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EVALUATION OF THE CYPRESS CROSS-COUNTRY SKI AREA

- FINAL REPORT

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John Aalberg has designed, operated and organized events at international Nordic Venues in several countries around the World (2002 Salt Lake City, 2010 Vancouver, 2018 PyeongChang and 2022 Beijing Olympic and Paralympic Games venues, Oslo World Nordic Championship venue, etc.), and has been a consultant and advisor for the International Ski Federation (FIS), the US Ski and Snowboard Association and the Norwegian Ski Federation for over 25 years. He has created a website (snowcompetency.com) and written several manuals (Salting of Snow, Roller ski trail design, Nordic event organization) with the purpose of transferring knowledge in the topics of snow management and Nordic venue design and event organization.

Introduction

This report is commissioned by Hollyburn Cross Country Ski Club and Nordic Racers Ski Club.

The goal with the report is to describe the current conditions and operations at the Cypress Cross-Country area and make recommendations that might optimize the trails, grooming- and snow management operations. This will potentially lead to an earlier opening date, increased number of skiers and revenue, and lead to improved enjoyment for the user groups. The priority for the report is to present recommendations that are achievable short- and medium term and without large expenses. Some points may require further details (please contact the author).

This final report is composed after two visits at the venue, one in March and one in June 2026 – reviewing the ski area and operation on snow as well as the trail conditions after the snow had melted. The report is based on observations as well as discussions with and input from staff, public skiers, and Hollyburn Cross Country Ski Club and Nordic Racers Ski Club members.

The initial visit took place on March 25 – 26, 2026, with great support from the Cypress Cross Country area staff. The open trails were skied during heavy snowfall and may therefore not have been in the most representative snow and skiing condition. During the visit Ski Patrol and grooming operations were observed. The second visit took place on June 29 – 30 after all the snow had melted and the trail surfaces and new vegetation could be observed.



Fig 1: Trails on March 25 and on June 29



Overview of the Cypress Cross Country Area

In the normal winter season, the Cross Country Area is open every day from morning to evening, with skiing on about 6 – 7 km of lit trails after dark (see section inside the dashed red line below – referred to as the Lower trails in this document). This section of the area also corresponds to the trails that are best suitable for beginner and intermediate skiers.

The Upper trail section (inside the black dashed lines) is also suitable for intermediate skiers, however to get between the Lower and Upper trail sections the terrain is steep and require advanced Cross-Country skills (especially when descending). The section of East trails inside the brown dashed lines is mostly suitable for advanced skiers (technical and steep).

