



Inuit knowledge about light geese in the Kivalliq region, Nunavut

Project summary from Arviat

In the Canadian Arctic, populations of northern-breeding geese (mainly Lesser Snow Geese, *Chen caerulescens caerulescens*, and Ross' Geese, *Chen rossii*, hereafter called 'light geese'; *Kangut* and *Kangunnaaq* in Inuktitut) have increased dramatically in the last 50 years according to scientific research. Scientists are studying the impact that geese have on the land and other animals, including shorebirds. Their work to date suggests that light geese have affected vegetation over large areas of the Canadian Arctic, and could negatively impact shorebird populations nesting in areas where geese are abundant. In Nunavut, light geese are harvested by Inuit. Few studies document Inuit knowledge (IK) of goose populations and interactions of geese with the land, water, animals, and people. Inuit have lived and hunted in the areas of the light goose colonies for generations, and are knowledgeable about past and current patterns of goose distribution and population growth or decline over time. Inuit knowledge will help everyone to better understand how light geese are impacting the land, water and other wildlife including shorebirds, and improve the way goose populations are managed today. This project documents Inuit knowledge about light geese and shorebird ecology and management strategies, which was gathered in June 2017 through interviews, groups discussions, participatory mapping, and sites visits with 20 Arviat residents. The study was conducted as a partnership between Environment and Climate Change Canada, the Innuirviit and Nivvialik Area-Co-Management Committees, the Arviat and Aiviit (Coral Harbour) Hunters and Trappers Organizations, the Kivalliq Wildlife Board, and Carleton University. It was led by a Project Management Committee comprised of representatives from partner organizations.

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Project objectives

- Documenting IK about light goose populations and their impacts on the land, water, other animals (including other bird species) and people in the Kivalliq region;
- Documenting Inuit-identified strategies for light goose management that address Inuit concerns and perspectives;
- Increasing the capacity of Arviat residents to do IK research on wildlife;
- Encouraging the combined use of IK and scientific information to provide recommendations for light goose and land management.



Photo credit: Andrew Dierks

Key findings

Here is what Arviat residents said about light geese:

- The ban on hunting and collecting migratory bird eggs was very hard for Inuit to bear, and caused the overabundance of light geese that is happening today.
- Light geese meat (goslings and adults) and eggs had great cultural significance in the past.
- Today, cultural significance varies by person/family as do taste preferences for geese.
- People described different things about the size of the light goose population around Arviat, such as (1) the goose population is increasing and there are too many geese, (2) the goose population is increasing but this is fine, (3) the goose population is stable and this is fine, (4) the goose population is decreasing in some locations and research is needed, and (5) unsure if the goose population is increasing or decreasing and research is needed.
- People described different things about the impacts of light goose droppings on the land and water. Goose droppings are (1) contaminating the hamlet's drinking water source; (2) contaminating the land; (3) helping the land by adding nutrients; and (4) not having any impact on the land.
- People described different things about how light geese have changed the land. They mentioned that (1) geese are impacting the land by grazing and

nesting, and in the spring people can tell where the geese have been eating and pulling out plants; and (2) geese are not impacting the land in the nesting area, and it is not changing because as soon as they nest, they start walking, so they do not feed that much in the nesting area.

- People explained that light geese have recently moved to new areas. Reasons for this include:
 - Climate change is making the land drier than in the past (lakes are drying up);
 - The vegetation has changed. There are more shrubs, bushes, and more grasses and vegetation to eat;
 - Other animals have changed. There are more predators, and geese are competing with them for food;
 - Light geese are moving to find new nesting areas. Due to the population increase they do not have enough area to lay their eggs;
 - Light geese have changed the land by pulling out plants. When animals like caribou and geese do not have enough food in one area, they look for other places with more food; and
 - Use of motorized transportation (snowmobiles, all-terrain vehicles) when going out on the land has become very common. The increase in types of transportation, the number of people using them, and how often people are using them has disturbed the light geese and caused them to move to new areas.

Here is what Arviat residents said about shorebirds:

- Shorebird meat, eggs, fat, feathers, and skins were very important in the past.
- Today, people still enjoy seeing and hearing shorebirds, and eating their eggs.
- Shorebirds can be signs of changing weather, changing seasons, and nearby animals.
- People described different things about the size of the shorebird population such as (1) the number of shorebirds has increased; (2) the number of shorebirds has not changed over time; (3) the number of shorebirds has decreased; and (4) they were unsure about shorebird numbers.
- Reasons given about why fewer shorebirds are seen nowadays include:
 - Climate change (shallower ocean, drier land, expanding habitat north);
 - Changes in food source (less worms, smaller shrimps, roots of plants affected);
 - Changes in predators (new kinds of birds especially Bald and Golden Eagles, more polar bears and seagulls); and
 - Increased human activity and new methods of transportation create noise and activities that impact shorebirds.



Photo credit: Paul Smith

Light geese and shorebird management strategies

Here is what Arviat residents said about light geese management strategies that could be implemented in the future:

- Hire local hunters to harvest geese. Ship geese to other communities and developing countries.
- Inuit should continue to harvest geese and eggs. Non-Inuit should still require permits but they should be allowed to harvest any amount of any type of geese, in any season.
- Discuss this challenge and do something before the population drops suddenly due to disease or other (as Inuit Qaujimagatuqangit says will happen).
- Take no action. The number of geese is fine and geese will self-regulate their population.
- Scientists should investigate the size of the light goose population near Arviat.

Here is what Arviat residents said about shorebird and other bird management strategies that could be implemented in the future:

- “They will come back. We can’t do anything about it. I would love to see them come back”.
- Inuit need to do more research. Together, scientists and community members should investigate the size of the bird populations near Arviat, especially birds that are here all year (e.g. ravens, eiders and Dovekies).
- Community-based monitoring about light geese and other birds should be done.
- Community members and scientists should do the research together at the same time. That way they can have discussions as the research is being done, versus talking to community members first, then bringing IK holders and scientists together later.

The final step of this project consisted in a workshop held in Winnipeg in September 2018 where IK holders, biologists, and wildlife managers shared their knowledge and developed joint recommendations for the management of light geese in the Kivalliq region, Nunavut.

