



June 2016 Update

2011 Arctic Pinniped Unusual Mortality Event (UME)

A team of investigators for the 2011 Arctic Pinniped Unusual Mortality Event (UME) met in January 2016 in Anchorage to assess the status of the ongoing health investigation. The team, consisting of Alaskan marine mammal biologists and pathologists, as well as national and international specialists, reviewed the history of findings, outstanding diagnostic needs, and potential for closure of this UME. The group developed a proposed plan for testing archived samples to further characterize causes of this UME, pending funding.

A UME can be considered for closure when all of the following conditions are met:

- 1) The specific criterion (a) under which the UME was declared is (are) no longer applicable;
- 2) Unusual environmental conditions (including anthropogenic activities) that may have contributed to the UME are no longer applicable, and
- 3) Any additional UME criterion (a) determined through the course of the investigation to be applicable, is (are) no longer applicable.

Closure of a UME is determined by the Working Group on Marine Mammal Unusual Mortality Events after review of closure request materials.

Despite extensive analytical investigations for infectious disease agents and bio-toxins from tissue samples collected from affected seals, no known (or new) infectious viral or bacterial agent(s), harmful algae toxins, or industrial pollutants have been identified that can explain the observed disease symptoms. Since 2014, few sick ice seals or animals with skin sores similar to cases reported in 2011 have been seen, although reports have continued regarding an unusual number of otherwise healthy ice seals with patchy to generalized hair loss. Some of these "hairless seals" may represent survivors of the 2011 mortality event.

The marine mammal UME program was established in 1991. From 1991 to the present, there have been 62 formally recognized UMEs in the U.S., involving a variety of species and dozens to hundreds of individual marine mammals per event. Causes have been determined for 32 of these UMEs which include infections, biotoxins (poisonous substances produced by a living organism), human interactions, and malnutrition. Since 1996, UMEs associated with biotoxins from harmful algal blooms have become more prevalent. The majority of recent UMEs in other parts of the country have been attributed to toxicity from domoic acid and brevetoxin.