



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

External: Issued Sept 22nd, 2022



Figure 1. All of the caribou (18 adult females and 16 calves) in the main meadow of the pen, the evening prior to release.

Days in pen → 164

Days since release → 32

Late arrival at the pen

Just one day after issuing our previous newsletter announcing calving had concluded at the pen, the last pregnant cow, who we believed had a failed pregnancy, finally gave birth. Born on July 2nd, beyond the typical calving period of Klinse-Za caribou, the seventh female pen calf was born bringing the total number of calves alive in the pen to 16; ten males and six females (accounting for one female calf that died shortly after birth). Calving this late in the year is rare and has only occurred once before in the Klinse-Za pen during the 2020-2021 season.



Release at the pen

Release was a busier time than usual at the pen this year. One of the calves, a nine week old male, was having difficulty breathing, a sign that the collar was not expanding properly. On Aug 19th it was decided that intervention was necessary to break the stitches and expand the collar before release could occur. Following lessons learned recapturing 4-6 week old pen calves the previous year, we decided the safest method to recapture this calf was using a drive net rather than chemical immobilization with a dart gun. A 3 x 50 meter long drive net was placed on the ground across one of the main pathways the caribou use to get around the pen. Laying the net on the ground ensured no other caribou would be caught. Once the distressed calf was close enough to the net, it was quickly raised and the calf walked into it. Once captured, the collar was expanded and the calf was released. Within 20 minutes the calf was breathing normally and showed no signs of distress. Though we are unsure why only this collar failed to expand properly out of the 16 deployed, extra stitching or a stronger thread used on this collar are likely causes. We are confident the remaining stitches will release as intended.

Following the positive reaction of the distressed calf to the collar expansion, release went ahead as planned on Aug 20th. We opened up two wide sections of the pen, and placed the six troughs laden with terrestrial lichen just outside to entice the caribou out of their home for the last six months.



Figure 2. A few of the first caribou to leave the pen.

All 36 caribou, including the orphan “38”, left within two days of opening the pen. As usual, many of the cows left without incident, however it took a few attempts for some calves to leave the pen, the only place they’ve known their whole lives thus far.



Calf 38

Though initially calf 38 left the pen in a group with some other calves, over the past few weeks they have moved off to other areas, leaving him alone. Just yesterday, 38 moved over Mt. Bickford for the first time and is now only a short way from a large group of caribou that we expect will winter in the area. In the next few weeks we hope that 38 will meet up with some of these caribou, improving his chances of making it successfully through the winter. In the weeks leading up to release, 38 was being weaned off bottle milk to encourage a transition to natural forage. In the last week prior to release, 38 was entirely reliant on a diet of pellets and natural forage and we're happy to report he still managed to put on weight, recorded remotely by trail cameras.



Figure 3. A trail camera photo of calf 38 on the weigh scale the day before release

Free-ranging calf survival

Following our busy spring of calf surveys and calf capture, we determined that of 21 collared, free-ranging cow caribou, 17 calves were born alive, another was likely stillborn, one cow died during the season and was unlikely to have produced a calf, and two others showed no signs of having had a calf. In May/June we captured and collared 12 of 17 free-ranging calves outside the pen. Over the course of the spring, six calves died, five of which were collared enabling us to investigate the mortalities and determine a cause of death. In two cases, the calves had been abandoned shortly after capture; the first two cases that Wildlife Infometrics has recorded in over 130 observations of calf captures in the past 23 years. The cows in these two cases were ~ 2-3 years old, and the calves were likely their first. We believe the naiveté of these cows with calving, in association with the capture is likely why their calves were abandoned. Learning from this, we have augmented our protocols to avoid capturing calves born to 2-3 year old cows. Two of the other calves that died were killed by wolverines within the first two weeks of birth. The other calf that died was killed in an avalanche, likely caused by the calf itself or the cow.



Figure 4. The mortality scene where crews found a two week old calf that was killed in an avalanche. Tracks indicated that the calf was at the top of the ridge when the avalanche was triggered.



