

BSAI Groundfish Plan Team Report
AFSC- Seattle, WA
September 20, 2007

Loh-Lee Loh (AFSC), Chair	Brenda Norcross (UAF)
Grant Thompson (AFSC), Special Envoy to the SSC	Ivan Vining (ADF&G)
Jane DiCosimo (NPFMC), Coordinator	Kerim Aydin (AFSC)
Dave Carlile (ADF&G)	Brenda Norcross (IPHC)
Andy Smoker (AKRO)	Lowell Fritz (NMML)
Dan Lew (AFSC)	Kathy Kuletz (USFWS)

The BSAI Groundfish Plan Team convened on Thursday, September 20, 2006, at 9:00 am. Mike Sigler was absent due to a concurrently scheduled meeting. Fourteen members of the public and ten agency staff attended parts of the meeting.

Bogoslof Survey Neal Williamson summarized the 2007 Bogoslof EIT pollock survey from the *RV Miller Freeman*. The main distribution of young pollock has been near Umnak and Samalga Pass since 2000. The survey results are quite similar to last year's. One mode of young pollock occurred at 47 cm in Samalga Pass, with another mode at 62 cm in Umnak. The majority of fish were found between 400-500 m depth. The gonadosomatic index was the same in the two areas and the same as last year, about 18 percent. A slight increase in biomass was estimated, from 240,000 t to 290,000 t. The most recent dominant year class appears to be from the year 2000 cohort. Recruitment to this region generally occurs as pollock reach age 6 or 7 years old. He noted that no survey is planned for 2008 and that future Bogoslof surveys will be done every other year. The next survey will be conducted from the *RV Oscar Dyson* in 2009.

Loh-lee Low reported that the Donut Hole conference concluded that the ban on fishing in the international zone should continue. A Korean trial fishery was unable to locate fishable quantities of pollock. However this occurred in summer when fish are generally absent.

Echo-integration survey Neal Williamson also reported on the 2007 EBS EIT survey of midwater walleye pollock. Preliminary results indicated low abundance east of the Pribilof Islands. The survey extended into the Russian zone (for the fourth time since 1979). The Russian zone typically contributes a small percent of total biomass estimates from this survey (15% in 1994, 2% in 2002, 9% in 2004, and 5% in 2007). As is typical, juveniles were less abundant in the survey area east of 170°. Overall, about 12% of the biomass was found in that area. The biomass estimate west of 170° to the convention line represented about 83% of the total whereas 5% were found in the Russian zone. Biomass was estimated at 1.5 M t in 2006 and preliminary estimates from 2007 indicate about 2 M t in 2007.

The Team asked if a retrospective analysis could document how the distribution of pollock has changed over time, possibly showing a steady shift towards more northerly distributions. This is something that can be extracted from previous reports and is worth examining for the SAFE report.

A question was posed about variability between the two vessels regarding survey design and results. MACE staff reported that to date, the differences between the two vessels were small, with no significant differences in backscatter in study conducted during the acoustic survey in the Eastern Bering Sea in 2006 (presently in review).

Aleutian Islands Acoustic Survey Steve Barbeaux reported on the 2007 AI cooperative acoustic survey study on the *FV Muir Milach*. Fish surveyed in Onaga and Tanaga passes were in pre-spawning condition. They found low pollock biomass in the study area, with the locations surveyed consistent with

2002 survey. Only 1,300 mt of the 3,000 mt allowance was harvested during the 2007 experimental fishery. They are planning a similar, but expanded, study in 2008. The fishery will not occur under an experimental fishing permit in 2008. Instead, NPRB will fund the study. He reported on complementary studies on the *RV Oscar Dyson* between 173° and 178°) and aerial pinniped surveys. Steve reported that the 2000 year class is dominant in the survey area.

Eastern Bering Sea Bottom Trawl Survey Bob Lauth presented the BT survey results during the joint team meeting. The 2007 survey results for pollock is up from last year, but the estimate is 87% of long term bottom-trawl survey mean (1982-2007). See the joint team minutes for a summary.

Pollock modeling Jim Ianelli presented research activities related to pollock assessment modeling. This included developments on methods for estimating catch at age and associated sampling errors. He also summarized EBS pollock as a case study that he was invited to present to an ICES working group. The ICES working group was tasked with examining cases where environmental information directly impact TACs. For the case of pollock, since Tier 1 ABC estimates decline as uncertainty in estimating F_{msy} increases, it was clarified that this adjustment is partially environmentally driven. For example, one source of uncertainty in estimating the PDF of F_{msy} is the inter-annual variability in mean weight at age. Next year's realized pollock mean-weight at age is unknown and a mean value is used as a proxy. However, data clearly show that there is inter-annual variability and Ianelli proposed that this should be included in consideration of estimating the PDF of F_{msy} (a Tier 1 requirement). The Plan Team concurred.

