

Long-distance movements of avian predators: Snowy Owls and Long-tailed Jaegers tracked via satellite

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Background

Avian predator, with their ability to move over long distances, may play a key role in the stability of the tundra ecosystem by consuming numerous preys. The lack of knowledge on the movements of Snowy Owls and Long-tailed Jaegers, two key predators of the tundra, limits our ability to evaluate their vulnerability to current changes occurring in the Arctic.

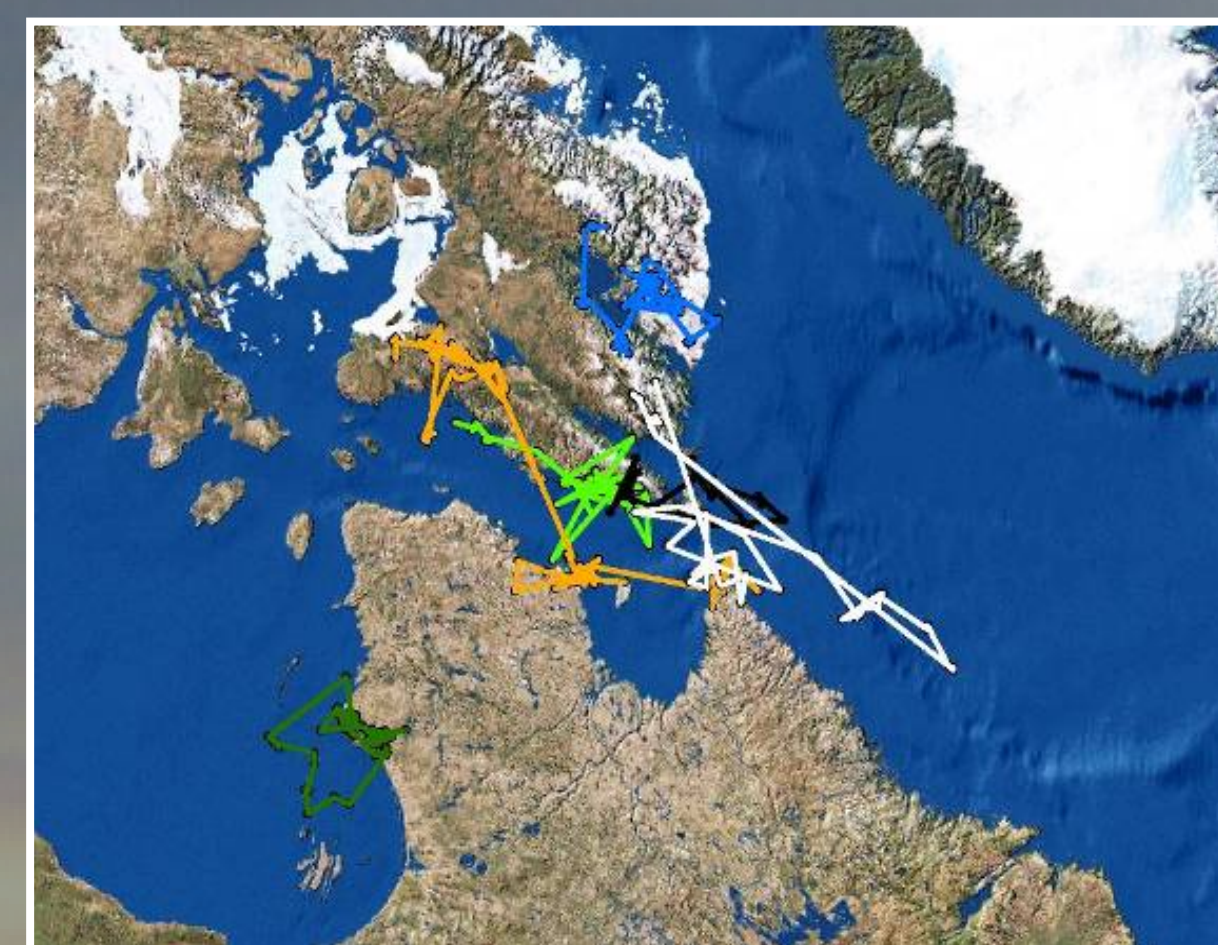


Results

Fall 07 / Winter 08

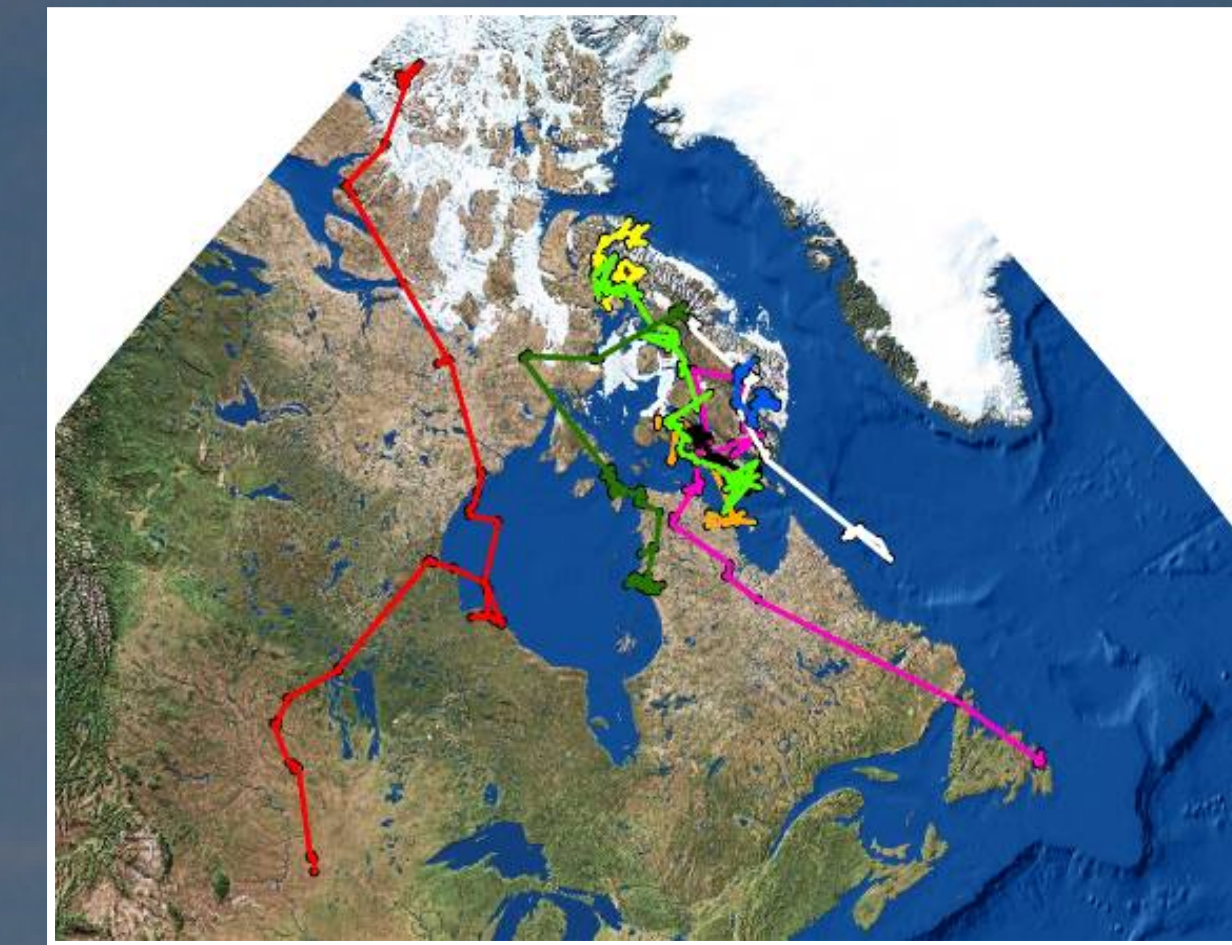


Snowy Owls showed large individual variation in their fall movements but most wintered in the Arctic.