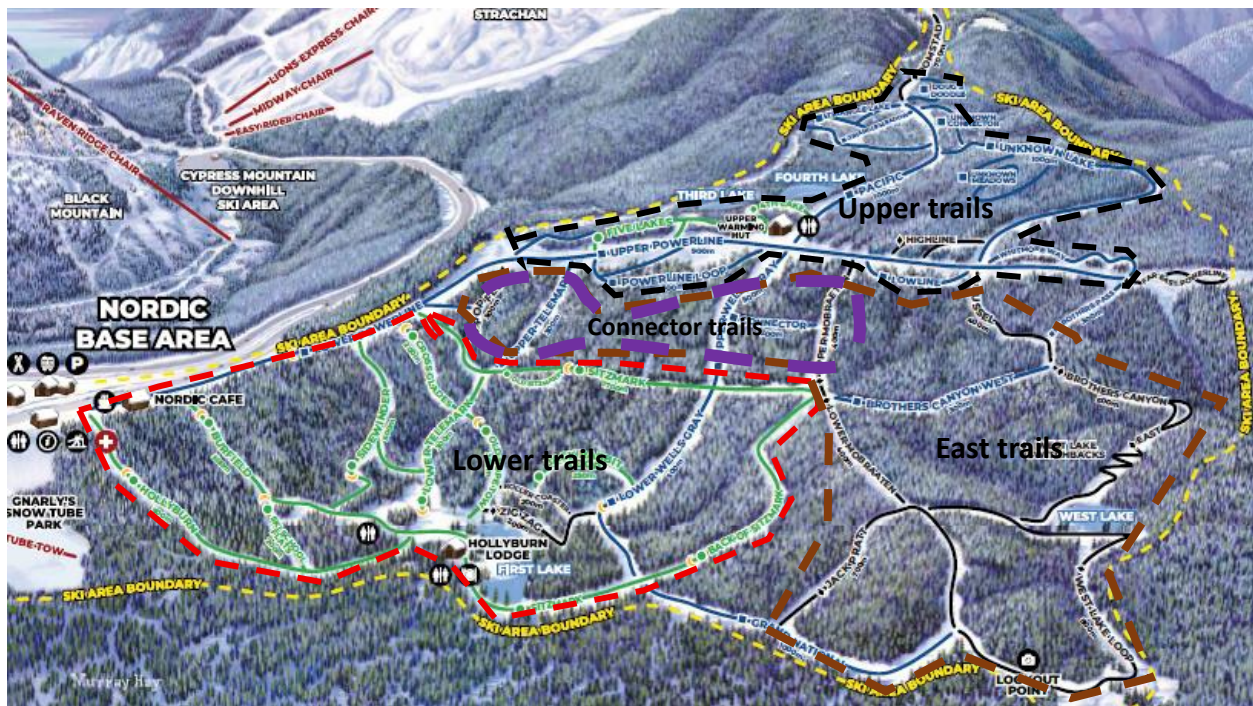


Fig 2: Map showing the Cross Country Area divided up in sections

Most of the trails are wide enough for safe two-way skiing, however with a few pinch point (most notably at the narrow/no guard rail Bridge at First Lake Creek where the grooming machine can barely cross). In cold and dry snow conditions when snow plowing skiing technique is easily done on the steep downhills, the Ski Area is a joy to ski with fun and challenging trails for intermediate to advanced skiers. Beginner skiers will enjoy the trails between the base areas and the Hollyburn Lodge (about 1 km one-way distance).

In good winter conditions with all trails open, the grooming normally takes place in the late evening and then again in the afternoon.



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Typical winter conditions

Each season, depending on snowfall, rainfall and temperatures, the snow conditions on the trails can vary greatly. The image of perfect grooming, smooth classic track setting in cold snow and sunshine is a challenge with the coastal climate. Monsoon rains saturating the snow on the trails, sink holes, plugged culverts, open ponds, and stones mixed in with the snow from grooming in low snow conditions may result in marginal ski days.

As an example, in the 2025/2026 season, the snow fall was sporadic at the start of the winter, with a dry spell during the days around New Years, and heavy rainfall in the beginning of March. All of this led to a season full of fits and starts. The lower East trails (inside the brown dashed section in figure 2) never opened and some of the lit trails needed patching in spots where rainfall and low snow exposed dirt and stones. The Upper Trails faired better with their higher elevation, but some water damage produced sink holes and creeks crossing the trails, and the low snow fall resulted in several trails never getting groomed into a level camber. Overall, however, the grooming during the 2025/2026 winter season was said to be much better than in previous years.

See below for Nordic Pulse trail grooming information for the Cypress Cross Country area open/groomed trails on March 24th.

