

Preapproved Routine Impact Assessment

VEGETATION REMOVAL

Mount Revelstoke & Glacier national parks
IAA 2019

Preapproved Routine Impact Assessments (PRIA) are pre-determined environmental management and mitigation measures for a defined class of routine, repetitive projects or activities with well understood and predictable effects. Approved PRIAs are an acceptable Impact Assessment pathway as they fulfill Parks Canada's obligations as a manager of federal lands under the Impact Assessment Act (IAA). This document replaces BMP01.03 Vegetation Removal, September 2019.

Project activities included under this PRIA are maintenance activities that may alter or remove vegetation.

Work occurring in designated frontcountry Day Use Areas or defined as routine trail maintenance and falls within the existing corridor of the trail, should be managed by the Parks Canada Preapproved Routine Impact Assessment for Frontcountry Areas, the Parks Canada Preapproved Routine Impact Assessment for Campgrounds, and the National Best Management Practices for Trail Maintenance and Modification. These PRIA's may be used in conjunction with this PRIA or additional analysis such as a Basic Impact Analysis (BIA).

Removal or use of natural objects (e.g., vegetation) for construction purposes is a prohibited activity under the Canadian National Parks Act General Regulations Section 11(1) and therefore requires a Restricted Activity Permit (RAP) authorized by the Field Unit Superintendent (FUS). The mitigation measures outlined in this PRIA can and should form part of the conditions of the RAP.

Scope of Application:

This PRIA includes (but is not limited to) project activities that may alter or remove vegetation including:

- mowing,
- brushing,
- landscape maintenance activities,
- invasive alien species management,
- fire hazard reduction, and
- Prescribed fire operations.

Conditions and Exceptions:

This section specifies circumstances when the PRIA would not apply or should be used in conjunction with additional analysis such as a Basic Impact Analysis (BIA), including the following:

- The project results in residual adverse effects on migratory birds or their nests. Refer to the draft- *Parks Canada Guidance on Reducing Risk to Migratory Birds* and associated draft- *Conservation Measures for Minimizing Impacts to Migratory Birds during the Nesting Period*.

- The project results in residual adverse effects on an individual, a residence or the critical habitat of a listed species at risk under the Species at Risk Act.
- See mitigations section to ensure no residual adverse effects to species at risk.
- The project involves the removal of or causes damage to cultural resources of heritage value, for example, heritage buildings designated by the Federal Heritage Buildings Review Office, archaeological sites, historical and archaeological objects, or cultural landscapes.
- The project adversely impacts sites of significance to Indigenous peoples or current access and use of areas where hunting, fishing or gathering rights are exercised by Indigenous peoples.
- Mowing areas outside the Trans-Canada Highway right-of-way, the Meadows in the Sky (MIS) Parkway and existing Day Use Areas;
- Invasive alien plant control through chemical means (i.e. use of herbicides)
- Cutting or removing trees through the use of heavy equipment (e.g. skidders, harvesters, excavators, etc.)

Approved geographic areas of application:

This PRIA may be used in:

Mount Revelstoke & Glacier national parks, include Rogers Pass National Historic Site.

Valued Components and Effects Analysis

Terrestrial vegetation

- Introduction or spread of invasive species;
- Destruction of rare plants;
- Increased risk of wildfire from removed vegetation and associated debris management;
- Reduction in abundance / diversity;
- Increase in disease / infestation (e.g., Douglas Fir Beetle).

Terrestrial wildlife

- Incidental take of migratory birds including removal of nests and disturbance to birds;
- Removal of food sources;
- Disturbance / displacement of wildlife due to noise / human presence;
- Mortality of amphibians/reptiles during breeding and dispersal.

Aquatic ecosystems (includes lakes, rivers, streams, wetlands and surrounding riparian zones)

- Increased light from vegetation removal could lead to changes in water temperature and chemistry, which may impact aquatic flora and fauna;
- Increased sedimentation due to increased potential for erosion;
- Reduced stream channel stability;
- Impairment to amphibian breeding habitat;
- Increase in contamination from fuels and lubricants, increased pollutants from overland flow.

