

Seasonal Range Use and Movement Patterns of Boreal Caribou in the Dehcho 2007-2008

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Introduction:

The objectives of this project are 1) to document key aspects of the ecology of boreal caribou thus providing baseline information on boreal caribou populations that range through out the Dehcho region, and 2) to continue to foster community support and partnerships in data collection and monitoring programs for boreal caribou in the region. The first objective is being attained with the aid of satellite collar technology. The key ecological objectives are to document: a) seasonal range use, seasonal movements, and calving areas of female boreal caribou over multiple years, b) the fidelity of these movements and calving areas of female caribou over multiple years, c) and monitor calf production and calf survival and to a lesser extent adult female survival, d) female:calf ratios annually in summer, and mid-winter to assess calf survival and recruitment, and e) disease and parasites and winter diet of boreal caribou. The information being collected is important to harvesters, First Nations, wildlife managers, and land use planners alike in that it will provide critical information on which to base informed decisions on future development activities and with which to monitor the effects of such activities.

Location information of boreal caribou is critical to the program but not something that should be made widely accessible. After extensive consultations and discussions with First Nations participating in the program it was decided that ENR would maintain the raw data and produce maps of the ranges used by female boreal caribou on a quarterly basis. These maps would be provided to First Nation participants. During community meetings we present and discuss the results and work on the boreal caribou program. During even years, the results of the program are presented and discussed in detail at the Biannual Dehcho Regional Wildlife Workshop. Poster presentations of the general ecology and updated results are made at conferences and Regional Wildlife Workshops and are available. Survey and collaring results are circulated to all participants within 2 weeks of the work being completed. Each year we produce a detailed annual progress report on the Dehcho boreal caribou program which is widely circulated and available on the ENR website. Summary reports are submitted annually for the ENR annual wildlife research permit compilation and the annual report for the western NWT

biophysical study. Scientific publications and reports will be produced in future and will be circulated amongst all user groups.

This program studies the boreal caribou Valued Component and is supported by both CIMP categories because 1) it is collecting critical baseline information that can be used for monitoring boreal caribou population demography, and 2) it is working closely with harvesters from Trout Lake to build the capacity for locally-based monitoring programs. Last year ENR assisted with a field study proposed by Sambaa K'e Dene Band and funded by the Pipeline Readiness Office. There are plans to continue with an expanded study this year. Animal movements and use of the landscape in relation to the density of cutlines and human activity have been used already in educating people in the cumulative effects and potential impacts, both at community meetings and regional workshops.

The boreal caribou has been designated as threatened by COSEWIC and is considered a Valued Component in the Dehcho. In September, 2002, Dehcho First Nations and the then Department of Resources, Wildlife & Economic Development (RWED) held a regional wildlife workshop in which RWED and other government agencies sought direction for wildlife research in the region from residents of the Dehcho. High on the list was the immediate need for research into boreal caribou ecology. This was especially important for Sambaa K'e Dene Band members from Trout Lake because of impending oil and gas exploration. RWED took the lead in funding and initiating a multi-year boreal caribou study, which relied heavily on information from boreal caribou equipped with satellite radio collars. In March 2004, ten female boreal caribou were captured and equipped with satellite collars with a 4-year lifespan. At the 2nd Biannual Dehcho Wildlife Workshop in October, 2004 there was praise and support of the Trout Lake project by First Nations participants as well as a request to increase the distribution of animals collared in the Trout Lake study area and to have collars deployed in areas in the vicinity of the current and proposed pipelines in the Fort Simpson area. Subsequently, there have been requests from other Dehcho First Nations to have collars deployed in their traditional lands. ENR has been able, with funding assistance from other agencies including DIAND, to retrieve and refurbish downed collars, purchase new collars, and deploy collars throughout the range of boreal caribou in the Dehcho in 2005, 2006, and 2007. Currently there are active 26 satellite collars (3 recently went off the air at the end of their lifespans) and 3 active VHF collars on female boreal caribou in the program, which reside in the traditional harvesting areas of Wrigley, Fort Simpson, Jean Marie River, Trout Lake, Nahanni Butte, and Fort Liard. This program is part of a territorial-wide program that is collecting baseline data on the ecology of boreal caribou populations that are found in different parts of their range, different regions of the Northwest Territories, and which have been subjected to different levels and types of human disturbance. This includes a large-scale genetic study of northern boreal caribou populations. Location and movement data from this program are currently being used with data from other regions for a variety of landscape level analyses. This is a multi-year program, which has received funding from ENR, the western NWT biophysical study, and CIMP.

