



2011 Arctic Seal Disease Outbreak Fact Sheet

Updated November 10, 2011

Summary

In recent months, elevated numbers of sick or dead pinnipeds with skin lesions have been discovered in the Arctic. Scientists first documented ringed seals (*Phoca hispida*) with skin lesions and higher than normal mortality starting in July along the North Slope of Alaska. Recently, similar cases in ringed seals have been reported from Canada and Russia. In addition, there have been some reports of skin lesions in walrus (*Odobenus rosmarus divergens*) in Alaska, with some associated mortality.

What is happening to seals in the Arctic?

Skin lesions or sores have been seen primarily in ringed seals and walrus along the Arctic coast of Alaska, including Barrow, Wainwright, and Point Lay. Similar cases have also been reported in Canada and Russia. Although abnormal hair loss (known as alopecia) has been under investigation in ringed seals for several years, this summer hunters and researchers started seeing seals with more severe signs of illness as well as dead seals. Diseased ringed seals have exhibited hair loss, delayed molting, and skin ulcers. Some of these seals have exhibited lethargy and labored breathing. Findings from dead seals have shown significant lesions in the skin, respiratory system, liver, lymphoid system, heart, and brain. Because the numbers of affected animals are above what is considered usual, we are calling this an "outbreak."

What is causing the problem?

No single cause has yet been identified. A group of international wildlife researchers continue to test for a wide range of possible factors. Biologists and veterinarians are taking blood and tissue samples from dead and sick animals and testing for bacterial, viral, fungal or toxic agents which may be responsible for the animals' condition. Laboratory findings have been inconclusive to date, and samples thus far have tested negative for poxvirus, herpesvirus, papillomavirus, morbillivirus and calicivirus.

What is the geographic range of the affected animals?

Most reports have come from the geographic area spanning Barrow to Wainwright, with cases reported in Russia and Canada. At this point, we do not know if the different species are being affected by the same agent or whether reports from other areas are related to what we are seeing in Alaska.

The North Slope Borough Division of Wildlife Management first began to notice sick seals while conducting captures during routine research in July and August 2011. They have since conducted systematic beach surveys to search for and collect dead or sick seals. State and Federal agencies were notified and an investigation was initiated. Samples were collected and many fresh seal carcasses have been shipped to Alaska Veterinary Pathology Services in Anchorage for necropsy, sample collection, and analyses.

In September, there were reports of skin lesions in some walrus hauled out in Pt. Lay, Alaska with some mortalities reported. U.S. Fish and Wildlife personnel and a wildlife veterinarian from the North Slope Borough sampled some of the dead walrus and surveyed the live animals for prevalence of skin lesions. Additional samples have been collected and shipped to Anchorage for processing.

Can humans get diseases from seals?

Most animals can carry diseases that can affect humans. Diseases that are passed from animals to humans are called “zoonotic” diseases. There are some diseases in seals that can affect humans; although most diseases in seals are simply passed between animals. Although we don’t know yet if the skin lesions seen now in seals are the result of a zoonotic disease or not, the public and the hunting community should take precautions if they see or come in contact with a seal that has skin lesions or is otherwise appearing sick. The following general **public health precautions** are advised when coming into contact with any animals in the wild:

- As a general rule, do not eat any animals that appear sick or diseased. If you find a seal acting abnormally or showing signs of illness, contact your local wildlife authority.
- Safe handling guidelines for marine mammals should always be followed. These include:
 1. Wearing rubber gloves when you are butchering or handling the animals;
 2. Thoroughly washing your hands and all your equipment after working with the animals; and
 3. Cooking meat before eating it because there are several different parasites and bacteria that can be present in raw meat.
- As always, if you feel sick, contact your local community health care provider (and please remember to report any unusual findings in the animals to your local wildlife authority).

To whom should I report observations of sick animals or carcasses?

The NOAA Fisheries Alaska Marine Mammal Stranding hotline is 1-877-925-7773. This answering service takes reports from across the state and communicates the information to NOAA Fisheries authorities.

Hunters or community members who observe dead seals or those in distress are also urged to contact local Marine Mammal Stranding Network members and wildlife authorities:

- North Slope Borough Division of Wildlife Management: (907) 852-0350
- Marine Advisory Program/UAF-Northwest Campus: 1-800-478-2202
- Alaska Department of Fish and Game: 1-800-478-7346
- The Eskimo Walrus Commission: 1-877-277-4392

Is this considered an Unusual Mortality Event?

In the case of the current ringed seal and walrus disease outbreak, U.S. and Canadian scientists and government officials are coordinating closely with the Alaska and Canadian Native Communities to investigate this morbidity and mortality event. The Working Group on Marine Mammal Unusual Mortality Events has been alerted to the situation and is providing expertise and advice. The investigation team is exploring whether additional species are involved, including terrestrial species, and the geographic extent of affected seals.

Although the situation is unusual, and numbers of sick and dead seals are elevated when compared against average annual numbers for this region, this outbreak has not yet officially been declared an Unusual Mortality Event (UME). The Working Group on Marine Mammal Unusual Mortality Events, consisting of external experts, is reviewing all the information that is being collected as well as historical data and current population trends to determine if this event will meet the criteria of a UME. After the working group announces their decision, NOAA Fisheries officially declares the event unusual and appoints an on-site coordinator. If it is deemed unusual, the Working Group will continue to provide advice to NOAA Fisheries as the investigation proceeds.

For more information on unusual mortality events, visit <http://www.nmfs.noaa.gov/pr/health/mmume/>

Where can I learn more about health issues in marine mammals?

For an overview of NOAA Fisheries National Marine Mammal Health and Stranding Program, visit <http://www.nmfs.noaa.gov/pr/health/>. Here you can learn about Unusual Mortality Events, the Marine Mammal National Database and Tissue Bank, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

To learn more about the variety of diseases and parasites which can affect marine mammals in the Arctic, you can visit the Canadian Cooperative Wildlife Health Centre webpage, which has published a "Field Guide to Diseases and Parasites of Marine Mammals of the Eastern Canadian Arctic."

This can be accessed at http://www.ccwhc.ca/publication_9.php

Who is involved with this investigation?

Cooperating agencies and organizations conducting the investigation include the following:

United States

Alaska Department of Fish and Game
Alaska Veterinary Pathology Service
Alaska Department of Health and Social Services
Alaska Department of Environmental Conservation
Athens Veterinary Diagnostic Laboratory, University of Georgia
Marine Advisory Program/UAF-Northwest Campus
NOAA's National Marine Fisheries Service (NOAA Fisheries)
North Slope Borough, Department of Wildlife Management

United States Fish and Wildlife Service
University of Florida-Gainesville, College of Veterinary Medicine
United States Department of Agriculture-Foreign Animal Disease Lab
The Working Group on Marine Mammal Unusual Mortality Events
Washington Animal Disease Diagnostic Laboratory

Canada

British Columbia Animal Health Center
Fisheries and Oceans Canada