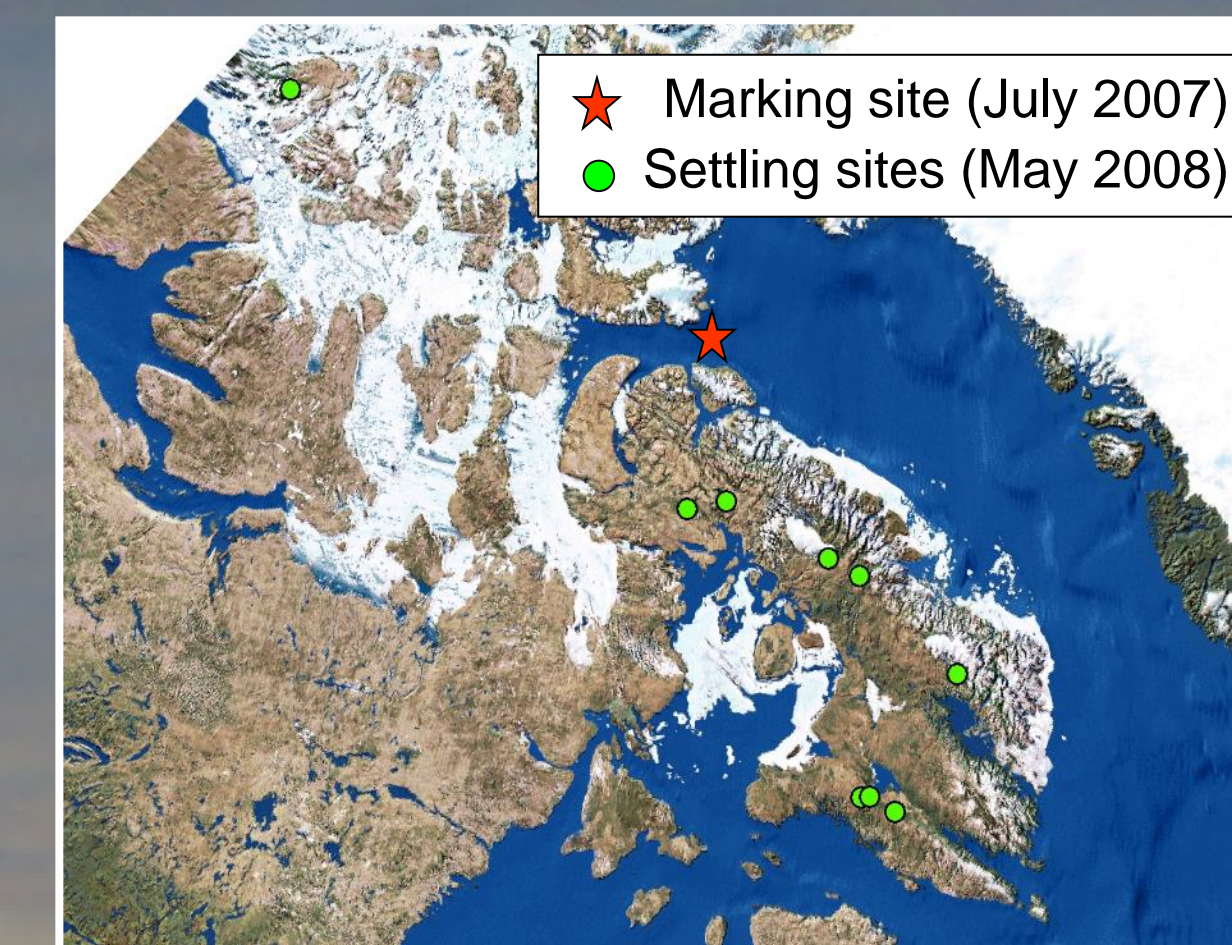


Six out of 9 birds monitored in the Eastern Arctic used sea-ice for up to three months in winter.

