



Progressive Stewardship of Mountain Ecosystems: Next Practices for Sustainability

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Forestry & Trail Construction Focus Area

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The Vision

The vision for forestry and trail construction is to encourage helicat operations that require tree cutting go beyond regulations in responsibly and sustainably managing the forests within operating tenures.

Background Information

Helicat operations are shaped by their closeness to the forest, with many operations touting some of the best tree-skiing in the world. Responsibility to maintain these forests and support forest health involves complying with many regulations regarding cutting trees and constructing roads and trails within operating tenures.

Timber-cutting activities for heliports and glading are critical in the development and enhancement of ski runs, particularly those needed for safe skiing during poor weather conditions. Similarly, cutting timber to develop new snowcat roads is crucial for access to skiable terrain. The extent of these activities varies based on the size of the operation and the type and availability of suitable terrain. However, the governing legislation applies equally to all helicat operations.

The Ministry of Forests, Lands, Natural Resource Operations and Rural Development (MFLNRORD) must approve all timber harvesting. The most common form of approval from the Ministry is the 'License to Cut', however, there are also other ways to receive authority to harvest Crown timber.

Prior to applying for approval, the appropriate MFLNRORD office should be contacted to determine which document is required for each specific activity involving harvest or road building. Effective communication and respectful professional relationships with the MFLNRORD staff will increase the mutual understanding of all involved.

Operations should be committed to managing all harvest and road building activities to minimize and mitigate any potential negative impacts to wildlife, wildlife habitat and critical vegetation communities. Additionally, it is important that all timber cutting and development activities are carried out in accordance with the requirements of WorkSafeBC.

Sustainability Standards

MFLNRORD manages the forest resources for sustainable forestry. There are three primary pieces of legislation that apply to helicat operations with respect to their timber-cutting activities in the backcountry:

- Forest Act
- Forest and Range Practices Act (FRPA) and associated regulations
- Land Act

Forest Act

Mandatory actions:

- A license to cut is a legal requirement under the Forest Act and must be operated in compliance with the Forest Range and Practices Act as well as all relevant regulations and standards, such as Ungulate Winter Range and Caribou Government Actions Regulation (GAR) order.
- When applying for the application to cut or cut and remove timber on associated Crown land tenure ask for any specific information pertaining to operating in the proposed area.

Resources:

Division 8.2 – Licences to Cut (Section 47.6 (2)(b2), Section 3

http://www.bclaws.ca/Recon/document/ID/freeside/96157_03#division_d2e11529

Forest Range and Practices Act

Mandatory actions:

- The Forest and Range Practices Act outlines the relevant regulations for forest service road use and requires licensing by individuals for harvesting trees.

Resources:

Roads Part 3, Division 2

http://www.bclaws.ca/Recon/document/ID/freeside/00_02069_01#division_d2e2722

Silviculture Part 3, Division 4

http://www.bclaws.ca/Recon/document/ID/freeside/00_02069_01#division_d2e3874

Forest Planning and Practices Regulation

Mandatory actions:

- This regulation guides users in managing forestry work without adversely altering ecosystems.

Resources:

Practice Requirements, Part 4, Sections 35-70

http://www.bclaws.ca/civix/document/id/complete/statreg/14_2004#part4

Roads, Part 5 Sections 70-84

http://www.bclaws.ca/civix/document/id/complete/statreg/14_2004#part5

Land Act

The land act administers tenure for Crown Land and requires forward planning for its use.

http://www.bclaws.ca/Recon/document/ID/freeside/00_96245_01

Mandatory actions:

- A Management Plan is required under the Land Act.

Resources:

Management Plans

<https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/crown-land/crown-land-uses/management-plans>

Heliport Development

Cutting trees to develop and maintain helicopter pickups are critical in a safe and efficient operation. Incorporating the actual landing site of the helicopter with the associated flyway approaches, heliports can range in size up to approximately 0.75 hectares. Maintenance of these sites is required to keep the area clear of newly emerging growth.

Mandatory actions:

- To develop a heliport, the operation must apply for:
 - FLTC – Forest License to Cut
 - OLTC – Occupant License to Cut
- Maintenance of existing heliports requires the approval of the Ministry of Forests. After consultation with the appropriate MoF district office and the establishment of an approved all-inclusive 'License to Cut', the operator should be able to continue with the maintenance program of existing heliports with no further requirements for individual site approvals.

- If the volume is greater than 10m³/hectare then it must be considered a new heliport and approved as such prior to cutting. The amount of volume over the 10m³/hectare would be subject to the stumpage established for the License to Cut. Once the maintenance work is completed a list summarizing the site locations, the nature of the work, the date it was completed, as well as the grades and volume of merchantable green and dead trees must be submitted to the Ministry of Forests.
- If the merchantable volume required to be cut for the maintenance of a single heliport is under 10m³/hectare then it falls within the limits for allowable waste and therefore will remain under a maintenance-type approval.

