Recovering the Endangered Short-tailed Albatross in Alaska: Interplay of International, Interagency, and Industry Interests

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Extended Abstract: The short-tailed albatross (*Phoebastria albatrus*), one of three northern hemisphere albatrosses, is listed as an endangered species under the U.S. *Endangered Species Act*. The species is known to breed in only two locations. The main colony, where 80% of the birds breed, is located on a fluvial outwash plain of an active volcanic island, Torishima, off the coast of Japan. The other known breeding site is in the Senkakus, an island chain claimed by Japan, Taiwan, and mainland China, which may contain notable oil reserves.

Short-tailed albatrosses are very much at home in the ocean; in fact, after fledging, they remain at sea for 5–6 years before returning to land to breed. The mature birds develop a white head and golden cape; younger birds go through various darker plumage phases.

Available evidence indicates that there were millions of short-tailed albatrosses up until the late 1800s. By many accounts, they were the most numerous albatross species in the North Pacific. Between 1885 and 1903, an estimated 5 million birds were harvested from the breeding colony on Torishima. The birds were harvested for their feathers and fat, their bodies were used for fertilizer, and their eggs were collected for food. By 1949, there were no short-tailed albatrosses breeding at any historically known sites, and the species was believed to be extinct. What likely saved the short-tailed albatross from extinction is the fact that the birds do not return to land to breed until 5–6 years of age; thus, a number of oceanic birds managed to escape the havoc and returned to breed after a few years.

The Japanese government designated the short-tailed albatross as a protected species in 1958, as a Special National Monument in 1962, and as a Special Bird for Protection in 1972. Torishima was declared a National Monument in 1965. With this protection, the small population began to grow. The colony on Torishima (which means 'Bird Island') has been monitored twice annually nearly every year since the late 1970s by Hiroshi Hasegawa of Toho University. Dr. Hasegawa has also monitored the Senkaku Islands breeding colony, although not as regularly. Today, we estimate the total world population is around 1800 individuals.

The range of the short-tailed albatross spans the entire North Pacific. Most short-tailed albatross sightings are recorded in the Aleutian Islands. This may be partially an artifact of the locations of fishing boats with observers; however, both historical evidence (from archaeological

remains which indicate that the short-tailed albatross was the most abundant species by biomass in Aleut diets) and recent telemetry data indicate that short-tailed albatrosses focus on the Aleutians as a primary foraging area.

Telemetry data from 2001, a cooperative effort between Yamashina Institute, Oregon State University, and the University of Massachusetts, indicate that the birds move rather quickly from Torishima to the Aleutian Islands after the breeding season. Shelf break areas in the eastern Bering Sea, with associated ocean upwellings, provide some of the most productive waters, and thus albatross food (fish and squid), anywhere. Recent satellite telemetry data indicate that short-tailed albatrosses concentrate their foraging activities in the nutrient-rich areas along shelf breaks. Not surprisingly, fishing activities are also concentrated in the same highly productive shelf break areas. Of 2911 short-tailed albatross telemetry locations recorded from May to November 2003, 76% occurred within Alaska's Exclusive Economic Zone waters.

Large catcher-processor vessels are extremely attractive to seabirds, including short-tailed albatrosses, which feed voraciously on the offal (waste body parts from cleaned fish) discarded by these vessels; however, the birds are also attracted to the bait on the longlines of fishing vessels. These lines, which can be several miles in length, travel near the surface for a considerable distance behind the vessels before sinking to > 1 m in depth where they are no longer accessible to the birds. Birds may become hooked on a baited line, pulled under, and drowned. Extrapolations from observations in Alaska indicate that 14,000 seabirds a year are caught incidentally by the Alaska longline fishery. Most of the birds caught are northern fulmars (*Fulmaris glacialis*), a species that is not endangered; however, clearly we should work to reduce this amount of bycatch. We have seven confirmed records of short-tailed albatrosses being taken from 1983–1998. The American Bird Conservancy has produced a pamphlet entitled *Sudden Death on the High Seas—Longline Fishing: A Global Catastrophe for Seabirds*. This seabird bycatch issue is of great concern to longline fishermen, especially when an endangered species is involved. Due to the prohibitions on the take of listed species, the fishermen feared their fishery might be shut down.