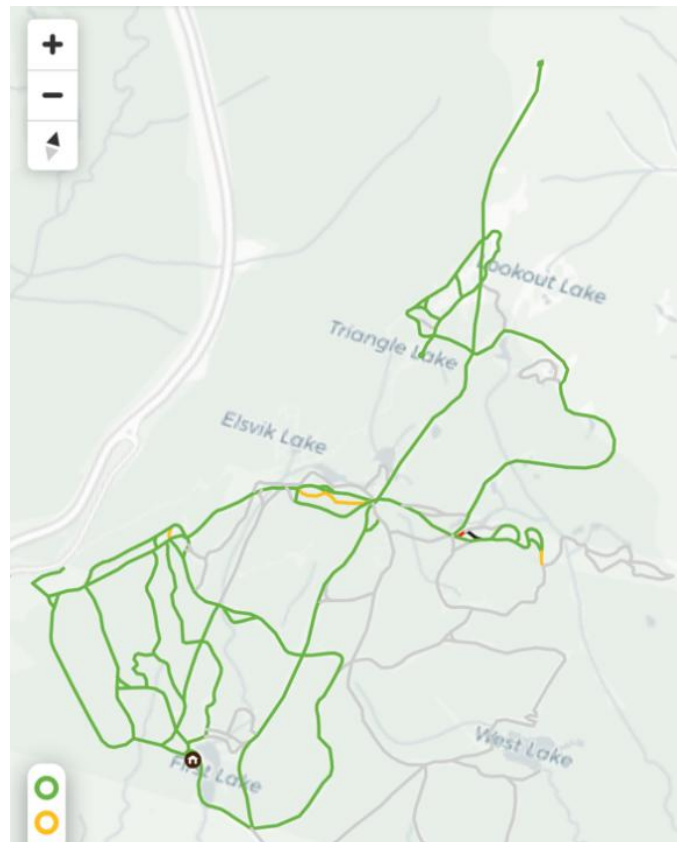


Fig 3: Screen shot from the Nordic Pulse web-site on March 24, 2026



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Trail situation and strategy

Typically, in the fall before the season starts, a lot of work is invested by the Ski Area in trail preparation, with brush cutting, culvert clearing and placing of shipping pallets to allow water to flow under the snow.



Fig 4: Example of use of shipping pallets (located close to point 3 in map below)

Once the snow falls, locations where water accumulates or creates sink holes are however discovered, and these may or may not freeze or fill over in the winter. If the weather warms just a little, a trail can become so compromised it must be closed and possibly not opened again for the season.

Some of the trails are narrow and winding with an extensive tree cover. Large overhanging branches prevents snow from falling onto the trail itself. Often the warmer temperatures that typically follow a snowfall result in the snow in the trees melting and dripping onto the trail, and create thin areas in many places.

Grooming and snow operations

The Ski Area is normally using a Piston Bully (PB) 100 machine (ca 2.5 – 3 m wide) with two track pans (for classical track setting) for grooming. During the week of March 25 – 26 a larger PB 600 (ca 5 – 6 m wide) was used due to the PB100 being down for repair. Both machines are useable for the wide trails, but the smaller machine is more practical and “gentle” on the narrower trails.



Fig 5: Large grooming machines (PB 600 and PB 100)



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An electric snowmobile with a roller attached is sometimes used to pack/roll new/fresh snow (during heavy snowfall as needed).



Fig 6: Electric snowmobile with roller in use

A UTV (ca. 72 inches wide) is used by maintenance staff to access the trails as needed and to bring supply to the Hollyburn Lodge.



Fig 7: UTV used by the maintenance crew



Recommendations for Cross Country Area improvements - trails

Drainage and water management

Several trail locations and trail sections have been identified as needing improved drainage and tree/branch pruning. A few of the main problem areas are identified in the map below.



Fig 8: Map highlighting critical trail areas and sections

1. Water drainage and pellets (Pacific, Unknown Lake)
2. Water drainage and pooling causing trail closure (Popfly and Upper Telemark)
3. Water pooling causing trail closure (Brothers Canyon West)
4. Water pooling (intersection Sitzmark, Grand National)
5. Water flow and pooling as well as brush limiting trail width (Upper Wells Gray)
6. Ponds encroaching on narrow trail (Brothers Pass area)
7. Overhanging tree branches, trees causing safety concern in corner (Back of Sitzmark)



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Fig 9: Winter and summer photos showing some of the areas identified in Fig 8

After reviewing the ski area in June, it is very clear that the maintenance of the trails and the water (drainage) management is lacking or is not sufficient - ditches and pipes are under-dimensioned or missing on most of the trail sections. Water runs on or across the trails – not alongside or under. Without improving the water management situation, the ski area will continue to struggle with trail closures and inconsistent ski conditions and will not be able to stay open in low/marginal snow conditions.



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Recommendations – trail improvements

Improving the water management along the trails is not difficult, and proper ditching and piping/culverts are standard industry techniques when building new ski trails, bike paths and roads (see examples below). Ditches and pipes/culverts can be built in many ways (and at different costs) but the key element is to catch any “uphill water”, collect it in ditches and lead it across or under the ski trail in a proper way.

