



MANAGEMENT PLAN

Trail to Town / Terrain Pod I Development

Hudson Bay Mountain Adventures Ltd (HBMA) has recently prepared an updated Ski Area Master Plan, which outlines a plan of development for the resort area over the next 10 – 20 years. In Phase 1, as outlined in the aforementioned Ski Area Master Plan, HBMA is proposing to install a new lift, with related ski trails, within Terrain Pod I, which is located northeast and below the bottom terminal of the existing Skyline Chair, on the east slope of the mountain. HBMA is also, in conjunction with the Smithers Rotary Club, proposing to undertake improvements to the informal trail to town, which is located on a historic logging road on the east side of the mountain that terminates on the western edge of the Town of Smithers.

The development of this terrain pod (lift and ski trails) and the trail to town will provide an increase to the total amount of vertical currently offered at the ski hill, and will provide a significant increase in ski terrain, not only for the east slope of the mountain, but for the resort as a whole. This terrain pod will focus primarily on Intermediate and Novice ski runs, with approximately 70% designated as Intermediate. The expectation of HBMA is to have the ski runs, including enhancements to the trail to town, available for use during the 2008/09 operating season, with a new lift to be constructed in the summer of 2009.

Terrain Pod I is located northwest of the bottom of the Skyline Chair and directly north of D.L. 8081 and Right of Way 6400097 (Skyline Lift). The existing BC Hydro right of way, which provides electrical power to the mountain, is located southeast of proposed Lift I.

Previous site assessments for this area (which are outlined in the updated Ski Area Master Plan) do not identify any environmental issues, including wildlife habitat concerns.

The details of the application area (Terrain Pod I) include:

- Total area of application (Terrain Pod I) 142.98 ha
- Total area of ski trail construction 18 ha +/-
- Total area of Lift I right of way (30 m r/w width) 4.53 ha

- Total area proposed for removal of timber 23 ha +/-
- Average length of ski run 1500 m +/-
- Average vertical/run 250 m +/-

The trail to town is located within the right of way of a historic logging road, constructed on the east slope of Hudson Bay Mountain. This ski trail has been used by Bulkley Valley residents for many years as an informal ski out to the town. HBMA is now proposing that this trail be formalized as part of the ski area's ski terrain and added to the existing Controlled Recreation Area (CRA) and to connect the trail to town to the bottom of Terrain Pod I.

The last section of the existing logging road crosses D.L. 4268, which is private land. Although continuing the trail along the former logging road right of way is preferable until it reaches an existing public road, no formal agreement has yet been reached with the private land owner, and accordingly, an alternate section of trail has been identified that would avoid the need to cross D.L. 4268 (see attached map).

The end of the trail is located at the west end of Zobnick Road, where it intersects with the existing BC Hydro right of way. Although a right of way for Zobnick Road continues up the slope along the southern boundary of D.L. 4268, it is unconstructed beyond the hydro right of way. There is sufficient land within the hydro right of way for construction of a parking area and vehicle turn around, and the existing terrain slopes north and away from Chicken Lake Creek in this location, thus minimizing any potential impacts to the creek.

The width of the trail to town (currently) is estimated at 8 – 10 m in width. The grade of the ski trail/logging road is estimated at 8 – 20 % maximum, ideal for beginner, novice and low intermediate type of terrain. The proposal to upgrade this trail will be to follow the existing road right of way, widen where possible (potentially up to 20 m wide through the removal of existing brush), provide signage as well as trail maintenance with the use of a groomer, and provide ski patrol services. It will, upon completion, be designated a ski trail, similar to all other ski trails on the mountain. Although the application to expand the CRA identifies a corridor of 40 m, the majority of the trail itself will only be 10 – 20 m in width. The last section of the trail (near the bottom) may be closer to 30 m in width, in part to create trail for all skiing abilities due to steeper terrain conditions. No new crossings of streams are proposed, as existing structures will continue to be used.

The existing ski trail, up to the boundary of D.L. 4268 is ideal in terms of grade and location. However, if access through D.L. 4268 is not possible, a new section of trail will be required. In order to avoid the terrain changes and the extremely steep terrain with grades exceeding 70% or higher, an alternate section of trail will need to be created. Existing terrain along the west side of D.L. 4268 is not suitable for the trail to be located along the property boundary (trail would have to go uphill at that point), therefore the new section, north of Chicken Lake Creek, has been proposed.

