Sea Duck Joint Venture
Annual Project Report
FY25 (Oct 1, 2024 – Sept 30, 2025)

Project Title: Assessing long term population trends and distribution of northern common eider ducks (*S. m. borealis*) breeding along the south coast of Baffin Island, Nunavut (SDJV# 178)

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Partners

- Wildlife Research Division. Environment and Climate Change Canada. Ottawa, Canada.
- Nunavut Wildlife Management Boad (including the Nunavut Wildlife Inuit Secretariat and Nunavut Wildlife Research Trust). Iqaluit, Nunavut.
- Aiviq Hunters and Trappers Organization. Community of Kinngait, Nunavut.

Project Description:

Eider ducks are harvested for their meat, eggs, and feathers in Nunavut, Canada, Atlantic Canada, and west Greenland. Northern common eiders that breed in Nunavut are heavily harvested on their wintering grounds in southwest Greenland and Newfoundland/Labrador. The population trend of eiders has been monitored by conducting surveys of their nesting colonies in summer along the south coast of Baffin Island since the 1950s. These surveys identified that eiders were overhunted on their wintering grounds and helped to establish new harvest regulations in Greenland in 2002. The Canadian breeding population began to recover which was very encouraging. Recently, concern has grown in Greenland that thousands of eiders are being killed inadvertently in gill net fishing gear set out during the winter to harvest Lumpsucker fish. This commercial fishery may now be killing more birds than hunting. One of the only ways to assess whether winter mortality of eiders is resulting in population declines of Canadian breeding birds, is to repeat surveys of their nesting colonies during the summer in Nunavut which we propose here.

In addition to conservation concerns occurring on the wintering grounds, there are issues facing their nesting success when breeding in Canada during the summer. A previous outbreak of avian cholera killed thousands of common eiders over the course of a five-to-six-year period between 2006-2012, and the geographic extent of that die off was confirmed through surveys of nesting islands along the Baffin Island coast, and Inuit Ecological Knowledge interviews. Cholera has declined and is no longer a concern, apparently because the eider population has established herd immunity to the disease. However, a growing issue for eiders during the nesting period is the impact of polar bears depredating their eggs. Bears are apparently arriving onto

nesting islands earlier than previously (as reported by Northerners), perhaps because the sea ice is breaking up three to four weeks earlier in the region, and that bears now swim onto islands to forage at a time when eiders are still incubating their eggs. This project is intended to provide updated information of common eider populations along the south Baffin building on previous published work by our research group. This information is required so that the Nunavut Wildlife Management Board can inform Greenland harvest regulation, as well as Environment Canada to help safeguard northern eiders breeding in this internationally recognized coastal marine environment (SDJV Key Marine Site #35).

Project Objectives:

• Quantify the current distribution of eiders nesting on offshore island in relation to historical numbers generated from previous surveys. Specifically, how has their distribution changed (or not) over the long term in relation to the archived, historical survey data (1950's to present)?
• Estimate the current population size of the eider nesting population. What are the numbers of active nests of common eiders in the Hudson Strait in relation to the archived historical survey data of each island (1950's to present)?
• Quantify the prevalence of polar bear nest predation on islands in July of each year, and whether it varies by island size, number of nesting eiders per island (nests/ha), or geographically within the island archipelagos? These findings will build on previous work by us and help assess whether frequent polar bear depredation on islands is playing a role in colony redistribution as suggested by Local Ecological Knowledge.
• Detect eider mortality caused by avian diseases such as avian cholera and/or avian influenza if it occurs, and quantify the timing and geographical extent of any disease-related mortality of eider ducks is detected.
• Explore if any detected changes in colony size/distribution quantified by these new, repeated population surveys have impacted the ability of local Inuit to harvest common eiders for personal subsistence.

Preliminary Results:

We repeated surveys of nesting colonies of common eiders by boat using established protocols, in collaboration with the community of Kinngait (summers of 2024 and 2025). We have begun to examine if the size and distributions of eider colonies have changed significantly based on historical data and local knowledge, while we acknowledge that the analysis and scope of the project will grow as more colony data is collected each year (ongoing). The team is already producing integrated datasets and associated maps of current distributions on which to compare previous findings (Fig. 1). This is possible because all historical data has been georeferenced and is readily available for analysis.

One key finding from the recent 2025 field season, is a large number of nesting islands had been marauded by polar bears compared to the islands surveyed in 2024. All but two islands showed evidence of nest destruction. Preliminary review suggests that these islands supported

fewer total eider nests in 2025 (combining both active and destroyed nests) compared to the historical numbers found on the same islands. We saw no evidence of avian disease or mortality of seaducks in either 2024 or 2025 as the team continues to surveille for evidence of Avian Influenza and Avian Cholera.

We are communicating our progress and results through a diversity of outreach materials including written reports, social media and public outreach, and ongoing presentations to local communities and wildlife management organizations. For example, while in town, the team conducted several live community radio phone-in shows which were warmly received. Our diverse communication strategy aims to inform communities and wildlife management organizations to facilitate sound management decisions concerning northern common eiders based upon rigorous science.

In addition, we will contribute the information generated by these new surveys to a collaborating team of social scientists, who are simultaneously conducting Local Ecological Knowledge interviews in Kinngait (2024-2026) to examine the economic costs and benefits of harvesting eiders in the face of expected climate change (e.g., changes in sea ice conditions, economics). This is a social science, community-based project that has already been granted five years of NSERC funding and is currently underway. It will benefit from the new information on eider distribution, the logistical costs of travel and camping, and population trends generated by this project, because these parameters strongly influence the socioeconomics of Inuit harvest. Although operating independently, the projects complement each other and will enrich the value of our updated coastal survey results.

