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## Marine Mammal Health and Stranding Response Program

The Marine Mammal Health and Stranding Response program was formalized by the 1992 Amendments to the Marine Mammal Protection Act, with NOAA's Fisheries as the lead agency to coordinate related activities.

The program has the following components: stranding networks, responses to and investigations of mortality events, biomonitoring, tissue and serum banking, and analytical quality assurance.

<http://www.nmfs.noaa.gov/pr/health/>

## Morbillivirus Infection in Seals

### What is morbillivirus?

Morbilliviruses are in the family Paramyxoviridae. Specific morbilliviruses cause measles (in people), canine distemper (in dogs, coyotes, wolves, and seals), rinderpest (in cattle), and peste-des-petits-ruminants (goats and sheep). Five types of morbilliviruses have been detected in marine mammals in the United States: canine distemper virus (CDV) and phocine distemper virus (PDV) in seals, sea lions and sea otters, and dolphin morbillivirus (DMV), pilot whale morbillivirus (PWMV), and Longman's beaked whale morbillivirus (LBWMV), which are collectively referred to as cetacean morbillivirus (CMV), in porpoises, dolphins and whales.

### How are seals affected by morbillivirus infection?

The most common organs affected are the lungs and brain. Sick animals may appear thin, have respiratory difficulties due to pneumonia, and/or exhibit abnormal behavior. However, these signs are also present with other types of illness and are not specific to morbillivirus. When exposed to morbillivirus, some animals mount an antibody response, which usually protects against future infections and clinical disease. Other animals may not acquire this protection and can succumb to the disease or to secondary infections that arise as a result of immunosuppression from the infection. Seals and sea lions with clinical morbillivirus infection have exhibited the following symptoms:

- Skin lesions
- Pneumonia
- Brain infections
- Secondary or latent infections

### How does morbillivirus spread among animals?

Morbilliviruses are usually spread through inhalation of respiratory particles or direct contact between animals, including between mothers and young. It cannot be transmitted to humans. Animals can also be exposed to the virus through other entryways such as the eyes, mouth, stomach, skin wounds, and the urogenital tract.

### Have morbillivirus mortality events occurred in marine mammals in the United States?

Yes. In the United States, there have been morbillivirus mortality events caused by phocine distemper virus in harbor, harp, hooded and gray seals in the northeast (2006) and dolphin or porpoise morbillivirus in bottlenose dolphins in the northeast (1987–1988 & 2013-2014) and Gulf of Mexico (1992 and 1994).

<http://www.nmfs.noaa.gov/pr/health/mmume/>



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**References:**

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**What should I do if I see a marine mammal on the beach?**

Since seals and sea lions can have secondary infections that can be passed to people, do not approach or touch the animal. Keep your pets away from the animal as well. Remember these are wild animals, so for both your safety and theirs please keep a safe distance. Only trained marine mammal responders should handle the animal. If you think the animal may be in trouble, contact your local Marine Mammal Stranding Network. To find the contact information for your local network, visit: <http://www.nmfs.noaa.gov/pr/health/networks.htm>

**Has a strain of morbillivirus from a seal ever infected a human?**

There have been no documented cases of phocine distemper virus infections in humans.

**What is the risk of contracting morbillivirus from eating seafood?**

Pinniped morbilliviruses are not known to cause disease in fish or shellfish, and there are no documented cases of PDV in fish or shellfish.

**Are there any risks to pets?**

Pets should be kept away from marine mammals. Dogs and cats can share infectious diseases with marine mammals and should not be allowed to approach live or dead ones, or to consume dead marine mammals or their parts. NOAA Fisheries recommends contacting your pet’s veterinarian to discuss the potential risk to pets in your local area. (For more information, visit the CDC website <http://www.cdc.gov/healthypets/>)

**Which marine mammal species in U.S. waters have shown exposure to morbillivirus?**

Morbillivirus antibodies have been detected in the following species of marine mammals:

Gray seals ( <i>Halichoerus grypus</i> )	Bottlenose dolphins ( <i>Tursiops truncatus</i> )
Harbor seals ( <i>Phoca vitulina</i> )	Fraser’s dolphins ( <i>Lagenodelphis hosei</i> )
Harp seals ( <i>Phoca groenlandica</i> )	Rough-toothed dolphins ( <i>Steno bredanensis</i> )
Hooded seals ( <i>Cystophora cristata</i> )	False killer whales ( <i>Pseudorca crassidens</i> )
Ringed seals ( <i>Phoca hispida</i> )	Killer whales ( <i>Orcinus orca</i> )
Sea otters, northern ( <i>Enhydra lutris kenyoni</i> )	Pilot whales ( <i>Globicephala spp.</i> )

Updated February 25, 2014