This revised trail area will change the concept of a “ski out” type of trail, as it will no longer follow the existing road right of way, and will create a fairly direct fall line trail. The top of the trail, as it leaves the road right of way, indicates a gradient of approximately 45% for the initial 50 m, then reducing to an average of 30% gradient over the remaining 600 m to the power line and access to the public road. This revised section of trail will be much wider than the section of trail that follows the road right of way, potentially up to 30 m in width in order to allow for steeper terrain and be summer groomed. Although this section will provide good intermediate ski terrain, suitable and safe terrain for beginner, novice and low intermediate skiers will need to be identified (or potentially restrict access at the top of the trail to town to intermediate or higher level of skiers)

Approximately 2.4 ha of timber will need to be removed to facilitate the new section of trail at the bottom of Hudson Bay Mountain.

HBMA will be providing ski patrol services for Terrain Pod I and to the bottom of the trail to town. Although the existing terrain and dense forest cover provides significant deterrence to skiers attempting to ski out of bounds while skiing along the trail to town, appropriate signage, etc will be placed along the trail, advising skiers to remain on the trail and that skiing off the trail is out of bounds and restricted.

REVISED TRAIL TO TOWN						
	TOP EL	BOTTOM EL	VERTICAL M	AVERAGE GRADE	STEEPEST 50M	LENGTH
UPPER	850	725	125	13%	20%	1000
LOWER	725	530	195	24%	75%	800
TOTAL			320	18%		1800

1. Upper section of trail starts at Bottom Lift I
2. Lower section starts at 750m elevation and existing road, finishes at town power line r.o.w.

Clearing for upper section is estimated at approx. 1 hectare. Assume 1000m X 20m = 20000sq.m. or 2 hectares, divided in half to allow for existing clearing.

Lower section would be approx 800 X 30 = 24000sq.m. or 2.4 hectares of new clearing.

Environmental Setting

Terrain Pod I and the proposed Trail to Town are located within the ESSFwv, ICHmc1 and SBSdk biogeoclimatic subzones (Banner *et al.* 1996) between 1120 m and 520 m elevation. The majority of the area contains mature to old forests, ranging in age from 200 to > 250 years in the upper portions, with younger stands in the lower section ranging in age from 100 to 120 years. High elevation forests are primarily sub-alpine fir (*Abies lasiocarpa*), with hybrid spruce (*Picea engelmannii x glauca*) and mountain hemlock (*Tsuga mertensiana*) also present. At the lower elevations, sub-alpine fir is dominant, but western hemlock (*Tsuga heterophylla*), hybrid spruce and lodgepole pine (*Pinus contorta*) can make up over 50% of the stand.

Ecosystems outlined within the Bulkley TSA Predictive Ecosystem Mapping (PEM) show the area being a mixture of mesic and wet-rich types. Approximately 38% of the area are medium nutrient, mesic 01 site-series within the ESSFwv and ICHmc1 subzones, with approximately 46% being richer nutrient, mesic sites (e.g. 05, 06, 08 types). The remainder are wet rich sites (~10%) and 6% as developed areas.

There are no known fisheries values within the proposed development area (see FISS information available at (<http://srmapps.gov.bc.ca/apps/fidq/fissReportProcess.do>)) although there are downstream fisheries values including spawning cutthroat trout, pink salmon and coho salmon. The closest known spawning area is approximately 1 km downstream near the Smithers Golf Course where cutthroat and coho salmon were observed. It is possible that fish rearing could occur further upstream, but a 2 m cascade located approximately 1.8 km above the powerline right-of-way limits any fisheries use upstream of that point.

Wildlife values in this area include a variety of species typical of forested ecosystems within the Bulkley Valley with common species such as moose, mule deer, marten, black bears, forest songbirds, grouse, and western toad using the area. The lower portion of the Trail to Town is within confirmed mapped moose winter range, with the potential for mule deer using the area during the early and late portions of the winter possible.

Environmental Risk Assessment

The proposed development of Terrain Pod I and the Trail to Town will require the clearing of approximately 22.8 and 2.4 ha respectively of forested land. The proposed clearing will remove mature timber, with approximately 65% of the total being in the ESSFwv subzone, 33% in the ICHmc1 and the remaining ~2% in the SBSdk. The PEM indicates that approximately 16 ha (62%) of the clearing will occur in oak-fern or devil-club type sites which are rich-wet habitats that are high value foraging sites for bears and ungulates during the growing season (spring to fall). The remaining areas to be cleared are primarily mesic 01 type sites which can provide high value blue-berry foraging opportunities in the ESSFwv, but do not tend to provide extensive forage opportunities to large mammals in the ICHmc1 due to the limited shrub and herb layer. Overall, the removal of the mature forest types proposed will be limited in comparison to

the available habitats on the east side of Hudson's Bay Mtn. between Simpson Creek and Dahlie Creek (see Table 1). The runs will be cleared to retain shrub and herbaceous growth (see Proposed Mitigation Measures Section below), which will continue to provide foraging opportunities in these areas for moose and bears, as well as other small mammals, birds and amphibians.

