Notes on the BSAI Groundfish 2 million mt OY limit

David Witherell

In February 2011, the Council briefly discussed the 2 million metric ton OY limit established for BSAI groundfish. The following notes were prepared as briefing materials should the issue come up again in the future.

Background

The single species OY levels that were established in the original FMP draft did not provide the flexibility needed to respond to biological changes and the rapidly developing domestic fishery. Plan amendments were required for each adjustment to the OY and the amount allocated to domestic and foreign fisheries. This was a very cumbersome, costly, and slow process that impeded the development of a domestic fishery.

BSAI Groundfish FMP Amendment 1 was adopted by the Council in May 1982 and was implemented January 1, 1984 (49 FR 397). The primary measure in this amendment was the establishment of a multi-year, multi-species optimum yield for BSAI groundfish complex (1.4 million to 2.0 million mt). The alternative adopted for OY was conservative (set equal to 85% of the MSY range, estimated to be 1.7 to 2.4 million mt based on average catches 1968-1977), and based on a range (1.4 to 2.0 million mt) to allow for flexibility with changes in the ecosystem.

The original FMP OY specifications for individual groundfish species were replaced by the OY range for the complex, with total allowable catch (TAC) specified annually for each target species and for the "other species" category. Fifteen percent of each TAC for target and "other species" was set aside for reserves, which could be used for unexpected expansion of the domestic fleet or unexpected conditions of a stock during a fishing year, and for in-season allocations. The TAC could then be apportioned between the domestic annual harvest (DAH) and the total allowable level for foreign fisheries (TALFF).

The following sections provide a brief summary of how the Council and others have reviewed the BSAI 2 million mt limit.

GAO Report

Between 1984 when the Bering Sea OY range was implemented, and 1990, six proposals, mainly from fishing associations and foreign interests, were made to increase the upper OY limit (the 2 mmt cap). The Council decided to reject three of the six proposals without further study; for the remaining three, it conducted formal studies before making a decision. In all instances, the Council voted to reject the proposed amendment. The Council's reasons for not raising the cap included 1) eliminating foreign and joint-venture fishing, 2) concerns about the adequacy of biological information, and 3) other reasons including effects on market prices, bycatch of crab and halibut, and effects on Steller sea lions, other marine mammals, and seabirds.

In 1991, at the request of Representative Les AuCoin, the GOA released a report (GAO/RCED-91-96) entitled "Commerce Needs to Improve Fisheries Management in the North Pacific". The purpose of the report was to examine whether (1) the annual fishing cap of 2 million metric tons in the Bering Sea is based on the best available scientific information and on sound principles of fisheries management, (2) the estimates used for determining U.S. processors' needs for fish are accurate, and (3) the current system for allocating groundfish between U.S. processors and joint ventures needs to be restructured.

The GAO report reviewed the history of the cap, and noted that views differ on its appropriateness. "When the Bering Sea fishing cap was implemented in 1984, the biological information available for estimating

existing fish stocks was limited and incomplete. Because of these data limitations, the Council set a conservative groundfish cap of 2 million metric tons. However, by 1987 new information, based on more current, detailed, and accurate data, showed larger stocks of available fish than NMFS had estimated in 1984. Studies indicate that 3 million metric tons of groundfish could have been harvested in 1990. On the basis of these estimates, NMFS biologists concluded that the cap could be increased."

The report concluded that: "Since the cap was implemented in 1984, NMFS biologists and a number of Council advisory groups have said, at one time or another, that there are sufficient biological data to support an increase in the cap. However, the Magnuson Act also requires the Council and NMFS to consider applicable economic and ecological factors and balance several sometimes competing objectives, such as Americanization of the fishery, conservation, and achieving the optimum yield, in determining the size of the fishing cap. The Council has weighed the various factors involved and decided to maintain a conservative cap." The GAO noted that the NMFS concurred with the Council decision to maintain the cap. The GAO report is available at: http://archive.gao.gov/t2pbat7/143739.pdf

F40 Review

In 2002, the Council convened an independent panel of experts to provide an independent scientific review of the harvest strategy for BSAI and GOA groundfish fisheries, with particular attention to the role played by the *F40%* reference point, and to determine whether changes should be made to account for particular species, or ecosystem needs in accordance with the National Standards of the Magnuson-Stevens Fisheries Conservation and Management Act (MSFCMA). The world class experts who served on this review panel included Dan Goodman, Graeme Parkes, Terry Quinn, Victor Restrepo, Tony Smith, and Kevin Stokes. The report "Scientific Review of the Harvest Strategy Currently Used in the BSAI and GOA Groundfish Fishery Management Plans" was released in November 2002. The report included a section on the history of the 2 mmt cap and its effectiveness as a conservation measure.

