



# BACHELOR PROJECTS AVAILABLE AT THE NORWEGIAN POLAR INSTITUTE

## Nest predation in a high-Arctic tundra landscape contrasted by goose density



Photo: N. Lecomte

The aim of this project is to investigate relative nest predation rates from high-Arctic predators along an elevation gradient in two areas contrasted by goose nest density. Specifically, we will investigate if nest predation rates are related to habitat types and resources available in the landscape. The student will work with a dataset collected over one field season from artificial ground nests.

The project will be supervised by Åshild Ø. Pedersen and Eva Fuglei (terrestrial ecologists) at the Norwegian Polar Institute. The project must be written in English in article form. Results and text are planned to be included in a scientific publication where the student will be one of several co-authors. The selected student must be able to use R and perform simple statistical analysis.

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# Climate change impacts on arctic and alpine ptarmigan: A literature review of impacts on demographic rates



Photo: W. Dallmann

The aim of this project is to review climate impacts on demographic rates of arctic and alpine ptarmigan. We have built a database over demographic rates of the circumpolar rock ptarmigan through and FRAM-based project and plan to extend this work to include willow- and white-tailed ptarmigan. Based on new literature searches, the students will review and tabulate seasonal/annual demographic effects from weather related and climate change impacts on these species.

The project will be supervised by Åshild Ø. Pedersen and Eva Fuglei (terrestrial ecologists) at the Norwegian Polar Institute. The project must be written in English in article form. Results and text is planned to be included in a scientific publication where the student will be one of several co-authors. The selected student must be able to do simple graphics in R/Excel and perform simple statistical analysis and be able to search the ISI-database.

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# How many animals in High Arctic landscapes? A method study for more effective quantification of herbivore load in tundra



Photo: E. Soininen

In this project we aim at improving field methods that are used to quantify abundance of herbivorous animals in the High Arctic. Herbivores – Svalbard reindeer, ptarmigan and geese – are important to the food web of Svalbard, both as consumers of plants and as prey for predators, and they are managed through hunting. Therefore, we need good information about abundance of herbivores on Svalbard. Pellet count is a promising method, but needs to be improved for efficiency and comparability between locations. In this project, the student will use parts on an extensive dataset consisting of field data (pellet counts and photos) to establish which method can be used to effectively assess herbivore abundance in tundra landscapes.

The project is suitable for either 1) two students that write the project together or as 2) two separate bachelor projects where the students use different types of data.

The project will be supervised by Virve Ravolainen (terrestrial ecologist; plant) and Åshild Ø. Pedersen (terrestrial ecologist; reindeer) at the Norwegian Polar Institute. The project is part of a circumpolar study within the “Herbivory Network” (<http://herbivory.biology.ualberta.ca/>). Results and text is planned to be included in a scientific publication where the student will be one of several co-authors. The project must be written English in article form. The selected student must be able to use R and perform simple statistical analysis.

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