Potential risks to fisheries values are expected to be limited as clearing of riparian habitats will be very limited and there are no fisheries values existing within the upper reaches of Chicken Lake Creek. Maintaining downstream water quality and quantity will be achieved through the application of appropriate mitigation measures such as sediment and erosion control, maintaining riparian management vegetation and conducting all works around streams in accordance to best management practices (see Proposed Mitigation Measures section below).

The removal of mature forest habitat will affect species that use those habitats for specific habitat features, such as cavity nesting species, which use snags and other wildlife trees for nesting and foraging. The amount of habitat removed is limited, however and there may be opportunities to limit those effects by identification of potential habitat feature trees during the clearing operations and maintaining them (see Proposed Mitigation Measures section below).

Table 1. Summary of ecosystems cleared.

General Ecosystem Type	Total Area (ha)	Approx. Area Harvested (ha)	Percent of Ecosystem Type
Alpine	226.6	0.0	0%
Development	126.4	0.0	0%
Moderate	1483.0	8.5	< 1%
Poor	42.6	0.7	2%
Rich-Wet	808.5	15.7	2%
Riparian	32.9	0.3	< 1%
Rock	56.1	0.0	0%
Unknown	5.7	0.0	0%
Water	0.5	0.0	0%
Wetland	11.6	0.0	0%
Grand Total	2794.0	25.2	< 1%

The removal of mature forest will also affect snow interception cover important for moose in the lower elevation areas, although the amount removed will be 2.6 ha (< 1%) of the available 437 ha of delineated moose winter range habitat between Simpson and Dahlie Creeks and therefore the risk is low that this would affect moose winter habitats significantly. The identified mountain goat habitat from the Bulkley Valley SRMP is more than 500 m from the proposed run developments and the habitat is not expected to be used during winter operations as it currently overlaps with

There are no mapped wetland or pond habitats that are expected to be affected by the proposed development, and these features were not observed in a review of the available ortho-photography of the area. The proposed development is therefore not expected to significantly affect breeding amphibians or waterfowl habitats. Movements of amphibians are also not expected to be affected if breeding habitats are available on

one side of the proposed development as the proposed activities related to clearing or operations during the summer will not be intensive or extensive. Runs will be cleared to retain herb and shrub components (see Proposed Mitigation Measures section below), which will retain sufficient cover for amphibian movements across the site during the growing season.

The development of the proposed ski runs and associated road traffic at the bottom of the run, can provide opportunities for conflicts and injuries to both wildlife and humans due to collisions with skiers and vehicles. Quantification of this risk is difficult due to the lack of population data for species such as moose that could be using the area at any given time, as well as variability in skier and vehicle use. Overall, the risk is likely to be limited, but appropriate mitigation measures such as ensuring the wildlife are given the right-of-way, monitoring wildlife use, using appropriate signage and public education programs (see Proposed Mitigation Measures section below) will further reduce that risk.

Proposed Mitigation Measures to Reduce Risks

A number of mitigation measures are proposed to reduce risks to habitats and risks during the construction and operation of the proposed ski runs and lift. Table 2 outlines the proposed mitigation plans and procedures that would be put into place to reduce risks to the environment, wildlife and fish.

Table 2: Summary of mitigation measures to reduce environmental effects.

Type	Description	Delivery Timing
Sediment/ Erosion Control Plans	<p>Procedures document for on-ground contractors and environmental monitors outlining methods to control sediment during construction activities. It is not expected that extensive road upgrading will be attempted during the winter season, but when these activities occur measures such as:</p> <ul style="list-style-type: none"> • erecting silt fencing, managing water during rain events; • retaining standing timber and riparian vegetation within 20 m of Chicken Lake Creek; • where the trail must cross Chicken Lake Creek, retaining riparian brush alongside the creek; and • constructing road crossings as per the Stream Crossing Guidelines. 	Prior to construction activities
Stormwater Management Plan	Plan outlining how rainwater and snow-meltwater will be managed within the development area. Outlines general ditchline construction and maintenance as well as catchment area and potential receiving environments near the parking area.	Prior to Fall 2008