"OY is defined in the BSAI FMP as being 85% of the overall MSY for the entire species complex, plus incidental catches of non-specified species (see chapter 2). The last overall MSY estimate of 1.7-2.4 million t was made on the basis of average 1968-1977 catches. Thus, OY is defined as 1.4-2.0 million t. The FMP attributes the 15% deviation from MSY to the influence of various biological and socioeconomic factors. Among the biological factors, it is argued that estimates of exploitable biomass for the complex are in the order of 9.0 million tons, which might support catches greater than 2.0 million tons which is then a conservative limit that would allow for multi-species interactions.

The OFL catches, which are theoretically the catches that would be taken under the FMSY limit control rule defined by the Council are considerably larger than OY for the BSAI. However, for the GOA, the OFL catch level is within the OY range. This comparison, albeit a crude one, suggests that the upper end of the OY range is close to MSY for GOA. In contrast, the BSAI yield is near the low end of the range and well below OFL, suggesting that management actions have been keeping catches well below the typical MSY level. A comparison between realized yields and OY in the above table indicates that the optimum yield, as defined by the Council, was achieved, at least in 1999.

The MSFCMA also requires that the OY definition take into account the protection of marine ecosystems. The BSAI FMP asserts that ecosystem considerations have been taken into account qualitatively, although the 15% deviation from MSY appears to be arbitrary. Any linkage to ecosystem considerations in the GOA FMP is even less obvious.

Thompson (1998) reviewed the OY definitions in the context of the MSFCMA. In addition to the language in the FMPs, he also examined several working documents that led to the current definitions such as Plan Amendments and Environmental Impact Statements. He concluded that the GOA FMP specification failed to address explicitly the protection of marine ecosystems and that it may fail to ensure that OY = MSY. For

the BSAI FMP, Thompson (1998) concluded that the OY specification addressed ecosystem considerations to an unknown degree and that it most likely ensured that OY = MSY. On the basis of his analyses and the fact that the OY definitions date back to the late 1980s, he concluded that both BSAI and GOA definitions of OY should be reanalyzed.

In conclusion, the Council should consider a review of the OY definitions for both FMPs so that they are consistent with the MSFCMA in a more explicit way. A possible reduction in the upper range of the GOA definition of OY should receive priority, although it may be cost-effective and advisable from the point of view of internal consistency to address both FMPs together.

A possible example of an implicit approach to taking ecosystems considerations into account is the overall cap on the annual North Pacific groundfish harvest of 2 million mt. Since 1981, the total annual allowable catch of groundfish for this region has been required to fall within an optimum yield range of 1.4 to 2.0 million mt. Apparently, the upper limit of 2 million mt was set on the basis of indications from previous years that when the aggregate catch exceeded this level, there was evidence of stress in the ecosystem (Loh Lee Low pers. comm.). This has limited the sum of TAC's for all species to 2 million mt per year, which has been considerably less than the sum of all allowable biological catches (ABCs). In some years, ABC's have totaled more than 2.8 million mt (Witherell et al. 2000). Uncertainty is also used to adjust TACs downwards compared to ABCs in the tier system of management (as explained in chapter 2). As a result, the Council considers that many groundfish stocks, particularly flatfish stocks, have been exploited well below sustainable levels."
The full report is available at: http://www.alaskafisheries.noaa.gov/npfmc/misc_pub/f40review1102.pdf

Programmatic Groundfish SEIS

The June 2004 final programmatic SEIS for Alaska groundfish fisheries reviewed the OY caps (Alternative 1) and evaluated effects of setting an OY cap at the sum of the OFL or the sum of the ABCs for each species as part of a more aggressive management policy (Alternative 2). Although it is difficult to completely separate the effects of eliminating the OY cap restraints from other measures of Alternative 2, the SEIS indicates that the impact of this would be: 1) maximize economic yield while preventing overfishing of target stocks, but is not effective at preventing stocks from becoming overfished; 2) increase effort resulting in higher impacts to habitat and increased bycatch of salmon in particular.
The full SEIS is available at: http://www.fakr.noaa.gov/sustainablefisheries/seis/intro.htm

2004 Appropriations Act rider

Section 803 of Title VIII of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act 2004, requires that any directed pollock fishery in the Aleutian Islands Subarea of the Bering Sea and Aleutian Islands (BSAI) be allocated to the Aleut Corporation to be fished by it, or by its authorized agents. Allocations under this section are to be used for the economic development of Adak, Alaska. The section identifies the classes of vessels that may be used to fish these allocations. The section allows allocations in excess of the BSAI optimum yield of 2 million metric tons.