Project Status:

We are pleased to report that we accomplished our objectives and conducted boat-based surveys in the targeted island archipelago in 2025 roughly 80 miles east of Kinngait (Fig 1). We enlisted a team of 11 people working from three boats to conduct surveys, and all but three of the crew members originated from the community of Kinngait, Nunavut. We are excited that the project is building local capacity to survey and research seaducks into the future by hiring young

people who are mentored by more experienced community members. During the setup of camp 80 miles east of the community of Kinngait, we also hired a larger vessel to provide additional logistics and fuel transport.

Given that our SDJV funds were not received until the field season was well underway, and after travel and supply costs had been paid through our other funding sources (line items in our budget), we used the SDJV funds to offset the salaries of our Indigenous team members who had already been paid. Simply put, it all worked out in the end once the SDJV funds arrived.

The team was storm-bound in camp due to rain and high winds for nearly a week in mid-July which eroded the days available to survey colonies before eider ducks hatched. Once the weather improved, however, the team put in several long days under ideal conditions to make up for lost time. All data was first written into field notebooks (which are archived) and then entered into a computer upon return to town. The field equipment has been stored in town in a locked shipping seacan and is already positioned for the 2026 field season (tents, cooking gear, sleeping bags, boat anchors, etc). In late June and July 2026, the team will resume moving further east along the south coast of Baffin Island to resurvey islands that have been surveyed previously. The ongoing success of the program, despite occurring in this remote uninhabited Arctic coastline, is largely a function that the scientific survey methods themselves are simple, repeatable, and proven.

Project Funding Sources (US$).

SDJV (USFWS) Contribution	Other U.S. federal contributions	U.S. non-federal contributions	Canadian federal contributions	Canadian non-federal contributions	Source of funding (name of agency or organization)
				48416.42 (USD)	Nunavut Wildlife Research Trust
			57669.34 (USD)		Environment Canada – Operating Budget
36600 (USD; 4774 USD overhead)					SeaDuck Joint Venture Funding
				20191.44 (USD)	Nunavut Inuit Wildlife Secretariat

Total Expenditures by Category (SDJV plus all partner contributions; US$).

ACTIVITY	BREEDING	MOLTING	MIGRATION	WINTERING	TOTAL
Surveys	162877.20 (USD)				

Figure 1. Locations of nesting islands surveyed in 2024 (red dots) and 2025 (black dots) in relation to the community of Kinngait (formerly Cape Dorset). The Sea Duck Joint Venture joined the project in 2024 and financially supported the field season in 2025.

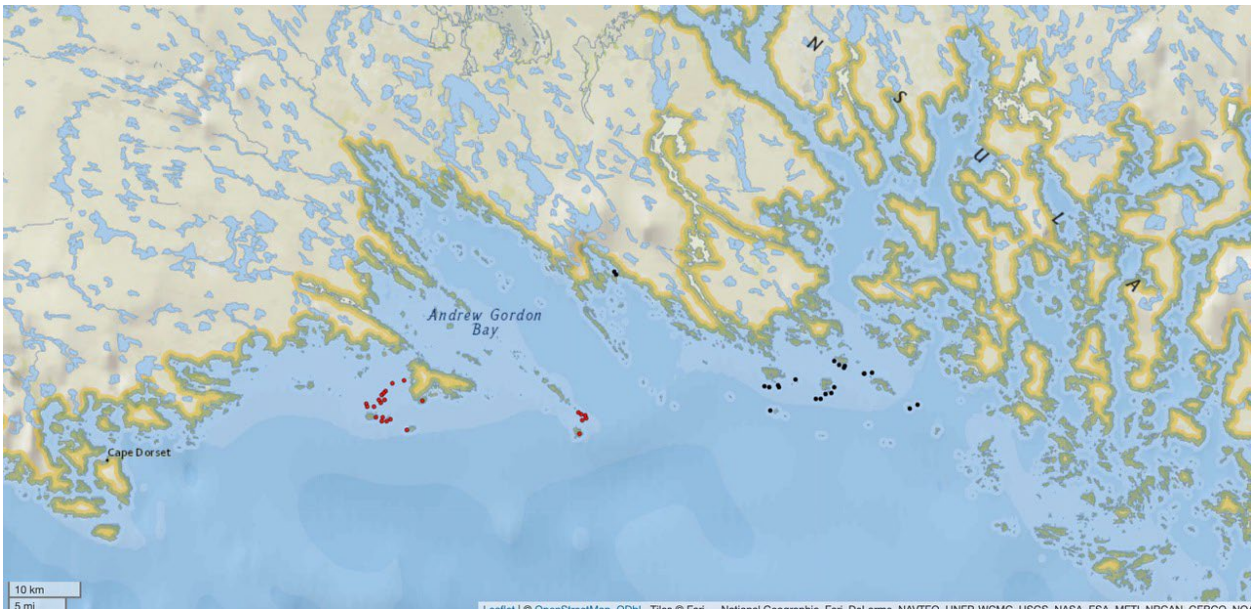

Figure 2. Photographs of the boat-based field program conducted in 2025 along the south coast of Baffin Island.