Type	Description	Delivery Timing
Site-clearing Plan	A plan that outlines the amount of clearing, the location and methods of disposing of cleared timber, stumps, slash etc. Clearing will be conducted to retain shrubs and herbaceous materials under 1 m tall. Wildlife trees and snags will be retained where it is safe to do so. Slash and timber will be piled away from riparian areas and burned under appropriate conditions.	Prior to construction activities
Public/Users Education Strategy	A strategy that would outline the methods used to educate the public and land-owners to ensure environmental damage does not occur. This would include developing signage and interpretive materials to ensure trails are used, avoiding removal of plants and animals, and avoidance of known habitat features.	Prior to Fall 2008
Invasive Weed Management Plan	A plan that outlines how invasive weed species will be managed within the development area. This may include educational information for land-owners, requirements for monitoring and detecting invasive species and the methods that would be used to control those species.	Prior to Fall 2008

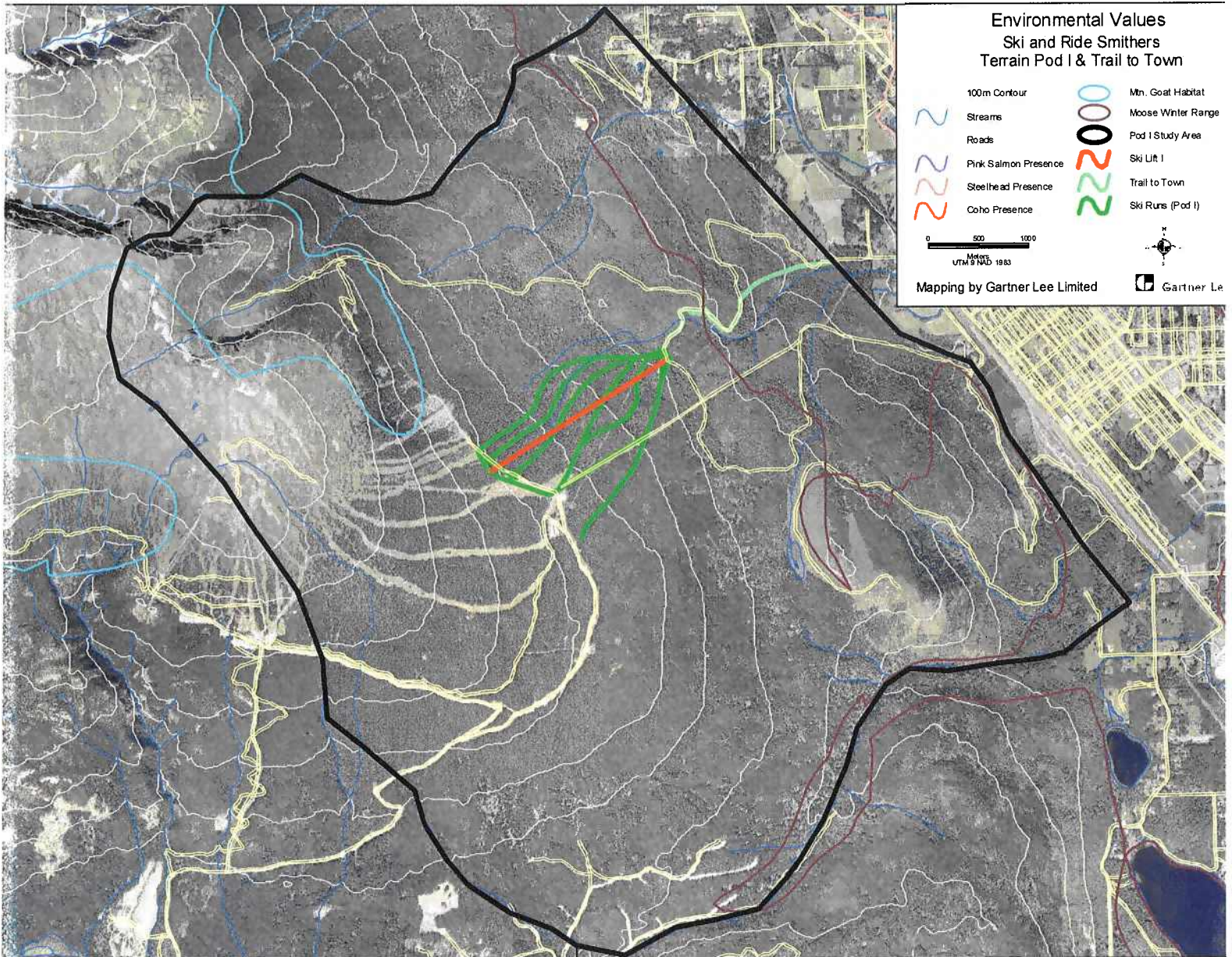


Figure 1. Summary of known environmental values and general study area near Terrain Pod I - Ski and Ride Smithers.