

# NWT WILDLIFE RESEARCH PERMIT APPLICATION 2019

**ONGOING PROJECT:** [ongoing]

**APPLICANT:**

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**SPONSOR(S):**

GNWT Environment and Natural Resources, GNWT

**FUNDING SOURCE(S):**

GNWT Environment and Natural Resources, GNWT

**ADDITIONAL LICENSES REQUIRED:**

NWT Wildlife Care Committee permit/authorization for capture/collaring caribou.

**PROJECT TITLE:**

Monitoring of the Bathurst, Bluenose East, and Beverly caribou herds.

**RATIONALE:**

In order to insure that barren-ground caribou herds remain healthy, a number of monitoring actions must be undertaken on an annual basis to provide decision makers with relevant information to address management objectives. The following monitoring actions are considered part of the core monitoring program regardless of the status of the herds.

- 1) The use of satellite collared caribou hugely facilitates the monitoring of movement and distribution of migrating caribou on a weekly basis. For that purpose, ENR now plans to deploy and maintain up to 70 collars on the Bathurst herd (50 on cows and 20 on bulls).

Currently, there are 31 collars on Bathurst caribou (18 cows, 13 bulls). Therefore,

39 more collars (32 cows, 7 bulls) will likely be deployed by mid-April 2019 that will bring the collar total to 70. Some previously collared caribou could die or their collars drop in the interim, but increasing the total number of collars Bathurst caribou to 70 should mitigate this.

Currently, there are 44 (26 cows, 18 bulls) on Bluenose East caribou and only another two collars are expected to drop by late winter 2019. Therefore, 8 more collars (5 cows, 3 bulls) will likely be deployed by mid-April 2019 to bring the collar total to 50.

Currently, there are 36 (19 cows, 17 bulls) on Beverly caribou. Therefore, 14 more collars (11 cows, 3 bulls) will likely be deployed by mid-April 2019 to bring the collar total to 50. However, another six collars may drop by late winter 2019 which would reduce the collar to less than 50.

A systematic reconnaissance survey may also be conducted in March to locate major concentrations of Bathurst, Bluenose-East, and Beverly caribou. The location of existing satellite collars prior to the survey as well as the results of the systematic reconnaissance survey will be used to allocate collar deployment effort.

Satellite collars are needed to; 1) follow movement and distribution of caribou, 2) quantifying cow mortality, 3) planning the design of various caribou surveys including the calving ground photographic survey and 4) better assess and partition harvest pressure on various herds. The location of satellite collared caribou is also used for planning community hunt when requested by aboriginal leaders.

- 2) The spring and fall composition surveys are also two important indicators of caribou herd health.

The late winter calf survival survey (spring recruitment survey) provides a measure of calf survival as they reach 9 months of age and an index of recruitment for the herd. Normally, this survey is conducted late March or early April every year to provide a long term trend assessment of productivity regardless of the status of the herds.

- 3) The fall survey is conducted during the rut (mid-October) and is designed to assess the ratio of bulls to cow in the herd. Usually a herd in decline and/or at low numbers will have a low sex ratio. Knowing the sex ratio is also needed to extrapolate to the total population estimate when a calving ground photographic survey is conducted.

A fall survey to determine sex ratio is also planned for the Bluenose-East herd in October 2019 *if funding is available*.

## **TIME PERIOD:**

February 18, 2019 –April 15, 2020.

**LOCATION:**

Monitoring areas will extend from Deline, South of Great Bear Lake, Keller Lake and Grandin Lake, and all areas between the communities of Behchoko, WhaTi, Gameti, Wekweeti, Dettah, Lutsel K'e and the area between Great Slave Lake and the mining locations of Snap and Kennady Lake, and over to Aylmer Lake, Clinton-Colden, and Artillery Lake to Whitefish Lake and possibly Penylan Lake.

**SPECIES:**

Barren-ground caribou

**Project Lead:**

Dean Cluff

**PROJECT PERSONNEL:**

Stefan Goodman  
Staff of North Slave ENR  
Community caribou monitors, elders and youth.

**OBJECTIVES:**

1. To continue to acquire location data from satellite collars currently deployed on up to fifty (50) cows and twenty (20) bulls on the Bathurst Caribou herd, thirty (30) cows and twenty (20) bulls for the Bluenose-East herd, and thirty (30) cows and twenty (20) bulls for the Beverly herd.
2. Estimate annual calf survival in March-April 2019 for the Bluenose-East, Bathurst caribou, and Beverly herds, and compare herd trends.
3. Estimate fall sex ratio for the Bathurst and Bluenose-East herds in October 2019.

**METHODS:**

1. Satellite collars are programmed to transmit locations throughout the year.
2. These locations are acquired from Service Argos and mapped weekly using ArcGIS software and distributed to user groups by fax and email.
3. Satellite locations of the Bathurst herd are used weekly during the hunting season to create boundaries for the mobile conservation zone.
4. A systematic reconnaissance survey may be conducted to determine spatial distribution of wintering barren-ground caribou in the North Slave Region as well as pattern of density. A Cessna Caravan is often used for this work and transect lines will be flown at 20-40 km interval on the wintering grounds of the Bathurst, Bluenose-East, and Beverly caribou herds.

5. Results of a systematic reconnaissance survey indicate where collaring efforts need to be proportionally and adequately allocated for both the Bluenose East and Bathurst herds.

