Public Testimony Sign-Up Sheet

Agenda Item C-7 Groundfish Specs

	NAME (PLEASE PRINT)	AFFILIATION
1	Dave Fraser	Alaska Fisheries
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NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person " to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

MEMORANDUM

TO: Council, SSC, and AP Members

FROM: Chris Oliver
Executive Director

ESTIMATED TIME
2 HOURS

DATE: September 26, 2008

SUBJECT: 2009/2010 BSAI and GOA Groundfish Specifications

ACTION REQUIRED

(a) Receive Plan Team reports,
(b) Recommend proposed groundfish specifications for 2009/2010,

BACKGROUND

(a) Plan Team reports

During their recent meetings, the BSAI and GOA Groundfish Plan Teams recommended proposed groundfish specifications for 2009 and 2010. The team recommendations are based on rollovers of the established 2009 final specifications, rather than projections for Tier 1 to 3 stocks that have been made previously. The rollover approach was adopted by the Council last year; it was determined to be preferable to the projection model because the former is based upon stock assessments that used the best information available at the time. The report from the Joint BSAI/GOA Plan Team meeting is attached as Item C-7(a)(1). The GOA plan team meeting report is attached as Item C-7(a)(2). The report from the BSAI plan team is attached as Item C-7(a)(3). Draft assessments for BSAI Pacific cod, BSAI Rougheye rockfish, BSAI skates, and GOA Pacific cod were provided for preliminary review.

(b) Proposed Groundfish Specifications

The Council adopts proposed BSAI and GOA groundfish specifications for a two-year period each October. The Council adopts final specifications each December. Therefore, 2009 specifications that were adopted in December 2007 have been published in the *Federal Register* and will start the fishery on January 1, 2009. The proposed specifications for review at this meeting will be published in the proposed rule. Final specifications scheduled for review in December 2008 will replace those that started the 2009 fisheries, after they are published in the final rule in late February/early March 2009.

Bering Sea/Aleutian Islands. The BSAI Plan Team recommendations are under C-7(b)(1). Final BSAI groundfish specifications for 2008/2009 including: 1) Prohibited Species Catch (PSC) limits for halibut, red king crab, Tanner crab, opilio crab, and herring and their gear type and target fishery apportionments and 2) halibut discard mortality rates (DMRs) for CDQ (Community Development Quota) and non-CDQ are provided under Item C-7(b)(2). IPHC Staff recommendations for the 2009 CDQ fisheries will be provided in December 2008. In 2009, Staff will be available to assist in setting PSC amounts using last year's Table 8(a) through (e).

Gulf of Alaska. The GOA Plan Team recommendations are under C-7(b)(3). Total halibut PSC limits for all fisheries and gear types total 2,300 mt. The halibut PSC apportionments recommended based upon the 2008 apportionments are attached as C-7(b)(4).

GOA TAC Considerations for State Pacific Cod Fishery: Since 1997, the Council has reduced the GOA Pacific cod TAC to account for removals of not more than 25 percent of the Federal P. cod TAC from the State parallel fisheries. Using the area apportionments of the 2008 P. cod proposed ABC recommended by the Plan Team (for the proposed rule), the 2009 and 2010 Federal TAC for P. cod would be adjusted as listed below.

Proposed 2009 and 2010 Gulf of Alaska Pacific cod ABCs, TACs and state Guideline Harvest Levels (GHLs) (mt).

Specifications	Western	Central	Eastern	Total
ABC	25,932	37,901	2,660	66,493
State GHL	6,483	9,475	266	16,224
(State % of ABC)	25	25	10	24.4
Federal TAC	19,449	28,426	2,394	50,269

Joint Groundfish Plan Team minutes

September 22-23, 2008
Alaska Fisheries Science Center
Seattle, WA

The Joint meeting of the BSAI and GOA groundfish Plan Teams convened Monday, September 22nd at 9:00 am at the Alaska Fisheries Science Center in Seattle, Washington.
Members of the Plan Teams present for all or part of the meeting included:

Loh-Lee Low	AFSC REFM(BSAI chair)	Jim Ianelli	AFSC REFM (GOA co-chair)
Mike Sigler	AFSC (BSAI Vice chair)	Diana Stram	NPFMC (GOA co-chair)
Kerim Aydin	AFSC REFM	Sandra Lowe	AFSC REFM
Lowell Fritz	AFSC NMML	Jeff Fujioka	AFSC ABL
David Carlile	ADF&G	Jon Heifetz	AFSC ABL
Steven Hare	IPHC	Robert Foy	NMFS AFSC Kodiak
Jane DiCosimo	NPFMC (Coordinator)	Cleo Brylinsky	ADF&G
Theresa Tsou	WDFW	Tom Pearson	NMFS AKRO Kodiak
Brenda Norcross	UAF	Ken Goldman	ADF&G
Mary Furuness*	NMFS AKRO Juneau	Steven Hare	IPHC
Grant Thompson	AFSC REFM	Leslie Slater*	USFWS
Dave Barnard*	ADF&G	Nancy Friday*	AFSC NMML
Leslie Slater*	USFWS		*nominated to fill vacancies

Plan Team members who were unable to attend included Nick Sagalkin (GOA Plan Team ADF&G), Sarah Gaichas (GOA Team AFSC REFM) Jane DiCosimo and Diana Stram acted as lead rapporteurs and Jim Ianelli served as moderator for the discussions.

The Teams welcomed new member nominees Leslie Slater (BSAI and GOA, USFWS), Mary Furuness (BSAI, NMFS AKRO) and Dave Barnard (BSAI, ADF&G). Other nominations under consideration include Dana Hanselman and Alan Haynie (BSAI, AFSC) and Paul Spencer and Mike Dalton (GOA, AFSC). The Teams reviewed changes to the draft agenda. The final agenda (in strike out to note changes) is attached.

Members of the public and State and Agency staff in attendance included: Julie Bonney (AGDB), Jon Warrenchuk (Oceana), Lori Swanson (GFF), Anne Vanderhoeven (BBEDC), Mike Symanski (FCA), Kenny Down (Freezer Longline Coalition), John Gauvin (Best Use Coop), Donna Parker (Arctic Storm), Kristin Mabry (NOAA), Glenn Reed (PSPA), Mark Maunder (Quantitative Resource Associates), Jack Tagart (Freezer Longline Coalition), Nick Delaney (Alaskan Leader Fisheries), Jason Anderson (Best Use Coop), Mike Perry (Blue North Fisheries), Paige Drobny (UAF), Bob Lauth (NOAA AFSC), Bill Clark (SSC), Chris Rooper (AFSC), Chris Lunsford (AFSC/ABL), Paul Spencer (AFSC/REFM), Steve Barbeaux (AFSC/REFM), Ed Richardson (APA), Mark Zimmerman (AFSC REFM), Anne Hollowed (AFSC REFM), Henry Cheng (WDFW), Gary Stauffer (FSA), Craig Faunce (AFSC/FMA), William Stockhausen (AFSC REFM), Suzanne McDermott (AFSC REFM), Jack Turnock (AFSC REFM), Martin Loeffland (AFSC).

Species information system:

Grant Thompson provided an update on the NOAA species information system for internal use by NMFS and requested information regarding which species might be assessed for the first time prior to 2010. The following species were highlighted as either new assessments or probable new assessments in that time

frame: Sharks in both areas (2010), GOA other species (4 assessments) in 2009, 2 species of rougheye rockfish (GOA).

Current Council activities

Jane DiCosimo provided a written overview of current Council activities (handout). She noted that this document will be updated annually and posted on the Council website. Team members and the public discussed the status of various amendments. Julie Bonney expressed concerns regarding the assessment for dark rockfish and the need for State coordination to assume management responsibility.

Team members expressed concerns regarding the delay in pursuing an amendment to protect grenadiers by moving them into specified category. Jon Heifetz felt that this should have a higher priority for action because they caught in the surveys in large numbers (indicating potential large biomass), and are as biologically vulnerable as other species such as skates which are scheduled for action in 2009. There is good survey information on grenadiers and a stock assessment has been completed. Giant grenadiers are the most abundant species at depths of 200-1000 m on the slope and are of great ecological importance. Several members supported a higher priority for action on grenadiers to ensure adequate protection for this species. Jane DiCosimo noted that management of non-target species (including grenadiers) was awaiting resolution under proposed revised guidelines for National Standard 1. The grenadier assessment author intends to update the assessment this year and to the extent possible will include all catch information necessary to facilitate an analysis for moving this species into the FMP as a specified species.

Rockfish working group

Paul Spencer provided an update on the status of the rockfish working group and on-going rockfish research. Chris Rooper provided an overview of the status of an NPRB-funded project for continued work on assessing rockfish in untrawlable areas using acoustics. This project is scheduled for April in Kodiak using the Oscar Dyson. Chris Wilson noted this is tentatively scheduled as the availability of the Dyson is currently uncertain. The Teams continue to recommend that the issue of trawlable versus untrawlable grounds is a priority, particularly in the GOA.

Chris Wilson provided additional information on the research objectives including using remote sensing equipment including multi-beam systems (acoustic devices) to get estimates of rockfish in untrawlable habitat including multi-beam systems. They are trying to better characterize the morphology of rockfish schools for species identification. Improved acoustic estimates of abundance will be sought and a new devise employed to scale acoustic estimates to actual estimates of abundance. Chris Rooper is modifying a semi-pelagic trawl in conjunction with drop camera work to better evaluate these areas. A suite of new experiments will evaluate these untrawlable regions.

Paul Spencer decribed his plans to conduct additional NPRB funded research on rockfish. The focus of this study is primarily on to evaluate survey designs and sampling of Pacific ocean perch. A 'mini-survey would be conducted to investigate improved survey designs and for evaluating the use of hydroacoustics to improve survey estimates.

Research Priorities

Jane provided an overview of the Council's schedule and plans with respect to five-year and one year research priorities. The Team requests consideration of how timeframes for these priorities are determined between one and five-year prioritization. The Team has the ability to comment on this year's review for September as well as the cycle for next year's priorities.

The Team agreed to break out into individual workgroups on an annual basis to revise research priorities. Pat Livingston provided additional information on the documentation and relative goals of annually revising research priorities by the SSC (and the Plan Teams prior to SSC recommendations). The five-year list which the SSC will produce in October will include different categories of prioritization (1 and 2 for highest and next level of priority).

The Teams will break into workgroups over the winter to revise research priorities accordingly. Council staff and the BSAI and GOA chairs will put together workgroup assignments following the SSC's October meeting and resulting 5 year research priorities list. Further communication with the Teams on this assignment will be by email following the October SSC meeting.

Annual Catch Limits

Jane DiCosimo and Grant Thompson summarized the status of the ACL proposed rule and its current application to the North Pacific groundfish FMPs. Three working groups were designated by HQ to assist in providing technical guidance on application of the ACL requirements for FMPs. No change will occur this year in specifications and any modifications to FMPs are unlikely for several years. Statutory requirements indicate that all changes must be made to amend FMPs by 2010 (for overfished stocks) and 2011 (all other stocks). Further information will be provided to the Teams as it becomes available.

Proposed specifications

The key task for Plan Team deliberations at this meeting is to recommend proposed specifications for the 2 year cycle (2009/2010) and ensure that these are the best available for meeting public notification requirements for proposed rules. The Teams discussed the process if the proposed rule varies substantially from the final rule. Mary Furuness clarified that if NOAA General Counsel determines that a new proposed rulemaking is necessary, the regulations for implementing these specifications would be delayed accordingly. New rulemaking should only apply for the individual stocks for which proposed and final rulemaking were different.

The Teams will recommend proposed specifications in individual Team meetings.

Tier 1 projection methodology

The status of the stock in the projection year determines stock status for both application of the control rule as well as for stock status determination. NMFS HQ has determined that this forward projection is appropriate for application of the control rule but that the current year (not the next year) is to be used for stock status determination.

