

1. Project Summary

1.1 Contact Information

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1.2 Project Title

Richardson Mountains Dall's Sheep Productivity and Lungworm Infection Survey

1.3 Non-technical Project Summary

The Dall's sheep population in the Richardson Mountains is largely unhunted. A small number of sheep, primarily ewes and lambs, are harvested each year by Gwich'in and Inuvialuit in the NWT. There are local reports of a limited sheep harvest by Vuntut Gwitchin from Old Crow, Yukon. There has been interest among residents of Aklavik and other Gwich'in communities to conduct guided Dall's sheep hunts for non-resident hunters since the late 1980's. The Aklavik Renewable Resource Council, Gwich'in Renewable Resource Board, and Gwich'in Tribal Council are considering options for conducting Dall's sheep sport hunts in the Richardson Mountains in the NWT. The Yukon has received a request to open a Yukon Resident harvest in the Yukon portion of the Richardson Mountains.

The Government of the Northwest Territories' Department of Resources, Wildlife and Economic Development (DRWED) and the Yukon Government's Department of the Environment conduct surveys in the Richardson Mountains to get an estimate of the number of Dall's sheep. Results in the last several years may suggest a population decline, but the most recent surveys conducted did not include all survey blocks. This summer, DRWED is proposing to conduct a population wide survey including all survey blocks, to ensure as accurate a count as possible. This project will provide valuable information for the management of Dall's sheep in the Richardson Mountains, and will complement a Dall's sheep habitat project that is being proposed by the GRRB to begin this summer, as well.

(Note: No financial information available in this pdf file due to confidentiality agreements)

2. Rationale and Objectives

The Dall's sheep population in the Richardson Mountains is largely unhunted. A small number of sheep, primarily ewes and lambs, are harvested each year by Gwich'in and Inuvialuit in the NWT. There are local reports of a limited sheep harvest by Vuntut

Gwitchin from Old Crow, Yukon. There has been interest among residents of Aklavik to conduct guided Dall's sheep hunts for non-resident hunters since the late 1980's. The Aklavik Renewable Resource Council, Gwich'in Renewable Resource Board, and Gwich'in Tribal Council are considering options for conducting Dall's sheep sport hunts in the Richardson Mountains in the NWT. The Yukon has received a request to open a Yukon Resident harvest in the Yukon portion of the Richardson Mountains.

In June 2001 the Wildlife Management, DRWED Inuvik Region and Department of Environment, Dawson conducted a survey to estimate the number of Dall's sheep in the Richardson Mountains. These agencies conduct sheep surveys in the Richardson Mountains every 4 to 5 years to monitor population trends.

In June 2001 the population was estimated at 1057 sheep. During a similar survey in 1997, 1,339 sheep were counted, but 3 of the survey blocks in the Yukon could not be surveyed because of bad weather. The results of these surveys suggested that the number of sheep in the Richardson Mountains had declined between 1997 and 2001. In June 2001 there were 12.5 nursery sheep counted per 100 nursery sheep. This was very low compared to ratios of 31 to 44 lambs per 100 nursery sheep observed during previous surveys (1984 to 1997). Numbers of $\frac{1}{2}$ and $\frac{3}{4}$ curl rams in the population in 2001 suggested that recruitment had been low since 1997.

Because of the low number of lambs per 100 nursery sheep observed in June 2001, the Goodenough and Rat blocks were surveyed in late August 2002 to monitor population trend and productivity (Figure 1). The results of the survey suggest that the number of sheep in the Goodenough block had declined from 304 in 2001 to 194 in 2002 (Figure 2). However, lamb production/survivorship appears to have been significantly higher than observed in 2001 (Figure 3). The number of sheep in the Rat block was similar to that observed in 2001 (Figure 4), but lamb production/survivorship was low (Figure 5).

DRWED Inuvik Region would like to conduct a population wide survey in 2003 to determine if the results obtained during the August 2002 survey were due to a change in the distribution of sheep in the area or a general population decline.

