NOAA FISHERIES
Alaska Fisheries Science Center

Theme 5: Accomplishments relative to mandates

Summary

The North Pacific Fishery Management Council maintains five fishery management plans (FMPs): Bering Sea/Aleutian Islands King and Tanner Crabs (Crab), Groundfish of the Bering Sea and Aleutian Islands Management Area (BSAI), Groundfish of the Gulf of Alaska (GOA), Salmon Fisheries in the EEZ off the Coast of Alaska (Salmon), Scallop Fishery off Alaska (Scallop), and Fish Resources of the Arctic Management Area (Arctic).

Stock assessment duties for the Crab FMP are divided between the Alaska Department of Fish and Game (ADFG) and Alaska Fisheries Science Center (AFSC). Six crab stocks are assessed by ADFG and four are assessed by AFSC. The AFSC conducts all of the BSAI assessments, and all but one of the GOA assessments. The five salmon assessments and the single scallop assessment are all conducted by ADFG. No Arctic assessments are conducted (the entire fishery is closed).

Of the four crab stocks assessed by the AFSC, all four are done annually. There are currently 25 BSAI groundfish assessments and 25 GOA groundfish assessments conducted by the AFSC, and all are done annually. However, these annual assessments (crab and groundfish) are not all conducted at the same level of completeness or complexity. Of the four crab assessments, three have been full updates and one has been a "benchmark" assessment in each of the last four years (all four achieved benchmark status in 2009). Of the BSAI groundfish assessments, the number of full assessments over the last five years has ranged from 6 in 2013 (an extremely unusual year, due to the two-week government shutdown during the peak of stock assessment season) to a high of 22 in 2012. The number of BSAI benchmark assessments has been steady at two per year. Except for the rare occasions when a new assessment is introduced (i.e., an assessment of a previously unassessed stock or stock complex), assessments that are neither full updates nor benchmarks take the form of "partial" updates—very brief assessments in which harvest specifications are adjusted on the basis of updated catch estimates only. For BSAI groundfish, the number of partial updates has ranged from a low of zero to a high of 15 in 2013 (again, due partially to the government shutdown). Of the GOA groundfish assessments, the number of full updates has ranged from 3 to 22, the number of benchmarks has ranged from 1 to 4, and the number of partial updates has ranged from 0 to 17. For both BSAI and GOA groundfish, partial assessments are typically conducted in alternating years; specifically, years in which one or more of the major regional surveys does not take place.

In addition to assessing stocks and stock complexes for which directed fishing occurs under a fishery management plan, the AFSC also assesses the large complexes of forage fish in both the BSAI and GOA (directed fishing for forage fish is prohibited under the groundfish FMPs). Although not yet part of either groundfish FMP, the AFSC also assesses grenadiers, which have a large biomass (particularly in the GOA) and are ecologically important.

As discussed under Theme III, assessments are produced according to clear timelines, with written guidelines detailing the expected contents. Assessment authors almost never fail to meet the most crucial deadlines, and the level of assessor effort and preliminary review is such that final assessments are almost never rejected by the SSC. Results for all assessments are filed in NMFS' Species Information System during the same calendar quarter in which the final assessments are reviewed by the SSC (even though this involves at most a three-week turnaround time in the case of the 50 groundfish assessments). In terms of stocks tracked in the "Fish Stock Sustainability Index" (FSSI; a set of 230 U.S. fish stocks selected for their importance to commercial and recreational fisheries), during the most recent year for which complete data are available (2012), the AFSC conducted more than twice as many assessments as any other Center, and almost more than all other Centers combined.

The AFSC has been a leader in conducting stock assessments that yield management advice consistent with National Standard 1 of the Magnuson-Stevens Fishery Conservation and Management Act (MSA; preventing overfishing while achieving optimal yield on a continuing basis). Although one crab stock (Pribilof Islands blue king crab) is currently overfished, no BSAI or GOA groundfish stock or stock complex has ever been overfished during the history of management under the MSA, and fishing in excess of the MSY rate almost never occurs.

Assessments of all FMP stocks and stock complexes (except for those in the Arctic, where all fishing except subsistence fishing is prohibited) are conducted annually, with a full update conducted at least every other year. This is true for data-poor as well as data-rich stocks. Prioritization is also discussed under Theme IV.

The AFSC produces a very substantial (235 pages for the 2013 edition) "Ecosystem Considerations" report annually as part of the groundfish stock assessment cycle. It includes a "Report Card" on two of the three regions (currently Bering Sea and Aleutian Islands; GOA will be added soon), an executive summary of recent physical, environmental, ecosystem, and fishing trends throughout the BSAI and GOA regions, and an extensive list of ecosystem indicators and ecosystem-based management indicators (there is also an accompanying website with links to the corresponding time series data). Examples of integrating ecosystem considerations into stock assessments or assessment-related research include use of sea surface temperature as a determinant of survey catchability in the BSAI yellowfin sole and arrowtooth flounder assessments. AFSC assessment scientists are also key players in the Bering Sea Integrated Ecosystem Research Project and Gulf of Alaska Integrated Ecosystem Research Project..