Resources:

Forest License to Cut (FLTC)

<https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/land-based-investment/forests-for-tomorrow/stand-establishment-and-treatment-standards/forest-license-to-cut-fltc>

Occupant License to Cut Application form

<https://www.for.gov.bc.ca/isb/forms/lib/FS321.pdf>

Licence to Cut Administration Manual

https://www.for.gov.bc.ca/dkm/ESF_Info/LTC-Manual-Ver1-2010Mar10.pdf

Glading

Timber-cutting activities for heliports and glading activities are critical in the development and enhancement of ski runs. Equally, timber cutting for the development of new snowcat roads is key to the development and access of terrain. The extent of glading activities vary dependent upon an operation's size and the type of terrain.

Mandatory actions:

- To perform glading, an operation must develop a(n):
 - Operating Plan
 - Annual Plan
 - Stand Treatment Plan (STP) - To develop a glading treatment in a regenerated Free Growing Managed Stand less than 35 years old, the specific stand treatment applied must be approved by the Forest District separately in a Stand Treatment Plan (STP). An STP becomes a contractual requirement under the Occupant License to Cut through the linkage to the Operating Plan and Annual Plan. A STP for a forested stand is considered forestry work under the Foresters Act of B.C. and as such must be signed by a Registered Professional Forester (RPF).

- If the cutting is within Caribou GAR habitat, the priority for timber species cutting is listed in “A Guide to Commercial Backcountry Skiing Operational Practices for Ski Run Development, Helicopter Landing and Pickup Site Development, and Snow Trail Development in Mountain Caribou Habitat” document which takes precedence and must be adhered to.
- Ensure post-treatment inter-tree spacing between conifers does not exceed five (5) meters except where ski trails converge. For safety and visibility, the inter-tree spacing may be extended in the areas where ski runs converge or terminate and are within 30 meters of an established snow road, snow trail or pick-up area.
- Cutting will not result in ski run development that in cumulative total, creates areas 1.0 hectare or greater of Not Sufficiently Restocked ground (NSR), unless otherwise authorized in the Annual Plan.
- Additional details and information may be requested by MFLNRORD depending on the extent of the proposed cutting. The above should be developed in consultation with MFLNRORD and/or licensee for tenured area and/or operating area, as well as other licensees or tenure/lease holders.

Resources:

A Guide to Commercial Backcountry Skiing Operational Practices for Ski Run Development, Helicopter Landing and Pickup Site Development, and Snow Trail Development in Mountain Caribou Habitat
<https://www.for.gov.bc.ca/ftp/dco/external/!publish/Mechanized%20Ski%20Documents/Caribou%20Habitat-A%20Guide%20o%20Commercial%20Backcountry%20Skiing%20Standard%20Operating%20Practices...pdf>

Snow Road Construction

Developing snow roads rarely involves side-cuts into mineral soils, but often require removal of timber to allow passage for snowcats.

Mandatory actions:

An operation must apply for:

- FLTC – Forest License to Cut
- OLTC – Occupant License to Cut
- Develop Operating Plan and Annual Plan with MFLNRORD?FLNRO and/or licensee for tenured area and/or operating area. Include the following for seasonal road building and right of way development, if soil disturbance is necessary:
 - Road Permits
 - Terrain Stability Assessments
 - Riparian Management Practices – Guidelines for stream crossings

Logging Road Access and Construction

Resource roads are permitted roads used to access natural resources. Road permits are issued by MFLNRORD. Forest Act permit roads are managed by forest licensees in the forest industry.

Mandatory actions:

- Contact MFLNRORD and/or licensee to obtain an approved Road Permit or Road Use Permit for operational use, access or construction.
- Obtain through MFLNRORD a Road Permit and Road Use Agreement.

Next Practice Guidelines

Working with Forest Licensees

In most cases, an operation's tenure will be close by or overlapping with tenured forest licensees which calls for a need for mutual trust and respect of each other's businesses. Forest licensees are required to inform other users of the land within their tenure through a referral process to review their intentions, and it is up to the helicat operator to inform themselves about upcoming harvest plans and identify any potential impacts that may have on their operations.

- Develop a co-operative working relationship with the forest licensees within each member's tenure area.
- Coordinate harvest activities that can enhance ski run, glading or heliport development plans.
- Discuss the development of variable retention, vertically oriented cut blocks that provide skiing opportunities and maintain the visual quality of backcountry areas.
- Support regeneration densities and rotations that facilitate continued skiing opportunities.
- Manage access within the tenured areas.
- Share forest health information.
- Coordinate sales opportunities for wood from salvage.
- Align heliport salvage areas with other licensee cutting and road permits.

Heliport Development, Glading and Snow Road Construction

- Locations should take advantage of high points, natural or previously man-made openings.
- Minimize the impacts on wildlife in area and avoid riparian areas.
- The size and number of trees cut will be as few as possible.
- Helicopter and worker safety should be accounted for during cutting including ensuring falling is performed by certified and experienced personnel.
- To reduce fire hazard, all trees should be bucked, limbed, topped and have their debris scattered so as to not create piles.

