BSAI Groundfish Plan Team
AFSC- Seattle, WA
November 15-18, 2005

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Bill Clark (IPHC)
Lowell Fritz (NMML), absent
Kathy Kuletz (USFWS), absent

The BSAI Groundfish Plan Team met at the Alaska Fisheries Science Center from the afternoon of November 15 to November 18, 2005. The main agenda items were to review the 2005 stock assessments and to recommend OFLs and ABCs to the Council (Attachment). In September 2005, preliminary projections of ABC and OFL for 2006 and 2007 were made on the basis of 2004 stock assessments. At this meeting, the Plan Team revised most of those projections. Plan Team recommendations for final specifications differ from proposed specifications due to the development of new models; collection of new catch, survey, age composition, or size composition data; or use of new methodology for recommending ABCs.

AI pollock Steve Barbeaux, AFSC, presented a revised age-structured stock assessment for AI pollock. Since preparation of the chapter, Steve and other AFSC staff have been developing an experimental fishing permit with Adak Fisheries for a multi-stage, long term project for improving AI survey estimates. A first step would investigate whether a survey could be conducted by a small catcher vessel in January/February. The second step would then design a survey. The third step would investigate alternative management strategies to address temporal/spatial TAC-setting.

The Plan team noted that the assessment did not differ significantly from the 2004 assessment, i.e., Model 1b in 2004 is the same as Model 2 in 2005. After some discussion, the Team recommended an OFL and ABC based on Tier 5. The Team discussed whether another model could be developed based on Eastern Bering Sea pollock migration into the AI.

Bogoslof pollock Jim Ianelli, AFSC, reviewed the revised assessment for Bogoslof pollock. This assessment was first reviewed in September. The Team concurred that the model is a step forward because it begins to provide a context for the 2 million mt reference point, but felt that adoption of a model would be premature at this time. The Team generally discussed how to tie together the survey data; how pollock may be recruiting into the area; and how the time series of data could be modeled. The Team recommended setting OFL and ABC under Tier 5.

Eastern Bering Sea pollock Jim Ianelli, AFSC, reviewed the assessment for EBS pollock. The Team concurred with the authors' recommendation of Model 1, though the Team's ABC recommendation of 1,930,000 mt was slightly higher than the authors' recommended value of 1,880,000 mt. This is the same model that was accepted last year, except for incorporating new data from the 2005 bottom trawl survey, the 2004 fishery, and revised estimates of the age composition observed during the 2004 EIT survey. The 2005 bottom trawl survey biomass estimate of 5,130,000 mt is up 37 percent from last year. The author and Team agreed that pollock is managed appropriately under Tier 1. This year's assessment includes an expanded "Ecosystems Considerations" section. Results indicate that EBS pollock exhibit a high level of cannibalism, which tends to stabilize the stock. This year, the 2000 year class appeared strong in the 2005 bottom trawl survey and the revised age composition from the 2004 EIT survey.

Pacific cod New models for assessing Pacific cod were presented by Grant Thompson, AFSC, at the joint team meeting. The Team's comments on the new length maturity schedule and assessment models are provided in the Joint Team minutes. The BSAI Team discussed the OFL and ABC recommendations in its meeting. The Team agreed with the author's recommendations to set specifications at the maximum permissible, but selected a different model for calculating these values. While not explicitly discussed at this meeting, the Team previously has supported separate ABCs for the Bering Sea and Aleutian Islands.

Sablefish The sablefish model was presented by Dana Hanselman, AFSC, at the joint team meeting (see Joint Team minutes for comments on the assessment).

Flatfish The Team agreed with the authors' recommendations for OFLs and ABCs for all the flatfish assessments, except Greenland turbot. *Greenland turbot* continues to be the only flatfish species that remains low in abundance; the author and Team recommended reducing ABC to about 24 percent of its maximum level. The Team opted to continue using the 5-year average fishing mortality (2,740 mt for 2006) for determining the ABC to maintain the current exploitation rate while abundance is declining, rather than use the author's recommended constant catch value of 3,000 mt.

Because of uncertainty whether a good fit of post-1976 *flathead sole* data to a Ricker stock-recruit model was a coincidental effect of a 1989 regime shift, the Plan Team agreed with the authors that those results not be used for managing flathead sole until the fit could be better clarified. The Team recommended that Alaska plaice otolith samples be analyzed and the new age data be incorporated into the model next year.

Rockfish Beginning this year rockfish assessments will be conducted on a 2-year cycle, timed to coincide with the Bering Sea slope and Aleutian Island trawl surveys. The Team agreed with the authors' recommendations for OFLs and ABCs for all rockfish stocks. The assessments were updated from the previous year, with minor changes due to the addition of new catch data. The Team attached an appendix prepared by Paul Spencer, Dana Hanselman and Martin Dorn to the *Pacific Ocean perch* chapter. The appendix responded to an SSC request to investigate the management consequences of maternal effect on fecundity and implications for stock productivity. The authors found that reduced effectiveness of younger spawners would result in reduced reproductive output per recruit for a given fishing mortality, but this tended to be counteracted by increased resilience in the stock recruitment relationship due to an equivalent number of recruits being associated with reduced reproductive output.

The Team had a lengthy discussion of separation of ABCs between the Bering Sea and Aleutian Islands, specifically regarding *shortraker and rougheye rockfishes* but the discussion broadened to include all BSAI groundfish stocks (including Pacific cod). In response to an SSC request, the authors summarized existing genetic analyses, which suggest that the BS and AI represent separate spawning populations for rougheye rockfish (although the BS fish may be part of a larger group including fish from the Western GOA), but the results are unclear for shortraker rockfish due to lack of sampling in the Bering Sea. The Team also discussed potential management complications that might arise from area-specific quotas for these species. Most of the stocks are on prohibited status from the start of the fishing year and the incidental catch is more likely to be discarded due to regulatory requirements. The MRAs are established at very low levels. Separate trawl and longline MRAs for shortraker and rougheye rockfishes were set closer to their intrinsic bycatch rate. It is unclear if separate ABCs would be an effective management tool by discouraging topping off and would result in closing CDQ fisheries.