Local harvesters and First Nation members from all communities were involved throughout the entire planning process for the boreal caribou project. At the inaugural Dehcho Regional Wildlife Workshop in 2002 the need for a caribou project was voiced by participants, particularly those from Trout Lake. ENR and Sambaa K'e Dene Band membership jointly planned an appropriate project with the first caribou being captured and collared in March 2004. ENR and SKDB membership have subsequently worked together participating in aerial reconnaissance and relocation flights and in retrieving collars from deceased animals. SKDB has received updates of the project results and has used these results to promote their application for a Protected Area around Trout Lake, for presentations to the Joint Review Panel, and at various land use planning meetings. SKDB also initiated a woodland caribou field study, funded by the Pipeline Readiness Office, which they conducted with the assistance of ENR in Spring 2007. They are planning to apply for funding to continue the study in winter 2008/09.

Members of Liidlii Kue First Nation, the Fort Simpson Métis Local, Jean Marie River First Nation, Nahanni Butte Dene Band, Pehdzeh Ki First Nation, and Acho Dene Koe Band have been active participants since they have joined the program. First Nation members have indicated places in their traditional harvesting areas where boreal caribou frequent and areas where collars should and should not be deployed on female caribou. Members have also participated in aerial reconnaissance flights, relocation flights and in retrieving collars from deceased animals. ENR has conducted community presentations and open discussions on the pros and cons of the animal capturing process and the benefits of information that can only be collected from collared animals. ENR respects individual First Nation decisions on capturing operations and the number and location of animals that are to be collared. Local membership has been, and will continue to be active participants with ENR in the Dehcho boreal caribou project.

Methods:

Appropriate areas for capturing caribou were delineated with the assistance of local residents of Trout Lake, Fort Simpson, Jean Marie River, Nahanni Butte, Wrigley and Fort Liard. Collars have release mechanisms and will release in summer 2011. Deployment of these collars is to replace collars that are at the end of their life span and to collect much more detailed movement information in strategic areas of the Dehcho boreal caribou range. Strategic areas are based upon First Nation recommendations. Data from the GPS collars can be related to satellite collared animals in similar areas.

Additional collars were deployed on 8 female boreal caribou in the Dehcho from 16-18 February, 2008: 4 ARGOS GPS collars and 4 ST-20 Satellite collars. Animals were captured by net gun fired from a helicopter by a professional capture team. The team followed standards set by the NWT Animal Care Committee. Blood and fecal samples were the only biological samples collected from each handled animal to keep handling time to a minimum as requested by the communities and by ENR. All collars are equipped with VHF beacons. The VHF beacon is programmed to function for a 48-month period permitting the opportunity to retrieve the collars once they have been

released. The GPS collars collect caribou locations every 8 hours through their expected 40-month lifetime.

There was an aerial reconnaissance flight to locate VHF collars in the Fort Simpson area immediately prior to the capture operation at the request of LKFN; no reconnaissance flights were conducted elsewhere at the request of the other First Nations involved in the program. Previously collared caribou were used to locate additional caribou for collar deployment. Collars were deployed throughout the Dehcho from Fish Lake to the north, Celibeta Lake in the south, and Trout River to the east. We had attempted to deploy some collars on previously collared animals, but were unable to do so collaring 8 new individuals

Results:

We received satellite location data from the new collars immediately after deployment in addition to the location data we have been receiving for the other 28 active collars. We have 3 remaining female boreal caribou that were equipped with VHF collars in February 2006. We need to fly to locate these animals and monitor their movements and survival monthly. Spring weather has been very unpredictable and has created some problems in conducting relocation flights for the animals equipped with VHF collars. Flights have been conducted during January-March 2008 to locate these animals. A February flight conducted on the 15th was critical to the success of the classification survey we recently completed, 3-5 February. We classified 241 boreal caribou over the 3 days using a helicopter and located all caribou with functioning radio collars.

We continue to provide maps showing the range used by collared female boreal caribou over a 3-month period. These maps are circulated to those First Nations involved in the program as requested. We also continue to assist and provide location data to the SKDB track count program that was established in spring 2007 and will run through spring 2008.

Even though we were delayed in capturing caribou we were able to submit the fecal samples collected for the analysis of diseases and parasites. We have also been submitting fecal samples provided to us by SKDB as part of their track count program.

Discussion / Conclusions:

We will continue to monitor the satellite collared animals through spring 2010 when the majority of the collars will have released. The VHF collars are not programmed to release until 2011. We will continue to endeavour to retrieve any collars from caribou that may die during the remainder of the program so they can be made available for redeployment. We have forwarded those collars in hand for refurbishment.