Spring/Summer 08

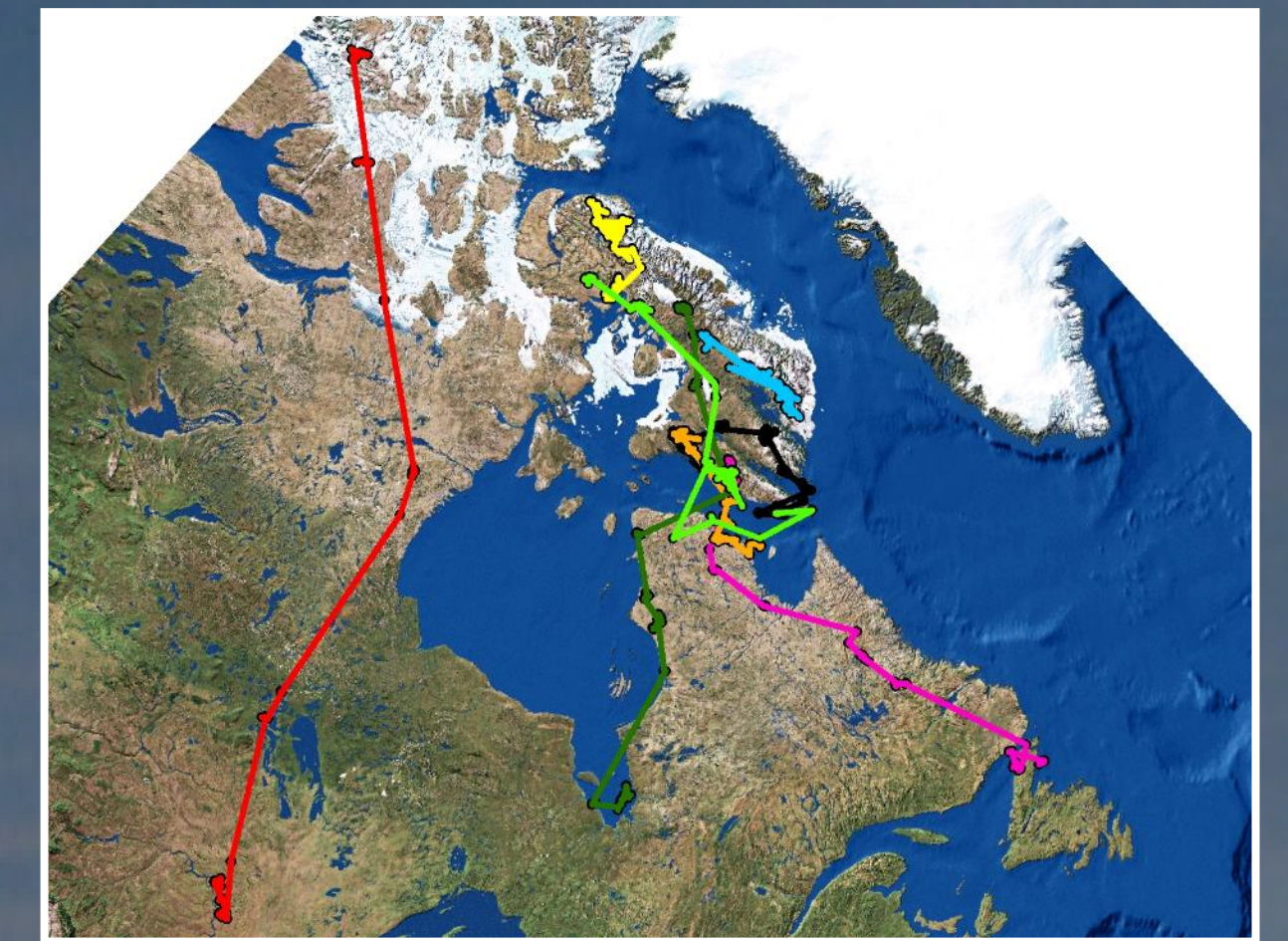


Spring migration was faster than in the fall. Birds settled in May throughout Baffin Island but one moved to Prince Patrick Island.

