

# Bulkley Valley Nordic Centre

## Trail Plan 2025 to 2029

This plan describes the Bulkley Valley Cross Country Ski Club’s priorities to maintain and improve the Bulkley Valley Nordic Centre’s cross-country ski trail network. The Board of Directors approved the plan February 24, 2025.

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## 1 Background

### 1.1 Trail Improvements in Recent Years

The BV Cross Country Ski Club completed a comprehensive trail plan in 2017, which launched a five-year “Trails for Tomorrow” program. That program focussed on addressing risks from beetle-killed trees, improving drainage and grading, addressing climate change by creating an early season trail network,

expanding the trail network, improving signage, and reducing the effort required to maintain and groom trails. From 2017 to 2021, the club undertook about \$255,000 of work with significant funding from:

- BC Rural Dividend Fund,
- Recreation Sites and Trails BC,
- Wetzin'kwa Community Forest, and
- BV Cross Country Ski Club

Major projects completed from 2017 to 2021 included four new trails (One Click Right, 0.5 km; Wetzin'kwa, 1.3 km; Wild Dog, 3.3 km; and Down the Mountain, 3.1 km), extensive drainage and grading, and installing modern new trail signage. In order to accommodate new trails, several changes were also made to reduce trails that were infrequently used and required "out-and-back" grooming. Due to lack of freezing and risk to machines and skiers, the portion of Pine Creek that crossed the swamp was permanently closed.

A new trail plan was approved in 2022 and guided works from 2022 to 2024. The 2022 trail plan's priorities build on the previous plan, emphasizing improving existing trails through drainage and grading. The plan also identified several new trails to broaden the range of ski experiences and optimize grooming by reducing sections of trail groomed more than once.

Significant works completed between 2022 and 2024 included more grading and drainage, replacement of three bridges and construction of three new trails (Adventure Phase 1, 2 km; Valleyview Connector, 0.5 km; and Swamp Bypass, 1.2 km). In addition, signage was updated to reflect the new trails, an accessible outhouse was built in the lower parking lot and a competition/training trail plan was prepared, which is described later in this plan. Over \$300,000 of funding and donated materials for these works came from:

- BC Destination Development Fund,
- North Pac Forestry Group (donated bridge girders),
- West Fraser Mills Ltd. (donated bridge decking),
- Wetzin'kwa Community Forest, and
- BV Cross Country Ski Club

This new plan for 2025 – 2029 builds on the work of the past 7 years and will guide trail maintenance, planning, and construction for coming years.

## **1.2 Indigenous Territory**

The trails are located on the Cas Yex house of the Gitumd'en clan in Wet'suwet'en territory. Our goal is to increase cooperation and collaboration with the Wet'suwet'en peoples. The club will attempt to engage with the House group through the Office of the Wet'suwet'en before submitting new trail construction requests to Recreation Sites and Trails BC.

## 1.3 Current Situation

As a result of the improvements made in 2017-2024, the trail system is in good condition. Most trails now allow quality grooming on a lower snowpack, extending the ski season. Trail improvements have also made mowing easier and safer, and a smoother trailbed reduces wear and tear on brushing and grooming equipment. The upgrades to trail signage and mapping have substantially improved the ability of skiers to find their way on the trails and to feel welcome to explore.

There are still some areas needing upgrades on the existing trails. The early winter of 2023/24 was very dry, and the low snowpack meant that the snowcat was not able to groom trails until mid-December with some trails not opened until January. The fall of 2024 was very wet and had very few very cold days making early season grooming difficult especially where drainage was inadequate. Climate change is projected to result in fewer cold days, increased precipitation falling as moisture, and more periods of prolonged “drought”. In many respects, the 2023-2024 and 2024-2025 seasons represent the projected future of winter. Trails that are dry and smooth enable the Club to better manage these challenging snow conditions.

While not essential in the short term, there are some problematic trail sections issues that could be upgraded over the next five years as funds are available. A few trail sections are too narrow to accommodate the snowcat’s width. Minor widening will reduce the likelihood of machine damage and allow better use of adjacent snow while grooming. Several sections on our key trails are rough and/or have persistent drainage problems. Trail bed grading and culverts can solve the drainage issue, reduce the risk to mowing and grooming equipment, make maintenance easier for volunteers, and enable earlier skiing on lower snowpacks.

Over the past three years, planning has explored the potential for new trails and minor additions. Any trail system expansion will require volunteer leadership to plan, fundraise and supervise trail projects. Trail expansion also requires consideration of the club’s capacity to groom and maintain the additional trails. The current trail system roughly matches the current capacity of our tracksetting equipment, our normal revenue, and our available workers.

