

## SOOTY SHEARWATER *Puffinus griseus*

### Conservation Status

**ALASKA:** Not At Risk      **N. AMERICA:** Moderate Concern      **GLOBAL:** Near Threatened

Breed	Eggs	Incubation	Fledge	Nest	Feeding Behavior	Diet
Nov-Apr	1	52-56 d	86-106 d	burrow, crevice	pursuit plunge, surface dive	squid, fish, crustaceans

### Life History and Distribution

The Sooty Shearwater (*Puffinus griseus*) is one of the most abundant seabirds in the world and is common in the pelagic waters of Alaska during the northern summer. Although this large, solid-bodied shearwater is found in oceans throughout the world, it is only known to breed in the Southern Hemisphere (during the northern winter).

This species appears uniformly dark brown above and below; the bill and feet are also dark. The underwing is lined with white, which is variable in size and shape, but usually continuous. In some light, the wing lining may appear silver. The bill is long and slender and the upper bill is curved to a sharp hook. Short-tailed Shearwaters (*Puffinus tenuirostris*) closely resemble Sooty Shearwaters and are also found in Alaskan waters during the summer. However, the Short-tailed are slightly smaller, have a shorter bill, and generally less white on the underwing.

Socially gregarious, Sooty Shearwaters nest in dense colonies on subtropical and sub-Antarctic islands and on the New Zealand mainland. It is a burrow-nesting bird that nests on cliffs and coastal slopes, wherever the soil is deep enough for burrowing. At most colonies, coming and going to the burrow is strictly nocturnal.

Breeding of Sooty Shearwaters occurs along the coast of Chile, around Cape Horn, in the Falkland Island group, in Tasmania and New South Wales, Australia, and on numerous New Zealand islands.

A few Sooty Shearwaters remain in the Southern Hemisphere all year (particularly south of Africa, South America, and Australia). However, by May, most birds head north to make the most of another summer. Massive migration flocks may form and continuous passages of more than 200,000 birds have been recorded. Stiff-winged flight with frequent gliding is a tell-tale sign of these birds. Slender, narrow-wings enable them to skim the surface of the waves, hence the name “shearwater.”

From the Australasian breeding grounds, birds probably head directly north towards the Kurile Islands (north of Japan) and across the North Pacific Ocean. During the nonbreeding season, they are mainly concentrated from the Sea of Okhotsk, east through the Aleutian Islands and Gulf of Alaska.

In Alaska, Sooty Shearwaters concentrate primarily over the continental shelf of the Gulf of Alaska, and to a lesser extent over the outer shelf of the Bering Sea. They are less common than Short-tailed Shearwaters in the Bering Sea.



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Some nonbreeding birds may remain in Alaska throughout the year.

### Alaska Seasonal Distribution

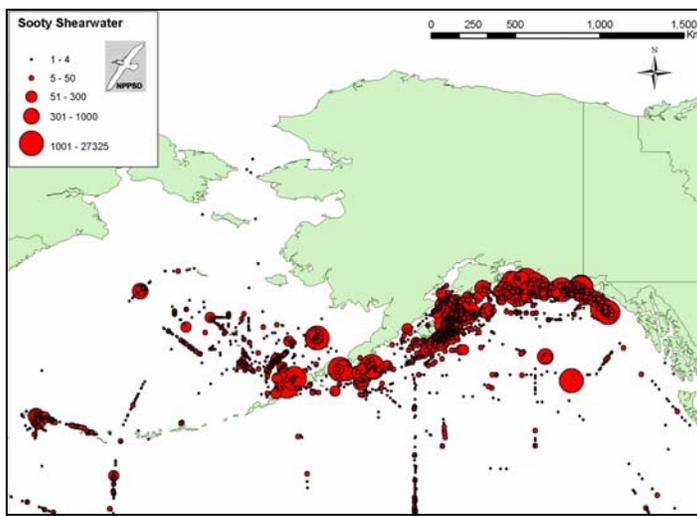
AK Region	Sp	S	F	W
Southeastern	C	C	C	-
Southcoastal	C	C	C	-
Southwestern	C	C	C	+
Central	-	-	-	-
Western	-	-	-	-
Northern	-	-	-	-

C= Common, U= Uncommon, R= Rare, += Casual or accidental, - = Not known to occur, \* = Known or probable breeder, Sp= Mar-May, S= June and July, F= Aug-Nov, W= Dec-Feb. © **Armstrong 1995.**

Birds breeding around Chile, probably travel up the Humboldt Current along the west coast of South America, until they reach California and Oregon. They remain there until September. A portion of this group may cut across the tropical Pacific around Peru and continue on to the arctic.

