Coastal Surveys of Common Eider Nesting Islands
Belcher Island Archipelago (including Sleeper Islands), Sanikiluaq Region

Project Description

Our project examines the conservation biology of common eiders in in the Eastern coastal areas in Western Hudson Bay among the Belcher Island Archipelago, including the Sleeper Islands. Eiders are particularly vulnerable to disturbance during the breeding season and we are concerned that they are experiencing rapid ecological changes that could result in population declines. Increased shipping activity, outbreaks of new avian disease, and cascading impacts of climate change all represent possible threats to these species. Our primary goal is survey the colonies of eiders in this area given that little is known about their current populations which have not been assessed since the 1990's. Based on the 2020 census results, we will be able to compare population trends and investigate the possible impacts of climate and industry-based issues in order to predict the severity and extent of potential population impacts. This will also be an important first step in informing the development of a Marine Protected Area within the region.

Our surveys are conducted in July, which is when eider females incubate nests. In advance of the field season we select islands ranging in size from 0.1 to 5.0 km^2 for survey. These islands are supplemented with additional locations recommended by our guides to ensure that a range of colonies with different habitat characteristics and eider abundance are visited. The islands are accessed by boat and circled upon arrival to determine whether bears are present. After landing, a search is made on foot by 3-6 people walking 10-25 m apart in successive linear sweeps until the entire island is investigated. Nests are easily found because there is little vegetation and current year breeding attempts can be reliably distinguished from previous years' attempts by the presence of fresh down, which eiders pluck to line their nest bowls. When a nest is found, we record its status as active—a nest containing an incubating hen, eggs or newly hatched ducklings, or empty—a nest in which fresh down was present but a hen, eggs, or ducklings were not present. We also note signs of potential nest predators, including polar bears, foxes, and gulls. For polar bears, the principal signs are seeing animals, finding feces, and encountering large numbers of nests that had been destroyed in which feather down is strewn widely around the nest bowl and eggs have been broken open by large crushing bites or blows. We will opportunistically collect samples of polar bear feces found on the surveyed islands to assess polar bear diet composition. Any carcass or part of a bird that is found will be opportunistically collected for disease analysis.

During portions of the surveys we will be camping on islands to facilitate sampling of areas far from town (Sanikiluaq). We will camp at established campsites recommended by our local guides to reduce our impacts on the land. There will be between 4-8 Inuit guides and 3-8 others camping at each site. We will only be camping at each site for two weeks cumulatively (roughly one week, two times) before moving on. We will be using canvas tents provided by the guides for sleeping and cooking. We will have a small amount of white gas and fuel for the boats at each campsite. We have a spill response plan and will have a spill kit with us at all times.

Water is used for drinking and washing purposes only and will either be brought from town or obtained from small streams according to our guides. Human waste will be buried in a sump away from all water sources and backfilled before leaving camp. All other waste will be transported back to Sanikiluaq and disposed of properly.