With these factors in mind, the goals for our trail system are to:

- Maintain our current network with regular brushing and inspections,
- Complete upgrades to existing trails over the next five years to adapt to anticipated climate change, make maintenance and grooming easier, and reduce wear and tear on machinery, and
- Pursue targeted trail expansions to meet identified member requests, consistent with our tracksetting and volunteer capacities.

## 2 Annual Maintenance

Annual maintenance includes mowing, hand brushing, inspecting culverts and bridges, maintaining signage, removing hazards and ensuring safety equipment is in place. This current maintenance strategy should continue.

In 2024, the skid steer required significant maintenance, and during the repair, the mechanic advised that the weight and length of our mowing attachment was placing undue wear on the skid steer's undercarriage. The club rented a more compact and lighter mower, and operators noted significant improvement to machine handling and performance, less strain on the skid steer, and increased operator safety/comfort. Thus, replacement of the mower is a high priority for the 2025 summer. In addition, we have been advised to limit skid turning with the mower, effectively reducing the area of where the mower can be used for side brushing<sup>1</sup>.

To ensure there are sufficient volunteer operators of the skid steer, at least one additional mower operator should be trained.

The Trail Coordinator carries out annual inspections of all trails. Recently, the Province directed the club to undertake regular inspections of all bridges that we are responsible for maintaining. The club must now maintain a bridge monitoring ledger that documents inspection results. The Trail Coordinator can undertake annual inspections, with a qualified professional providing a three year review. The ledger will be added to the General Manager's list of responsibilities. Qualified professional reviews and bridge maintenance will add costs to trail maintenance.

Danger trees have been addressed over several years with the assistance of Wetzin'kwa Community Forest and the BC Wildfire Service. Identifying potential danger trees is now an ongoing maintenance requirement for the Club.

### 2.1 Strategy

- Undertake annual trail maintenance to keep trails safe and in good condition.

### 2.2 Priority actions

- Replace the mower for the skid steer.
- Mow all trails annually with skid steer.
- Begin regular volunteer brushing of side brush on selected trails. This will require about 5 km of manual brushing each fall work bee. If volunteer brushing cannot keep up, the club would hire a side brusher periodically; at a cost of around \$250 per hour.
- Recruit and train one additional operator of the skid steer mower for 2025.

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<sup>1</sup> Side brush refers to brush that is away from the main trail bed (eg. in a ditch) and can only be mowed by the skid steer if the machine moves perpendicular to the trail which requires constant turning actions.

- Carry out annual culvert, bridge, and trail inspections in the spring and repair as needed over the summer. Maintain inspection records in a club bridge ledger.
- Carry out annual signs and safety checks.
- Identify potential danger tree hazards during trail work and grooming. Only qualified fallers will be used to cut down trees. (i.e. BC Wildfire Service or a certified faller)

## 3 Improving Existing Trails

### 3.1 Strategy

As funding allows, complete drainage, grading and other improvements to allow quality grooming on a low snowpack on 80% of the trail network and to reduce the risk of damage to mowing and grooming equipment. As funding allows, replace cables with gates to reduce public traffic that causes rutted trails.

The high and moderate priority improvements listed below are estimated to cost \$100,000<sup>2</sup> and could be addressed within the next five years if the Club supports it with fundraising and grant applications that leverage a base operational budget.

### 3.2 Actions: High Priority

- Complete the installation of culverts and ditches on Swamp Bypass (not completed during 2024 construction due to very wet conditions). Cost: ~ \$3,000 (relying on existing stock of culverts)
- Grind stumps and level trailbed on the Adventure trail to allow Ginzu grooming with less risk to equipment. Cost ~ \$4,000.
- Close the upper section of Demo Forest Loop due to perennial streams and the prohibitive cost of installing bridges. Abandon the east arm of the loop but continue grooming the west arm due to its desirable slope and its potential to be part of a future replacement loop. (See Proposed New Trails below for more info.)

### 3.3 Actions: Medium Priority

- Complete drainage and grading of Priority 1 early season trails.
  - Drainage, culverts, and grading on Broadway, Down & Out, Hound Heaven, Pooch Paradise, and Wetzin'kwa. Estimated cost: \$12,000.
- Minor drainage and grading on Pine Creek mid-loop, West Connector, One Click Right, Biathlon, 0.75 km, Northern Lights, Upper Logging Trail, Goldeneye, Down the Mountain, Valleyview, and Wild Dog. Estimated cost: \$25,000 to \$40,000.

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<sup>2</sup> The \$100,000 estimate does not include any of the proposed trail expansions.

