

1999 data, indicate that approximately 15,700 seabirds are killed (taken) annually in the combined BSAI and GOA groundfish hook-and-line fisheries (14,500 in the BSAI and 1,200 in the GOA) at the average rates of 0.10 and 0.03 birds per 1,000 hooks in the BSAI and in the GOA, respectively. Approximately 60 percent of the 15,700 seabirds taken are northern fulmars (*Fulmaris glacialis*), the most abundant seabird species off Alaska. Preliminary analyses of 2000 and 2001 observer data indicate that whereas the seabird take estimates for the year 2000 in the combined BSAI and GOA groundfish hook-and-line fisheries were greater than the 1999 estimates, the number of seabirds estimated taken in 2001 in these fisheries was reduced by about one-third (to approximately 10,500, of which about 55 percent were northern fulmars). The rate of birds taken (number of birds per 1,000 hooks) in the BSAI in 2001 was about one-half that of the 2000 rate. The incidental catch rate may have decreased because fishermen are becoming more diligent and skilled using seabird avoidance measures, outreach efforts may have been successful, the 1999–2000 University of Washington's Washington Sea Grant Program (WSGP) research program's collaborative industry approach may have acted to change fishermen behavior and improve the effective deployment of seabird avoidance measures, or some other, unknown, factor(s). The annual seabird incidental catch estimates based on observer data from 1993 through 2001 exhibit a great deal of inter-annual variation, as did the take numbers and bird attack rates on baits in the WSGP study. Various non-anthropogenic factors could be involved, such as, bird abundance and distribution and/or climatic and oceanographic conditions.

After initial action to propose revised seabird avoidance measures at its February 1999 meeting, the Council took final action at its April 1999 meeting and recommended regulatory revisions to improve and strengthen the effectiveness of the required seabird avoidance measures and reduce the incidental take of short-tailed albatrosses and other seabird species.

In October 2000, NMFS informed the Council of its decision to await research results from a 2-year study (1999 and 2000) by the WSGP on the effectiveness of seabird avoidance measures used in hook-and-line fisheries off Alaska before proceeding with rulemaking to revise the existing regulations. Such an investigation was required in a Biological Opinion issued by the USFWS. If warranted by the research

results, NMFS would modify the existing seabird avoidance regulations to improve the effectiveness of avoidance measures or devices.

In October 2001, WSGP presented research results, recommendations, and its final report *Solutions to Seabird Bycatch in Alaska's Demersal Longline Fisheries* (available at <http://www.wsg.washington.edu/pubs/seabirds/seabirdpaper.html>) to the Council and NMFS. The Council took initial action at this meeting and final action at its December 2001 meeting.

Council's Final Action Based in Part on WSGP Research Results and Recommendations

For complete details of the research, results, and recommendations, see the WSGP final report. In summary, the WSGP research program compared seabird incidental take mitigation strategies over 2 years (1999 and 2000) in two major Alaska demersal longline fisheries: the Individual Fishing Quota (IFQ) fishery in the GOA and Aleutian Islands for sablefish and halibut and the Bering Sea catcher-processor longline fishery for Pacific cod. The program identified possible deterrents and tested them on active fishing vessels under typical fishing conditions. The avoidance measures tested were paired streamer lines, single streamer lines, weighted groundline, line shooter, lining tube, and a combination of paired streamer lines and weighted groundline. Rigorous experimental tests of seabird avoidance measures on the local abundance, attack rate, and hooking rate of seabirds in both fisheries were conducted on vessels over 60 ft (18.3 m) LOA. On vessels this size (larger vessels), paired streamer lines of specified performance and material standards were found to successfully reduce seabird incidental take in all years, regions, and fleets (88 percent to 100 percent relative to controls with no deterrent). Single streamer lines of specified performance and material standards were slightly less effective than paired streamer lines, reducing seabird incidental take by 96 percent and 71 percent in the sablefish and cod fisheries, respectively. This study represents the largest of its kind in the world with over 1.2 million hooks being set in the sablefish fishery and over 6.3 million hooks being set in the cod fishery component of the 2-year research program.

Seabird Avoidance Measures for Smaller Vessels

The Council's Science and Statistical Committee (SSC) generally agreed with the WSGP research study and found that

the study was excellent in its conception, execution and analysis, regarding the reduction of seabird incidental take by large vessels participating in the Pacific cod and the sablefish and halibut IFQ longline fisheries. The SSC noted, however, that the WSGP recommendations, while appropriate and useful for reduction of seabird incidental take by the large vessels in the longline fishery, may not be appropriate for application on smaller vessels, particularly small vessels fishing in the inside waters of southeast Alaska. The SSC suggested that short-tailed albatrosses do not frequent the inside waters of southeast Alaska, and therefore less stringent regulations to avoid seabird incidental take may be appropriate. The SSC identified a need for additional study of the necessity of, and methods for, incidental take reduction on small vessels. The SSC also queried whether small vessels may not be able to deploy streamer lines as specified for the larger vessels of the longline fleet. The SSC suggested that fishermen of the small-vessel segment of the industry cooperate in developing new information, equivalent to that now available from the larger vessels on the frequency of incidental take and the most appropriate methods for incidental take reduction.

Given the similarities in the small boat longline fleet of southeast Alaska, Prince William Sound, and nearshore waters of Cook Inlet, as well as the rarity of albatrosses and other pelagic bird species in these inside waters, the Council recommended less stringent measures for vessels using hook-and-line gear in these inside waters. The proposed seabird avoidance requirements would be based on area fished, vessel length, vessel type, and gear type. This proposal would address the varying characteristics found in the fishing operations of the very diverse demersal hook-and-line fleet for groundfish and Pacific halibut off Alaska. For vessels greater than 26 ft (7.9 m) LOA, and less than or equal to 55 ft (16.8 m) LOA, the applicable performance standard would be voluntarily implemented as guidelines. If new information becomes available suggesting revised standards for smaller vessels, then these revised standards could be proposed as regulatory requirements. The Council recommends that NMFS, WSGP, USFWS, and industry engage in a cooperative study during the first year of the program to determine if modification to the performance standard for this class of vessels is warranted and investigate if vessels less than or equal to 55 ft (16.8