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Results from hunter-assisted walrus studies in Alaska, 2013

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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. 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 tags to monitor movements and feeding behavior, and to document local knowledge regarding terrestrial walrus haulouts. In preparation for a potential terrestrial haulout near Point Lay in 2013, local hunters assisted in the placement of camera towers. A relatively small (1,500–4,000 walruses) haulout formed near Point Lay in September, 2013 and was monitored. Carcass surveys were conducted, when possible, without disturbance to the haulout. Traditional and local knowledge interviews were conducted in Point Hope and two final reports are now available= for Wainwright and Point Lay, jointly, and Point Hope. In association with a multi-agency walrus research cruise in June, walrus hunters from Saint Lawrence Island deployed 34 satellite-linked transmitters in the Bering and Chukchi seas. Of the 34 tagged walruses, 28 were females, (13 of which were accompanied by calves of the year) and six were adult males. Preliminary data show the highest concentration of tagged walruses occurred in the Hanna Shoal area within Lease Sale 193 in the eastern Chukchi Sea during July and August, however areas north of Wrangel Island and along the northern Chukotka coast were also used. All tagged walruses left Hanna Shoal during the first week of September. None of the five tags still transmitting in September were located at the terrestrial haulout near Point Lay, although one female hauled out on the Chukotka coast near Vankarem.

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INTRODUCTION

Pacific walrus (*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 walrus to haul out on land instead of ice. Large terrestrial haulouts of walrus have formed along the Arctic coast of Alaska in 5 of the past 7 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 walrus. 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 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 (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 Perry Pungowiyi (right) tagging walrus, June 2013.

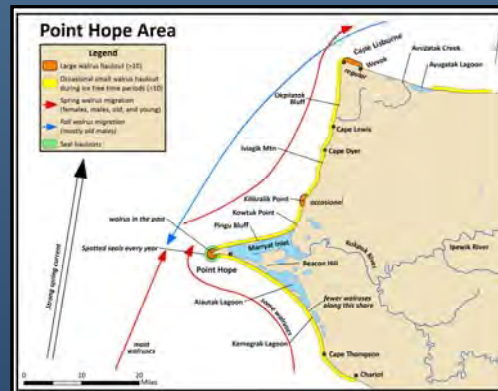


Figure 2. Walrus and seal haulout sites as documented during traditional knowledge interviews in Point Hope.

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 34 satellite-linked transmitters on walrus** (28 female & 6 male) in the Bering and Chukchi seas.
 - Tags transmitted an average of 55 days (range: 4–124 days)
 - Walrus traveled an average minimum distance of 1,800 km (range: 254–4,457 km; Fig. 3)
 - 18 walrus entered the Chukchi Sea Lease Sale Area, each traveling an average of 933 km and spending an average of 36 days in the area
 - None of the tagged walrus hauled out on the northwest coast of Alaska
 - 3 walrus used terrestrial haulouts on the north coast of Chukotka, Russia
- In September and October, we supported efforts of local hunters to **monitor the haulouts** from blinds using spotting scopes and conduct 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 and Little Diomed Island. We will visit Barrow to document hunters' experiences with walrus on terrestrial haulouts 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.

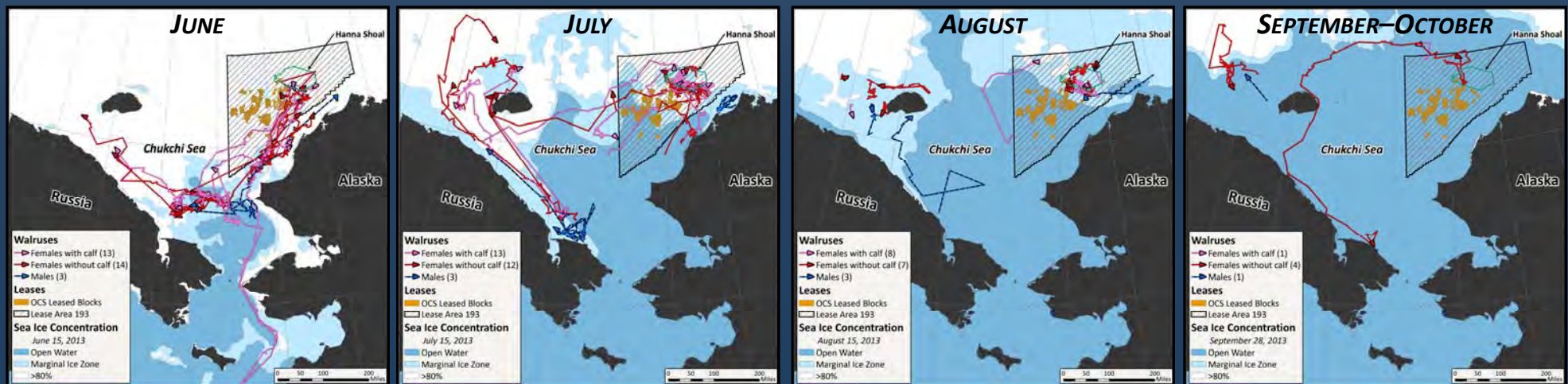


Figure 3. Movements of satellite-tagged walrus, females with and without calves and males, from June–October, 2013.

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