

### *Background and Introduction*

The following provides a short summary of the general process involved in evaluating potential high-elevation caribou maternity sites as well as the findings and discussion following a field investigation. To guide the site selection and evaluation process, a committee was formed which consisted of caribou biologists, provincial caribou representatives, Revelstoke Rearing in the Wild Society board members, and former caribou shepherds.

The general criteria for selecting and evaluating sites surrounded finding a site that was relatively high in elevation (i.e. greater than ~1300m ASL), contained relatively low-angle terrain, had good soil drainage, contained access to water, and was within the 'hub,' or in close proximity to the hub, of the Columbia North caribou subpopulation. Initial consideration was given toward sites that were accessible by roads only as well as those that required boat/ferry access and road access (i.e. sites on the west side of Lake Revelstoke, similar to the RCRW pen) however, after considering the boat access challenges that have occurred at the existing RCRW pen site when the Lake Revelstoke freezes, and the added complexity involved in moving personnel and equipment via boat, boat access sites have been eliminated from consideration at this time.

To further narrow down prospective sites, the site-selection committee discussed and evaluated the pros and cons of each suggested site location. Initially, GIS was highlighted as a method to narrow down prospective sites by modelling several terrain and other biophysical parameters (distance to road, distance to water, slope angle, etc.). However, given that little low-angle terrain exists in the mountains within the range of the Columbia North caribou subpopulation, it was decided that site selection could be done through use of Google Earth and/or ortho-imagery by individuals with extensive knowledge of the area and the terrain. As no suitable area was selected on the east side of Lake Revelstoke (i.e. in the Selkirk Mountains and accessed via Highway 23 North), the selection committee focused attention in the Monashee Mountains on the west side of Lake Revelstoke. Of particular focus were areas in the Upper Seymour River area given the relatively close proximity of plowed roads into Seymour Arm. There were several potential sites considered in this general area both on the north and south side of Pettipiece Pass, in addition to areas in the Upper Adams River area. From this a short list of 3-sites was selected for field investigation and on October 6<sup>th</sup>, 2019, a field investigation was conducted to further investigate the suitability of each site (sites marked A through C in the image below; Figure 1).



Figure 1. Google Earth image with green dots displaying the locations of the sites chosen for field investigation. Orange lines mark the road access routes.

### General Findings

From the field investigation site C was found to be the most suitable location. The terrain surrounding site B was also considered suitable from the air however, the existing road section between sites C and B has recently been deactivated; a process which has removed at least 20 culverts and 1 bridge. Given this, and the fact the road would have to be re-constructed to access site B for prospective penins, this site location was discarded, and no on-ground investigation was performed.

A ground investigation was performed to view the terrain surrounding site A but in general, the terrain was not as favorable as sites B and C as there was little low-angle terrain (averaged ~25-30%) and little available surface water. Lower angle terrain existed at higher elevations above this site (i.e. above around 1700 m) however this would mean having to 'pen' at subalpine elevations with no road for access (only an ATV trail links the upper resource road to higher elevations in this area). Further, the road into site A is longer than the access into B and C; a road that is also the access for the Seymour Arm Snowmobile Club/Mount Grace Rescue Cabin which is found immediately up the road from the proposed site A location.

### Site C notes.

- Site was generally comprised of a thrifty, open, uneven-aged forest stand with a dense shrubby understory (black huckleberry, oval-leaved blueberry, white-flowered rhododendron).
- Located at ~1450 m elevation and occurs within current caribou GAR protected area.

- Approximate road distance is 36 km from the Seymour Arm community.
- The forest stand had no noticeable forest health issues nor any significant blowdown.
- There is no avalanche hazard concerns for access into the area, nor avalanche concern at the site itself.
- No observed geotechnical issues were observed onsite or in the general area.
- The slope angle throughout the site was generally <10-15% with small undulations and areas of shallow bedrock as well as areas small moist depressions and standing water.
- Road access into the site was still in good condition with exception of a 1-1.5 km section that appeared to contained drainage issues as there was standing water over sections of the road.  
**Note:** with evidence of deactivation beyond site C, it would be good to know who has the road permit in this area and what their plans for this road are. If there is consideration toward pursuing penning in this location, the road permit/status should be evaluated with consideration toward taking over the road permit.

