic SAFE is the first year to compare the performance of the nowcasts for 2014 to realized first-wholesale prices for 2014. In summary, 75% of the nowcasts were contained in the 95% prediction intervals. In addition, market profiles were extensively revised. These profiles cover the major product forms for pollock, cod, sablefish, etc. These profiles are covered in a separate document, which was recently completed by a contractor, and next month, extracts from the updated market profiles will be added to the economic SAFE report for 2014. The economic SAFE report also contains catch share performance metrics, information from Economic Data Reports (EDRs) for the Amendment 80 fleet, and a section on fishing communities. Economic data for 2014 are still being finalized and validated. The Team commended the authors for the recent improvements to the Economic SAFE.

The Team recommended adding more supporting details that explain changes in market conditions such as descriptions of global events driving changes in prices for pollock, cod, Atka mackerel, etc.

Stock structure/spatial management

Diana Stram reported on a workgroup of Plan Team, Council staff, SSC, and NMFS RO staff requested by the Council in October 2015 to address outstanding issues of stock structure/spatial management from the Joint Plan Team minutes of November 2014 with a particular focus on addressing issues with respect to BSAI blackspotted/rougheye rockfish. The workgroup met once prior to the Plan Team meeting and will meet again following the meeting and prior to the Council meeting in December. The workgroup mentioned alternative management tools for BSAI BS/RE, including subarea TACs, OFL/ABC, or separate ABCs. The workgroup also addressed several overarching questions remaining from the Team minutes in 2014. These questions are as follow:

- Does the Council's policy apply only to spatial structure, or does it also apply to stock structure? For example, does it apply to the process of splitting a stock out from a complex, or only to spatial management of the complex?
- Need for specific guidance on the role of the Teams.
- Need for a proactive default policy that covers both of the following cases: 1) data are insufficient to determine whether a biological concern exists, and 2) sufficient data exist to make such a determination but time or other resource constraints are anticipated to prevent those data from being analyzed for several years.
- Clarification of whether the current inconsistencies in spatial management between the two FMP areas that were summarized by the Stock Structure Working Group should be further examined or revised (and to whom such a charge would be assigned).
- How much time is allowed for acceptance (by the Council or SSC) of an industry response to a management concern?
- What is the relationship between evidence of stock structure and degree of concern? Two possibilities have been discussed: 1) degree of concern is synonymous with strength of evidence of stock structure, and 2) degree of concern is a function of both the strength of evidence of stock structure and the extent to which the fishery is impacting that structure.

The workgroup will continue to discuss recommendations to the SSC and Council on approaches for BSAI BS/RE and the remaining questions at its next meeting. The workgroup will also outline a potential approach for additional meetings and work products from the workgroup and others over the next year. Recommendations and discussions will be reflected in the workgroup report. The workgroup will provide a report of its meetings and recommendations to the SSC and Council prior to the specifications process in 2016. The Teams did not provide any recommendations on suggested approaches or direction at this time without a written report of the workgroup's deliberations. An update on the workgroup's recommendations will be provided to the Teams in September 2016.

Sablefish

Dana Hanselman presented the sablefish assessment. Sablefish continues to be in a period of low abundance with declining catches. There were no changes to the assessment model this year. New data added to the assessment included updated catch for 2014 and new 2015-2017 catch estimates; relative abundances for the 2015 longline survey, 2014 longline fishery, and 2015 Gulf of Alaska (GOA) trawl survey; ages for the 2014 longline survey and 2014 fixed gear fishery; and lengths from the 2015 longline survey, 2014 fixed gear fishery, 2015 GOA trawl survey, and 2014 trawl fishery. Results for 2015 are generally similar to last year. Large declines in 2014 fishery CPUE were estimated for each area (weighted average of observer data and logbooks). Recruitment results are also similar to last year, although this year's model shows a slight increase for the 2008 year class. Otherwise, effects of the 2008 year class were not significant in the model. However survey estimates show the 2008 year class moving into the central and eastern GOA. Recruitment retrospective plots show most year classes below average (back to 2002 – only 2008 is above the average). The 2000 year class is still a significant part of the spawning stock. The model fits the 2014 fishery age structure fairly well. The stock projection for 2016 is at $B_{34\%}$ which is still well above MSST.