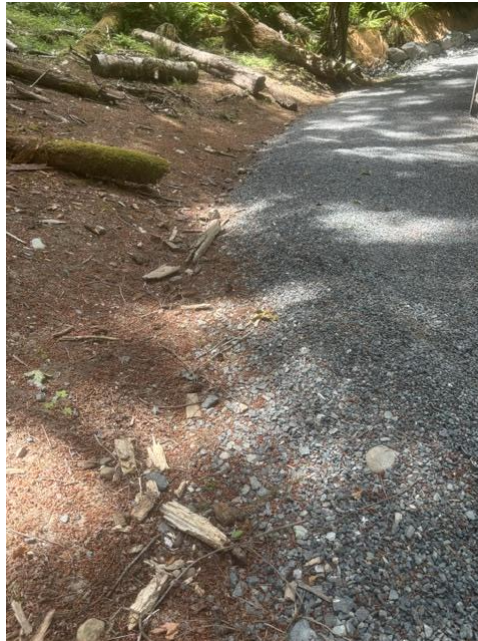


Fig 10: Examples of proper construction of ditches and culverts/pipes



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Due to the extent of the poor trail water management, the following steps are recommended. Following these steps should enable to ski area to open the season earlier and provide more consistent and predictable conditions throughout the season.

Step 1:

Start the trail improvements with a subset of the lower trails (see brown trails below) that only need basic (deeper) ditches and proper pipes/culverts (or French drain system) at a few low points to lead water away from the trail surface. Identifying this does not require a hydrologist or an ecological review – it is just simple trail maintenance. After basic ditching and piping, these trails can then open (and stay open) after the first snow-fall if packed properly with light grooming equipment. The approximately 3.5 km long marked brown trails are enough to open the season and provide good and sufficient early season skiing for the eager early season skiers. It would take a small backhoe and a good operator (\$150 per hour plus transportation of the machine) approximately one week to finish the required ditching (additional time would be needed for the piping).

Step 2:

Complete the already started upgrade to the Popfly trail (water management is still needed) to bring skiers from the Lower trail section to the Upper trail section (see dark blue color below). At the same time, brush cut/chainsaw small vegetation and small trees along and adjacent to the pipeline corridor trails (see red color below) – this can be done by ski area staff. Completing this step will add approximately 3 km of trails that most likely will have more snow and better conditions than the lower trails.

Step 3:

Complete brush-cutting, remove 1 – 2 stumps/large logs and do a bit of grading on the Upper Wells Grey trail (see purple trail below). This will enable a safer passage down from the Upper trails than two-way skiing on the narrow Popfly.

Step 4:

Complete the required upgrade to Upper Telemark (proper trail alignment and water management) – see below. This will then become the best downhill trail from the Upper trail section (it has a straight and flat runout) and will in combination with Popfly (one-way up) become the best connection between the Lower and Upper trail sections.

NOTE: This work will require external consultants due to the trail damage and water flow conditions



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Fig 11: Suggested improvements for Upper Telemark trail

Step 5:

Improve the drainage and surface on other trails within the Lower trail section (these are mostly trails without road-base, and also require more extensive water management work). These trails include lit and/or connector trails and are fun technical trails that augment the easier trails.

Most of the other trails (inside the black-dashed Upper trails or brown-dashed East trails on page 2) within the Cross-Country area will currently require minimum of 3 – 4 feet of snow to open. A goal should be to set aside a yearly budget to improve those trails piece by piece over several years.





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Brown:

Lower-level trail sections with road base that require only basic ditching improvements (and proper early season snow packing) to open early and remain open all season. Other lower-level trails (in between the ones marked in brown) need more extensive drainage and water management work to open early.