1.3 Objective(s):

- to obtain estimates of lamb productivity
- to describe the prevalence, and intensity of lungworm and muscle worm infections in the sheep in all the survey blocks

3. Methods

Recruitment survey: The Richardson Mountains will be surveyed in summer 2003 (post lambing) with a helicopter to locate and classify sheep in all the survey blocks. Once a group of sheep is located, the helicopter will land approximately 1 km away from the sheep to minimize disturbance. The sheep will be classified using a spotting scope and binoculars. Sheep will be classified as ewes, lambs, $\frac{1}{2}$ curl, $\frac{3}{4}$ curl, and full curl rams.

Prevalence and intensity of lungworm infection: Fresh fecal samples will be collected in each survey block to determine the distribution, prevalence, and intensity of lungworm and muscle worm infections. A field crew will be positioned near areas where sheep are located

to collect the samples. Samples will be stored on ice in the field and then frozen in the lab. Samples will be forwarded to the University of Saskatchewan for analysis.

Dietary Analysis: Fresh fecal samples will be collected in each survey block to determine the diet of the sheep. A field crew will be positioned near areas where sheep are located to collect the samples. Samples will be stored on ice in the field and then frozen in the lab. Samples will be forwarded to the University of Saskatchewan for analysis.

Field necropsy of natural mortalities: Field necropsies will be done to determine cause of death for any sheep found dead. Femurs may be collected for bacterial analysis.

4. Study Area

All survey blocks in both the Yukon and Northwest Territories Richardson Mountains (Figure 1).

5. Community Involvement

Community members will be involved in the survey where possible.

6. Time Schedule

August 2003	Do Survey
September 2003	Update report to be given at GRRB meeting
December 2003	Finish data analysis
March 2004	Complete report and provide to partners