The time series of catch by management area was shown. Total catch in 2015 was the lowest since the 1980s with an ex-vessel value of \$95 million, and an increase of 18% in the first wholesale value due to positive price effects for Gulf of Alaska sablefish. Abundance indices were low overall: down 21% for the longline survey, up 6% for the IFQ fishery CPUE, and up 12% for the GOA trawl survey. The GOA longline survey correlates well with the IPHC survey ($r = 0.9$). The British Columbia survey shows similar trends, with a low point in 2014. Southeast Alaska is similar, with low points in 2013-14. Catch distributions in the 2015 GOA longline survey relative to 2014 were generally up in the Yakutat area but declined in the western GOA, particularly off the Alaska Peninsula. Female and male length compositions from the longline survey showed small bumps around 50 cm corresponding to 3-year-old fish. The 2015 GOA trawl survey had large catches of young fish at inshore stations relative to the 2013 survey. This was similar to the 2014 IPHC survey, where large catches were found on the inner shelf. Sperm whale depredation during the longline survey was up in 2015, the highest since 2008, representing about a 5% negative effect on the index. Killer whale depredation for the longline survey was about average in the western GOA and the Bering Sea.

Longline survey RPNs were down for the western GOA, Bering Sea, and Aleutian Islands, unchanged in the central GOA, and up slightly in the eastern GOA. Overall the RPNs are low. The model fit to the longline RPNs also indicated a continued decline. The 2008 year class was still dominant in the longline survey age-length frequencies for 2013 and 2014 across the entire GOA and highest in the western areas. Model fits to the ages for 2014 did not fit the 2008 year class well. Model fits to longline survey lengths show similar trends. Plots of weighted average CPUE by area showed decreases for the Aleutian Islands and western Yakutat, a large increase in the Bering Sea, and slight increases in the other areas. In terms of fishery ages, the model is not fitting the plus group well due to a large number of older fish being caught in the western Aleutian Islands. Survey biomass shows downward trends in the most recent Bering Sea slope and Aleutian Island surveys. The GOA surveys track well with the IPHC and British Columbia surveys. Results from the model show above average recruitment for the 2008 year class, which is projected to make up about 15% of the 2016 female spawning biomass. Successful juvenile sablefish tagging efforts were carried out in the eastern and central GOA, where about 500 fish were tagged in Sitka and Kodiak. Results of length compositions from the GOA trawl survey indicate a large population of 1-year-old sablefish, suggesting potential for a significant year class. The trend in total biomass has been decreasing since 2003 and continues to decline, and the trend in the spawning biomass had leveled recently, but is now declining also. Retrospective analyses resulted in a very low value for Mohn's rho (0.023). Model projection for the spawning biomass for 2016 is $B_{34\%}$. The 2016 ABC is 11,795 t down from the projected value of 12,400 t in last year's assessment. ABC is expected to decline for several years.

Overall, the model seems to be working well. Some problems with apportionment remain. Apportionment had become quite volatile and has been fixed since 2013 at the 2012 levels. Apportionment does not take into account measurement error, which leads to rapid changes in some area biomass estimates, which leads to large swings in apportionments. The author recommends staying with the fixed apportionment as an interim measure to smooth out ABC variability. A UAF Ph.D. student is working on a sablefish spatial model to evaluate apportionment strategies. A new approach to apportionment will be developed that is based on minimizing volatility, maximizing spawning stock, or economic yield. The general understanding is that apportionment does not affect biology of the sablefish stock. The current assessment model will be used pending a 2016 CIE review which will focus on whale depredation, a spatial model for apportionment simulations, and general modeling approach. Sex-specific catchability has not been tried in the current model. Whale depredation is not a commonly modeled process in stock assessments. A primary reason why depredation has not been included in the sablefish assessment is a lack of depredation estimates in the sablefish fishery. There are many ways to represent depredation and the upcoming CIE review may provide guidance. The authors will continue to investigate recruitment processes and species-specific ecosystem considerations. The model fits the plus-group well for the past 3 years but the Team noted some oddities in earlier years with the plus-group disappearing and reappearing in different years.

The Team recommends that the CIE review address treatment of the plus-group within the model. The Team accepted the author's OFL and ABC recommendations for 2016.