Red:

Upper-level trail sections that require basic brush cut and chainsaw work to open early

Dark blue (Popfly):

Best *current* connector between lower and upper trail sections (but needs drainage work to open early)

NOTE: *The best future connection between lower and upper trail sections is one-way up Popfly and down Upper Telemark (Upper Telemark needs extensive trail alignment and water management work)*

Purple (Upper Wells Grey):

Currently the second-best connector between lower and upper trail sections (needs removal of tree stumps and logs, brush cut and some drainage work/grading to open early)

Easy trails and stadium for lessons and ski-play area

The Cypress Cross-Country area lacks enough easy trails and a flat teaching/stadium area for beginner skiers and lessons. However, adding new easy (green) trails through the forest may not be possible with the restrictions affiliated with being in a provincial park. A new larger flat area under the powerline adjacent to the ski area base should however be possible.

At many other Canadian Cross-Country ski areas as well as in ski venues in the Scandinavian countries, a flat area (“stadium”) is located adjacent to or near the trail head and is, in addition to beginner lessons, also used for popular games and ski-play/ski-cross (bumps, waves, short slalom gates, small jumps, tight corners, etc.) for younger age groups.

It is recommended that the Cross-Country area flattens an area in the section of land between the base facilities and the current toboggan/tubing hill (an areas currently unused) – under the powerline. With some modest grading and added fill/material and seeding, this area would be an excellent enhancement to the visitors’ first impression of the Ski Area – see drawings below. With the plans of moving the current tubing/toboggan hill it is also necessary (and recommended) to alter the on-snow flow and access to the main forest trails.



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Fig 12 a: Potential new stadium and ski-play area



Fig 12b: Potential new stadium and trail head



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Cross-Country ski-cross/ski play trails and areas are currently a priority in other countries (especially in Scandinavia) due to seeing increased young skier recruitment and retention in communities where this is practised. Some ski areas are permanently building trail play-elements while others are creating them by pushing snow (piles) in the winter. See examples below:



Fig 13: Showing ski-play areas in Norway

As part of the Cross County area stadium and ski-play area, Cypress should consider adding a small biathlon range. This can be a 10-meter distance optical-rifle shooting range, and would add a new exiting element and a new paying user/customer group.



Fig 14: Eko-Aims optical rifle in use

Recommendations and ideas for improving Ski Area operations - Grooming and Snow management

The most frequent comments from skiers/users at the Cypress Cross Country area are related to the quality of the grooming and snow surface conditions of the trails. Most of the skiers do realize the challenges of grooming in the perhaps most difficult snow conditions in the country, however, in the authors opinion there may be a few operational elements that the Ski Area must consider and that will improve the skiing experience (see five points listed and described below).

Grooming

Grooming at the Cypress Ski Area normally takes place late evening until early morning (11PM – 6 AM), and then again at 4 – 5 PM (on the lit trails) depending on the decision of the Ski Patrol. Nightly grooming is required every day to pack, re-shape if needed and till the “used/skied” snow surface and classical tracks, and prepare for optimal skiing every morning.

The most unique grooming operations at the Cypress Cross-Country Ski Area is the afternoon grooming that takes place to ensure safe skiing for the evening customers (most Cross-Country venues groom only once per day). This grooming is most of the time done by the large PB machines, but the tilling and the belts’ deep grouzers will in certain weather patterns over time (a week or so) break down the snow crystals and create poor and soft conditions (sugar snow where snow-crystals have become round like ball bearings). With proper attachments, grooming can many times (rather) be done with smaller equipment that will prevent this and preserve good skiing conditions longer.



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Fig 15: Ginzu groomer with track setting pan pulled by UTV (at another Cross-Country area)

Ginzu groomers, rollers and roller combs etc. are sold by Yellowstone Track System - <https://yellowstonetrack.com/>



84"
GINZUGROOMER

~~\$6,325.00~~ \$5,376.25

Fig 16: Ginzu groomer advertised

To prevent bringing up small rocks etc. by the Piston Bully machine's deep grouzers, Piston Bully also has developed a rubber-based belt/track that are much better suited for low-snow conditions than the regular steel-based belt/track (see below).



X-TRACK

The web of the X-Track combines an aluminium core with vulcanised cladding made of high-quality rubber. The heringbone structure profile ensures perfect grip.