- Staging Area Drainage: The staging area accumulates water in some places and could be levelled and drained to improve snow retention in wet early seasons. Estimated cost: \$5,000 to \$10,000.
- Grading and widening on Wild Dog. Estimated cost: \$5,000.<sup>3</sup>
- Replace cables with gates on Wetzin'kwa (2 gates), Upper logging road, West Connector, and Valley View. Simple farm style gates cost about \$3,000 each but can easily be bypassed. Steel gates like the ones we already have cost about \$9,000. Estimated cost: \$15,000 to \$45,000. (depending on the type of gate).
- Significant grading on Perimeter, and Hilltop; the Perimeter trail above the wall requires a rock hammer on selected locations. Estimated cost: \$10,000 to \$15,000.

### 3.4 Actions: Lower Priority

- Lower parking lot drainage: The lower parking lot could be regraded to reduce the flow of water across it in the late winter, reducing the sheet ice that builds up. The estimated cost is \$5,000.
- Gravel<sup>4</sup> trail surfaces; gravelling the trail surface on priority one trails (i.e. Broadway, logging roads, Pooch Paradise, Hound Heaven) would improve snow retention in the very early season and extend the ski season. Selected gravel on places like the staging area would help get skiers through areas that are bare when other trail sections can be skied. The cost is \$10,000 to \$20,000 per km. This is likely needed in the medium to long term to address climate change.
- The following could be assigned a higher priority after design and costing within the Training/Competition Trails project. (See Proposed Trails):
  - Rock hammer work and potentially some realignment on Hilltop. Cost estimate not available.
  - Grading and potential rock hammer work on Racer's Corner and Alternative (at junction F). Cost estimate not available.
  - Berminator (0.4 km twisty, hilly, kid trail that is enjoyed by advanced skiers young and old) requires significant upgrades before the trail could be groomed with the snowcat. Upgrades will not be considered outside of the Training/Competition Trails project (see Section 4.2.3), so in the meantime this trail will only be groomed occasionally with small machines.

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<sup>3</sup> \$5,000 upgrade on Wild Dog works out to \$1,200/km, or 12% of the cost of a new trail in that terrain.

<sup>4</sup> The type of gravel chosen and how it is applied needs to consider the risk of getting gravel into the snow profile during grooming.

## 4 Expansions to the Trail Network

### 4.1 Considerations

While our trail system is diverse and quite large, there continues to be requests for expansions to meet some skiers' desires. Key areas identified are an improved ski playground, more dog trails, dog-free access to Pine Creek, and more challenging trails for competitions, training and skill development.

#### 4.1.1 Comparison with other Ski Areas

If all the proposed trail additions described in section 4.2 are built, it would significantly expand our trail system and result in a more balanced system that caters to all skill levels. Our current system is biased towards easier trails compared to most Nordic ski areas. Even with proposed changes, our system will still be weighted to easy trails when compared to other BC ski areas.

Ski area	Total Km	Km Dog trails	Easy %	Intermediate %	Advanced %
<b>BV Nordic; current*</b>	50.2	11.1	60	32	8
<b>BV Nordic; with all proposed new trails</b>	60.9	15.8	54	34	12
<b>Sovereign</b>	50.3	3.1	29	21	50
<b>Blackjack</b>	53.2	4	37	47	17
<b>Telemark</b>	45.4	8	21	46	33
<b>Overlander</b>	56.4	5	28	58	14
<b>Caledonia</b>	51.5	8	30	46	24

Source: based on club trail info on Nordic Pulse.

\*Total km for BV Nordic on Nordic Pulse does not include the existing 2.2 km Adventure trail. The previous total of 51.1 km has been reduced to exclude the section of Demo Forest Loop closed under this plan (0.8 km).

With the proposed additions, the total length of dog trails would increase from 11.1 km (22%) to 15.8 km which would be 26% of our total network. This would be one of the longest dog trail systems in BC.

#### 4.1.2 Pre-requisites

New trails can only be built if and when there are volunteers to lead the projects, approvals are obtained and fundraising is undertaken to fund the work.

#### 4.1.3 Grooming Capacity

While evaluating the following proposed trail expansions, a key factor has been grooming capacity. Currently, with the new Prinoth Bison snowcat, our fleet of small machines and recent weather conditions, we have the capacity to groom all our trails within our budget. If we expand our trail network, we may need to prioritize grooming and may not always have every trail freshly groomed.

Seasons with frequent snow events, may require prioritization of grooming regardless of any trail expansion.

