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Results from hunter-assisted walrus studies in Alaska, 2014

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Pacific walruses 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 summer walrus habitat in the Chukchi Sea and may be changing summer distributions and haulout behavior, requiring that walruses haul out on land instead of ice. In September 2014, the minimum extent of Arctic sea ice was the sixth lowest since satellite records began in 1979. The purpose of this project is to work with subsistence walrus hunters to conduct observations at terrestrial haulouts accessible from coastal communities, train hunters to deploy satellite-linked tags to monitor movements and feeding behavior, and document local knowledge regarding walrus movements, behavior, and use of terrestrial haulouts. In preparation for a potential terrestrial haulout near Point Lay in 2014, local hunters assisted in the placement of camera towers. A large (35,000 walruses) haulout formed near Point Lay in September 2014 and was monitored. Carcass surveys were conducted, when possible, without disturbance to the haulout. Two traditional and local knowledge reports for Wainwright and Point Lay, jointly, and Point Hope are now final and available. We worked with walrus hunters from Saint Lawrence Island to deploy 33 satellite-linked tags on walruses in the Chukchi Sea during a multi-agency walrus research cruise in June. Of the 33 tagged walruses, 31 were females, (12 of which were accompanied by calves of the year) and 2 were adult males. Preliminary data show the highest concentration of tagged walruses during July and August occurred in the Hanna Shoal area in the eastern Chukchi Sea, however areas north of Wrangel Island and along the Beaufort Sea coast of Alaska, and the northern coast of Chukotka were also used. Tagged walruses left Hanna Shoal from the last week of August through the third week of September. All four tags still transmitting in September were located at terrestrial haulouts near Point Lay, Cape Lisburne, or the Chukotka coast near Vankarem, Cape Schmidt or Cape Serdtse-Kamen for at least one day.

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Introduction

Pacific walruses (*Odobenus rosmarus*) 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. Over the past decade, sea ice in the Chukchi Sea has receded north beyond the shallow continental shelf in late summer. The rapid retreat of sea ice is changing summer walrus habitat in the Chukchi Sea and may be changing summer distributions and haulout behavior, requiring walruses to haul out on land instead of ice. Large terrestrial haulouts of walruses have formed along the Arctic coast of Alaska in six of the last eight years and are expected to occur more often. Terrestrial haulouts are susceptible to disturbances which can cause stampedes resulting in mortality due to trampling of young walruses. Haulout locations are not consistently used each year and some may be accessible from coastal villages.

The purpose of this project is to work with subsistence walrus hunters to conduct observations at terrestrial haulouts accessible from coastal communities, deploy satellite-linked transmitters to monitor walrus movements and habitat use, and to document local knowledge regarding walrus movements and terrestrial haulouts. As summer sea ice has decreased in the Chukchi Sea, oil and gas activity has increased, elevating the importance of understanding walrus movements and habitat use.

Methods

Local walrus hunters monitor the status of terrestrial haulouts, help document local knowledge regarding walrus movements and terrestrial haulouts, prevent disturbances at terrestrial haulouts accessible from coastal communities, and work with biologists to deploy satellite-linked transmitters on adult walruses (Fig. 1). They also examine and document walrus carcasses (e.g., record length, age, sex, blubber thickness, and take photographs).

Figure 1. Clarence Irrigoo (left) and Edwin Noongwook (right) tagging walruses, June 2014.

Figure 2. Warren Harding-Lampe and Isaac Leavitt conducting carcass surveys of walruses near Point Lay, October 2014.

Results

- We have finalized reports documenting **local knowledge** collected in Wainwright, Point Lay, and Point Hope that describe historical occurrences of terrestrial walrus haulouts and detail actions taken by communities to minimize disturbances (Fig. 2).
- In association with a multi-agency (USGS, USFWS, and ADF&G) walrus research cruise in June, we worked with hunters to **deploy 33 satellite-linked transmitters on adult walruses** (31 female & 2 male) in the Chukchi Sea.
  - Tags transmitted an average of 50 days (range: 7–105 days)
  - Walruses traveled an average minimum distance of 1,770 km (range: 175–4,132 km; Fig. 3)
  - 18 walruses entered the **Hanna Shoal Walrus Use Area**, each traveling an average of 873 km and spending an average of 33 days in the Area. The first walrus entered the area on 17 June and the last left the area on 13 Sept.
  - None of the tagged walruses hauled out on the northwest coast of Alaska
  - 4 walruses used terrestrial haulouts on the north coast of Chukotka, Russia
- In September and October, **Point Lay** hunters **monitored the haulouts** from blinds using spotting scopes and conducted carcass surveys. They also assisted in the placement of camera towers to potentially monitor walrus behavior near the previous haulout site.

Future Activities

We will continue to prepare local teams to respond to future haulouts near coastal villages, including Point Lay. We will visit Barrow to document local and traditional knowledge of walruses and identify hunters interested in participating in Village-Based Walrus Studies. Further, we plan to work with local hunters near coastal villages in spring to deploy more transmitters.

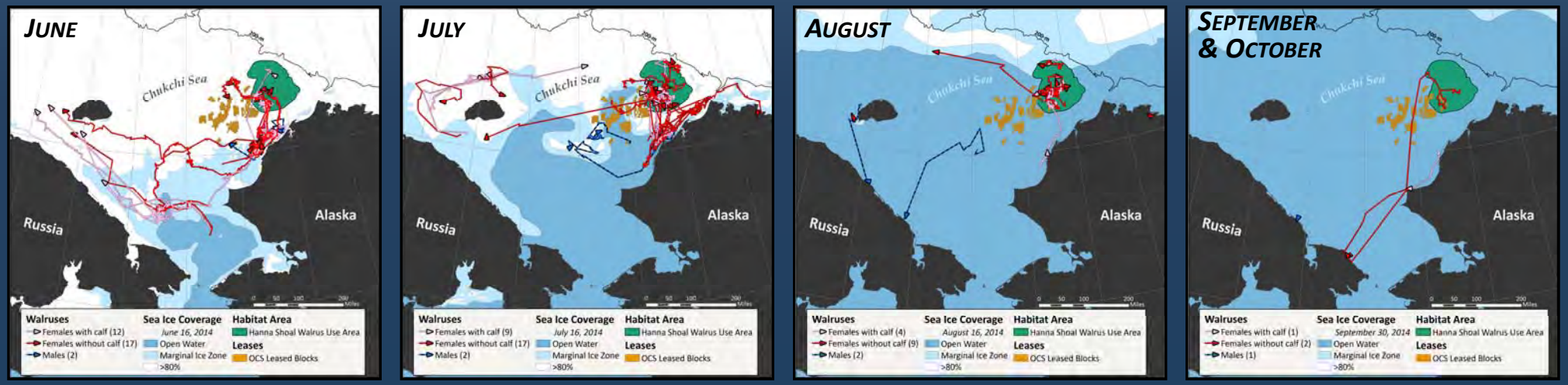

Figure 3. Movements of satellite-tagged walruses, females with and without calves and males, from June–October, 2014.

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