Jim Ianelli provided a Tier 1 projection simulation analysis for EBS Pollock and BSAI yellowfin sole. This study entailed comparing two different "true" productivity assumptions managed under Tier 1 compared to Tier 3 for the two stocks.

Mark Maunder questioned why different assumptions of stock productivity result in similar long-term results and why the projection policy is robust to that assumption. It was noted that the sloping harvest control rules (adjusting fishing mortality downwards as the stock drops below target levels) employed for these stocks which, coupled with overall caps (in this case 1.5 million t for pollock and 250 thousand t for yellowfin sole), result in stock levels that are similar for the different policies. It was also noted that between these two stocks and scenarios, one stock is currently below the long term average (pollock) while the other is above (yellowfin sole). This provides some contrast and specific to yellowfin sole, the issue of how future catch rates in the fishery under lower population densities would be lower was discussed.

Survey update

Bob Lauth reported on the EBS Shelf Bottom Trawl Survey. Bottom trawl survey objectives are to 1) collect data to generate up-to-date estimates of biomass, abundance and population structure of crab and groundfish populations in support of stock assessment and ecosystem forecast models and 2) improve understanding of life history of the fish and invertebrate species and the ecological and physical factors affecting their distribution and abundance. Sea surface and bottom temperatures were nearly the coldest recorded in 25 years. Only one out of 376 tows was not successful. Survey biomass estimate of pollock was 3.03 M mt (for all strata) wheras the estimate for Pacific cod was 428,000 mt. Survey biomass estimates for rock sole was 2.03 M mt, 2.1 M mt for yellowfin sole, 530,000 mt for arrowtooth flounder, 510,000 mt for Alaska plaice, 13,500 mt for Greenland turbot, and 362,000 mt for Alaska skate.

Nineteen special projects were conducted as part of the EBS Shelf Bottom Trawl Survey 1) MACE acoustic data collection, 2) BSIERP oceanographic sampling, 3) Light effects on pollock distribution, 4) Alaska skate tagging, 5) Summer zooplankton abundance, 6) Reproductive potential of commercial crab species, 7) Length/weight relationships of commercial crab species, 8) Snailfish taxonomy and food habits, 9) Trophic interactions and feeding ecology, 10) Alaska skate age and growth, 11) Octopus life history, 12) Gadoid liver seasonal energy reserves, 13) Characterization of benthic infauna community, 14) Bitter crab syndrome, 15) Icthyophonus in walleye pollock, 16) Energy content and diet of forage fishes, 17) Improving trawl gear monitoring, 18) DNA barcoding of Alaska marine fishes, and 19) King crab population dynamics.

Bob also reported on the Eastern Bering Sea Upper Continental Slope Bottom Trawl Survey conducted during 29 May – 11 August 2008. There were 200 successful tows on the 70 day charter. Results included identification of 146 fish species and 251 invertebrate species, a number of taxonomic changes for S. melanostictus and S. aleutianus, B. brunneum and B. zestum , and L. beringius. There were new species of snailfishes & lithodid crab identified and numerous range extensions.

A vessel comparison study between the Miller Freeman (MF) and Oscar Dyson (OD) was summarized by Alex De Robertis. He identified the following issues 1) the OD is noise-reduced, the MF is not, 2) noise reduction is aimed to reduce vessel avoidance by fish, and 3) the OD will conduct pollock surveys traditionally conducted by the MF. The key question as the OD replaces the MF, is that given that the OD is designed to minimize vessel avoidance, how do abundance estimates from the different acoustic surveys from each vessel compare? Vessel comparison field experiments were designed to collect data on aggregations of pollock in several ways: 1) with the two vessels running beside one another at a distance of about 0.5 nmi, 2) with one vessel following nearly directly behind the other at a distance of about 1 nmi, and 3) each vessel repeatedly running past a free-drifting acoustic-buoy (i.e, a buoy equipped with an echosounder). In summary 1) biomass estimates of winter spawning concentrations from Shumagins and Shelikof surveys were significantly affected by use of the noise-reduced vessel. Bogoslof survey was not. The effect was less for fish that were deeper (i.e., Bogoslof - no significant difference, Shelikof ~20%, Shumigans ~30%, 2) biomass estimates during daytime summer (2006, 2008) surveys the eastern Bering Sea were not affected by use of the noise-reduced vessel (EBS), 3) reaction to MF > OD was confirmed with acoustic buoy work during winter Shumagin survey, 4) buoy study also suggests that absolute reaction of pollock to OD appears to be relatively small, 5) differences are attributable to differential vessel avoidance, not measurement bias, and 6) analysis is underway to evaluate impact on stock assessments. One team member suggested combining all study results to test for area, depth, and vessel effects.

The Teams suggested that it may not be accurate to say that there was not a significant difference in the Bering Sea. One Team member suggested that all three results be tested together. It was noted that the BS

is shallowest but has the weakest effect. Increases were noted by area, depth, and vessel. Not sure I got Mike's main point here

Libby Loggerwell reported on the Cruise Report for the 2008 Beaufort Sea Survey conducted during July 27 – August 30, 2008. The results of the survey will provide estimates of abundance, species composition and biological information of marine fish and invertebrates, oceanographic properties and information on the macro- and micro- zooplankton communities. The specific objectives of the survey was to 1) quantify the distribution, abundance, and biological condition of important offshore marine fish species, 2) assess the biology, behavior, and dynamics of key ecosystem components for ongoing scientific research, and 3) recommend methods for future monitoring that could provide time-series and data trend information necessary to support offshore development decisions and serve as a proto-type fisheries component of future MMS or other ocean observing systems.

Of particular interest to the Teams, fish comprised 6% of the total weight captured in the bottom tows of which 38 species of fish were identified. Arctic cod were the dominant catch in the mid-water hauls by weight and numbers. The second most prevalent species in the mid-water hauls were jellyfish. Invertebrates made up 94% of the total weight captured in the bottom tows of which approximately 174 species were identified. Invertebrates made up 94% of the total weight captured in the bottom tows of which approximately 174 species were identified. Data on the distribution and abundance of seabirds were collected during the transit to and from Dutch Harbor and during the acoustic transects, when conditions allowed. Arctic terns, black-legged kittiwakes and phalaropes were the top three seabirds in terms of abundance. Opportunistic marine mammal sightings were recorded. Highlights included an adult polar bear (presumably female) and two cubs on the ice near Pt. Barrow. A swimming polar bear was also observed in the same area. Large numbers of gray whales were observed during the transit to and from the study area, in the Chukchi Sea/Bering Strait area. They appeared to be feeding. No confirmed bowhead whale sightings were made during the transit or in the study area.

Potential reductions in 2009 Alaska fishery resource assessment surveys

The Plan Teams are concerned that a reduction in the number and duration of NOAA surveys will negatively impact Alaska fishery stock assessments. NOAA surveys are an integral part of these assessments. These surveys are conducted annually or biennially and provide important time series of information on ichthyoplankton, fish and shellfish.

NOAA surveys were reduced in 2008 relative to previous years. In 2008, the Aleutian Islands bottom trawl survey was eliminated and the Bering Sea surface trawl survey (BASIS) was reduced by about two thirds. Further reductions may occur in 2009. These reductions would significantly impact Alaska fishery stock assessments and our ability to estimate stock condition and recommend catch quotas. Continuation of the standardized NOAA surveys are necessary for the successful management of Alaska groundfish and shellfish fisheries and to reduce uncertainty. As uncertainty increases, generally risk-averse strategies require further reductions in harvests.

Gulf of Alaska and Aleutian Islands bottom trawl surveys

Gulf of Alaska and Aleutian Islands bottom trawl surveys occasionally have been reduced when funding was limited. In cases when this has happened, certain geographic or depth strata were eliminated from a survey. For example, in 2001 the eastern Gulf of Alaska was not surveyed during the Gulf of Alaska bottom trawl survey. Eliminating area or depth strata makes completing the stock assessment more difficult. Stock assessment models depend on a time series of standard surveys. Standardization includes sampling the same area and depths each survey year. If an area or depth strata is missed, the stock assessment authors must extrapolate the missing abundance data, which if occurring frequently, is untenable.

Two alternate approaches avoid this problem. Both approaches involve surveys that completely cover the standard area and depths. One approach is to increase the interval between complete surveys. For example, the current survey interval is biennial. An alternate approach is to conduct triennial surveys. The second approach is to reduce the station density ("thin" the survey effort) and cover the standard area and depth. If survey effort must be reduced, the Plan Team advocates "thinning" survey effort to maintain survey geographic and depth coverage intact. Reducing station density will decrease precision of biomass estimates, so this trade off should be evaluated when allocating survey effort. For example, a minimum number of stations should be maintained in each survey strata in strata that are small in size.

Marine Mammal update

Lowell Fritz provided a summary of Steller sea lion and northern fur seal field research conducted by the National Marine Mammal Laboratory in 2008, which included an aerial survey across the Alaska range of Steller sea lions to get index counts of adults and juveniles, and a mark-resampling effort to estimate pup production by northern fur seals on the Pribilof Islands. Data collected during these field efforts is currently being analyzed and results will be made available for the November 2008 Plan Team meeting. A summary of a multi-year effort (NPRB project of Springer et al.) to compare female foraging strategies on declining (St Paul on the Pribilofs) and increasing (Bogoslof) rookeries was also provided. Females from Bogoslof make shorter and more frequent foraging trips than females from St Paul, allowing more frequent nursing opportunities for their pups. As a consequence, Bogoslof pups were heavier on average than those from St Paul at weaning, which could give them a survival advantage during their first year.

Lowell also reported on Steller Sea Lion Distribution and Food Habits study in the Central Aleutians during 16 March – 12 April 2008. The objective was to develop tools to manage fisheries at local scales 1) through cooperative research with industry and 2) assessing local impacts of fishing on prey availability for top trophic level consumers. Pollock has a relatively low frequency of occurrence overall in the diet of Steller sea lion in the AI (annual, broad area average is < 10%), but could be a larger part of the diet for a limited time in central Aleutian Islands near pollock spawning aggregations.

Squid presentations

Squid life history characteristics

Paige Drobny summarized her thesis on life history characteristics of squid in the Eastern Bering Sea. Her research concluded 1) B. magister in the EBS have a one year life cycle and may be a sub-species; 2) the onset of maturation changed from a long juvenile phase and compressed maturation time to a shortened juvenile phase, earlier onset of maturation and a longer time spent maturing, and 3) statolith chemistry in the BS is a viable tool to analyze spatial and temporal squid distribution.

Trophic role of squid in the EBS.

Mary Hunsicker summarized her ongoing dissertation research on squid in the BS ecosystem. Her research concluded 1) B. magister may play important ecosystem role as a competitor; 2) its trophic position is similar to pollock; 3) eye lens method may be a valuable tool in understanding ontogenetic changes in trophic level of squid. Next research steps include 1) construct size-structured food web models; 2) quantify the predatory/competitive impact of B. magister, and 3) evaluate the effects of squid predation/competition under alternative management scenarios.

Octopus Discard Mortality experiment

Liz Conners presented a new approach for catch accounting for octopus to prevent possible closures once separate specifications for octopus are set under planned amendments to the BSAI and GOA groundfish fishery management plans (FMPs). The Teams endorsed the use of gear specific discard mortality rates (DMRs) in catch accounting for octopus, similar to Pacific halibut management. These could be achieved through a regulatory amendment or in the planned FMP amendments to remove octopus from the other species complex (although no date has been identified for the preparation of these amendments). The Teams did not support a proposed alternative where catch accounting was not modified but fishery closures were relaxed, as this would allow total catch to exceed specifications. Currently there are no maximum retainable amounts in the GOA. Nearly all GOA pot octopus catches are retained. Pot fisheries could be exempted from possible octopus MRAs. The Teams encouraged further development of studies and/or data collection to document octopus mortality rates.