Grooming implications for some of the proposed trails in the next section of this plan:

- Adventure Trail Phase 2 and Competition Trails are expected to have minimal impact on grooming capacity.
- Top Dog Trail would create no grooming efficiencies and would represent an increased grooming demand of ~9%.
- The Pine Creek loop changes have some minor grooming efficiencies and represent an increased grooming demand of ~4%.
- A replacement for the Demo Forest trail could be a negligible increase in grooming as the separate loop would not require the current double grooming of a common section.
- The proposed competition/training trails are expected to be neutral on grooming despite the additional trail sections because they make the network in that area more efficient (eg. 3 way junctions become 4 way junctions).



## 4.2 Proposed New Trails

The following new trail projects are proposed, based on planning in the past three years. To minimize the pressure these new trails would place on limited track-setting resources, these trails have been designed to reduce inefficiencies that result when grooming passes over the same trail section more than once.

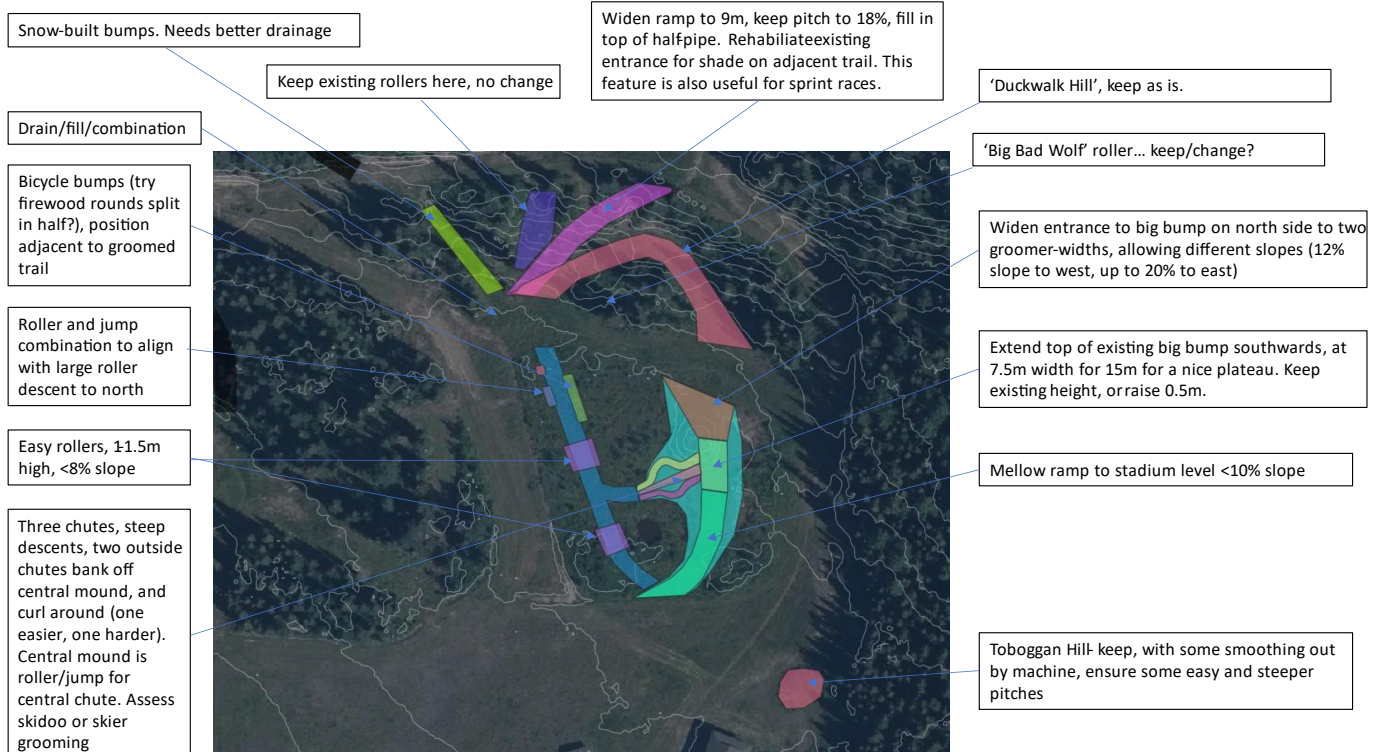
These trail projects could be pursued between 2025 and 2029. Each project will require multi-year efforts with ongoing communications with the Board and club membership. The projects will only be able to proceed if there are sufficient volunteer commitments (leaders, fieldwork expertise, funding application support, etc.), funding, consultation and authorizations. All combined, these additional trails would add 10 km to our current 50 km of trails.

### 4.2.1 Playground

The current set of “bumps” and trails near the staging area could be significantly improved to create a playground that helps build ski skills. A group of coaches has prepared a concept plan that uses many current features and has modified grades and features.

The new playground would cost between \$10,000 and \$25,000 and can be scaled to match available funding.