7. Project Budget – not included in this pdf file.

- See Map Below -

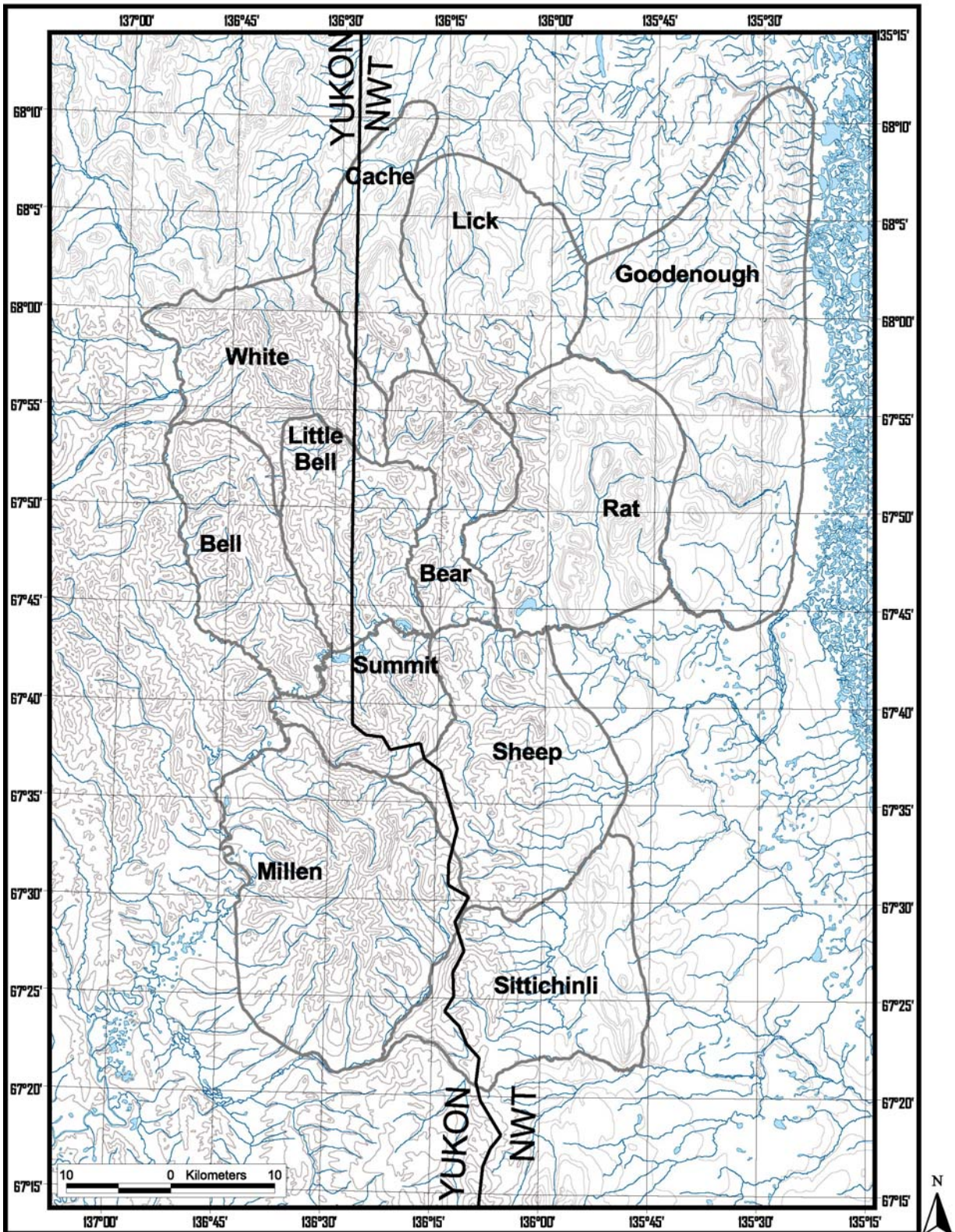


Figure 1. Dall's Sheep Survey Blocks For Summer 2003

Figure 2. Number of nursery sheep, rams, and lambs counted by year in the Mount Goodenough survey block, 1984 to 2002.

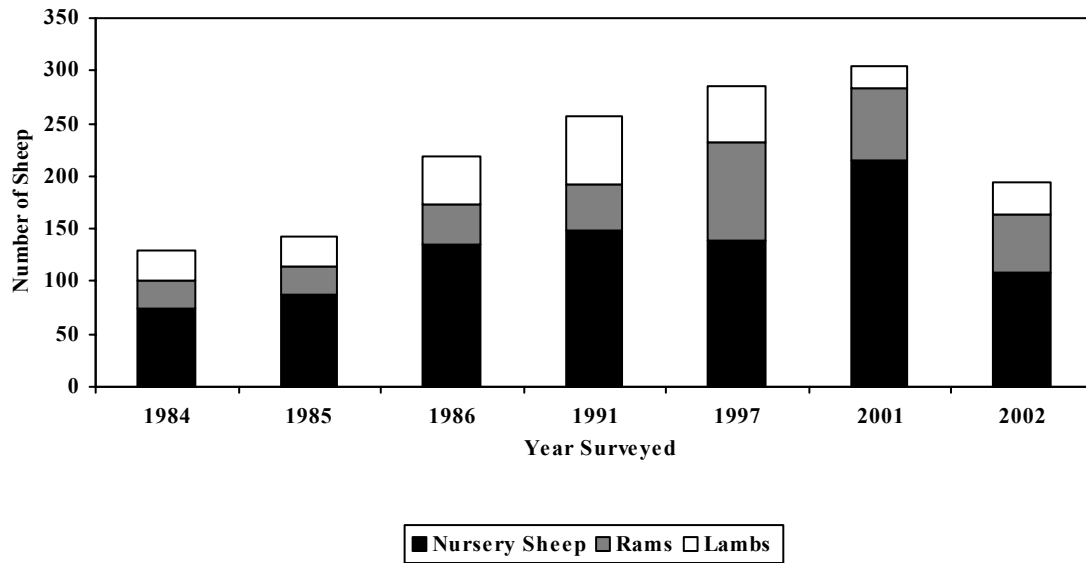


Figure 3. Number of lambs counted per 100 nursery sheep by year in the Mount Goodenough survey block, 1984 to 2002.