Sablefish

Dana Hanselman and Chris Lunsford provided an overview of sablefish issues for the November assessment. A CIE review is planned for 2009, thus major modifications to the assessment will not be done this year.

Selectivity

Some minor modifications to the assessment examined for this year include selectivity changes in order to improve model stability. Dana noted that trawl fishery selectivity for males appeared misspecified previously and not biologically reasonable. Mike Sigler commented that trawl survey data at higher ages are infrequent thus age data might support this rapid decline in age selectivity. There was a minimal change in overall model fit with a reduction of 8 parameters and minimal impact to biomass and reference points. The Team supports the move towards using a gamma function for estimating the selectivities.

The Team discussed the ability to retain additional catch in the rockfish pilot program and under amendment 80 given management changes in recent years.

Pot cannibalism study

This study was completed at the request of the Council. No sablefish were found in any of the stomach samples obtained for the study (257 stomachs). This appears to indicate that pot cannibalism is a rare event. No ototliths in stomachs were recorded in the study. Some caveats noted include soak times for the study, and the possibility that stomach contents were purged when pots were retrieved. Given these results and the indication that pot cannibalism is a rare event, no further study of this issue is planned.

Sablefish Longline Survey

Chris Lunsford presented an overview of the sablefish longline survey. He described background information on the survey (cost recovery), survey stations and sampling design and lengths collected on the most recent 2008 survey. Jon Heifetz noted that trying to differentiate between the two species of rougheye rockfish on this survey was particularly difficult given the location of the survey off Yakutat where the species notably are mixed. Ken Goldman provided information on a potential genetic

methodology to differentiate on board between species. He will provide contact information to Jon for further investigation of the application of this methodology to rockfish.

Chris noted that while general overview of preliminary catch results from the survey were provided, final information will be forthcoming to assessment authors shortly.

While no specific studies are reported at this time on whale depredation, this continues to be monitored with increased focus on observations of depredation in the survey and in the fishery.

An experiment was done on the survey this year evaluating hand-baiting versus auto-baiting given the increased use of auto-bating in the fishery. One concern raised previously in auto-baiting is the uncertainty that each hook is baited. Results indicated that sablefish catch rates were substantially lower with auto-bait gear. The survey will continue to use hand-baiting in the survey in order to maintain consistency with previous catch-rate results. Members of the public commented that their observations were that hand-baited lines tend to find pockets of sablefish in rough bottom since there is more slack in the line than auto-baited lines that tend to clothesline and are not as successful at locating sablefish.

Jon Heifetz noted that a special project was undertaken on this survey to try and differentiate between the blackspotted and rougheye rockfish. Telling the two species apart was particularly difficult given the location of the project area off Yakutat where the species notably are mixed. Ken Goldman provided information on a methodology to differentiate on board between species. He will provide contact information to Jon for further investigation of the application of this methodology to rockfish.

Pacific cod

Grant Thompson provided an overview of alternative models being considered for the Bering Sea and GOA pacific cod stocks. Grant provided an overview of previous assessment modeling for these stocks and the timeline and reviews in modifying the assessments in the last several years. He discussed various recommendations for both regions by BSAI and GOA Plan Teams as well as the SSC and the policy for external reviews (and public interaction policy) for this assessment.

Additional features to the BS model this year include: fishery selectivity blocks chosen by Akaike Information Criterion (AIC) (5, 10, 20, no block); lower bound of the descending width in the selectivity parameters = 5 (sticking to uniform priors but adjusting the bound); regime-specific recruitment deviations (dev) vectors specific to the environmental regime; the input standard deviation of those (sigmaR) set equal to the estimated devs from current regime (rather than being tuned to the entire time series as previously); number of freely estimated initial ages determined by AIC; and size at age data in model used only if long-term survey size modes are ambiguous.

Bounding the minimum of "width" factor is one reasonable approach to ensuring the selectivity function changes in a regular way. A choice of the value of 5 for the length selectivity function seems reasonable based on the material presented by Grant. Grant noted that this is equivalent to ensuring that the distance between the maximum and the inflection point of the ascending limb of the selectivity function is 8 cm. This bound also was applied to the age selectivity function, which is equivalent to a "width" of 8 years. However this bound sometimes is not equivalent for the two selectivity functions. For example, when cod are young and growing quickly, the length bound will represent about one year and several years when cod are older and growth slows. This discrepancy may affect estimation of selectivity functions in unforeseen ways. The Plan Team recommends that the assessment author examine whether the minimum "width" bounds are being reached during model estimation and if so, adjust the minimum "width" bound to examine the effect of this bound on model results.

The Team discussed the selectivity pattern as prescribed in the model. In response to Plan Team comments a selectivity curve was employed which uses fewer parameters. Alternative M values were investigated. After evaluating different alternative M values, the value derived from the Jenson method with Stark's maturity data was selected for the model (M=0.34). Jack Tagart requested information on the precision of this estimate.

Mark Maunder questioned the difference between model estimates of length composition and the age data length composition which relate to estimates of natural mortality and relation to maturity schedule in the model. Grant commented that he is still unsure why the estimates of mean length at age from the model and the age data differ.

Bill Clark commented regarding the trawl survey selectivities from model 4 noting the large spread. Model 4 has one more free parameter than others. No apparent trend is detected.

Three models are under consideration in GOA. Exploratory model 3 differs from BS model 5 in the following:
Size at age data included, survey size comp and age comp downweighted, each year's survey abundance index split to separate fish less than 27cm and fish greater than 27cm., survey split into different eras, Q (survey catchability) fixed post 1993 and freely estimated prior to 1996 for the 27-plus survey and freely estimated for all years of the sub-27 survey.

Maunder questioned the age data from the GOA and noted that the observed pattern does not appear to be consistent with the assumptions. He questioned if the missing age 2 in the data consistent with the assumption.

Grant requested specific feedback from the Teams on a number of issues related to modifications and changes as presented in his current model explorations.
Mike Sigler noted that the bound on age and length could be checked to see if the model bumps up against bound. He felt that Grant did a good job justifying the selection of the value of M using the most contemporaneous information.

Jon Warrenchuck commented that it would be helpful to understand how the models change the control rule thresholds (e.g., with respect to unfished biomass), and asked if this could be included in tables for November. Grant notes that this type of information relative to ABC recommendations are included in November drafts but that September discussions tend to focus on methodology.

Mark Maunder questioned the estimate of Q in BS model 5 when adjusted for selectivity of fish in the archival tag study. Grant responded that the average of the product of catchability and selectivity across the 60-81 cm size range is higher than Dan Nicol's estimate of Q.

Mark questioned the estimates of recruitment in 1977 and to what extent is this reliable given that it is included in the average and used for MSY reference point calculations. Grant noted that there has not been any disagreement about the relative size of the 1977 year class (give or take a year); thus there seems no reason not to include.

Jon Heifetz requested general clarification on parameters that are pinned to bounds and how are they estimated. Grant commented that if the estimate is pinned then it is set at bound. Mark Maunder commented that the reasonableness of bounds should be investigated and if found to be unreasonable then should be further investigated. Jon requested a listing of these parameters in the final assessment. Grant noted that this table is a standard feature of the final assessment.

The Plan Team commented that the assessment author attempted to reduce number of selectivity parameters to the extent possible but this model is still overly complicated as a result of the software being used. A simpler selectivity parameterization was suggested, e.g. exponential logistic. SS2 notably does not allow for this in the present software. The Plan Teams requested that the selectivity function be further simplified even if it means modifying SS2 accordingly.

Jack Tagart commented on input parameter estimation issues with M and a suspected bias. This bias in L50 may affect the maturity since there appears to be some aging error (bias in ages) that may propagate through to the estimates of natural mortality. Questions remain regarding accuracy in age data and impacts on natural mortality (Stark data).

Dana Hanselman commented that everything seems dome shaped in the model and what information is available to indicate the presence of larger fish not being caught. The trawl survey model is assumed to be asymptotic.

Dana asked if it is possible that allowing annual variation in the ascending limb of survey selectivity could be masking recruitment signal in survey. Grant commented that this is possible in the very short term, which is one reason not to place too much emphasis on the model estimate of a year class that has been observed in the survey only once.

Team members noted that an aging error matrix is included in the model, and it might be possible to use this to address Tagart's concern on bias. Can the age-bias be tested? Grant noted that, while it is theoretically possible to estimate bias iteratively within the model, no external estimate of bias is possible due to the absence of data on "known age" fish.

The Team's responses to Grant's specific questions are provided below:

1-BS Model 1: This model represents a general improvement from previous iterations. Mark Maunder commented that he believes Model 1 is misspecified, because a simulation analysis from this model result indicated that, if the natural mortality rate were freely estimated using simulated data, the estimate tended to be biased low. Model 5 seems to be an improvement in model specification over 1.

2-Does Fixing L2 outside the model help: No

3-Can fixing parameters simplify selectivity: Yes, but efforts should be made to simplify further, preferably with a different parameterization. Note this is not feasible for November thus in the meantime selectivity as currently configured in model is acceptable(Team members expressed varying views here, not sure how overall assessment results varies due to this). Jim suggested showing catch to all other gear types as a diagnostic of availability of size groups to different gears. Mark Maunder commented that model 3 needs further investigation as more parameters are fixed than initially intended. Mark said that an option is available in SS wherein setting the parameter governing selectivity of the oldest fish at a value of 999 changes the shape of the curve somehow, but he was not sure of the functional form.

4-Should unique features of model 4 be used? The general impression that while some features of this model may be useful for comparison with other models and for contrast in the assessment, none are recommended to be brought forward for specification purposes.

5-Is setting the lower bound of 5 on width appropriate? The Plan Team recommends that the assessment author examine whether the minimum "width" bounds are being reached during

model estimation and if so, adjust the minimum "width" bound to examine the effect of this bound on model results. See additional discussion of this earlier in minutes.

6-Is the method used to define blocks appropriate? Yes

7-Do the new model Models fix average recruitment problem used for the projections? Yes. Is age-based selectivity appropriate for survey? Question raised on the consistency of 2 year olds in the GOA survey (lengths absent but ages present).

8- Have input sample sizes been set appropriately? The Teams noted that further investigation on sensitivity of sample sizes is warranted.

9-Should size at age data be included? No for BS, yes for GOA.

10-Should GOA survey be split by size? This seems to be a good idea but need to check on issues related to age 2.

11-Are appropriate values of M being used? Generally yes and well justified now, current data being used and clean understanding of how calculated (see discussion of bias potential and the use of Jensen's equation with Stark's data).

The Teams noted that it was difficult to provide feedback on models that should or should not be carried forward for the November meeting given the time available and the complexity of the issues, particularly between the BSAI and GOA. The author sought advice on this specifically and the Teams hope that the SSC could provide more feedback.

Center for Independent Experts (CIE) report for Aleutian Islands pollock and Atka mackerel

Jim Ianelli noted that the CIE review completed this summer is available as three separate reports and made available to the Plan Teams along with the response from AFSC scientists. The response paper (available at ftp://ftp.afsc.noaa.gov/afsc/public/Plan_Team/draft_assessments.htm) provides a table of categorized CIE review comments along with plans for analysis. Due to limited time available for a full presentation to the Teams, Ianelli invited comments from members on these documents and asked that they be considered during the current assessment cycle.

