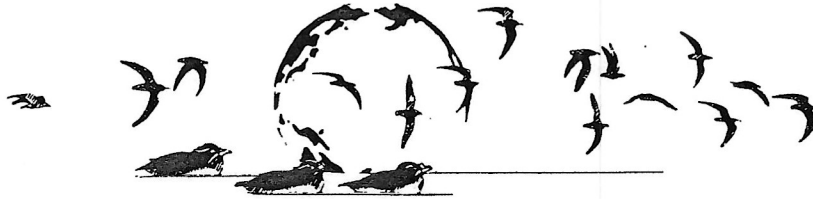


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# Pacific Seabird Group



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DEDICATED TO THE STUDY AND CONSERVATION OF PACIFIC SEABIRDS AND THEIR ENVIRONMENT

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## EFFECTS OF ALIEN PREDATORS ON NESTING SEABIRDS

The Pacific Seabird Group (PSG) believes that alien predators such as rats and foxes destroy or limit the population of seabirds on island ecosystems in the United States by several million. Such losses may exceed by an order of magnitude the losses caused by the Exxon Valdez or the high seas driftnet fisheries. As a frame of reference, biologists from the U.S. Fish & Wildlife Service (FWS) estimated that the incidental catch of seabirds in the high seas driftnet fisheries in the North Pacific was 416,000 birds in 1990.<sup>1/</sup> The federal natural resource trustees estimated that the Exxon Valdez disaster killed 350,000-390,000 seabirds.<sup>2/</sup>

In Alaska alone, rats and foxes depress the breeding population of seabirds in the Alaskan Maritime National Wildlife Refuge by several million each year. It is universally accepted among seabird biologists that a population is harmed more by the killing of breeding birds than non-breeding birds.<sup>3/</sup> While an oil spill wreaks most of its havoc on seabirds in a single year, alien predators kill breeding seabirds year after year until the predators are removed.

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<sup>1/</sup> Douglas Johnson et al., Incidental Catch of Marine Birds in High Seas Driftnets of the North Pacific. International North Pacific Fisheries Commission Symposium, Tokyo (November 1991).

<sup>2/</sup> 56 Fed. Reg. 14691 (1991).

<sup>3/</sup> Most seabirds do not breed until they are several years old. N. P. Ashmole, Sea Bird Ecology and the Marine Environment. Pp. 223-287 in Farner and King, eds., Avian Biology, Vol. I. Academic Press, N.Y.

Because FWS has eliminated predators from some breeding islands, we can estimate the increase in the population of seabirds after predators have been removed. After Kaligagan Island, Alaska, was stocked with foxes in 1921, its seabird population plunged so low that the renowned naturalist Olaus Murie recommended that it continue as a fox farm. In the 1980s, after foxes had died out, Kaligagan had 125,000 burrowing seabirds.<sup>4/</sup> Recently, FWS biologists found dramatic increases in bird populations after they removed foxes from Nizki-Alaid Island in the western Aleutians, especially loons, pelagic cormorants, Aleutian green-winged teal, common eiders, glaucous-winged gulls and tufted puffins.<sup>5/</sup> At a 600 hectare island off Newfoundland, twelve foxes consumed 31,000 Leach's storm-petrels in one breeding season.<sup>6/</sup>

Fox or rats occur on at least 59 islands in the Alaska Maritime National Wildlife Refuge. Arctic and red fox were introduced for commercial fox ranching and still occur on at least 48 islands in the refuge (private owners hold portions of 27 of these islands). Rats occur on at least eighteen islands in the refuge, seven of which also have fox. We cannot estimate with any precision the increase in population if the island ecosystems in the refuge were restored to their natural, predator-free condition. We believe that increases per island would range from 10,000 to 150,000 birds. It is possible that a few decades following predator removal a colony of one million or more birds might be reestablished. Accordingly, alien predators on the Alaska Maritime National Wildlife Refuge depress seabird populations in the order of one to ten Exxon Valdez oil spills.

In Hawaii, rats have caused the local extinction of small ground-nesting species on Midway Islands and Kure Atoll. Alien rabbits on Destruction Island, Washington, harm colonies of rhino auklets and tufted puffins. Red fox at various colonies in California harm breeding populations of endangered species such as least terns and clapper rails. Off Mexico's Pacific coast, alien predators on Isla Clarión and North Coronado Island devastate Xantus' Murrelets, Townsend's shearwaters and ashy storm-petrels. Timely action to restore the Mexican islands to their natural biodiversity may avoid the necessity to list these species under the Endangered Species Act. Listing could restrict the activities of commercial fishermen in southern California.

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<sup>4/</sup> D.R. Nyeswander et al. 1982. Marine bird and mammal survey of the eastern Aleutian Islands, 1980-81. FWS report.

<sup>5/</sup> G. V. Byrd and E. P. Bailey, Response of Aleutian Birds to Removal of Introduced Fox. Alaska Bird Conference (Nov. 1991).

<sup>6/</sup> B.O. Skepkovych. 1986. A predatory behavior and impact of red foxes (Vulpes vulpes) on the seabird colonies of Baccalieu Island, Newfoundland. M.S. Thesis, Memorial Univ. Newfoundland.

PSG is an international organization that was founded in 1972 to promote knowledge, study and conservation of Pacific seabirds. Its members are drawn from the entire Pacific Basin, including Russia, Canada, Japan, China, Mexico, Australia and New Zealand. Among PSG's members are biologists who have research interests in Pacific seabirds, state and federal officials who manage seabird refuges, and individuals who are interested in marine conservation.

Craig S. Hamer