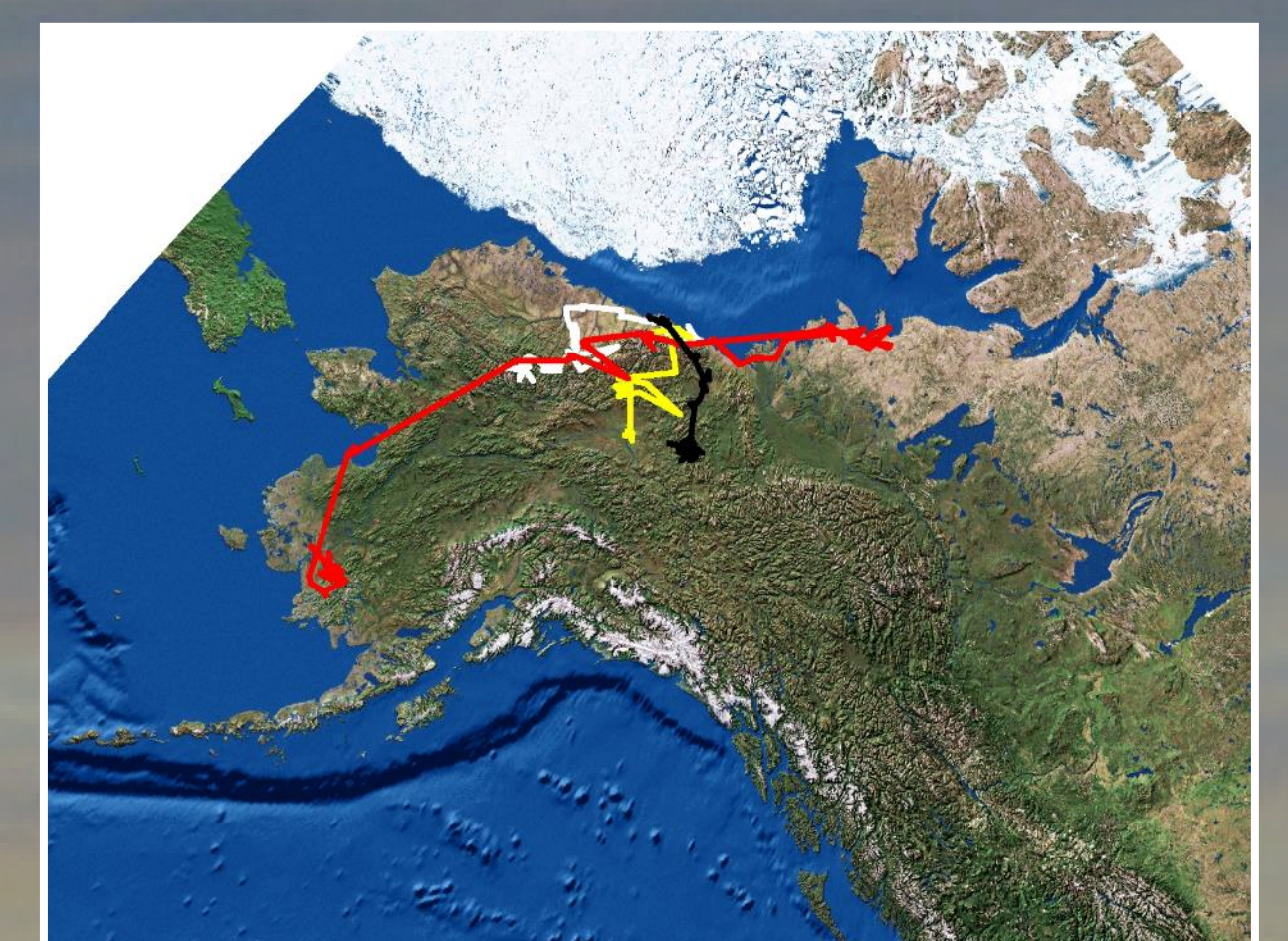


Birds settled between 262 and 1228 km from where they bred in 2007. We found a nest for 7 of the 8 birds on Baffin Island in 2008.