Electronic Monitoring (EM) for catcher vessels

Electronic monitoring (EM) is being considered for implementation on catcher vessels for AFA pollock and the Rockfish Pilot Program (RPP) only. For these fleets, the EM system appears to be reliable for validating full retention and monitoring the time and location of fishing operations. Additionally, preliminary results from the RPP indicate that the EM system can be used to quantify at-sea discards of halibut. Adopting an EM model for the trawl catcher vessel sector would result in catch accounting and biological data collection occurring exclusively at plants (landing sites). Considerable discussion followed on whether an EM system would replace observers on vessels and what aspects of information currently gathered by observers would be unavailable. Martin Loefflad (FMA) clarified that there can be a mix of observer coverage and implementation of the EM system. Concerns centered around the loss of haul specific catch information, the ability to collect biological data, and the cost effectiveness of implementing this system. It was pointed out that the use of GPS and the placement of sensors on hydraulic equipment and winches could provide detailed information on fishing activities and locations. Concerns were expressed about the loss of haul by haul information which may impact EFH analyses, species association information, catch information from critical habitat, and ability to look at localized

depletion. Concern was also raised about who bears the cost (in terms of money and manpower) for viewing and analyzing the EM video data. It was pointed out that the infrastructure to appropriately implement an EM system for AFA pollock and the RPP is currently not in place.

Economic SAFE Report

Ron Felthoven noted that Alan Haynie and Mike Dalton have been nominated to the BSAI Team and GOA Team, respectively. Ron summarized the Economic SAFE Report.

Three data collection and synthesis studies (1) Crew Participation Data Collection System for Commercial Fisheries off Alaska, 2) Integrating Bering Sea and Gulf of Alaska Climate Data for Socioeconomic Research, and 3) Predicting Fishing with Vessel Monitoring System (VMS) Data).

Five Recreational Fisheries and Non-Market Valuation studies (1) Alaska Recreational Charter Boat Operator Research Development, 2) Demand for Halibut Sport Fishing Trips in Alaska, 3) Non-consumptive Value of Steller Sea Lion Protection; 4) Economic Impacts of Alaska Saltwater Sport Fishing, and 5) Protected Marine Species Economic Valuation Survey.

Three Models of Fishermen Behavior, Management and Economic Performance (1) A Method for the Design of Fixed Time-Area Closures to Reduce Salmon Bycatch, 2) Evaluating the Cost and Effectiveness of Fixed and Rolling Bycatch Closures in the Bering Sea, and 3) Climate Change and Changing Fisher Behavior in the Bering Sea Pollock Fishery.

Two Regional Economic Models (1) Estimating Economic Impacts of Alaska Fisheries Using a CGE Model, and 2) Examining Dynamic Impacts of Alaska Fisheries within a Time Series Modeling Framework).

Five Socioeconomic, Cultural and Community Analyses (1) An Analysis of Place, History, and Globalization in Unalaska/Dutch Harbor, 2) Bering Sea and Aleutian Island Communities: Demography in a Changing Ecosystem, 3) Community Profiles Published for Washington, Oregon, and Other U.S. States Showing Involvement in West Coast and North Pacific Fisheries, 4) Developing Socioeconomic Indicators for the Eastern Bering Sea Trawl Fishery, and 5) Culture and the Globalized Labor Force in the Alaska Seafood Processing Industry: the Company Cafeteria.

Ron presented a brief overview of 2007 fishery statistics.
2007 Commercial groundfish catch dropped slightly to 2.0 million mt
Ex-vessel value for groundfish decreased slightly from $830 million to $746 million

1. Groundfish accounted for 50% of total Alaska ex-vessel value
2. Salmon accounted for 23%
3. Halibut accounted for 14%
4. Shellfish fishery accounted for ~12%

Species

- Pollock catch of 1.41 million t (or 69%) was down from 71% in 2006; levels dropped 10%
- Flatfish (yellowfin sole, rock sole, and arrowtooth flounder) catch of 256K t (or 13%) was up from 11% in 2006; levels up 10%
- Pacific Cod catch of 225K t (or 11%) was the same % as 2006; levels dropped 6%
- Sablefish, rockfish and Atka mackerel make up the majority of the balance (~7%)

Gear

- Around 91% of total catch is linked to trawl gear
- Hook and line accounted for 7.4% of catch
- Pot gear accounted for 1.7% of catch

- Most of the catch for any given species occurs using one particular type of gear (around 90%, on average, is taken with that gear type), except Pacific Cod
- 42% by trawl
- 44% by hook and line
- 14% by pot

Sector

Catcher vessels - 45% of total groundfish catch; 49% of total ex-vessel value

Catcher-Processors - 55% of total groundfish catch; 51% of ex-vessel value

- Catcher vessels take larger proportion of higher-priced species such as sablefish
- Gear choice; big CPs do more trawling
- While trawl gear accounted for 91% of total catch, 70% of ex-vessel value, much of the catch is of low-priced species such as pollock

Discards

- Groundfish discard rates increased slightly from 5.3% in 2006 to 6.0% in 2007
- 11.9% in GOA v. 5.4% in BSAI
- Represents 54% decrease from 1997
- Discard rates higher for fixed gear than for trawl gear
    1. 10.8% for fixed gear
    2. 11.4% BSAI, 9.1% GOA
    3. 5.6% for trawl gear
    4. 5.0% BSAI, 12.8% GOA

The Teams recommended that the Economic SAFE report summary also be regularly provided to the SSC, AP, and Council, perhaps at each February meeting. Jim Ianelli requested that Ron's group investigate the potential for economic factors to affect appropriate catch levels in the BSAI yellowfin sole fishery, in which the catch is high and the stock is level: how much harder will it be to catch fish when the density is halved? This is an issue facing the Council as it adjusts TACs under the 2 million mt OY cap.

Members of the public commented on the VMS study and "cafeteria" study.

Ecosystem Considerations

Jennifer Boldt updated the Teams on the Ecosystem SAFE chapter and ecosystem assessments. In summary 1) coastal N. Pacific was cold, 2) westerly winds increased N. Pacific current, 3) proportionately less transport into GOA, 4) upwelling along AI, 5) GOA eddies transport phytoplankton, heat, salinity, nutrients cross-shelf, 6) lots of ice in BS (not Arctic), 7) increased BS zooplankton biomass, 8) age-0 pollock constricted to middle domain in cool years, 8) juvenile sockeye constricted to inner Bristol Bay in cool years, 9) age-0 pollock diets switch from pollock to euphausiids in cool years, 10) springtime wind-driven advection may favor strong 2008 northern rock sole year class, 11) short-tailed albatross found along BS shelf edge, 12) black-footed albatross found over GOA shelf, 13) 82% BSAI fishing communities had increased population, 14) groundfish dominated community in nearshore GOA.

Recent improvements to the Ecosystem Assessment synthesize ecosystem information by linking important ecological responses to changes in climate and human use drivers. A 'short' list of key indicators to track changes in the EBS, AI, and GOA uses a stepwise framework, the DPSIR (Drivers, Pressure, Status, Impacts, Response) approach. The report addresses four objectives based, in part, on stated ecosystem-based management goals of the NPFMC 1) maintain predator-prey relationships, 2) maintain diversity, 3) maintain habitat, and 4) incorporate/monitor effects of climate change. Candidate indicators are based on qualities such as, availability, sensitivity, reliability, ease of interpretation, and pertinence for addressing the objectives. In future drafts, we plan to more fully address the human

responses to changes in status and impacts. This DPSIR approach will enable the Ecosystem Assessment to be in line with NOAA's vision of Integrated Ecosystem Assessments.

Kerim Aydin reported that the Resource Ecology and Ecosystem Modeling staff was concentrating on developing an ecosystem assessment that would provide a succinct report of ecosystem function and trends by functional guild for the November Plan Team meeting. The Team also expected to update ecosystem considerations for the EBS and GOA pollock assessments and work with other stock assessment authors as requested. No other priorities for species updates were identified by the Plan Teams.

Bering Ecosystem Study (BEST) - Bering Sea Integrated Ecosystem Research Program (BSIERP)

Ninety federal, state and university scientists are studying a range of subjects in the Bering Sea ecosystem, from atmospheric forcing and physical oceanography to humans and communities, including the attendant economic and social impact s of a changing ecosystem. The overall research objective is to improve understanding of how the Bering Sea may respond to climate change, particularly as mediated through changes in seasonal sea ice cover. The project is supported by the North Pacific Research Board (NPRB) and the National Science Foundation (NSF) and includes significant in-kind contributions from NOAA and USFWS. NPRB supports several study components including oceanographic moorings, fish, whales, seabirds, trophic interactions and local and traditional knowledge. NSFsupports complementary oceanography and lower trophic level research. Mike Sigler reported on the fieldwork which began January 2008 and is planned to continue until September 2010. http://bsierp.nprb.org/

Bob Foy provided a research update on **ocean acidification**. Authors finalized and published (AFSC Process report) a research plan for ocean acidification research at AFSC. (Sigler et al. Forcast fish, shellfish, and coral population responses to ocean acidification in the North Pacific Ocean and Bering Sea http://www.afsc.noaa.gov/Publications/ProcRpt/PR2008-07.pdf). Ocean acidification research plans have also been developed at NOAA Fisheries national level. Currently AFSC programs are awaiting funding availability to get fully invested in ocean acidification research. The Kodiak Laboratory staff have just finished the 3rd year of research on the effects of acidification on crab larvae in the North Pacific. Recent publications show that the North Pacific shelf is already likely impacted by acidification effects (shallow calcium carbonate dissolution depth). Low level research will continue at AFSC with hope for increased funding in 2010.

GOA pollock management strategy evaluation

Martin Dorn summarized Teresa A'mar's management strategy evaluation study of GOA pollock. This study is part of the larger initiative at the AFSC to evaluate current harvest policies and provide tools for developing alternatives policies that are robust to climate change and regime shifts. She evaluated impacts of long-term climate change on stock dynamics and management performance using output from a suite of models developed under the auspices of the International Panel on Climate Change (IPCC) to predict global climate over the next fifty years. Although the current management strategy meets management goals under a stable environmental conditions, performance is uneven when regime shifts or climate variability are incorporated. The management strategies in which target biomass levels attempt to track changing environmental conditions have better performance under climate variability, but such strategies will require accepting large fluctuations in target and limit reference points.

Gulf of Alaska Plan Team Minutes

The meeting of the Gulf of Alaska groundfish Plan Team convened on September 24th, 2008 at 9am at the Alaska Fishery Science Center, Seattle, WA.
Members of the GOA plan Team in attendance included:

Jim Ianelli	NOAA/AFSC REFM (GOA co-chair)
Diana Stram	NPFMC (GOA co-chair)
Sandra Lowe	NOAA AFSC REFM
Jeff Fujioka	NOAA AFSC ABL
Jon Heifetz	NOAA AFSC ABL
Robert Foy	NOAA AFSC RACE
Cleo Brylinsky	ADF&G
Tom Pearson	NOAA AKRO
Ken Goldman	ADF&G
Steve Hare	IPHC
Leslie Slater	USFWS

Team members Sarah Gaichas (NOAA AFSC), Nick Sagalkin (ADF&G) and Leslie Slater (USFWS) were absent. Approximately 10 state and agency staff and members of the public also attended. Names of attendees are included in the Joint Plan Team minutes.

The revised agenda for the meeting is included in the Joint Plan Team minutes.

Echo Integration Trawl (EIT) Survey

Mike Guttormsen provided the Team with an overview of the winter EIT surveys in the Gulf of Alaska. The February survey was conducted aboard the R/V *Miller Freeman*. Results showed mostly age-one and age-three fish in Shumagin Trough and mostly age-three fish mixed with age-two and adult fish off Renshaw Point. The ability to ensure that the survey occurs prior to peak spawning, when abundance is believed to be at its highest, has been difficult in the Shumagin Islands region in the past, but since 2006 survey timing been appropriate and shows a consistently low percentage of spawning/spent maturity stage fish.