Given the information available, the Team could not reach consensus on whether to split ABC or OFL by region. At this point, the primary data gaps are less related to biology than to the distribution of fishery catches by area/target and the ability of the management system to deal with very small, area-specific TACs. The Team therefore requested that the authors present additional information on the distribution of fishery catches at the September 2006 Plan Team meeting and that a full discussion of this issue for all groundfish stocks be scheduled then. The Team recommended no changes in area apportionments for any stocks this year.

Atka mackerel The Team concurred with the authors' assessment and OFL and ABC recommendations.

Other species The Team agreed with the authors' recommendations for setting group-specific ABCs and OFLs but recognized that the FMP does not currently allow such an action. The Team continues its support for an FMP amendment to break all groups out of the other species category and provides recommendations for OFLs and ABCs in support of that amendment. Specific chapter comments follow.

Squid. Sarah Gaichas presented the squid assessment. There continues to be no reliable biomass estimate for squid, but it is assumed to be huge and concentrated largely in the unsurveyed Bering Sea basin waters. Calculations indicate that 1,000,000 mt are consumed as prey. Fishery removals are incidental. The Team reviewed the relationship between foraging areas and breeding sites of northern fur seals in the eastern Bering Sea as reported by Robson (2004). Fur seals in the Pribilof Islands, foraging in two canyons, could be dependent on pollock and squid. The fishery could interfere with this foraging if foraging occurs at the same time as the fishery. Fur seals were found to forage in discrete directions from each of the major Pribilof rookeries, so some colonies of fur seals may be more dependent on squid than others.

Skates. Sarah also presented the skate assessment. She recommended separate area specifications based on different species composition and relative abundances between the Bering Sea and Aleutian Islands, and the presence of endemic skate species found only in the Aleutian Islands. Jerry Hoff reviewed results of his skate nursery investigation. He found four cohorts developing for each nursery area. It is unclear if the cohorts are from the same females. The Alaska skate population has been expanding into Bristol Bay. A few key spots could be identified as EFH. Beth Matta summarized her work on skate reproductive biology, maturity, and age compositions for the GOA and BSAI. The best information exists for Alaska skates which dominate the Bering Sea shelf. From ecosystem modeling, skate mortality is much higher from fishing and unexplained sources, particularly for the Aleutian Islands, than from predation. Large proportions of Alaska skate mortalities (80% in the BS and 46% in the AI) are from unexplained sources. Data are rather imprecise for skate mortalities in all areas until very recently, so this requires further evaluation. The ecosystem models are based on early 1990s data, which is some of the lowest quality data for skates, as the data quality improved and will be re-examined in the future.

Sculpins. Rebecca Reuter presented the sculpin assessment chapter, as revised since previewed in September. Sculpin biomass is second to skates in comprising the biomass associated with the other species complex.

The Team does not agree with author recommendations to break out skates or sculpins between the Bering Sea subarea and Aleutian Islands subarea at this time (see above discussion). The Team asked the authors to provide additional information next year from the fisheries and surveys regarding the spatial concentration of the primary species that constitute the skate and sculpin categories.

Octopus. M. Elizabeth Conners presented the octopus assessment chapter, as revised since previewed in September. The Team concurred with the authors concerns regarding Tier 5 or 6 calculations. For Tier 6, incidental catch rates could result in an OFL that is artificially low. Tier 5 numbers are based on trawl survey biomass estimates: sampling variability, seasonal differences, and gear selectivity adversely affect the quality of these estimates for octopus. The Team concurred on the use of the sum of ten-year averages for survey biomass from the BS shelf, BS slope, and AI surveys as the basis for Tier 5 calculations. Species identification and spatial separation of the species is unknown. The Team noted that there is good survival from pot and longline gear. Catch comes mostly out of regulatory area 519, possibly in SSL closure areas because of the no trawl zones. The Team discussed the possibility of a directed fishery on octopods and concluded that a pot fishery was unlikely, but it could be a viable addition to cod potting. Cod pots predominate in Areas 517, 519, and 508; longliners are fishing in Area 528. The author suggested that a size limit may be a viable future management tool, to restrict harvest to the larger giant Pacific octopus. Species other than giant Pacific octopus have lower fecundity and benthic larvae and may be more susceptible to fishing. She noted that the State of AK is investigating directed fishing efforts and may need to be involved in future management.

Sharks. Dean Courtney presented the shark assessment for the complex and Pacific sleeper shark using Tier 6. The authors recommended not using natural mortality rates from other shark species. A rate should be available for use under Tier 5 next year, based on work by Ken Goldman. The Team is encouraged by the current efforts of the shark assessment authors to estimate the value of M for certain shark species.

Pacific Halibut Discard Mortality Rates The Team concurred with the IPHC staff recommendations for halibut discard mortality rates for the 2006 CDQ fisheries, and recommended that they be used to start the 2007 fisheries until updated next year by the IPHC staff.

General recommendations to authors. Authors should follow the guideline to authors for consistency in presentation style of their chapters, particularly in the introductory section. A table that summarizes all the needed information for the introductory chapter of the BSAI SAFE Report for the *next two years* should be included. The Plan Coordinator will communicate this request to the AFSC, in the hope that the SAFE chapter guidelines can be amended accordingly.