- Removal of slash and debris during the building and clearing follows the Forest Health Practices section outlined in the Operating Plan for the site.
- Trees should not be felled or pushed into merchantable timber at the edge of heliports.
- All timber should be felled away from riparian areas. If, due to safety reasons, timber is fallen into a creek, it must be immediately be bucked up and removed so as not to affect water flow.
- To avoid the potential for spruce bark beetle, all susceptible spruce should be either cut into blocks and stood up or bucked flat with continuous scarring by a chainsaw.
- Cutting of timber for heliports should be done in the summer months to ensure the lowest possible stumps are cut and that all stems are removed.
- Communicate with MFLNRORD for potential coordination with insect abatement trap tree programs.
- Make an effort to utilize merchantable timber prior to commencing the construction of a heliport.
- Regular heliport maintenance is critical for the ongoing safe and efficient use of existing heliport developments. Activities necessary to ensure this level of safety include:
 - Cutting of regenerating brush species
 - Cutting of regenerating tree species
 - Cutting of danger trees
 - Cutting old stumps
- Select deciduous trees and non-merchantable conifers (less than 17.5 centimeter diameter at breast height (DBH) for cutting before any merchantable conifer.
- Select merchantable coniferous trees, in the priority of first to last:
 - Subalpine fir (balsam)
 - Mountain/Western hemlock
 - Lodgepole pine
 - Western red cedar
 - Douglas fir
 - Engelmann spruce
- All healthy Whitebark Pine trees are reserved from cutting unless determined to be unsafe.
- Road locations should take advantage of slope breaks.
- The width of the right of way should be measured in accordance to the License to Cut.
- Use natural terrain features such as benches or ridge tops to minimize the potential for soil movement during snowcat trail construction.
- Avoid crossing slopes steeper than 60% if soil excavation is required.
- Utilize high stumps with log cribbing to hold snow and provide for extra bench width.

- Consider impacts on habitat and wildlife associated with any potential construction or tree removal.

Logging Road Access

- Resource roads will be maintained at a wilderness maintenance level which means they are maintained to protect the environment and not for public or industrial use. These roads are not maintained for vehicular access.
- There are also Non-Status Roads (NSRs), which are resource roads on Crown land found on maps but have unknown status and origin.
- Backcountry roads may present rough and wet conditions with soft muddy sections. Where avalanche paths exist, the roads may be partially covered with residual debris. As always, caution is advised on all roads and backcountry travellers should be aware of rapidly changing weather conditions and stream flows which may affect road conditions.
- Most resource road traffic is controlled by radio use. Vehicles will have an assigned radio frequency and calling procedures. Usually posted at the beginning of the road, standard calling is calling up even numbers and down odd numbers.

Regeneration Management

When skiing through regenerating cut blocks, the growth of seedlings should be taken into account. Areas of dense regeneration and varying snow depths could increase potential obstacles and tree well hazards for guests. Similarly, seedlings could be negatively impacted by leader damage due to guest skis. Damage to these plantations could negatively impact the forest licensee responsible for regenerating the cut block if they lose quality and quantity of seedling growth rates.

- Work with licensees to harvest in vertically oriented cut blocks that can be avoided rather than horizontal cut blocks that limit skier access to entire areas.
- Establish and monitor sample plots in plantations used for ski runs to determine if skiing activities are having a negative impact on plantation growth.
- Highlight sensitive areas in the guides' meeting and ensure avoidance of these areas until snowpack increases.
- Use higher pickup points until snow depth increases.
- Ski down roads or in a single track to pass through plantations that are at vulnerable depths.
- Work with forest licensees to plan for new openings adjacent to the plantations approaching vulnerable tree age.
- Work with licensees and MFLNRORD to establish ski-through corridors characterized by reduced stocking density standards.

Conclusion

Helicat operations rely on cutting and removing timber for the safe and effective operations in their tenure, however this is often shared with forest licensees who have interest in the timber within the tenure. It is important that an operation understand the requirements by MFLNRORD and their responsibilities to forest licensees when planning their operations.

In addition, forestry operations including cutting and road building can impact wildlife and safe work environments. Operations should take the time to learn what is required to make the best decisions to protect these stakeholders during forestry operations.

By establishing good relationships and communication between all areas of impact, the management of the forest can be maintained in cooperation with all stakeholders.

Resources

Resource Roads

<https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/resource-roads>

Forest Road Engineering Guidebook

Throughout this guidebook, emphasis is placed on compliance with operational and safety requirements and the need to ensure protection of forest resources, while meeting the requirements of the Forest Practices Code statutory obligations in an effective, efficient manner.

<https://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/road/fre.pdf>

Road - Commercial or Residential

Application to build over Crown land a road to access a commercial business, residence or recreational property and be open to the public. Does not include private or industrial roads.

<https://portal.nrs.gov.bc.ca/web/client/-/forest-road-construction>

Road - Industrial or Private

Build a private or industrial road over Crown land.

<https://portal.nrs.gov.bc.ca/web/client/-/road-industrial-or-private>

Proposal Form for Trails and Recreation Facilities

Authorization for constructing, maintaining, rehabilitating public trails or public recreation facilities on Crown land under the Forest and Range Practices Act.

<http://www.frontcounterbc.ca/pdf/S57ApplicationInfoGuide.pdf>

<http://www.frontcounterbc.gov.bc.ca/apps/app139.html>