The March survey was conducted aboard the R/V *Oscar Dyson* in Shelikof Strait and along the shelf break from near Chirikof Island to Middleton Island. Pollock densities were low in the northern part of the Strait where the highest abundances were found in the 1980s and 1990s. The highest denstities in 2008 were located south of the Strait proper. Fish consisted of a mixture of age-one, age-two, age-three, and older fish, except southof Chirikof Island, which were mostly age-one fish. Julie Bonney commented that the fishery this year was unusually concentrated in certain regions and this seemed to confirm observed changes in the fish distributions.This was the first year that the shelf break was surveyed between Barnabas Trough and Middleton Island. Few pollock were detected in this area.

The Shelikof Strait biomass estimate was 208,000. However, vessel comparison results with the *Miller Freeman* indicate that this value would require a downward adjustment to be consistent with the time series from the RV Miller Freeman. Compared to last year, the biomass estimate increased in the Shumagins and declined in Chirikof and Sanak, which had the lowest observed historical estimates for those regions. For the four survey areas combined (and without adjusting for vessel differences) the total pollock biomass was estimated at 281,000 t, which is 17,000 t less than last year and significantly below the 2005 and 2006 estimates.

Size composition data by area indicated a strong year class of age-one fish in both the Shumagins and Shelikof, Most adult fish were from the 1999 and 2000 year classes. Research plans for the MACE group were presented and included potential refinements to target strength estimates using a lowered transducer, evaluation of size-selective properties of their nets, day-night differences in surveys, and the potential to estimate the abundance of Pacific ocean perch.

Results for Pacific ocean perch was shown this year, indicating their distribution concentrated north of Portlock Bank in Amatuli Gulley. Very little sign was indicated elsewhere. Team members expressed support for this utilization of the hydroacoustic survey to provide further information to assess rockfish.

The Team discussed the possibility that current estimates of adults may be affected by the selective processes of the trawl gear used by the research group. Chris Wilson commented that there are currently no definitive results from this work, which was just started. However, much field work has and will continue to be directed at this project, which forms the basis of a MACE Program member's dissertation research at the UW. Chris anticipated that potential corrections to the acoustic-based abundance estimates that may result from this research are some way off.

The Team asked the stock assessment author what last year's model expected from this year's survey and also on what plans are being made to evaluate the relative impact different survey vessel adjustment factor. Martin Dorn noted that last year's assessment predicted an increase but with survey numbers declining there will be a conflict in the model. He summarized some approaches he might take in evaluating the impact of the vessel comparison indications: rescale the survey relative to the other for a consistent time-series or alternatively configure the model with a new survey time-series based on the new vessel. Confidence bounds on the ratio of the vessel results comparison in Shelikof Strait were small indicating that the difference detected was significant. However, he noted that additional vessel comparison may be warranted since a single vessel comparison can not assess the full range of uncertainty. Noise levels on the Dyson also appear to be increasing, however Chris commented that results for a repeated comparative study in the Bering Sea were consistent, thus possibility that noise degradation on Dyson may not be impacting survey biomass estimates.

Julie Bonney asked if eulachon and capelin are being surveyed using EIT methodology. Capelin abundance was only estimated for a portion of the Central GOA in summer 2003. Mike indicated that because eulachon lack a swimbladder, abundance estimation is difficult. He did indicate, however, that the proportion of eulachon trawl catch has increased dramatically in recent years. Julie said that from the fleet's perspective it has been difficult at times to remain under the MRA for eulachon in recent years.

Chris Wilson provided an overview of some proposed work and plans for the future to address species composition and sampling issues for the EIT survey. He described a new device that was being developed to make *in situ* target strength measurements of pollock and other species under conditions that have not suitable for sampling with traditional shipboard-mounted echosounders. A stereo camera system as well as the Didson sonar are being used on a project to provide insight into the net selectivity of the MACE Program's midwater trawl to different species and fish sizes. Although the Didson isn't particularly useful for species identification, it is particularly well suited to examine fish behavior in the net, whereas the camera system can provide species identification and fish size information, but the artificial light that is needed for the cameras may disrupt the normal behaviors of the fish. The MACE Program is submitting a proposal for funds to upgrade the stereo camera system with very high resolution cameras. The proposed camera

device can be attached to a modified trawl to create a unique non-lethal sampler (by leaving the codend open) that can sample fish at finer spatial scales than possible with a standard trawl.

The Team requested that the pollock assessment author work with the forage fish assessment author in evaluating increased bycatch of eulachon in the pollock fishery.

The Team reiterates concerns about survey plans and the possibility that the trawl survey in the GOA will not occur this year. More information on this issue is contained in the Joint Plan Team report.

Prince William Sound (PWS) component of GOA pollock assessment:

Ken Goldman discussed the PWS survey overview for last year. He noted that last year trawl effort was concentrated in bays for Tanner crab and thus survey effort was not focused on pollock. This year the GHL for PWS will be a rollover from last year in the absence of additional data. Ken indicated that he will work with Martin over the winter to provide the past three years of missing data from the state.

Martin requested additional information on the approach last year in regards to selecting the highest historical estimate from the survey data and then base biomass estimates for GHL on this amount. Ken clarified that PWS biomass estimates are notably poor thus the State had discussed an approach of using the highest GHL historically but decided against it. Instead the GHL for this year will be rolled over from the previous year.

Julie Bonney asked if the performance of the commercial fishery in PWS has been evaluated. Ken replied that they do consider this but management decisions are not based on fishery performance. State data on the shelf survey is already made available to the assessment author. The Team encouraged collaboration between the State PWS scientists and the GOA pollock assessment authors.

PWS skate fishery

Ken provided an overview of new interest in a developing skate fishery in the PWS. No survey abundance estimates for skates are available, thus, under state regulations the absence of any stock status information precludes the ability to prosecute a fishery. Following this determination from the State, $50,000 was then allocated to the State budget to allow for research as necessary to open the fishery. It appears that directed fishing for skate would occur in conjunction with the halibut IFQ fishery. It would be a longline fishery only. Meetings have occurred with the Cordova fisherman's group to obtain additional information on how the fishery would occur. The fishery would be prosecuted under a Commissioner's permit. The current thinking amongst ADF&G staff is that the allocated money would be used to place observers on the vessels and at the processing plant. If Big skates are targeted then halibut bycatch should be low. ADF&G staff assume there would be three types of fishing: IFQ for halibut topping off on skates, directed fishing for skates with topping off for halibut and directed fishing for skates only. No information is available to determine a GHL for skates.

Julie Bonney commented that opening a directed longline fishery in PWS for skates could set a precedent for other areas where similar interest in longline fishing occurs. The team noted that the price for skates increased dramatically in recent years.

Ken requested comments from the plan team on concerns for any development of a skate fishery in PWS. Many issues were discussed relative to possible management measures and availability of information. Questions were raised whether the catch would come off the federal TAC , if the fishery would occur year-round, and how to coordinate the State stock assessment with the GOA skate assessments. Tom Pearson noted that current ABC considerations include PWS pollock but for all other groundfish we do not include the contribution in state waters.

Ken summarized the data he would need in order to estimate skate biomass if a fishery is prosecuted (fishery-dependant data). Jon Heifetz suggested that one approach might be to evaluate what information is available currently for a density estimate (possible survey information) to which an appropriately low exploitation rate could be applied. Ken indicated that some trawl survey data is available which might allow for a preliminary estimate of biomass.

The Plan Team expressed concern regarding the prosecution of a state waters skate fishery in the absence of any information on the stock. Skates may be vulnerable to over-fishing and if bycatch rates are high in the halibut fishery, added conservation measures may be warranted. This was based on the experience of recent skate management actions in federal waters where high bycatch levels in the halibut fishery precluded the prosecution of a directed fishery in federal waters.

If a directed fishery develops, the Team would like to investigate to what extent this catch should come off the federal TAC. This should be a consideration in the assessment of this stock particularly to what extent it is a single stock in comparison to the GOA stocks including species by species analysis. An index of abundance is necessary for any indication of appropriate harvest thresholds for this stock. The Team expressed concern about the amount of effort that could possibly be involved in this fishery based on current effort in the PWS halibut fishery and the inability of the state to limit entry to this fishery using a commissioner's permit.

Proposed specifications:

The Team reviewed the proposed specifications for 2009-2010 that are used to establish the proposed rule. Consistent with last year's approach, the Team is recommending a rollover of the actual specification set for 2009 for both 2009 and 2010 for the proposed rule.

Timing and Considerations for November Plan Team meeting

The Team chose to modify review assignments for November. Under a new system, a subset of Plan Team members will be assigned to specific assessments to ensure that a thorough review of each assessment is accomplished. Team members are still expected to review all assessments prior to the meeting but a particular focus should be made on the subset to which they are assigned in order to facilitate discussion and comments during the meeting. Team members will still be assigned to write the summary for one stock as previously for the introductory section of the SAFE report. Team members noted that it would be useful to change the responsibilities for each summary so that different team members have an opportunity to work on a different summary from the previous year. Summary and review assignments will be emailed by the chairs to the Team following this meeting.

The meeting adjourned at 12pm.

BSAI Groundfish Plan Team
AFSC- Seattle, WA
September 24, 2008

Loh-Lee Low (AFSC), Chair
Mike Sigler (AFSC), vice-chair
Grant Thompson (AFSC), Special Envoy to the SSC
Jane DiCosimo (NPFMC), Coordinator
Dave Carlile (ADF&G)
Mary Furuness for Andy Smoker (AKRO)
Brenda Norcross (UAF)
Leslie Slater (USFWS)
Dave Barnard for Ivan Vining
Kerim Aydin (AFSC)
Brenda Norcross (IPHC)
Lowell Fritz (NMML)
Theresa Tsou (WDFW) absent

The BSAI Groundfish Plan Team convened on Wednesday, September 24, from 9 am to 4:30 pm. Up to 34 members of the public and AFSC attended parts of the meeting.

Timing and Considerations for November Plan Team meeting The Team chose to modify review assignments for November. Under a new system, a subset of Plan Team members will be assigned to specific assessments to ensure that a thorough review of each assessment is accomplished. Team members are still expected to review all assessments prior to the meeting but a particular focus should be made on the subset to which they are assigned in order to facilitate discussion and comments during the meeting. Team members will still be assigned to write the summary for one stock for the introductory section of the SAFE report. The teams identified the following team assignments (*pending Council approval of nominees) for leading discussions and preparing the SAFE Report introduction summary section. Specific species assessment leads will be identified prior to the November 2008 Plan Team meeting.

Pollock (3):	**Grant Thompson**, Mike Sigler, Lowell Fritz, Kerim Aydin, Loh-lee Low
Pacific cod:	**Mike Sigler**, Loh-lee Loh, Dana Hanselman*, Lowell Fritz, Leslie Slater, Kerim Aydin, Brenda Norcross
Sablefish:	**Dave Barnard*, Dave Carlile**, Leslie Slater, Henry Cheng
Flatfishes (7):	**Dave Carlile, Dave Barnard*, Brenda Norcross**, Henry Cheng*
Rockfishes (4):	**Dana Hanselman***, Kerim Aydin, Henry Cheng*, Mary Furuness
Atka mackerel:	**Lowell Fritz**, Mike Sigler, Grant Thompson
Other Species (5):	**Kerim Aydin**, Mary Furuness*, Jane DiCosimo, Alan Haynie*

Proposed specifications The Team reviewed the proposed specifications for 2009-2010 that are used to establish the proposed rule. Consistent with last year's approach, the Team is recommending a rollover of the actual specifications set for 2009 for both 2009 and 2010 for the proposed rule.

BSAI rougheye rockfish Paul Spencer summarized several studies relevant to whether BSAI rougheye rockfish complex management should be split between the Bering Sea and Aleutian Islands. The rougheye complex is composed of two species, (true) rougheye rockfish and blackspotted rockfish. Major results of these studies follow.