AREAS OF APPLICATION

The X-Track, which can be used all year round, offers perfect grip on wooded areas, meadows and moorland areas and on swampy or boggy ground. In snow, it ensures safe traction, the low penetration depth enables lower tiller depths and saves fuel. In low snow conditions, in indoor ski centers and for cross-country ski trail preparation, it is valued as a low-impact track. The new extra-wide symmetrical 6-belt X-Track chain (1,420 mm, for PB 400 and PB 600) is ideal for early season preparation when there is little snow, for transporting snow guns and for working on valley, draw and connecting tracks. Depending on use and gradient, it can be half or fully equipped with ice picks - for maximum grip.

There are five main snow conditions that create challenges (at Cypress and also at many other Ski Areas) for Cross-Country trail grooming. These are described below together with recommendations on how to manage the cases.

1. Icy and (too) fast conditions with sharp ridges that may cause skiers to crash
 - Observed in the morning and created in freeze/thaw conditions (cold nights/warm days) when evening/night grooming takes place before the humidity in the snow has evaporated.
 - **FIX:** Groom after most of the humidity has evaporated from the snow (start later at night or in the very early morning)
 - Observed in the late afternoons when the snow starts to freeze up (during warm days and clear weather patterns).
 - **FIX:** The snow surface must be tilled (by large machines) or scraped (using snowmobile/UTV with Ginzu groomer attachments) smooth for safer skiing.
2. Soft and loose (sugar) snow that causes the skis to sink deep into the surface when skating
 - This is typically caused by too much grooming with heavy machines during dry-spells (see above). New snow (when mixed with the old snow) will create a firmer surface again.
 - **FIX:** When possible, during dry-spells, the afternoon grooming should take place with snowmobiles/UTV with proper attachments.



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3. Thin snow depth where the grooming machine's grousers (belt) brings up dirt and gravel/pebbles which may damage the ski bases
 - This is often seen in the beginning of the season if the snow is not first packed with snowmobiles and let freeze before the larger PB grooming machines are used
 - **FIX:** Snowmobiles should be used to "belt-pack" after the first snow-fall, then used with roller or Ginzu attached. This way any gravel/pebbles are less likely to be brought up by the deep metal grousers on the PB belts.

NOTE: Some ski areas are using a PB100 with rubber belts to pack the first snow of the season.
4. Deep snow caused by heavy snowfall during the day causing slow and difficult conditions especially for skating
 - **FIX:** Groom with a snowmobile/UTV with roller or Ginzu groomer attached to create better skiing condition during or after heavy snowfall during the day (snow should be packed once per hour)
5. The snow is already soft in the morning, and becomes even softer as the day progresses
 - This is normally a problem on days when the temperature does not reach freezing overnight and the grooming takes place quite close to the opening time for skiers. On warm nights the snow needs more time to sinter (the process where snow grains bond together, increasing density and strength).
 - **FIX:** grooming should start earlier than on colder nights. A good rule is still to finish grooming all trails at least 2 hours before skiing starts (for the snow to get firm before skiing starts).

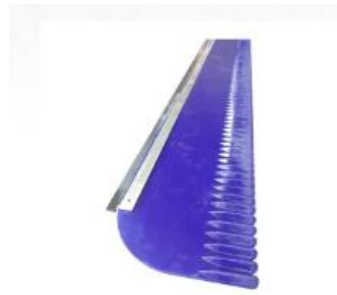
Please see the snowcompetecy.com web site with lots more details about grooming (<https://xn--snkompetanse-wjb.no/snopreparering/?lang=en>) and other snow management elements such as snow making, snow storing and snow preservation

Preserving the snow surface

It was observed and also mentioned by club skiers that the UTV used by the Cross-Country area's maintenance department is, in soft conditions, leaving deep tracks in the snow creating unsafe skiing conditions (see left photo below). This can easily be prevented by always pulling a roller or a comb (see photo on right below) behind the UTV when driving during the day.



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10" X 80" STANDARD ROLLER
COMB

\$350.00



Fig 17: Photos related to snow surface management

An even worse snow surface problem is caused by the large grooming machines bringing dirty snow onto the skiing trails. This is caused by lack of snow-depth from the machines' access trail and parking area. It is recommended that the Cross-Country operational management clearly separates "white and dirty" areas – snow grooming equipment and machines should always start and park in the "white" snow area.