An experienced helicopter pilot and capture crew will be employed to conduct collaring operations. Each day of the capture operation will likely include 5-6 captures. The capture crew (net-gunner and handler) is not yet identified but we will be using extensive and current experience net-gunning caribou in our selection criteria.

A group of caribou is approached so that one animal can be isolated from the others. Pursuit will be kept short ( $\leq 1$  min of running), and will be terminated when the target animal show signs of fatigue (stumbling, open mouth breathing). A group is not re-pursued even if a capture is missed or successful. A net-gun is fired over the isolated caribou cow. The preferred terrain is snow-packed frozen lakes, which provide good footing. Captures are not attempted in rugged terrain or in thickly forested areas. The net is fired over the caribou, which then usually tangles itself and falls to the ground. At least two capture guns with loaded nets will be available to the gunner for each capture. The second gun can be used to reduce chase duration if the first net missed the target animal or to re-net an animal if the first net did not provide adequate restraint. The helicopter lands immediately and two people approach the animal to hold it down. The legs are tied to minimize struggling, the eyes are covered to reduce visual stress, and the pulse and breathing rate are visually monitored throughout the handling. The animal is restrained laterally and the head and neck are positioned so that the animal can breathe normally and belch gas from its belly. The animal's age class is assessed from the state of its incisors. The capture crew minimise conversation and try to keep as quiet as possible to reduce stress.

Handling of most caribou lasts 15 minutes or less. First the condition is quickly visually assessed and the animal checked for any capture-related injuries. The net is removed. Only caribou in good physical condition (based on fatness) are collared. The satellite-collar is fastened around the animal's neck and photos will be taken of the caribou's head with the collar number displayed in the image and the incisor tooth wears. Once the collar is fitted, the animal is ready to be released, the legs are untied, the blindfold removed and the animal is released. Once released, the caribou usually springs to its feet and runs off. Further monitoring is not usually needed. All collars deployed have a breakaway device that drops the collar on the ground at a pre-determined time. The caribou does not need to be handled again.

No remotely injected immobilizing drugs will be used. Handling of caribou will comply with the Policy/Directives/Guidelines on Wildlife Immobilization Drug Use in the NWT-ENR Operations Manual and NWTWCC Boreal Caribou Capture SOP. Animals will not be collared in the vicinity of any communities or camps so animals will not be harvested within 12 hours of capture. To reduce handling time - no measurements will be taken; however, blood samples will be collected to assess pregnancy status.

Capture operations will be terminated if temperatures (including wind chill) are below -30°C or above -5°C. The caribou will be caught on small frozen lakes to minimize the risk of injuries.

Contingencies include injuries during the net gunning. The handler and net-gunner will assess the injuries. A broken antler would be re-cut with a hand saw to smooth the broken edge. A broken leg or other broken bones will require that the caribou be shot (helicopter will carry a firearm). If there are any human safety concerns over shooting; the handler will pith the caribou.

6. Results of the systematic reconnaissance survey, local information as well as the satellite-collared caribou cow locations will determine the areas to be sampled during a March-April 2019 calf survival survey. A helicopter will be used to place the field crew near caribou. Caribou will be classified as calves, cows and bulls mostly from the air with image stabilizing binoculars, but classification from the ground using a spotting scope may also occur.
7. Local information, satellite-collared locations and the result of the non-systematic reconnaissance survey will determine the areas to be sampled during the October 2019 Bathurst/Bluenose-East/Beverly fall survey. A helicopter will be used to place the field crew near caribou. Caribou will be classified as calves, cows and bulls mostly from the air with image stabilizing binoculars, but classification from the ground using a spotting scope may also occur.
8. Further aerial surveys (helicopter or fixed wing flown no lower than 300 m agl) will only be conducted if unexpected events make it necessary to investigate caribou distribution over the Bathurst/Bluenose East/Beverly caribou ranges.

#### **CURRENT CONSULTATION:**

Current level of sampling and related methods has been discussed during the consultation with the Tłıchǫ Government for the development of the next TG/ENR Joint Proposal for the recovery of the Bathurst herd after June 2019.

A similar parallel process took place during the consultation for the development of the agreement between ENR and the YKDFN on the monitoring and management of Bathurst caribou until 2016, and then to 2019. Discussions are currently taking place to update the caribou monitoring program with the YKDFN and the LKDFN.

#### **FUTURE COMMUNITY CONSULTATION PLAN:**

Information collected will be shared with Indigenous governments and communities at least once a year at the time and location determined by community leaders.

#### **PROPOSED USE OF LOCAL KNOWLEDGE:**

Information from the communities will be used to interpret movements and distribution of caribou for the spring and fall composition counts.

## **OPPORTUNITIES FOR LOCAL PARTICIPATION:**

Elders and hunters are invited to participate in the systematic reconnaissance and late winter classification surveys.

## **MANAGEMENT OR RECOVERY PLANS:**

The monitoring actions described above are identified in the joint Tłıchǫ /ENR proposal for the recovery of Bathurst Caribou as well as in the ENR and YKDFN agreement.

These monitoring actions were also proposed in the 2004 Bathurst Caribou Management Plan and will also be part of the new NWT Barren-ground Caribou Management Strategy.

Current monitoring actions proposed for Bluenose-East caribou herd are also identified in the Cape Bathurst, Bluenose-West and Bluenose-East Management Plan (Taking Care of Caribou, 2014).