1) Both species' abundance is low in the Bering Sea, whereas blackspotted rockfish abundance is higher and rougheye rockfish abundance is lower in the Aleutian Islands.
2) Phenotypic differences occur between regions
   a) Size at age is larger for intermediate (10-20) ages of blackspotted rockfish in the Aleutian Islands compared to the Bering Sea
   b) Young, small fish are more abundant in the Bering Sea compared to the Aleutian Islands
   c) Blackspotted rockfish may be deeper than rougheye rockfish in the Aleutian Islands

EIT Survey Taina Honkelehto, AFSC MACE, summarized the results from Summer 2008 echo integration-trawl survey (EIT) of Bering Sea walleye pollock, which was conducted June 2 to July 31 aboard the Oscar Dyson. This survey has historically been conducted by the Miller Freeman. The survey was conducted during daytime hours. Acoustic data was collected along transects spaced 20 nmi apart, from Bristol Bay to west of Cape Navarin, Russia. Eight of 31 transects were in Russian waters. Opportunistic midwater and bottom trawling targeted pollock to identify and classify acoustic backscatter. At night they made supplemental survey trawls and collected physical oceanographic samples. They also tested equipment including a lowered transducer to measure TS of an acoustic buoy, and with a multibeam echosounder. They also trawled on macro-zooplankton and micro-nekton layers (principally euphausiids)—for a large, multi-institutional project, the Bering Sea Integrated Ecosystem Research Program (BSIERP). They also conducted a series of paired codend experiments to examine effects of codend mesh size on catch composition. Summary results follow: 1) EBS summer shelf waters were cold –3rd cold year in a row (2006-2008); 2) 86% of midwater pollock biomass was west of 170°W in the US (higher % than 2007 (81%); numerically dominated by age 2s); 3) 2008 US EEZ midwater pollock biomass was 0.94 M mt (~½ of 2007 biomass (1.8 M mt)); 4) 2008 Russia midwater biomass was 0.03 M mt compared to 2007 estimate of 0.10 million t); and 5) Proportionally more EIT survey pollock biomass has declined in midwater than near bottom, compared w/earlier years.

BSAI Pacific cod split Olav Ormseth summarized eleven studies relevant to whether BSAI cod management should be split between the Bering Sea and Aleutian Islands. Major results of these studies are that: (1) cod differ genetically in the North Pacific and the difference grows steadily greater the farther the cod are apart (genetic isolation by distance); (2) cod are a keystone species in the Aleutian Islands region; (3) cod grow faster in the Aleutian Islands; (4) large cod are more abundant in the Aleutian Islands region than in the Bering Sea; (5) cod spawning occurs in distinct, relatively small areas; and (6) adult and juvenile cod commonly move between the Gulf of Alaska and Bering Sea but very little between either of these two areas and the Aleutian Islands. A life history consistent with these results is as follows. As adults, cod move between the Gulf of Alaska and Bering Sea, but very little between these two areas and the Aleutian Islands. Ocean currents from the Gulf of Alaska likely supply larvae to the Aleutian Islands, Bering Sea and other downstream areas. The Aleutian Islands west of Samalga Pass is an oceanic region different from regions to the north and east and is a region where cod are a keystone species. Given that Pacific cod exhibit genetic isolation by distance, recovery from local depletion may be slow. This working hypothesis for cod life history implies that precautionary management would spread harvests among management areas.

Proposed September BSAI Plan Team OFL and ABC Recommendations for 2009-'10

		2008				2009			2010		
Species	Area	OFL	ABC	TAC	Catch	OFL	ABC	TAC	OFL	ABC	TAC
Pollock	EBS	1,440,000	1,000,000	1,000,000	832,813	1,320,000	1,000,000		1,320,000	1,000,000	
	AI	34,000	28,200	19,000	1,066	26,100	22,700		26,100	22,700	
	Bogoslof	58,400	7,970	10	0	58,400	7,970		58,400	7,970	
Pacific cod	BSAI	207,000	176,000	170,720	119,305	207,000	176,000		207,000	176,000	
Sablefish	BS	3,380	2,860	2,860	750	2,910	2,610		2,910	2,610	
	AI	2,890	2,440	2,440	754	2,510	2,230		2,510	2,230	
Atka mackerel	Total	71,400	60,700	60,700	24,237	50,600	47,500		50,600	47,500	
	EAI/BS		19,500	19,500	9,220		15,300			15,300	
	CAI		24,300	24,300	8,113		19,000			19,000	
	WAI		16,900	16,900	6,904		13,200			13,200	
Yellowfin sole	BSAI	265,000	248,000	225,000	105,658	296,000	276,000		296,000	276,000	
Rock sole	BSAI	304,000	301,000	75,000	47,778	379,000	375,000		379,000	375,000	
Greenland turbot	Total	15,600	2,540	2,540	2,623	16,000	2,540		16,000	2,540	
	BS		1,750	1,750	2,024		1,750			1,750	
	AI		790	790	599		790			790	
Arrowtooth flounder	BSAI	297,000	244,000	75,000	16,430	300,000	246,000		300,000	246,000	
Flathead sole	BSAI	86,000	71,700	50,000	19,253	83,700	69,700		83,700	69,700	
Other flatfish	BSAI	28,800	21,600	21,600	3,332	28,800	21,600		28,800	21,600	
Alaska plaice	BSAI	248,000	194,000	50,000	13,240	277,000	217,000		277,000	217,000	
Pacific Ocean perch	BSAI	25,700	21,700	21,700	13,143	25,400	21,300		25,400	21,300	
	BS		4,200	4,200	402		4,100			4,100	
	EAI		4,900	4,900	3,809		4,810			4,810	
	CAI		4,990	4,990	3,442		4,900			4,900	
	WAI		7,610	7,610	5,490		7,490			7,490	
Northern rockfish	BSAI	9,740	8,180	8,180	936	9,680	8,130		9,680	8,130	
Shortraker	BSAI	564	424	424	105	564	424		564	424	
Rougheye	BSAI	269	202	202	139	269	202		269	202	
Other rockfish	BSAI	1,330	999	999	387	1,290	968		1,290	968	
	BS		414	414	184		414			414	
	AI		585	585	203		554			554	
Squid	BSAI	2,620	1,970	1,970	1,240	2,620	1,970		2,620	1,970	
Other species	BSAI	104,000	78,100	50,000	18,605	104,000	78,100		104,000	78,100	
Total	BSAI	3,205,693	2,472,585	1,838,345	1,221,794	3,191,843	2,577,944		3,191,843	2,577,944	

Sources: 2008 OFLs, ABCs, and TACs and 2009 OFLs and ABCs from the specifications adopted by the Council in 12-07; 2010 OFLs and ABCs equal to 2009; 2008 catches through August 30 from AKR Catch Accounting .

TABLE 1.—2008 AND 2009 OVERFISHING LEVEL (OFL), ACCEPTABLE BIOLOGICAL CATCH (ABC), TOTAL ALLOWABLE CATCH (TAC), INITIAL TAC (ITAC), AND CDQ RESERVE ALLOCATION OF GROUNDFISH IN THE BSAI[1]

[Amounts are in metric tons]

Species	Area	2008					2009				
		OFL	ABC	TAC	ITAC[2]	CDQ[3]	OFL	ABC	TAC	ITAC[2]	CDQ[3]
Pollock[3]	BS[2]	1,440,000	1,000,000	1,000,000	900,000	100,000	1,320,000	1,000,000	1,000,000	900,000	100,000
	AI[2]	34,000	28,200	19,000	17,100	1,900	26,100	22,700	19,000	17,100	1,900
	Bogoslof	58,400	7,970	10	10	0	58,400	7,970	10	10	0
Pacific cod[4]	BSAI	207,000	176,000	170,720	152,453	18,267	207,000	176,000	170,720	152,453	18,267
Sablefish[5]	BS	3,380	2,860	2,860	2,360	393	2,910	2,610	2,610	1,109	98
	AI	2,890	2,440	2,440	1,853	412	2,510	2,230	2,230	474	42
Atka mackerel	BSAI	71,400	60,700	60,700	54,205	6,495	50,600	47,500	47,500	42,418	5,083
	EAI/BS	n/a	19,500	19,500	17,414	2,087	n/a	15,300	15,300	13,663	1,637
	CAI	n/a	24,300	24,300	21,700	2,600	n/a	19,000	19,000	16,967	2,033
	WAI	n/a	16,900	16,900	15,092	1,808	n/a	13,200	13,200	11,788	1,412
Yellowfin sole	BSAI	265,000	248,000	225,000	200,925	24,075	296,000	276,000	205,000	183,065	21,935
Rock sole	BSAI	304,000	301,000	75,000	66,975	8,025	379,000	375,000	75,000	66,975	8,025
Greenland turbot.	BSAI	15,600	2,540	2,540	2,159	n/a	16,000	2,540	2,540	2,159	n/a
	BS	n/a	1,750	1,750	1,488	187	n/a	1,750	1,750	1,488	187
	AI	n/a	790	790	672	0	n/a	790	790	672	0
Arrowtooth flounder.	BSAI	297,000	244,000	75,000	63,750	8,025	300,000	246,000	75,000	63,750	8,025
Flathead sole	BSAI	86,000	71,700	50,000	44,650	5,350	83,700	69,700	50,000	44,650	5,350
Other flatfish[6]	BSAI	28,800	21,600	21,600	18,360	0	28,800	21,600	21,600	18,360	0

TABLE 1.—2008 AND 2009 OVERFISHING LEVEL (OFL), ACCEPTABLE BIOLOGICAL CATCH (ABC), TOTAL ALLOWABLE CATCH (TAC), INITIAL TAC (ITAC), AND CDQ RESERVE ALLOCATION OF GROUNDFISH IN THE BSAI[1]—Continued

[Amounts are in metric tons]

Species	Area	2008					2009				
		OFL	ABC	TAC	ITAC[2]	CDQ[3]	OFL	ABC	TAC	ITAC[2]	CDQ[3]
Alaska plaice	BSAI	248,000	194,000	50,000	42,500	0	277,000	217,000	50,000	42,500	0
Pacific ocean perch.	BSAI	25,700	21,700	21,700	19,198	n/a	25,400	21,300	21,300	18,845	n/a
	BS	n/a	4,200	4,200	3,570	0	n/a	4,100	4,100	3,485	0
	EAI	n/a	4,900	4,900	4,376	524	n/a	4,810	4,810	4,295	515
	CAI	n/a	4,990	4,990	4,456	534	n/a	4,900	4,900	4,376	524
	WAI	n/a	7,610	7,610	6,796	814	n/a	7,490	7,490	6,689	801
Northern rockfish.	BSAI	9,740	8,180	8,180	6,953	0	9,680	8,130	8,130	6,911	0
Shortraker rockfish.	BSAI	564	424	424	360	0	564	424	424	360	0
Rougheye rockfish.	BSAI	269	202	202	172	0	269	202	202	172	0
Other rockfish[7].	BSAI	1,330	999	999	849	0	1,290	968	968	823	0
	BS	n/a	414	414	352	0	n/a	414	414	352	0
	AI	n/a	585	585	497	0	n/a	554	554	471	0
Squid	BSAI	2,620	1,970	1,970	1,675	0	2,620	1,970	1,970	1,675	0
Other species[8].	BSAI	104,000	78,100	50,000	42,500	0	104,000	78,100	60,000	51,000	0
Total		3,205,693	2,472,585	1,838,345	1,639,009	174,989	3,191,843	2,557,944	1,814,204	1,597,810	170,751

[1] These amounts apply to the entire BSAI management area unless otherwise specified. With the exception of pollock, and for the purpose of these harvest specifications, the Bering Sea (BS) subarea includes the Bogoslof District.

[2] Except for pollock, the portion of the sablefish TAC allocated to hook-and-line and pot gear, and Amendment 80 species, 15 percent of each TAC is put into a reserve. The ITAC for these species is the remainder of the TAC after the subtraction of these reserves.