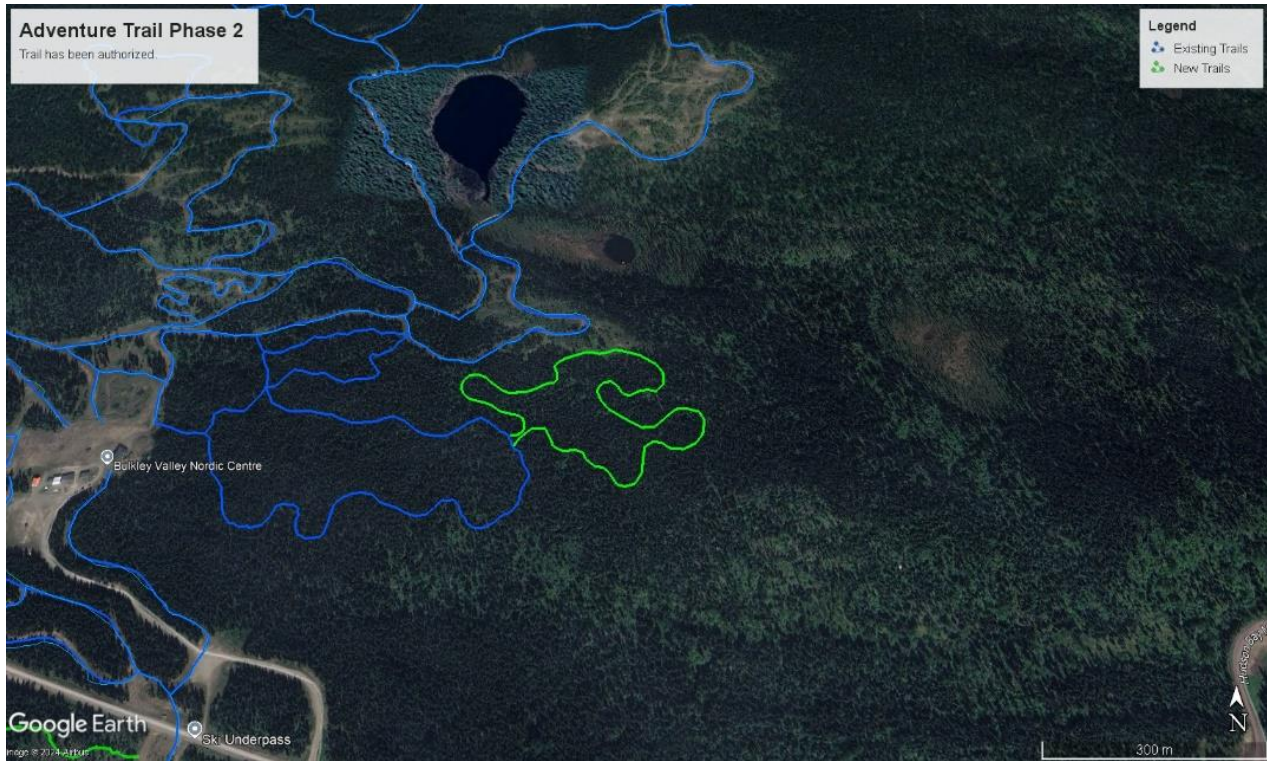
Figure 1: Playground (showing areas of proposed upgrades)



### 4.2.2 Adventure Phase 2

The Province approved the Adventure trail in 2023, but only Phase 1 (2.2 km) has been built as of 2024. An additional 1.3 km loop is approved but not yet built. BC Wildfire Crews have accepted it as a potential work project for 2025, so they may clear the right of way as their time allows. This would leave a small construction budget to grind stumps and level specific sections. The estimated cost is \$5,500.

Figure 2. Adventure Phase 2 (green line).



### 4.2.3 Training/Competition Trails Project

The hill north of the lodge and stadium has been thoroughly assessed for its potential to create more complex and fun training terrain. The BV Nordic trails are generally less challenging than most other ski areas. With the support of a certified ski trail designer<sup>5</sup>, additional trail sections have been identified which meet several objectives:

- create more varied and challenging ski trails that can increase skill development and training. Skills are enhanced when skiers can ski trails that are similar to what they will encounter when they race elsewhere.
- ensure that any new trails also support modern race standards (homologation)  
The current race loops no longer meet modern standards, so if new, challenging trails are constructed to meet the new race standards, the club will have the option to host major competitions that it currently cannot host.
- improve grooming efficiency  
The existing trails around Northern Lights are very inefficient to groom. Replacing 3-way junctions with 4-way junctions makes a big difference.

