Species of Concern
NOAA National Marine Fisheries Service

Ribbon seal
Histriophoca fasciata

Photo credit: NMFS

KEY INFORMATION

Area(s) of Concern
Rangewide; Sea of Okhotsk, Bering and Chukchi Seas.

Year Identified as "Species of Concern"
2008

Factors for Possible Decline
- Climate change and loss of sea ice
- Ocean acidification
- Overharvest

Conservation Designations
IUCN: Data Deficient
Species of Greatest Conservation Need: AK

Current Status:

Demographic and Genetic Diversity Concerns:
With a range-wide population likely comprising at least 200,000 individuals, ribbon seals are not currently at risk from the demographic issues of low abundance, such as demographic stochasticity, inbreeding, loss of genetic diversity, or depensatory effects (Boveng et al. 2008). The current population trend is unknown, but a recent estimate of 49,000 ribbon seals in the eastern and central Bering Sea is consistent enough with historical estimates to suggest that no major or catastrophic change has occurred in recent decades. The species is thought to occupy its entire historically observed range. There are no portions of their range in which ribbon seals have been reported to have disappeared or been extirpated, nor are they known to be demographically at risk in any portion of their range. Population genetic data are lacking and there is no evidence to suggest discrete populations based on breeding area.

Existing Protections and Conservation Actions:
In U.S. waters, ribbon seals are protected by the Marine Mammal Protection Act (MMPA). NMFS also co-manages ribbon seals with the Ice Seal Committee (ISC), which is an Alaska Native Organization

dedicated to conserving seal populations, habitat, and hunting in order to help preserve native cultures and traditions. In December 2007, the Center for Biological Diversity petitioned NMFS to list the ribbon seal under the Endangered Species Act (ESA). We determined that the species did not need to be listed under the ESA.

Factors for Decline:

The main concerns about the conservation status of the ribbon seal stem from the likelihood that its sea ice habitat has been modified by the warming climate and that the projections are for continued warming into the future. There could be impacts on ribbon seal survival and recruitment from more frequent years of reduced ice thickness and duration. Ocean acidification may impact ribbon seals through disruption of trophic regimes that are dependent on calcifying organisms. However, the nature and timing of such impacts are extremely uncertain. Past commercial harvests by Russian sealers have at times been high enough to cause significant reductions in abundance, but current takes are low because of poor economic viability.

Brief Species Description:

The ribbon seal is a member of the phocid seal family with a strikingly-marked "ribbon" or banding pattern of black, gray, and white (see photo). Females have less contrast in their color patterns. Adults reach 59 to 69 inches (150 – 175 cm) in length and 150 to 200 lbs (70-90 kg) in weight. They primarily inhabit the Arctic areas of the Sea of Okhotsk, and Bering and Chukchi Seas. This species is strongly associated with the sea ice during its whelping (birthing), mating, and pelage molt periods, from mid-March through June. Ribbon seals have an apparent affinity for stable, clean, moderate-sized ice floes that are slightly, but not deeply interior to the pack ice edge (Boveng et al. 2008). Most of the rest of the year is spent at sea; the species is rarely observed on land. Ribbon seals feed pelagically in deep waters on a variety of cephalopods and fishes including walleye pollock, cod, flatfishes, and eelpouts. Young ribbon seals eat mostly crustaceans including euphausiids, mysids, and shrimps.

Rates of survival and reproduction are not well known, but ribbon seals can live 20 to 30 years. They reach sexual maturity at 1 to 5 years of age, probably depending on environmental conditions. There are two main breeding areas: one in the Sea of Okhotsk and one in the Bering Sea. Adult females usually give birth every year to a single pup which is nursed for 3 to 4 weeks and then abandoned to fend for itself (Boveng et al. 2008). Young are born with a white coat that is molted after 3 to 5 weeks. Newborn pups are about 34 inches (86 cm) long and weigh 21 lbs (9.5 kg). The ribbon pattern gradually develops over the following 3 years. On average, adults lose 20 to 30% of their weight and 50 to 60% of their blubber thickness during the spring whelping, breeding, and molting season.

Contact Information

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References:

Boveng, P. et al. 2008. Status review of the ribbon seal (*Histriophoca fasciata*). NOAA Tech. Memo. NMFS-AFSC-191. http://alaskafisheries.noaa.gov/protectedresources/seals/ice/ribbon/statusreview08.pdf