[3] Under § 679.20(a)(5)(i)(A)(*1*), the annual Bering Sea subarea pollock TAC after subtracting first for the CDQ directed fishing allowance (10 percent) and second for the incidental catch allowance (3.5 percent), is further allocated by sector for a directed pollock fishery as follows: inshore – 50 percent; catcher/processor – 40 percent; and motherships – 10 percent. Under § 679.20(a)(5)(iii)(B)(*2*)(*i*) and (*ii*), the annual Aleutian Islands subarea pollock TAC, after subtracting first for the CDQ directed fishing allowance (10 percent) and second for the incidental catch allowance (1,600 mt) is allocated to the Aleut Corporation for a directed pollock fishery.

[4] The Pacific cod TAC is reduced by three percent from the ABC to account for the State of Alaska's (State) guideline harvest level in State waters of the Aleutian Islands subarea.

[5] For the Amendment 80 species (Atka mackerel, flathead sole, rock sole, yellowfin sole, Pacific cod, and Aleutian Islands Pacific ocean perch), 10.7 percent of the TAC is reserved for use by CDQ participants (see §§ 679.20(b)(1)(ii)(C) and 679.31). Twenty percent of the sablefish TAC allocated to hook-and-line gear or pot gear, 7.5 percent of the sablefish TAC allocated to trawl gear, and 10.7 percent of the TACs for Bering Sea Greenland turbot and arrowtooth flounder are reserved for use by CDQ participants (see § 679.20(b)(1)(ii)(B) and (D)). Aleutian Islands Greenland turbot, "other flatfish," Alaska plaice, Bering Sea Pacific ocean perch, northern rockfish, shortraker rockfish, rougheye rockfish, "other rockfish," squid, and "other species" are not allocated to the CDQ program.

[6] "Other flatfish" includes all flatfish species, except for halibut (a prohibited species), flathead sole, Greenland turbot, rock sole, yellowfin sole, arrowtooth flounder, and Alaska plaice.

[7] "Other rockfish" includes all *Sebastes* and *Sebastolobus* species except for Pacific ocean perch, northern, shortraker, and rougheye rockfish.

[8] "Other species" includes sculpins, sharks, skates, and octopus. Forage fish, as defined at § 679.2, are not included in the "other species" category.

TABLE 9.—2008 AND 2009 PACIFIC HALIBUT DISCARD MORTALITY RATES FOR THE BSAI

Gear	Fishery	Halibut discard mortality rate (percent)
Non-CDQ hook-and-line	Greenland turbot	13
	Other species	11
	Pacific cod	11
	Rockfish	17
Non-CDQ trawl	Arrowtooth flounder	75
	Atka mackerel	76
	Flathead sole	70
	Greenland turbot	70
	Non-pelagic pollock	74
	Pelagic pollock	88
	Other flatfish	74
	Other species	70
	Pacific cod	70
	Rockfish	76
	Rock sole	80
	Sablefish	75

TABLE 9.—2008 AND 2009 PACIFIC HALIBUT DISCARD MORTALITY RATES FOR THE BSAI—Continued

Gear	Fishery	Halibut discard mortality rate (percent)
Non-CDQ Pot	Yellowfin sole	80
	Other species	7
CDQ trawl	Pacific cod	7
	Atka mackerel	85
	Flathead sole	87
	Non-pelagic pollock	86
	Pelagic pollock	90
	Rockfish	82
	Rock sole	86
	Yellowfin sole	86
CDQ hook-and-line	Greenland turbot	4
	Pacific cod	10
CDQ pot	Pacific cod	7
	Sablefish	34

TABLE 8A.—2008 AND 2009 APPORTIONMENT OF PROHIBITED SPECIES CATCH ALLOWANCES TO NON-TRAWL GEAR, THE CDQ PROGRAM, AMENDMENT 80, AND THE BSAI TRAWL LIMITED ACCESS SECTORS

PSC species	Total non-trawl PSC	Non-trawl PSC remaining after CDQ PSQ [1]	Total trawl PSC	Trawl PSC remaining after CDQ PSQ [1]	CDQ PSQ reserve [1]	Amendment 80 sector		BSAI trawl limited access fishery
						2008	2009	
Halibut mortality (mt) BSAI	900	832	3,675	3,400	343	2,525	2,475	875
Herring (mt) BSAI	n/a	n/a	1,726	n/a	n/a	n/a	n/a	n/a
Red king crab (animals) Zone 1 [2]	n/a	n/a	197,000	175,921	21,079	109,915	104,427	53,797
C. opilio (animals) COBLZ [2]	n/a	n/a	4,350,000	3,884,550	465,450	2,386,668	2,267,412	1,248,494
C. bairdi crab (animals) Zone 1 [2]	n/a	n/a	980,000	875,140	104,860	460,674	437,658	411,228

TABLE 8A.—2008 AND 2009 APPORTIONMENT OF PROHIBITED SPECIES CATCH ALLOWANCES TO NON-TRAWL GEAR, THE CDQ PROGRAM, AMENDMENT 80, AND THE BSAI TRAWL LIMITED ACCESS SECTORS—Continued

PSC species	Total non-trawl PSC	Non-trawl PSC remaining after CDQ PSQ[1]	Total trawl PSC	Trawl PSC remaining after CDQ PSQ[1]	CDQ PSQ reserve[1]	Amendment 80 sector		BSAI trawl limited access fishery
						2008	2009	
C. bairdi crab (animals) Zone 2[2]	n/a	n/a	2,970,000	2,652,210	317,790	784,789	745,536	1,241,500

[1] Section 679.21(e)(3)(i) allocates 276 mt of the trawl halibut mortality limit and § 679.21(e)(4)(i)(a) allocates 7.5 percent, or 67 mt, of the non-trawl halibut mortality limit as the PSQ reserve for use by the groundfish CDQ program. The PSQ reserve for crab species is 10.7 percent of each crab PSC limit.
[2] Refer to 50 CFR § 679.2 for definitions of areas.

TABLE 8B.—2008 AND 2009 HERRING AND RED KING CRAB SAVINGS SUBAREA PROHIBITED SPECIES CATCH ALLOWANCES FOR ALL TRAWL SECTORS

Fishery categories	Herring (mt) BSAI	Red king crab (animals) Zone 1
Yellowfin sole	148	n/a
Rock sole/flathead sole/other flatfish[1]	26	n/a
Turbot/arrowtooth/sablefish[2]	12	n/a
Rockfish	9	n/a
Pacific cod	26	n/a
Midwater trawl pollock	1,318	n/a
Pollock/Atka mackerel/other species[3]	187	n/a
Red king crab savings subarea Non-pelagic trawl gear[4]	n/a	49,250
Total trawl PSC	1,726	197,000

[1] "Other flatfish" for PSC monitoring includes all flatfish species, except for halibut (a prohibited species), flathead sole, Greenland turbot, rock sole, yellowfin sole, and arrowtooth flounder.
[2] Greenland turbot, arrowtooth flounder, and sablefish fishery category.
[3] Non-pelagic pollock, Atka mackerel, and "other species" fishery category.
[4] In October 2007 the Council recommended that the red king crab bycatch limit for non-pelagic trawl fisheries within the RKCSS be limited to 25 percent of the red king crab PSC allowance (see (679.21(e)(3)(ii)(B)(*2*)).

TABLE 8C.—2008 AND 2009 PROHIBITED SPECIES BYCATCH ALLOWANCES FOR THE BSAI TRAWL LIMITED ACCESS SECTOR AND NON-TRAWL FISHERIES

BSAI trawl limited access fisheries	Prohibited species and area[1]				
	Halibut mortality (mt) BSAI	Red king crab (animals) Zone 1	*C. opilio* (animals) COBLZ	*C. bairdi* (animals)	
				Zone 1	Zone 2
Yellowfin sole	162	47,397	1,176,494	346,228	1,185,500
Rock sole/flathead sole/other flatfish[2]	0	0	0	0	0
Turbot/arrowtooth/sablefish[3]	0	0	0	0	0
Rockfish	3	0	2,000	60,000	1,000
Pacific cod	585	6,000	50,000	60,000	50,000
Pollock/Atka mackerel/other species	125	400	20,000	5,000	5,000
Total BSAI trawl limited access PSC	875	53,797	1,248,494	411,228	1,241,500

Non-trawl fisheries	Catcher processor	Catcher vessel
Pacific cod—Total	760	15
January 1–June 10	314	10
June 10–August 15	0	3
August 15–December 31	446	2
Other non-trawl—Total		58
May 1–December 31		58
Groundfish pot and jig		exempt
Sablefish hook-and-line		exempt
Total non-trawl PSC		833

[1] Refer to § 679.2 for definitions of areas.
[2] "Other flatfish" for PSC monitoring includes all flatfish species, except for halibut (a prohibited species), flathead sole, Greenland turbot, rock sole, yellowfin sole, and arrowtooth flounder.
[3] Greenland turbot, arrowtooth flounder, and sablefish fishery category.

TABLE 8D.—2008 PROHIBITED SPECIES BYCATCH ALLOWANCES FOR THE BSAI AMENDMENT 80 COOPERATIVES

Year	Prohibited species and area [1]				
	Halibut mortality (mt) BSAI	Red king crab (animals) Zone 1	*C. opilio* (animals) COBLZ	*C. bairdi* (animals)	
				Zone 1	Zone 2
2008	1,837	78,631	1,632,432	340,520	580,311

[1] Refer to § 679.2 for definitions of areas.

TABLE 8E.—2008 PROHIBITED SPECIES BYCATCH ALLOWANCES FOR THE BSAI AMENDMENT 80 LIMITED ACCESS FISHERIES

Amendment 80 limited access fisheries	Prohibited species and area [1]				
	Halibut mortality (mt) BSAI	Red king crab (animals) Zone 1	*C. opilio* (animals) COBLZ	*C. bairdi* (animals)	
				Zone 1	Zone 2
Yellowfin sole	363	6,100	660,000	63,154	155,318
Jan 20–Jul 1	214	5,900	650,000	58,500	125,318
Jul 1–Dec 31	149	200	10,000	4,654	30,000
Rock sole/other flat/flathead sole [2]	224	25,000	93,395	56,677	48,266
Jan 20–Apr 1	180	24,632	90,235	50,000	42,160
Apr 1–Jul 1	20	184	1,660	3,500	3,053
July 1–Dec 31	24	184	1,500	3,177	3,053
Turbot/arrowtooth/sablefish [3]	n/a	n/a	7,542	n/a	n/a
Rockfish	50	n/a	n/a	n/a	n/a
Pacific cod	1	184	840	323	893
Pollock/Atka mackerel/other species	50	0	0	0	0
Total Amendment 80 trawl limited access PSC	688	31,284	754,235	120,154	204,477

[1] Refer to § 679.2 for definitions of areas.
[2] "Other flatfish" for PSC monitoring includes all flatfish species, except for halibut (a prohibited species), flathead sole, Greenland turbot, rock sole, yellowfin sole, and arrowtooth flounder.
[3] Greenland turbot, arrowtooth flounder, and sablefish fishery category.