Fishermen tried a number of methods in the past to reduce seabird bycatch. They did this not only because of the legal and public relations ramifications, but also because they lose money and efficiency when their bait is taken—unbaited hooks do not catch fish. However, the relative effectiveness of the various deterrent devices used had never been rigorously tested. An *Endangered Species Act* Section 7 Biological Opinion issued by our agency, the U.S. Fish and Wildlife Service, to the National Marine Fisheries Service in 1997 required a study be conducted on the relative effectiveness of various seabird deterrent methods. Such a study was conducted by the Washington Sea Grant Program in 1999 and 2000 (Melvin et al. 2001). Deterrents tested included single streamer line, paired streamer line, weighted lines, line shooters, and lining tubes. Time of day/night was also examined.

The results of the study indicated that adding weight to lines to make them sink more quickly was somewhat effective in that it reduced seabird bycatch by 37%; however, tying rocks to the

line can be clumsy and dangerous, especially in windy weather. We are now studying the effectiveness of integrated weight lines, which have the added weight incorporated into the lines themselves. This can be problematic, however, if the rolls of line become too heavy to handle easily.

Further results of the study indicated that line shooters, in addition to being expensive, actually increased bycatch by 54%. This was likely because the lines were paid out so rapidly that they were slack and became caught in the prop wash, which decreased the sink rate. Single streamer lines were also somewhat effective in reducing bycatch, but the most effective deterrent was paired streamer lines, which reduced bycatch by 100%. The orange streamers on either side of the baited longline essentially create a fence which the birds will not cross.

As detailed in their regulations published on 13 January 2004, the National Marine Fisheries Service now requires paired streamer lines to be used on Alaska fishing vessels of certain sizes and in certain locations (NMFS 2004). The industry was a key partner in crafting these regulations through the North Pacific Fisheries Management Council. The regulations also require certain performance standards to be met to ensure that the streamer lines (or tori lines) are properly deployed. A video describing the need for these lines and details on deploying them effectively has been produced and sent to all Alaska longline vessel owners and operators.

With funding from the U.S. Fish and Wildlife Service Landowner Incentive Program, we have been able to provide streamer lines to a number of vessels within the Alaska longline fleet. The National Marine Fisheries Service and our own Migratory Bird Office (since the vast majority of seabirds caught are not endangered species) have also supported this effort. Through this streamer line distribution program, over 2500 tori lines have been distributed, and about 3000 more are ready to go. It is essential to mention that it has taken tremendous effort to coordinate all the players to make this a truly cooperative effort.

The U.S. Fish and Wildlife Service has also conducted substantial outreach efforts at fishing industry shows and other venues with our ‘squid toss’ game. The goal of the game is to toss the rubber squid into the fish’s mouth so that the fish, not the birds, gets the bait. The prize is a visor cap or coffee mug imprinted with a picture of a short-tailed albatross and the words: “Streamer lines are for the birds”. We are also in the process, in cooperation with the Washington Sea Grant Program, of conducting further studies on integrated weight lines, on the impacts of smaller fishing vessels on seabirds.

Recently the potential for seabird collisions with trawl 3rd wires (which lead to sensors in the trawl net) and trawl warp cables has become apparent. We are in the early stages of video-monitoring to determine whether this is a problem here, as it has been shown to be in the southern hemisphere.

We have also been able to provide some funding to Japanese institutes for monitoring and erosion control at the main colony on Torishima, and for supporting an effort to establish a colony at an alternate, safer site on Torishima. Birds are ‘lured’ to the new colony site with

realistic decoys in breeding poses, and with continuous playback of recorded calls from the main colony.

We have been fortunate to receive additional funding from Congress to address the seabird bycatch problem, which has allowed us to work cooperatively with a number of partners. The Washington Sea Grant program is conducting the integrated weight line and small vessel studies mentioned earlier; the Marine Advisory Program produced and distributed the streamer line video; Oregon State University is Cooperating with Japanese researchers in following albatrosses via telemetry; Pacific States Marine Fisheries Commission is producing and distributing streamer lines; the Marine Conservation Alliance is sponsoring a contest for trawlers to come up with solutions to the 3rd wire collision problem; and our Migratory Bird Office is maintaining an observer database of albatross sightings. In summary, we have a lot of momentum, a lot of activities, and a lot of partners in the short-tailed albatross recovery effort.

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