The resulting **Competition and Training Trails 2024 Master Plan** is separate document but still an integral part of the Club's Trail Plan 2025 - 2029. Download the [Competition and Training Trails Master Plan](#) from the BVNordic.ca website on the Trail Plan webpage.

The proposed trail additions allow the Club to groom all major race lengths and formats while meeting modern standards. By considering grooming efficiency in the design, the plan would involve the construction of about 3km of new trails and widening selected sections of trails<sup>6</sup>, with no or little change expected in grooming load.

The area that contains our competition trails is more challenging to build ski trails than other parts of our trail network (such as the dog trails). Some areas have rock, and there are steeper slopes. Because of the terrain and because the trail grades need to be carefully designed, these trails require more detailed pre-development planning and are more expensive to build, with an estimated cost of \$15,000 to \$20,000 per km.

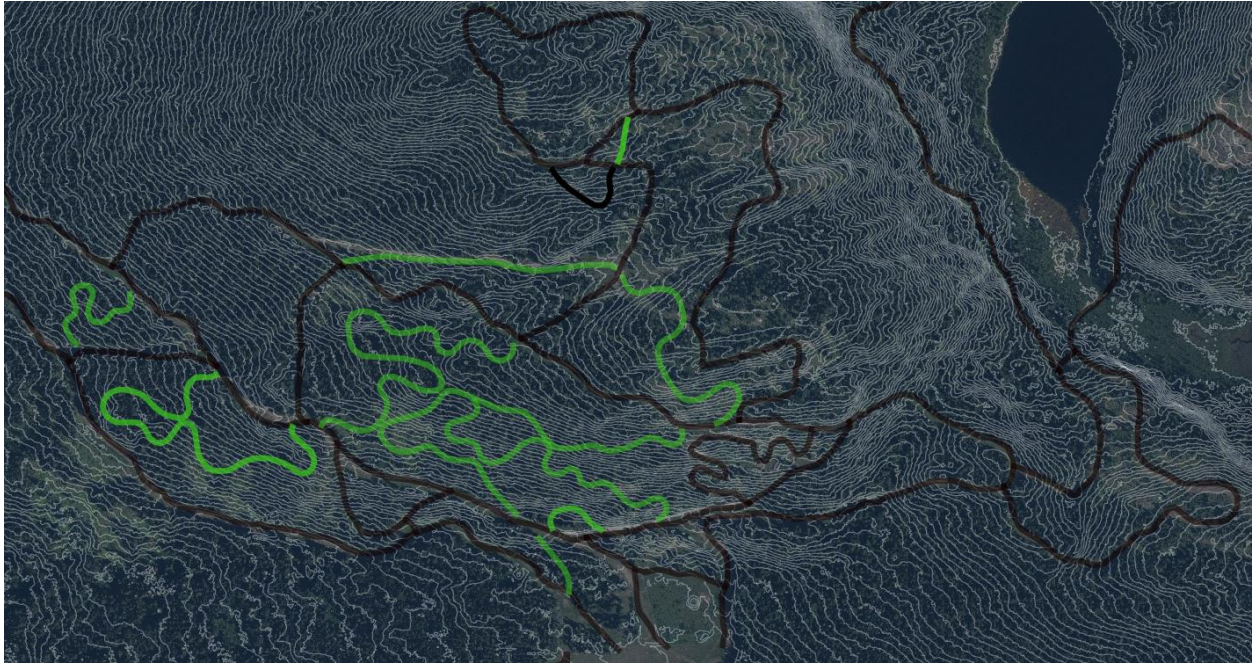
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<sup>5</sup> Consultant Reidar Zapf-Gilje was engaged for this work in 2023-24. He is the same consultant who designed the original Chris Dahlie trails on the lodge side of the road.

<sup>6</sup> Some uphill sections require a 9m trailbed instead of our current 6m trailbed. It is likely that the trail sections that would be widened could be accommodated with little or no removal of trees.