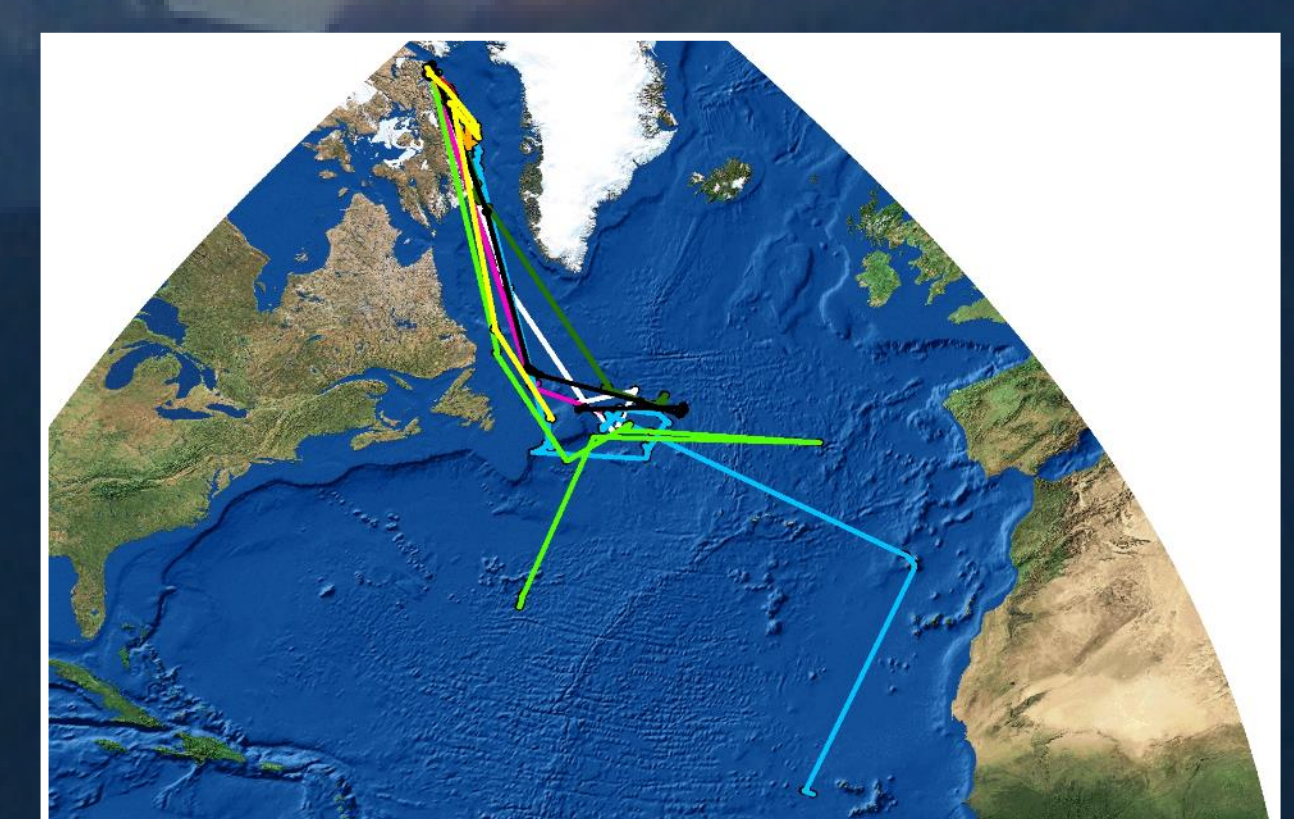
Fall 08 / Winter 09



Birds tended to follow a similar route and settled in similar region in consecutive winters.



Owls marked on Herschel Island in 2008 also wintered in the Arctic but moved over short distances and did not go over sea ice.



Marked Long-tailed Jaegers left Bylot Island in August 2008 and all headed for the Atlantic Ocean. They gathered east of Newfoundland in September. Some birds were heading toward the coast of Africa when all transmitters stopped functioning. We may find out what happened to the transmitters when birds come back next summer.

Objectives

The main goals of this project were to:

- Describe long distance movements of Snowy Owls and Long-tailed Jaegers over a complete annual cycle
- Determine if those birds breed in consecutive years

Methods

We captured 10 Long-tailed Jaegers on Bylot Island using nets and a stuffed owl.



We captured 12 Snowy Owls on Bylot Island and 4 on Herschel Island (YT) using a bow-net trap.



The transmitter was mounted as a backpack and held in place with a harness made of Teflon ribbon.

Transmitters were installed quickly (10 min) by experienced people.

We receive data on locations of marked birds every 2 to 5 days via satellites moving around the earth.



Conclusion

Snowy Owls can breed in consecutive years in far apart areas. We believe that owls nested on Baffin Island in 2008 because we found that lemmings, their main prey, were very abundant throughout the island that year. Snowy Owls seem to return to the same wintering area every year and sea-ice may be an important habitat for wintering Snowy Owls in Nunavut.

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