*Photographs*



Figure 2. Aerial image of proposed site A.



*Figure 3. Aerial image of proposed site B.*





Figure 4. Aerial image of the area surrounding proposed site C.



Figure 5. Aerial terrain profile of proposed site location C area.





Figure 6. Images displaying typical forest conditions at proposed site C showing open forest with dense shrub understory (left) and areas of standing water (right).

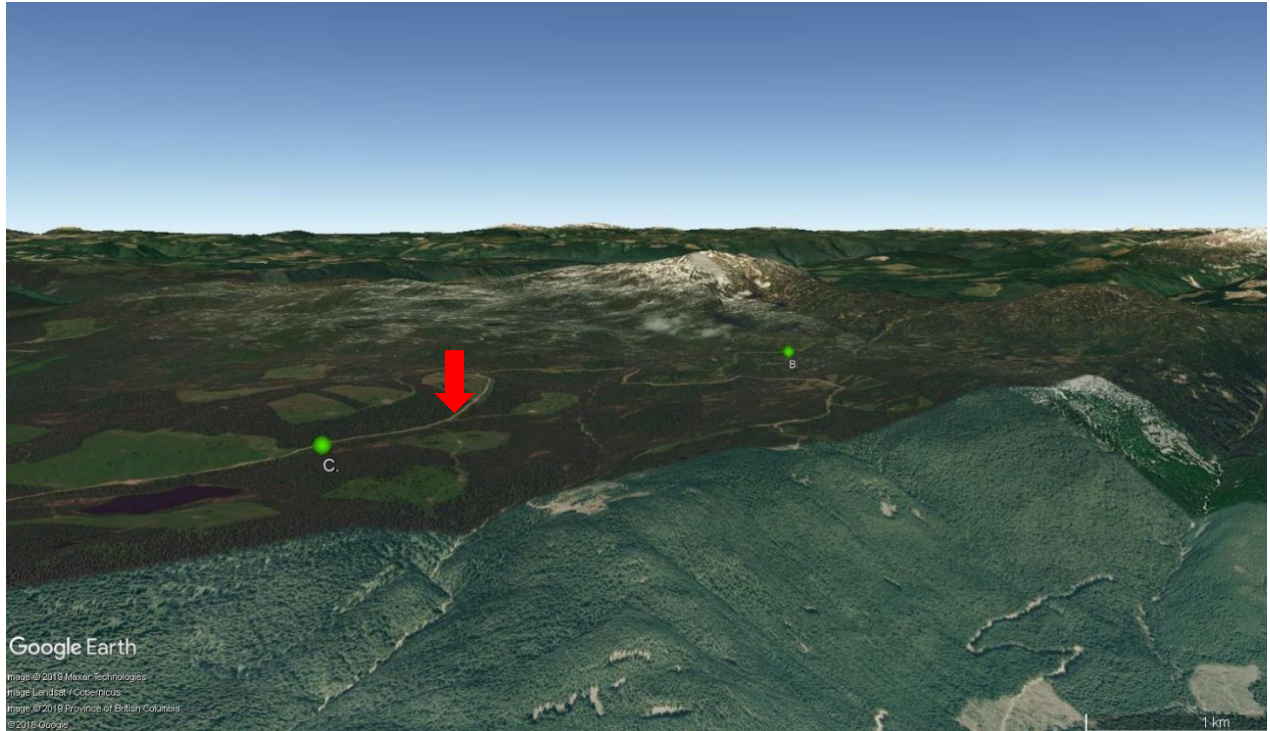


Figure 7. Google Earth terrain view of sites B and C. The road between B and C has been deactivated beyond the area indicated by the red arrow (approximate location).