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		2008				2009			2010		
Species	Area	OFL	ABC	TAC	Catch	OFL	ABC	TAC	OFL	ABC	TAC
Pollock	W(61)		17,602	17,602	9,265		23,700			23,700	
	C(62)		19,181	19,181	15,687		25,821			25,821	
	C(63)		13,640	13,640	5,721		18,367			18,367	
	WYAK		1,517	1,517	1,161		2,042			2,042	
	Subtotal	72,110	51,940	51,940	31,834	95,940	69,930		95,940	69,930	
	EYAK/SEO	11,040	8,240	8,240	2	11,040	8,240		11,040	8,240	
	Total	83,150	60,180	60,180	31,836	106,980	78,170		106,980	78,170	
Pacific cod	W		25,932	19,449	12,680		25,932			25,932	
	C		37,901	28,426	19,365		37,901			37,901	
	EYAK/SEO		2,660	2,394	276		2,660			2,660	
	Total	88,660	66,493	50,269	32,321	88,660	66,493		88,660	66,493	
Deep water flatfish	W		690	690	9		707			707	
	C		6,721	6,721	496		6,927			6,927	
	WYAK		965	965	1		995			995	
	EYAK/SEO		527	527	4		543			543	
	Total	11,343	8,903	8,903	510	11,583	9,172		11,583	9,172	
Rex sole	W		1,022	1,022	148		948			948	
	C		6,731	6,731	2,296		6,241			6,241	
	WYAK		520	520	0		483			483	
	EYAK/SEO		859	859	0		796			796	
	Total	11,933	9,132	9,132	2,444	11,065	8,468		11,065	8,468	
Flathead sole	W		12,507	2,000	257		13,001			13,001	
	C		28,174	5,000	2,383		29,289			29,289	
	WYAK		3,420	3,420	0		3,556			3,556	
	EYAK/SEO		634	634	0		659			659	
	Total	55,787	44,735	11,054	2,640	57,962	46,505		57,962	46,505	
Shallow water flatfish	W		26,360	4,500	740		26,360			26,360	
	C		29,873	13,000	5,281		29,873			29,873	
	WYAK		3,333	3,333	0		3,333			3,333	
	EYAK/SEO		1,423	1,423	0		1,423			1,423	
	Total	74,364	60,989	22,256	6,021	74,364	60,989		74,364	60,989	
Arrowtooth flounder	W		30,817	8,000	2,796		31,080			31,080	
	C		167,936	30,000	21,418		169,371			169,371	
	WYAK		15,245	2,500	31		15,375			15,375	
	EYAK/SEO		12,472	2,500	48		12,579			12,579	
	Total	266,914	226,470	43,000	24,293	269,237	228,405		269,237	228,405	
Sablefish	W		1,890	1,890	1,529		1,727			1,727	
	C		5,500	5,500	4,766		5,026			5,026	
	WYAK		2,120	2,120	1,889		1,937			1,937	
	SEO		3,220	3,220	2,578		2,943			2,943	
	WYAK+SEO		5,340	5,340	4,467		4,880			4,880	
	Total	15,040	12,730	12,730	10,762	12,924	11,633		12,924	11,633	

Sources: 2008 and 2009 OFLs, ABCs, and TACs from the specifications adopted by the Council in 12-07; 2010 OFLs and ABCs equal to 2009; 2008 catches through 8-30-08 from AKR Catch Accounting . Note: the 2008 sablefish for WYAK and SEO incorporate 2008 corrections tothe originally published specifications. 2009 sablefish WYAK and SEO estimates are based on numbers supplied by Tom Pearson of NMFS Sustainable Fisheries in July 2008.

Proposed September GOA Plan Team OFL and ABC Recommendations for 2009-'10 (Page 2)

Species	Area	2008 OFL	2008 ABC	2008 TAC	Catch	2009 OFL	2009 ABC	2009 TAC	2010 OFL	2010 ABC	2010 TAC
Pacific ocean perch	W	4,376	3,686	3,686	3,567	4,397	3,704		4,397	3,704	
	C	9,717	8,185	8,185	7,124	9,764	8,225		9,764	8,225	
	WYAK		1,100	1,100	1,100		1,105			1,105	
	EYAK/SEO		2,028	2,028	0		2,038			2,038	
	E (subtotal)	3,714	3,128	3,128	1,100	3,732	3,143		3,732	3,143	
	Total	17,807	14,999	14,999	11,791	17,893	15,072		17,893	15,072	
Shortraker	W		120	120	132		120			120	
	C		315	315	219		315			315	
	E		463	463	191		463			463	
	Total	1,197	898	898	542	1,197	898		1,197	898	
Rougheye	W		125	125	76		124			124	
	C		834	834	175		830			830	
	E		327	327	109		325			325	
	Total	1,548	1,286	1,286	360	1,540	1,279		1,540	1,279	
Other slope rockfish	W		357	357	266		357			357	
	C		569	569	417		569			569	
	WYAK		604	604	49		604			604	
	EYAK/SEO		2,767	200	18		2,767			2,767	
	Total	5,624	4,297	1,730	750	5,624	4,297		5,624	4,297	
Northern rockfish	W		2,141	2,141	1,591		2,047			2,047	
	C		2,408	2,408	2,015		2,302			2,302	
	E		0	0	0		0			0	
	Total	5,430	4,549	4,549	3,606	5,120	4,349		5,120	4,349	
Pelagic shelf rockfish (Alternative 1: including dark rockfish)	W		1,003	1,003	475		986			986	
	C		3,626	3,626	2,791		3,566			3,566	
	WYAK		251	251	195		247			247	
	EYAK/SEO		347	347	1		341			341	
	Total	6,400	5,227	5,227	3,462	6,294	5,140		6,294	5,140	
Pelagic shelf rockfish (Alternative 2: excluding dark rockfish)	W						804			804	
	C						3,339			3,339	
	WYAK						230			230	
	EYAK/SEO						318			318	
	Total					5,695	4,690		5,695	4,690	
Thornyhead rockfish	W		267	267	271		267			267	
	C		860	860	289		860			860	
	E		783	783	140		783			783	
	Total	2,540	1,910	1,910	700	2,540	1,910		2,540	1,910	
Big skate	W		632	632	127		632			632	
	C		2,065	2,065	883		2,065			2,065	
	E		633	633	50		633			633	
	Total	4,439	3,330	3,330	1,060	4,439	3,330		4,439	3,330	
Longnose skate	W		78	78	17		78			78	
	C		2,041	2,041	591		2,041			2,041	
	E		768	768	89		768			768	
	Total	3,849	2,887	2,887	697	3,849	2,887		3,849	2,887	
Other skates	Total	2,806	2,104	2,104	977	2,806	2,104		2,806	2,104	
Demersal shelf rockfish	SEO	611	382	382	132	611	382		611	382	
Atka mackerel	Total	6,200	4,700	1,500	1,685	6,200	4,700		6,200	4,700	
Other species	Total	n.a.	n.a.	4,500	1,670	10,558	7,943		10,558	7,943	
Total	GOA	665,642	536,201	262,826	138,259	701,446	564,126		701,446	564,126	

Sources: 2008 and 2009 OFLs, ABCs, and TACs from the specifications adopted by the Council in 12-07; 2010 OFLs and ABCs equal to 2009; 2008 catches through 8-30-08 from AKR Catch Accounting . Other species 2009-10 OFL and ABC from Amendment 79 calculations summing across estimated individual species group OFLs and ABCs. Notes: totals include total for PSR with dark rockfish, but not the total for PSR without dark rockfish. Alternative PSR without dark rockfish estimates calculated by Chris Lunsford of the Auke Bay Lab in July 2008.

AGENDA C-7
Supplemental
OCTOBER 2007

NOAA
National Marine Fisheries Service

September 15, 2008

Attention: All who are concerned about the Pollock Fishery

No Management, No Pollock...No Job

This letter is for the sole purpose of addressing the grave situation with the North Pacific Fisheries. These words are written in hope that your division and your hierarchy, National Oceanic and Atmosphere Administration, along with all the decisive organizations controlling North Pacific Fisheries, will show concern for the dwindling vitality of what used to be a substantial Fishery in the Bering Sea- namely the Pollock Fishery.

Many are observing that the Pollock stocks are not only less but are in gross decline. Evidence of this is demonstrated in the overall quota cut of ~32% for Coops. Over the past 3 years, Bering Sea Fishermen must travel up to 600 miles to find a full load in the time span of a week or more. At times, up to 50 boats are in a limited area scratching to fill up. Pollock caught do not meet the size limit due to being too young, sizes short of .5 kg. Is this a sustainable fishery? Hopefully, we are not settling on the idea that the quotas should be maximized and fished to the limit based on our complacent dependence on computerized models.

Fisherman with 30+ years of experience, have taken notice the difference in fish stocks over the past 10 years and even more drastically in the last 5 years.
FACTS:
To begin, Shelikof Strait was overfished, so the fishery area was moved to Bogosolf which quickly became overfished. Next, the Aleutians became overfished. The ever so abundant "Horseshoe" at Unimak Pass became overfished. Amak is empty like the above named areas. Over the past year, the east side of the Pribilofs, which has served as a back-up for fisherman...NO FISH now. The west side of the Pribilofs...NO FISH.

Many of those who sweat in the heart of this fishery feel it is out of control. Where are the Pollock? The last 4 years, all the boats have been fishing in the northwest, 375 miles from town, Zhemchug Canyon which is also becoming wiped out. After that, finding fish required traveling 500 miles NW to St. Matthews Canyon and on to the border of Russia. All of these areas are fished with an exaggerated projection of expected current and future biomass numbers. 2006-2007, you increased the quota, and that is when you should have decreased. Over the last 2 years, you decreased the quota 32%+, which should have been done more than 5 years ago. This percentage cut is not enough for us to save the Pollock in the Bering Sea. If you want to conserve the fishery, make an emergency closure like you did with the King Crab (closure for 1 year) or cut-off another 30% for next year. Atlantic Cod, the greatest crash of the East Coast Fisheries was a painful and tragic lesson. What have we learned?

You would think that the observer data from 84 boats demonstrating that the CPUE (catch per unit effort) has decreased drastically would be an obvious sign. It is 0.0187 now when it used to 1.578 approx 5 years ago. Clearly, all data shows the fact that this fish are too small for catching. Small size needs to grow. We can allow for growth with more closures and quota cuts.
Do you not see that the size of fish is very small?
Today, the goal size of 500 gram fish are targeted since it is hard-nearly impossible to find larger. 5 years ago, the 500 gram fish were rejected by the cannery. 200 gram fish and under are caught on a daily basis by many boats. Such data should show up clearly in the electronic logs recorded by the Observers.

We need to stop and take a hard look at what detrimental results we are causing. Many have been working for and on the ocean for over 20 years have the time and experience to witness this decline occurring in front of us.
In land operated fish factories, Many more totes are being filled with small fish (<350g) that end up in fish meal. Approximately 40 % of the catch is with fish weight less than 450g. Just recently, the size of the fish going to the factory was measured between 7-8 inches (pictures are available).

Another unrecorded fact is regarding the Factory trawler. It is appalling what they are doing to the fishery alone. Nets are built with larger meshed cod ends to allow smaller Pollock to pass through. We all know that Pollock are dead once in a net, no matter if they pass through. Not only are they damaging the smaller stocks, the factory trawlers are killing them without record. Explanation: When nets are full to overloaded, the factory may not be ready to process the load so the boat continues to drag the load through the water. During that time, small fish are strained through the net, decreasing the load to less than full. Just before haul-in of the net, the factory trawlers dump part of the load by opening a hole on top of the net, a process called "blow-out", where the fish are pushed out while catching new fish to ensure a full load. This action occurs in mid-water and is referred to a "Short-Wire" and the fish that are dumped are no longer viable. This is one example in many regarding large amounts of fish stocks that are <u>off the record</u>.
How long has this been going on?

Where is the management to stop it?

This year, 2008, the season began at the end of January and finished June 30th. B-season began on July 10th and is scheduled to close on October 31st. Where is the recovery period for the Pollock? The ocean needs more than 3 months to recover its stocks. 6-7 months would be better.
There is so much data assessed from models...and then there is the Hard Data which is right in front of our faces.

We encourage all who work for and pursue the survival of not only an industry but a natural habitat, to make some drastic management changes to this fishery before it dies and we all lose our livelihood.

From all people whose lives depend on the Conservation of the Pollock Fishery.