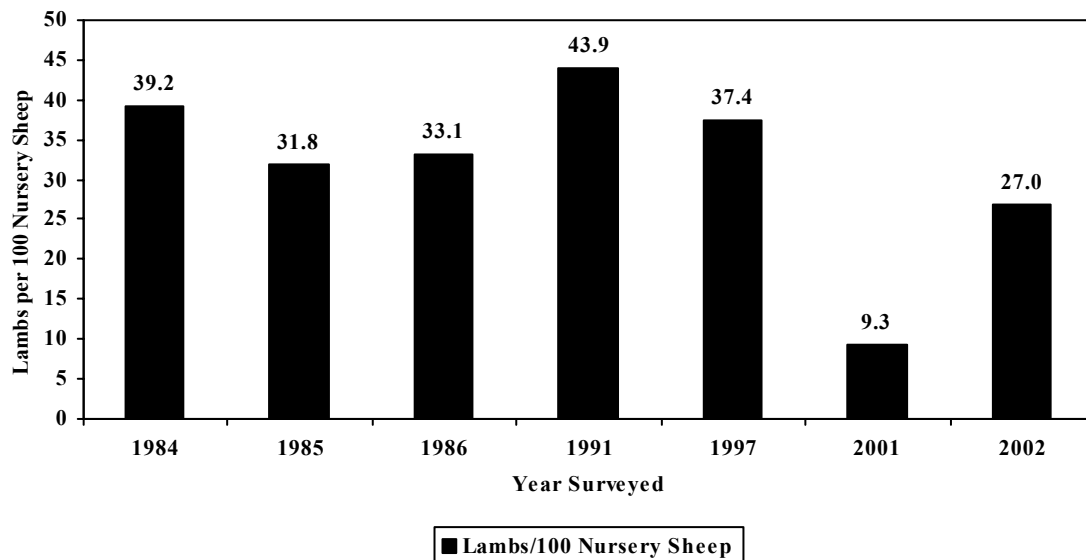


Figure 4. Number of nursery sheep, rams, and lambs counted by year in the Rat survey block, 1984 to 2002.

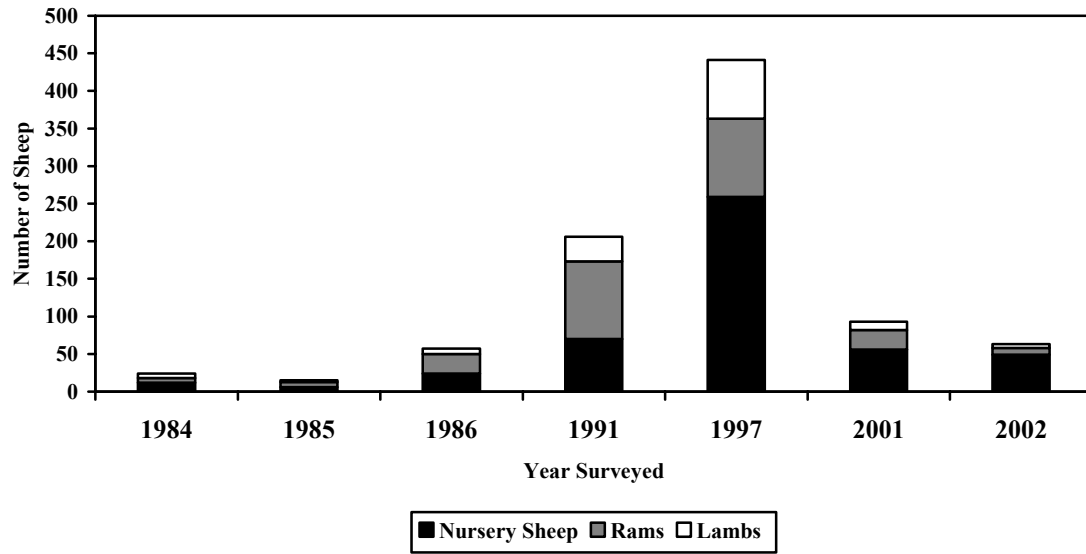


Figure 5. Number of lambs counted per 100 nursery sheep by year in the Rat survey block, 1984 to 2002.

