



## Maternal Penning to Enhance Survival of Caribou within the Klinse-Za Herd

External: Issued April 11, 2022



Days in pen → 32

Days until release → 112

### Cows are well adjusted to maternity pen

With four weeks since capture, all the animals in the pen appear well adjusted and content with their new home. All nineteen cows are behaving normally and appear completely healthy. As in previous years, in the first few weeks they were fed a diet comprised primarily of terrestrial lichens, and over the course of the last four weeks we slowly transitioned them over to pellet feed. Currently they are eating between 40-60kgs of pellets a day. Though they would normally be eating more pellets by now, the new Bickford pen has a substantial amount of natural arboreal lichen, something the caribou have been taking advantage of as it is one of their favourite natural foods (Figure 1).



Figure 1. Example a tree laden with arboreal lichen.



## Pregnancy

Blood collected from the caribou was tested to confirm pregnancy; the results (determined by PSPB, a pregnancy specific protein) indicated that 17 of the 19 cows were pregnant. So far this year has been a record breaking year for the number of cows in the pen and is setting up well to be a record for the number of calves born in the pen! The previous record number of calves born in the pen was 13 from both 2019 and 2021. Though over the years most of the calves born in the pen have been males (58%), we're hoping for a few more females this year.

Two of the cows brought to the pen are yearlings, born in the pen during the 2020 season. Though pregnancy of yearling cows is rare, the nutritious head start the maternity pen provides appears to give them a better chance. Including this year, pregnancy rates for previously penned yearlings has been 100%, and over the past eight years all have produced calves! We keep our fingers crossed both are able to produce healthy calves.

Two of the nineteen cows were not pregnant this year. Among them was C315S, one of the very first caribou caught at the start of the Klinse-Za caribou maternity penning program back in 2014. Though she is older now (estimated to be over 12 years old), she's produced at least five calves in the last eight years, four in the pen and one while free-ranging, with three of the calves from the pen becoming successful recruits in the population in March of the following year. As you can see from the photos below, what also makes her unique is that she is one of a few caribou that never grow antlers (Figure 2). Caribou are the only member of the deer family where both males and females grow antlers. Though relatively uncommon in mountain caribou, in some cases such as C315S, females simply don't grow antlers.



Figure 2. Caribou C315S from the first time she was in the maternity pen on Mt. Bickford in 2014 (left) and her return in 2022 (right).



## Collaring free-ranging cows

In the past eight years, calf recruitment for cows outside the pen (free-ranging) has been low compared to cows held in the pen. In March of 2022 there were 0.83 calves per cow in the pen compared to 0.38 calves per cow in the free-ranging cohort. To figure out what is causing this discrepancy we decided to use a combination of frequent aerial surveys and the use of video collars to help determine: 1) if free-ranging cows are indeed producing calves, and 2) to determine if and when those calves are dying. Shortly after the pen captures in March this year we deployed nine video collars on free-ranging cows in the Klinse-Za. Compared to our normal GPS collars, these video collars are slightly smaller, meant for short term deployments of up to 1 year, and have a camera lens at the bottom (Figure 3). In order to capture video of what's going on, these collars are modified so that the camera is at a slight downward angle. This ensures the video captures more than just the chin of the caribou once the collar is deployed.



Figure 3. Examples of a video collar (left) and a regular GPS collar (right) that are commonly deployed on Klinse-Za caribou.

An example of what this looks like is shown in Figure 4, where a cow from 2021 munches on some arboreal lichen shortly after giving birth to a calf. From this image you can see this calf has been licked clean of the after birth and its ears are up while it's lying down, a clear indication it was born alive and cared for by the cow. This calf was never seen on our frequent aerial surveys and, using video collar footage,



Figure 4. A snapshot from a video collared cow in 2021 with her newborn calf.

disappeared within 24 hours of being born. Though we don't know what happened to this calf, without the video collar footage we never would have known this cow even had a calf, and demonstrates just how ephemeral the life of a newborn calf outside the pen can be.

With 11 GPS collars and 9 video collars deployed on 20 of the 24 free-ranging cows this year, we hope to identify factors limiting calf production in the free-ranging cohort. This improved understanding will allow us to then make recommendations to mitigate the limiting factors and improve the likelihood of achieving the intended outcome of expediting a self-sustaining caribou population in the Klinse-Za. We





first tested this method out in 2020 with great results, and so have continued on with this way of documenting free-ranging calving events in 2021 and now again in 2022.

With the start of the calving season roughly a month anyway, we are hopeful there will be about 17 new calves in the pen and several more from free-ranging cows. Thank you to all those involved in the capture process, everyone working behind the scenes, and all those who make this project possible through continued funding support!



Figure 5. Nine of the 19 caribou in the main feeding meadow at the Mt. Bickford maternity pen.



## The teams:

- Nîkanêse Wah tzee Stewardship Society
  - West Moberly First Nations (Chief Roland Willson/Tamara Dokkie)
  - Saulteau First Nations (Estelle Lavis/Naomi Owen-Beek)
- Caribou Mat Pen Working Group<sup>1</sup>
  - West Moberly First Nations (Tamara Dokkie)
  - Saulteau First Nations (Naomi Owens-Beek)
  - Wildlife Infometrics (Scott McNay)
- Mat Pen Technical Advisory Team<sup>2</sup>
  - FLNRO (Caeley Thacker)
  - FLNRO (Mike Bridger)
- Support teams – capture specialists, veterinarian team, Guardians, lichen collectors

## Thanks to our sponsors<sup>3</sup>



<sup>1</sup> The Caribou Mat Pen Working Group is a committee appointed by the Nîkanêse Wah tzee Stewardship Society.

<sup>2</sup> The Mat Pen Technical Advisory Team is an ad hoc committee chosen by the Working Group to obtain technical advice.

<sup>3</sup> Current and historic