### Population Estimates and Trends

The world population is estimated at ~20 million individuals. Although Sooty Shearwaters are an abundant species, there are persistent signs of a current decline. Between 1969-1971, Northeast Island of the Snare Island group in New Zealand had an estimated 3,200,000 Sooty Shearwater burrows. Between 1996-2000, the number of burrows was estimated at 2,061,000 (a decrease of ~37%



Distribution of Sooty Shearwaters in Alaska as determined from boat-based surveys conducted between 1975-1993. Seabird distribution maps created from data provided by the North Pacific Pelagic Seabird Database (NPPSD) Version 1.0, 2005. USGS Alaska Science Center & U.S. Fish and Wildlife Service, Anchorage, AK <http://www.absc.usgs.gov/research/NPPSD>

over 27 years). Burrow occupancy also may have declined. Sooty Shearwater numbers have also declined on the New Zealand mainland and some smaller mainland colonies have become extinct. Presence of burrows on the mainland Otago coastline was compared with historical records in 1997-1998. The number of colonies was found to have declined by at least 54% in the past 50 years. Possible reasons for these declines include fisheries bycatch, predation, climate change, and over-harvest.

During the California summer (austral winter), the Sooty Shearwater is the most abundant species of the California Current System (CCS). An estimated five million birds occupied the CCS in the late 1970s. Pelagic surveys conducted between 1987-1994, in the CCS, suggest a 90% decline in Sooty Shearwater abundance. This decline is negatively correlated with a concurrent rise in sea-surface temperatures; Sooty Shearwaters have declined while sea temperatures have risen. Because of the geographic scale of this study the decline is not considered to be a local phenomenon or a response to a short-term distributional shift.

## Conservation Concerns and Actions

Sooty Shearwaters wander immense distances from their breeding grounds south of the equator, throughout the Pacific and Atlantic Oceans. This makes the species potentially vulnerable to incidental bycatch in fisheries over a huge area. They may encounter large fishing fleets from Japan, Taiwan, the Soviet Union, Canada, the U.S., and other countries. This species, like most seabirds, is long-lived, slow to reproduce, and late to mature, which could cause the population to decline if mortality from bycatch exceeded the rate of reproduction. Prior to its closure, the North Pacific high seas driftnet fisheries killed ~350,000 Sooty Shearwaters per year. The effects on shearwaters and the magnitude of the bycatch from ongoing fisheries are largely unknown.

In Alaska, the extent of the seabird bycatch is examined for Sooty Shearwaters and Short-tailed Shearwaters together. Between 1993-2003, an estimated 445 shearwaters were taken annually in the Bering Sea/Aleutian Islands demersal groundfish longline fisheries. In contrast, in the Gulf of Alaska, an estimated 21 shearwaters were taken as bycatch annually. Trawl fisheries in Alaska comprise a large portion of the total

shearwater bycatch. Between 1998-2003, an estimated <100-1,169 shearwaters were taken annually as bycatch. The distribution of trawl fisheries effort suggests that shearwaters could overlap in both the Bering Sea and the Gulf of Alaska with that fishery.

In New Zealand, Sooty Shearwaters are harvested and sold commercially. Indigenous people from southern New Zealand, the Rakiura Māori, harvest ~250,000 chicks annually. The birds are primarily harvested for food and are known as “titi” or mutton birds. Soap and oil products are also made from the fat chicks and may be sold along with their feathers. The Palawa peoples of Tasmania likewise consider Sooty Shearwaters a food staple, and continue to harvest them today. Harvests are regulated and the effects of the harvests are being studied.

Predation by mammals at breeding sites is another known source of mortality for Sooty Shearwaters. During the 1993-1996 breeding seasons on South Island, New Zealand, ~97% of 118 deaths were caused by predation. Ermine (*Mustela erminea*) were the principal predators, but feral house cats and ferrets (*Mustela furo*) were responsible for a proportion of the deaths.

## Recommended Management Actions

- Monitor population trends and distribution of Sooty Shearwaters in Alaskan waters.
- Work with state and federal agencies and fisheries councils to better understand and minimize the impacts of fisheries interactions.
- Support continued research and development of mitigation measures to prevent fisheries bycatch.

## Regional Contact

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## References

Armstrong 1995; Birdlife International 2005; IUCN Internet Website (2005); Jones 2000; Kushlan *et al.* 2002; Marchant and Higgins 1990; NOAA Internet Website (2005); NPFMC 2003; Uhlmann 2003; U.S. Fish and Wildlife Service 2002; Veit *et al.* 1997.

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