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### **Results from Village-Based Walrus Studies in Alaska, 2010**

Lori Quakenbush<sup>1</sup>, Willard Neakok<sup>2</sup>, Justin Crawford<sup>1</sup>, Anna Bryan<sup>1</sup>, and Mark Nelson<sup>1</sup>

<sup>1</sup>Alaska Department of Fish and Game, Fairbanks, AK, [Lori.Quakenbush@alaska.gov](mailto:Lori.Quakenbush@alaska.gov)

<sup>2</sup>Eskimo Walrus Commission and resident of Point Lay, AK

Walruses (*Odobenus rosmarus divergens*) winter in the Bering Sea, but females with young summer in the Chukchi Sea resting on sea ice; most adult males remain in the Bering Sea where they rest on land. The rapid retreat of sea ice is changing walrus summer habitat in the Chukchi Sea and may be changing summer distribution and haulout behavior, requiring that walruses haul out on land instead of ice. Oil and gas activity has increased, elevating the importance of understanding walrus movements, feeding behavior, and habitat requirements necessary to develop effective mitigation measures for conservation. In Alaska, some terrestrial haulouts are likely to be accessible from coastal communities. The purpose of this study is to work with subsistence walrus hunters to conduct observations, deploy satellite-linked tags to monitor movements and feeding behavior, and collect traditional and local knowledge on walruses in the Chukchi Sea. In September of 2010, a large haulout (10–20,000 walruses) formed near the village of Pt. Lay. Large haulouts are susceptible to stampedes, which cause calf mortality. Local walrus hunters documented the number and condition of carcasses accessible near the haulout, monitored the status of the haulout, and travelled the coast looking for other haulouts and carcasses. In addition, two tags were deployed on adult females near Cape Lisburne. One tag lasted a few days, but the other transmitted for 26 days, tracking a nine day crossing of the Chukchi Sea followed by a haul out period near Cape Serdse Kamen on the Chukotka Peninsula.

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# Results from Village-based Walrus Studies in Alaska, 2010

Lori Quakenbush<sup>1</sup>, Willard Neakok<sup>2</sup>, Justin Crawford<sup>1</sup>, Anna Bryan<sup>1</sup>, and Mark Nelson<sup>1</sup>



<sup>1</sup>Alaska Department of Fish and Game, Fairbanks AK, [Lori.Quakenbush@alaska.gov](mailto:Lori.Quakenbush@alaska.gov)

<sup>2</sup>Eskimo Walrus Point Commission and resident of Point Lay

**Introduction.** Walruses (*Odobenus rosmarus*) winter together in the Bering Sea, and most adult males remain there where they rest on land. Females with young spend the summer in the Chukchi Sea using sea ice for resting. The rapid retreat of sea ice in summer is changing walrus habitat in the Chukchi Sea, which may require walruses to haul out on land instead of ice, causing changes in summer distribution and haulout behavior. Terrestrial haulouts along the Alaska coast are expected to occur more often, but their locations are not predictable. It is likely, however, that some terrestrial haulouts will be accessible from coastal communities (Fig. 1). If large haulouts are disturbed they are susceptible to stampedes, which cause calf mortality.

The purpose of this project is to prepare subsistence walrus hunters to be the first responders to terrestrial haulouts by minimizing disturbances, conducting observations, and deploying satellite-linked tags to monitor movements and feeding behavior.

**Methods.** Local walrus hunters examine and document walrus carcasses (e.g., record length, age, sex, blubber thickness, and take photographs) (Fig. 2). They also monitor the status of haulouts, and deploy satellite-linked transmitters.



Figure 2. Willard Neakok (on left) and crew examining a dead walrus calf.

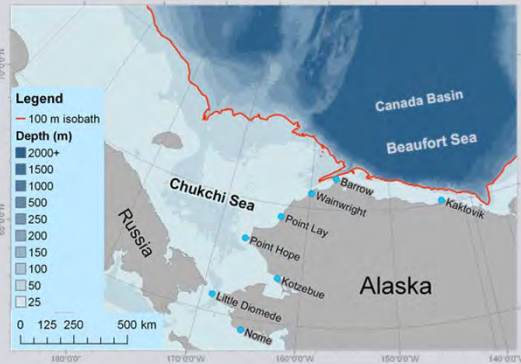


Figure 1. Locations of Alaskan communities along the Chukchi Sea coast near walrus summer habitat.



Figure 3. Chukchi Sea Lease Sale Area.

As summer sea ice has decreased in the Chukchi Sea, oil and gas activity has increased, elevating the importance of understanding walrus movements, feeding behavior, and habitat requirements.

**Future Activities.** We plan to continue preparing local teams to respond to future haulouts. We will also visit villages this winter to document hunters' experiences with walruses on terrestrial haulouts in the past, and we will identify hunters interested in participating in Village-Based Walrus Studies.

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**Results.** In September of 2010, a large haulout (25–35,000 walruses) formed near the village of Pt. Lay. Local walrus hunters documented the condition of seven (4 female and 3 male) carcasses accessible near the haulout and reported an additional 11 that could not be reached without disturbance to the herd. All of the carcasses were calves and all showed signs of trauma due to trampling. One of the calves was skinny. The local crew also monitored the status of the haulout, and travelled the coast looking for other haulouts and carcasses but did not find any. A storm caused the live walruses to leave the beach and washed away the unexamined carcasses; therefore no estimate of total mortality was possible.

Two satellite-linked transmitters were deployed on adult walruses near Cape Lisburne. One tag lasted only a few days, but the other transmitted for 26 days, documenting a nine day crossing of the Chukchi Sea followed by a haul out period near Cape Serdtse Kamen on the Chukotka Peninsula.

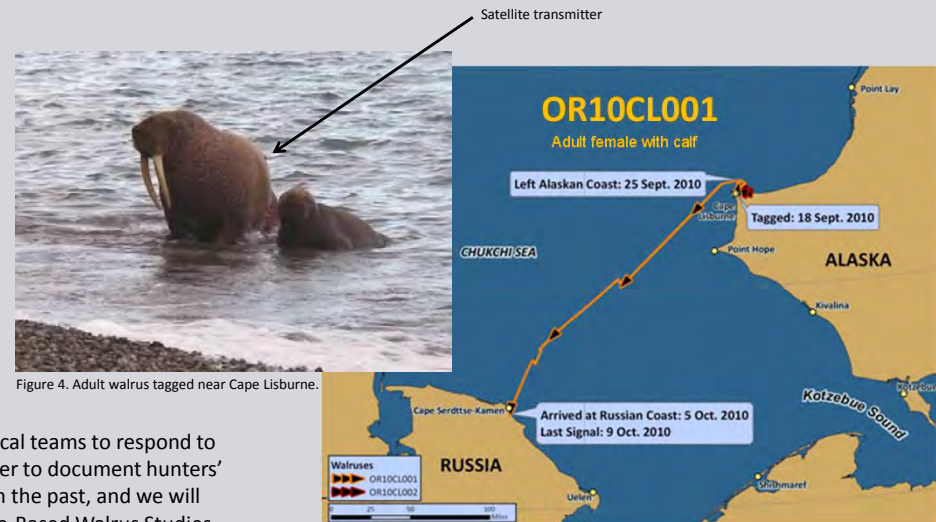


Figure 5. Track of satellite-linked tagged walrus across the Chukchi Sea.