Fig 18: Photos showing results of poor “white vs dirty” operational areas

Other recommendations

Ski competitions

Many other ski areas in Canada are hosting competitions to market themselves as well as support the local club. Competitions/races can be a mean to draw regular and new skiers to the venue, be a goal for local skiers causing them to ski more often or buy season passes or be a small fundraiser for the local club/organizer.

The Tuesday Night Races (TNR) are currently the only (low key) competition at the Ski Area. Organization is managed by Coast Outdoors with a principal race organizer who handles participant registration, check-in, timing and posting of results. The races are on an “open course”, where non-participating public are using the same trails and may be traveling in the opposite direction to the race route. These races are in a fun format; they are a community event open to all ages, techniques, and skill levels – and are popular and well attended.

A map and the elevation profile of the longest TNR competition course is shown below. It starts and finishes at the Hollyburn Lodge, and is an easy and fun course.

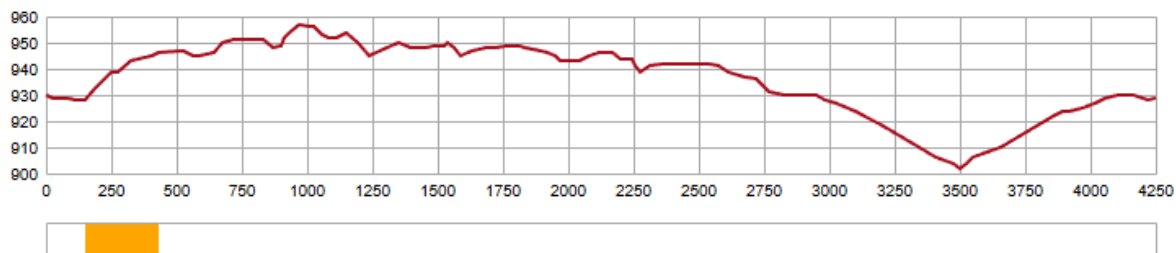
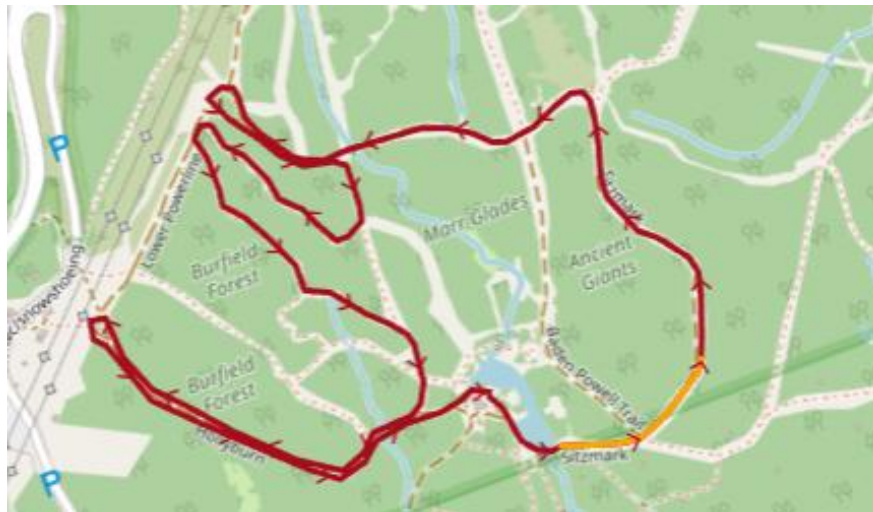


Fig 19: Showing current TNR course alignment and profile

For provincial and National sanctioned competitions, it is not possible to use open courses (the course must be closed to public during the competition time due to liability issues). To host a sanctioned evening race, the race should start and finish closer to the base facilities/parking lot, and should optimally start near the base facility with a slightly different alignment for the competition course.

Snowmaking or Snow storage

The Cypress Cross-Country Ski Area does not have snowmaking installed, mostly due to lack of water. It is not feasible to use local drinking water, and building a new local reservoir or installing pipes from the alpine area may be too expensive or likely impossible within the park boundary.