SEC 803. ALEUTIAN ISLANDS FISHERIES DEVELOPMENT.

(a) ALEUTIAN ISLANDS POLLOCK ALLOCATION. - Effective January 1, 2004 and thereafter, the directed pollock fishery in the Aleutian Islands Subarea (AI) of the BSAI (as defined in 50 CFR 679.2) shall be allocated to the Aleut Corporation (incorporated pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.)). Except with the permission of the Aleut Corporation or its authorized agent, the fishing or processing of any part of such allocation shall be prohibited by section 307 of the Magnuson-Stevens Fishery Conservation and Management Act

(16 U.S.C. 1857), subject to the penalties and sanctions under section 308 of such Act (16 U.S.C. 1858), and subject to the forfeiture of any fish harvested or processed.

(b) ELIGIBLE VESSELS. - Only vessels that are 60 feet or less in length overall and have a valid fishery endorsement, or vessels that are eligible to harvest pollock under section 208 of Title II of Division C of Public Law 105-277, shall be eligible to form partnerships with the Aleut Corporation (or its authorized agents) to harvest the allocation under subsection (a). During the years 2004 through 2008, up to 25 percent of such allocation may be harvested by vessels 60 feet or less in length overall. During the years 2009 through 2013, up to 50 percent of such allocation may be harvested by vessels 60 feet or less in length overall. After the year 2012, 50 percent of such allocation shall be harvested by vessels 60 feet or less in length overall, and 50 percent shall be harvested by vessels eligible under such section of Public Law 105-277.

(c) GROUNDFISH OPTIMUM YIELD LIMITATION. - The optimum yield for groundfish in the Bering Sea and Aleutian Islands Management Area shall not exceed 2 million metric tons. For the purposes of implementing subsections (a) and (b) without adversely affecting current fishery participants, the allocation under subsection (a) may be in addition to such optimum yield during the years 2004 through 2008 upon recommendation by the North Pacific Council and approval by the Secretary of Commerce (if consistent with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.)).

(d) MANAGEMENT AND ALLOCATION. - For the purposes of this section, the North Pacific Fishery Management Council shall recommend and the Secretary shall approve an allocation under subsection (a) to the Aleut Corporation for the purposes of economic development in Adak, Alaska pursuant to the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.).

The conference reports from the congressional record of January 22, 2004, Senator Stevens noted that: "Subsection (c) of section 803 codifies one of the longest standing conservation and management measures of the North Pacific Fishery Management Council, the 2 million metric ton cap for groundfish in the Bering Sea. The optimum yield for groundfish in the Bering Sea and Aleutian Islands Management Area shall not exceed 2 million metric tons…" The Senators other floor remarks on the Act are attachment 2 to the analysis of Amendment 82, which is available here:
http://www.fakr.noaa.gov/npfmc/analyses/BSAI82_504.pdf

Amendment 82 – Allocation of Pollock TAC to the Aleut Corporation

In February 2004, the Council reviewed a discussion paper that addressed options available to address direction from the US Congress (2004 Appropriations Act, now Public Law 108-199) to apportion AI pollock quota to the Aleut Corporation. In refining the options for analysis, the Council voted on an amendment to include an option that would exceed the 2 million metric ton cap, consistent with the provisions in Section 803(c) of the legislation. The amendment failed, 3 in favor and 8 against, by roll call vote with Benson, Bundy, and Hyder voting in favor

The Council approved Amendment 82 in June 2004. The Amendment did not authorize exceeding the 2 mmt OY cap. The amendment analysis, including the Council deliberations from February 2002 on whether to exceed the 2 mmt cap is available here:
http://www.fakr.noaa.gov/npfmc/analyses/BSAI82_504.pdf