Mortality of Walruses at a Coastal Haulout, Point Lay, Alaska, Autumn 2011

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Figure 1. Aerial photograph of the Point Lay walrus haulout site. Photograph courtesy of NOAA.

Figure 2. Dead walrus calf with signs of trauma – suggestive of trampling related mortality.

Figure 3. Examples of ulcerative skin lesions observed on walrus carcasses at the Point Lay walrus haulout site.

Introduction

In September 2011, a large herd of Pacific walrus (*Odobenus rosmarus divergens*) hauled out onto a barrier island near the coastal community of Point Lay, Alaska (Figure 1).

We surveyed the coastline near the haulout site for walrus carcasses. Our objectives were to enumerate the number of mortalities, gather information on the age, sex and body condition of dead animals, and investigate potential sources of mortality.

Evidence of disease, trauma or injury were recorded when carcass condition allowed. We also collected samples from a subset of carcasses for disease screening.

Results

- 28 walrus carcasses were encountered during the survey. Most (68%) of the carcasses were calves and yearling animals.
- We found no evidence of predation or hunting related mortality at the haulout site.
- Most (65%) of the carcasses bore signs of trauma suggestive of trampling mortality (Figure 2).
- Several carcasses (Figure 3) and an emaciated, morbid, 2 year old animal (Figure 4) had unusual ulcerative skin lesions of unknown origin. Many of the carcasses with skin lesions also showed signs of trauma.
- Some (~6%) of the live walruses at the haulout site appeared to have similar skin lesions (Figure 5). Most animals with skin lesions were sub-adults (2-6 years old).
- Calves and yearling animals were prominent among surveyed carcasses, however these age classes were poorly represented in the living herd.

Figure 4. Morbid walrus observed at the Point Lay haulout site. Photographs illustrating poor body condition; bloody mucous from nose and mouth; and examples of weeping skin sores distributed broadly across the body.

Figure 5. A sub-adult walrus with skin lesions. Most live animals with skin lesions observed at the Point Lay haulout site appeared to be otherwise robust and healthy.

Figure 6. Examples of skin lesions on walrus calves at coastal haulouts in Russia. Photographs courtesy of Anatoly Kochnev, Chukotka TINRO.

Discussion

Disturbance related mortality is an emerging conservation and management concern for walruses in Alaska. Calves and yearling animals are particularly vulnerable to trampling mortality at coastal haulout sites.

The number of trampling mortalities observed at the Point Lay walrus haulout site in 2011 was quite low relative to the number of animals occupying the site (~20,000). Community efforts to reduce sources of disturbances near the haulout site appear to be working.

The cause(s) and significance of the ulcerative skin lesions observed at the Point Lay walrus haulout site are unknown. Observations of live animals with healing sores suggest that the condition is not necessarily lethal.

Russian colleagues have observed walruses with similar skin lesions at coastal haulout sites in Chukotka in recent years (Figure 6). Some of these lesions may originate as minor skin injuries that become infected by micro-organisms at the haulout site.

Another hypothesis under investigation is that the lesions might be associated with a suspected disease agent affecting other seal species in the region. In July 2011, subsistence hunters began reporting a number of ringed seals (*Phoca hispida*) hauling out on land or washing up dead across the North Slope of Alaska. Reported symptoms included patchy hair loss and ulcerated skin lesions.

Clinical and pathological investigation of potential disease agents in sampled seals and walruses is ongoing. Preliminary diagnostics indicate a virus is probably not the primary cause of the observed symptoms. Testing continues for a range of possible factors that may be responsible for the animals' condition.

Follow up…

In December 2011, a working group of marine mammal health experts recommended that a "Unusual Mortality Event" (UME) be declared for ringed seals and Pacific walrus in Alaska. Although mortality rates in walruses appear to be low, based upon similar symptoms observed in these two species from the same geographical region, the working group recommended including walruses in the UME declaration and exploring the possibility of a common disease agent. An investigative team will be examining the results of pathology and epidemiology studies to help guide additional sampling and analyses to investigate factors contributing to the observed symptoms.

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