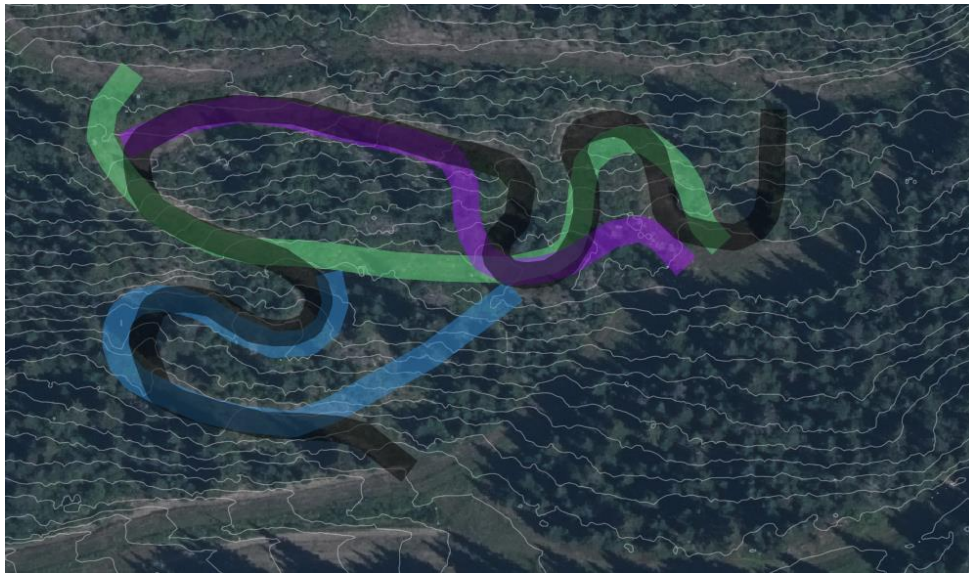


Figure 3. New Competition and Training Trails



During the next stages of the Training/Competition Trail Project (pre-development layout, costing, authorization, development etc.) the project will consider adjustments to improve the Berminator trail.

Figure 4. Berminator Trail (black=existing, purple/green/blue=potential adjustments)



#### 4.2.4 Dog and Pine Changes

Dog trail users frequently request additional trails and there have been requests for dog access to the Pine Creek loops. However, other users of Pine creek do not wish to share those trails with dogs, and the club made a commitment when the first dog trail (Pooch Paradise) was added to not allow Dogs on the Pine Creek Loop.

At the same time, the portion of trail that is currently shared by dog and non-dog skiers past the tunnel creates discomfort for skiers who do not wish to encounter dogs.

To address the demand for more dog trails and to minimize conflict, this project would expand the Dog trails and also create a separation between the Pine Creek loop and the dog trails starting at the tunnel. Due to the synergies, these are combined as a single project.

##### 4.2.4.1 Top Dog

A new easy/intermediate dog trail<sup>7</sup>, about 4.7 km long, has been field-located. It traverses favourable terrain with no streams and relatively easy construction. Most of the trail is forested and so the trail right of way would require harvesting by Wetzin'kwa Community Forest.

##### 4.2.4.2 Revised Pine Creek Access

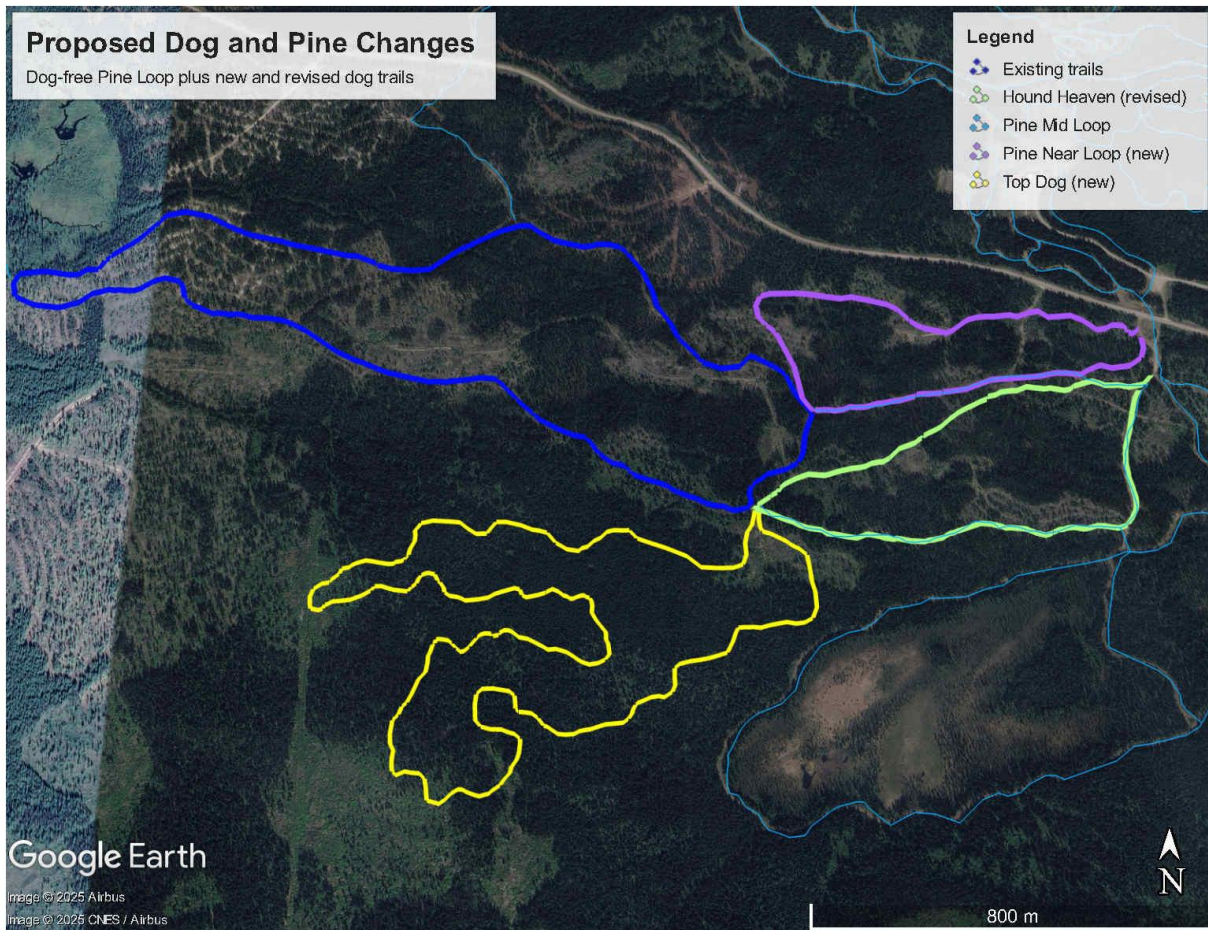
Reopening a section of the old Hound Heaven trail (0.8 km) and adding about 1.6 km of new trail, it is possible to modify the Pine Creek loop to completely separate the Pine Creek loops from the dog trails, starting at the tunnel. The new sections traverse easy terrain with no streams and limited drainage issues. Most of the new trail will pass through existing logged areas, reducing any mature tree removal. Drainage improvements would be necessary to re-open the Hound Heaven diagonal.