Post Release

Following release, the Guardians conducted additional maintenance on the pen in preparation for the 2023-2024 season. This included repairing the release section where the fence was opened up so that no animals could accidentally wander in, taking down the electrical fences (nearly 20km of wire), and storing camp equipment, supplies and gear securely where it will be easy to locate next February when there will be 2-3 meters of snow on site. In anticipation for the penning season, community members will also be out picking terrestrial lichen, the goal for which is roughly 320kg of lichen to feed the caribou once they arrive in the pen.

Though 38 may not be with other collared caribou, because he successfully left the pen and is foraging on his own, we think he stands a good chance of becoming a successful recruit in the Klinse-Za herd. Stay tuned over the next few months as we continue to monitor 38's movements. As for wildfires in the herd area, so far the Battleship Mountain and Amoco wildfires, now mostly extinguished, do not appear to be affecting the Klinse-Za caribou.



Figure 5. Orphan calf "38" the week prior to release.

Rochfort maternity pen restoration



Figure 6. Planting scrub birch seedlings in the alpine habitat within the pen.

This summer, a crew of five spent three days at the Rochfort pen site working to restore the area within the pen. As a result of the caribou living inside the pen for ~five months of the year, and from general pen operations, the vegetation within the pen has been degraded. Lichen in the pen has been significantly reduced due to heavy foraging, and shrubs such as willow and scrub birch have been browsed to the point where many have died or become stunted. Since Mount Rochfort lies within critical winter and calving range for the Klinse-Za herd, the restoration of this site to expedite the return of valuable forage is important.

With this in mind, our goals were to restore the site by planting scrub birch, willow staking, lichen transplanting, trail obstruction, and initiate monitoring of the site. Approximately 3,760 scrub birch (*Betula glandulosa*) seedlings from Twin Sisters Native plant nursery were planted over the course of three days. They were primarily planted in the meadow, alpine and surrounding subalpine habitats



within the pen, which is where most of the naturally occurring shrubs have been degraded. Two species of willow were staked more as an experiment to see if they would survive being planted so late into the season. Ten bags of cladonia lichen were transplanted in the alpine and they were strategically placed in areas with no moss or plants to out-compete the lichen and under trees or near rocks to help them establish and not blow away in the wind. Leftover debris from the pen was used to discourage use of a trail leading from the cabin to the alpine, previously used for predator monitoring, and to encourage the return of natural forage along this linear feature. Any remaining debris or scrap wood from the pen dismantle was cleaned up as well.



Figure 7. Transplanting cladonia lichen in the alpine.

Year two of this project will include assessing the survival of the scrub birch, willow stakes, and lichen recruitment, and to decide if future in-fill planting would be required. Use of the trail will also be monitored and a sign will be installed to further discourage the use of it. Even though it has only been one summer since the dismantle of this pen, most of the vegetation is recovering well on its own, with new shoots of willow and scrub birch growing and other plants returning to barren areas within the pen.



Figure 8. On the left is the trail leading to the alpine before obstruction, and on the right is after obstruction.



Thank you to all those involved with the maternity pen, particularly the Guardians who watch over the caribou for six months out of the year, and everyone who stepped up to help feed the orphaned calf, we needed some extra support this season and were very grateful to receive it. Thank you to everyone working behind the scenes, and all those who make this project possible through continued funding support!



Figure 9. The primary 2022 caribou Guardians and orphan calf caregivers, left to right: Reign Walker, Starr Gauthier, Alex Nash, Lucas Talving, and Max Nishima.



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 Group¹
 - West Moberly First Nations (Tamara Dokkie)
 - Saulteau First Nations (Naomi Owens-Beek)
 - Wildlife Infometrics (Scott McNay)
- Mat Pen Technical Advisory Team²
 - FLNRO (Caeley Thacker)
 - FLNRO (Mike Bridger)
- Support teams – capture specialists, veterinarian team, Guardians, lichen collectors

Thanks to our sponsors³



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

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

³ Current and historic