The Team discussed issues related to mean weights-at-age used for projections and the estimates of F_{msy} uncertainty. It was noted that there could be cohort effects that impact these, as well as issues related to "edge-effects" (otolith increment ring-formation) in the aging process. Some patterns in the time series of mean weights at age seem to suggest the need for closer examination.

The Team recommends that the author continue to pursue methods (such as the bootstrapping approach) to obtaining sample-sizes for the fishery and survey age composition data. The Team also encouraged the authors to continue to pursue means to obtain up-to-date Russian data and evaluate them relative to the US assessment.

BSAI Pacific cod model Grant Thompson provided an update of a revised Pacific code model during the joint team meeting. See the joint team minutes for a summary.

EBS skate model Olav Ormseth and Beth Matta presented a revised assessment of the BSAI Alaska skate. The 2006 BSAI skate assessment applied tier 5 criteria and suggested modeling Alaska skates separately from other skates. This year, the authors applied tier 3 criteria to a Stock Synthesis 2 model for Alaska skates. The authors considered (1) a base model starting in 1992 that used EBS shelf survey biomass and a level of equilibrium catch equal to the 1992 catch and (2) an alternative model starting in 1958 that included EBS shelf survey data from 1982 and the full available record of historical skate catch. The EBS shelf survey has accurately identified skate species composition since 1999. The 1999-2006 composition was used to reconstruct skate biomass and catch estimates for years prior to 1999, when species identification was less reliable.

The authors reported that Alaska skate embryos deposited in eggcases on the seafloor have a 3+ year development period, so the biological data was adjusted by 3 years to include this embryonic stage in the model. The model estimates separate growth for ages 0-2 (the embryonic period), with fishery and survey selectivity equal to 0 for age 0-2 Alaska skates. Natural mortality was fixed at 0.13 for all ages, including the embryonic stage. Good data for estimating embryo mortality are lacking. The team discussed whether the assumption that $M = 0.13$ was appropriate. The team noted that while trawl disturbance of egg cases is

likely not a common event, it could have an impact when it occurs. The team suggested running several alternative models with different levels of historical catch. The team also discussed whether the apparent rise in skate biomass on the EBS shelf in the 1980s was the result of large recruitment events or invasion of skates from nursery areas along the shelf break.

An industry representative raised a question about the model's use of catch data from the yellowfin sole trawl fishery. Concerns about the validity of data from the yellowfin sole fishery stem from changes over time in the gear used to catch yellowfin. The fleet is increasingly changing its gear preference from larger to smaller nets and increasing the proportion of sweep (combination rope) in place of the larger nets used in the past. The sweeps are typically made of 2 ½" fabric over the cable. This has proven effective for herding flatfish, but may change the degree to which skates are herded by the trawl sweeps. This gear modification could affect the area swept for skates, making it essentially smaller over time. The move to large sweeps in place of large nets is driven by high fuel costs and quality requirements for target sole species. The old style nets create more drag and hence use more fuel. Two or three boats a year are converting to the new style of flatfish trawl with large sweeps and smaller nets. Some of the flatfish boats also use an 8-inch grate as a halibut excluder. Big skates may be excluded along with halibut, but small skates likely go through the grate along with the target fish. He offered to work with the authors to help them take a critical look at the data used to determine trawl fishery catch and selectivity.

The team recommended that the authors move to a tier 3a model for Alaska skates and keep the other skates at tier 5 in a combined assessment. The team noted that tier 3 is more conservative for Alaska skates and provides additional rationale for enhanced data collection by observers. The team noted that recent catches are very close to the tier 3 ABC estimate and could require in-season closures. The team recommended that the 2007 skate SAFE include both tier 3a and tier 5 estimates of Alaska skate ABC, and that both tier estimates be based on an M of 0.13.

Halibut discard mortality rates The BSAI Team adopted the halibut DMRS for the CDQ fisheries as recommended by the IPHC staff. The team noted that it was likely that the CDQ fisheries would enter the next 3-year cycle for adopting for the non-CDQ fisheries in 2009 for the period 2010-2012 because 10 years of data would be available to set a 3-year rate for the CDQ fisheries.

Groundfish Specifications The team adopted the OFL and ABC proposed specifications for 2008 and 2009 as attached. The recommendations are based on rollovers of the established 2008 final specifications rather than projections for Tier 1 to 3 stocks that have previously been made. The teams felt these numbers were based upon stock assessments using the best information available at that time and that additional staff work on developing the projections was better spent in preparing the assessments and other analyses.

Adjourn The team adjourned at approximately 1:30 pm.