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<sup>7</sup> It is less challenging than Wild dog and slightly more challenging than Pooch Paradise or Hound Heaven.



Figure 5: New Top Dog and revised/new trails to provide dog-free access to Pine Loop



### 4.2.5 Demo Forest Loop Replacement

The upper section of Demo Forest Loop is popular due to the special feel of skiing through the large mature trees. However, this section has a rough, narrow trail surface and areas with perennial water flow. Installing bridges and upgrading the surface could cost \$95,000. These upgrades would negatively impact the special, forest skiing experience.

After acknowledging the issues, the Club decided to close the north and east legs of the Demo Forest loop and look at creating an alternate loop that has a similar experience but no stream crossings. Constructing such a loop might cost around \$15,000. As a bonus, a separate loop would be more efficient to groom than the old loop that shares a common section

## 4.3 Future Possibilities

Several trail concepts and projects have been identified. If a project leader is willing to take on the planning, approvals, fundraising, and construction, they will need to seek Board approval to proceed.

### 4.3.1 Upper Mountain Trail:

The concept is to explore options for a set of trails at a higher elevation to hedge against future climate change. This area was identified as a potential new trail area because it is adjacent to our current network and has suitable terrain at an elevation that would retain a long ski season even with a warmer climate. A separate parking lot would be needed up the mountain. Discussion and coordination with Wetzin'kwa Community Forest would help align future forest roads to serve as new trails. Hudson Bay Mountain Resort should be included in discussions as good terrain exists adjacent to the chair access road, and suitable cross country terrain is located inside their tenure area.

### 4.3.2 Trails that are not track set.

Some members are interested in ski trails that are cleared and marked but never groomed. Because no grooming is needed, this sort of trail would be low-cost. Some work would be required to plan, clear, and maintain trails.

### 4.3.3 Single track trails

There is potential for additional single track classic trails that are groomed with small machines, similar to the Adventure Trail. Additional trails would require significant planning due to other users and interests in the area. The cost of a new single-track trail is about \$5,000 per km.

### 4.3.4 Biathlon Target Roof

A roof for biathlon targets will improve target performance and significantly reduce volunteer effort to shovel and clean targets.

### 4.3.5 Trail shelter

A small warming shelter would be a nice destination for day skiers. The ideal location would allow skiers of all abilities to access it. It should be far enough away from the lodge to make going there a destination. It should have views that showcase the beauty of the area. It should also be unattractive to use in the summer to reduce the risk of vandalism. Possible locations include Pine Far Loop and Perimeter Trail. Other locations exist but few meet all of the above criteria.

One option for a shelter could be a small open-front structure on skids that could be moved to new locations from time to time. Such a mobile structure would not require authorization. A permanent structure (e.g. an enclosed cabin) would be more expensive and would require an authorization.