Snowmaking at the Cypress alpine area is typically done in marginal temperatures/wet-bulb and is rarely optimal and efficient (optimal snow-making conditions starts at -5 C or colder with low humidity), and is therefore extremely challenging, inefficient and expensive. Snowmaking is therefore not recommended for the Cross-Country Ski Area.

Storing snow over the summer months is however an idea to consider, and is done more frequently around the World the last decade or so, including at the Whistler Olympic Park (WOP). Artificial snow from either snow-fans or natural snow from parking lots, etc. are built-up into a half-cylindrical shape in the spring and covered by either wood-chips or an insulated and breathable cover material. It is



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recommended for the Ski Area to research this (<https://xn--snkompetanse-wjb.no/snolagring/?!lang=en>) or contact the experienced staff at the Whistler Olympic Park (WOP) – see photos from WOP below.

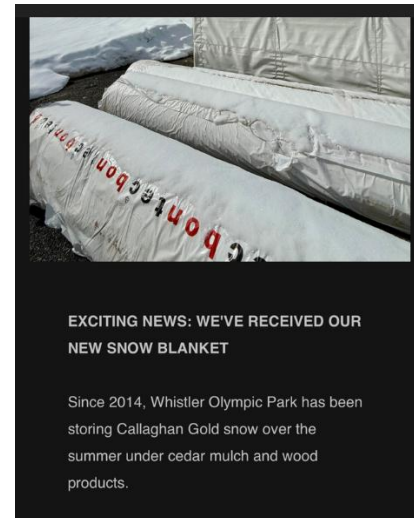


Fig 20: Showing trail and cover used for stored snow at WOP

Looking and being professional

Cypress Mountain Ski Area is an Olympic venue with a very good reputation. Arriving at the Alpine area confirms this with beautiful log buildings, proper entrance signs, fences and green grass inviting and welcoming the visitors.

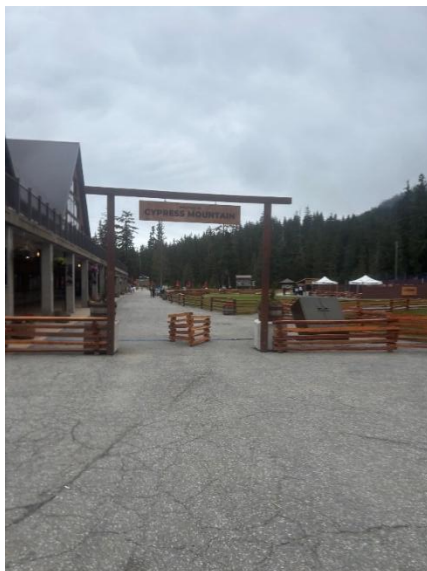


Fig 21: Entrance at Cypress Alpine area



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However, when arriving at the Cross-Country area Cypress Mountain presents a totally different and disappointing picture with no welcome sign, no fences, no grass and buildings with fading paint. It is hard to believe that the two ski areas belong to the same company.



Fig 22: Entrance at Cypress Cross-Country area

Customers will most likely come back to a company or ski area that has a professional image, looks clean and tidy and enables good photos. A good first impression when arriving at a ski area is important, and the Cypress Cross-Country entrance area should be beautified and look similar to the alpine area.

Main recommendations

1. Focus on early season opening and consistent skiing conditions all season by
 - Improve drainage (deeper ditches, pipes) for the main Lower trail area
 - Improve the most suitable connector trail between the Lower- and Upper trail areas
 - Brush-cut and chain saw a subset of the Upper trails
 - Obtain better light grooming equipment (snowmobiles, attachments, Ginzu groomer, rubber tracks for PB100, etc.)
 - Change operational grooming techniques to be able to provide early season skiing and a better skiing experience during seasonal weather situations
2. Add a flat stadium, ski play area and new trail head adjacent to the base area
3. Enhance and beautify the entrance area of the venue
4. Commit to a long-term trail maintenance plan with yearly water management improvements

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