Soils

- Increased soil compaction;
- Exposed soil may lead to greater erosion potential;
- Less infiltration during heavy rainfall events leading to overland flow and increased sedimentation/erosion;

- Contamination from spills or leaks of fuels or lubricants.

Visitor experience

- Visual impacts: noticeable cut/modified vegetation may be visually unappealing to visitors and overly-cleared areas may diminish the characteristics of the environment important to key visitor experience objectives;
- Noise pollution from use of electric powered equipment;
- Dangers to public safety and exclusion from work sites while work is being conducted.

Cultural resources

- Accidental removal of undocumented Culturally Modified Trees (CMTs).
- Incidental damage to undocumented cultural resources during vegetation removal or grubbing activities that include minor ground disturbance.

Mitigation Measures

Table 1: Environmental Timing Windows Table

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Fish	AVOID INSTREAM WORK					Least risk window for work in and around freshwater, June 01 – Sept 01 – SPECIES DEPENDANT			AVOID INSTREAM WORK			
Birds	Reduced risk for harm to birds		AVOID VEGETATION REMOVAL Bird Nesting Period: April 01 – August 31						Reduced risk for harm to birds			
Bats	Bat in Hibernacula		Bats Nursing Pups						Reduced risk for harm to bats: Sept 01 – Nov 15		Bat in Hibernacula	

Table 2: Environmental Timing Windows

Consideration	Applicable	Restricted Window	Notes
Migratory Bird General Breeding Period	✓	April 1 to August 31	
Bat Maternity Roost Activity Period	✓	April 1 to August 31	
Bat in hibernacula	✓	November 15 – March 31	
Bull Trout Restricted Work Periods	✓	August 15 to August 31	Different fish species have different instream work windows, consult with IAO
Additional Timing Considerations (e.g., weed seed set, soil protection)	✓	Dry late summer and fall conditions	Before plants have gone to seed, generally around July. Before mowing, timing must be approved by IAO

General

- Remove vegetation in early spring, late fall or winter. Avoid vegetation removal during sensitive species windows e.g., breeding birds and amphibians. If timing of work cannot be postponed, further mitigations (as outlined in the following mitigation measures) must be implemented.
- Minimize full removal and retain vegetation when possible to reduce erosion.
- Use temporary fencing /signs or close an area as necessary to ensure visitor safety.

- 4 Flag or fence area to delineate the work site and minimize the amount of vegetation removal required. Equipment should remain within the flagged clearing limits.
- 5 Remove vegetation during frozen or snow-covered ground conditions to minimize impacts to soil from heavy equipment.
- 6 Erosion and sediment control measures will be installed and maintained to reduce sediment transport into watercourses and waterbodies from vegetation removal activities.
- 7 For temporary vegetation clearing, use erosion controls on exposed soils, especially within 30m of a watercourse or water body.
- 8 Suspend vegetation removal activities during wet weather to minimize erosion and sediment transport.
- 9 Remove vegetation by chainsaw and/or brushsaw and on foot.
- 10 Use biodegradable chainsaw bar oil for work occurring over water.
- 11 Ensure machinery is free of leaks and well maintained.
- 12 Equipment will arrive on site clean and free of soil and will be inspected by the ESO prior to use on site. Equipment will also be cleaned prior to moving to a different work site.
- 13 Restrict heavy machinery to existing roadways and/or hardened surfaces.
- 14 Maintenance and re-fuelling should be done at least 30 m from any water body and at designated areas.
- 15 A spill kit capable of contain 110% of available fuel should be available on site at all times and staff working at the site trained in its correct use.

Selective Removal

- 16 Prune limbs close to the tree trunk. For a clean cut, make a shallow undercut first, then follow with the top cut.
- 17 Selectively cut vegetation to allow for diversity of vegetation types and heterogeneous plant heights.
- 18 Maintain fruit bearing shrubs outside of high density Human Use Areas.
- 19 When practical, do not fall trees >15cm DBH; instead remove lower limbs and/or top trees.
- 20 Maintain canopy vegetation immediately adjacent to streams and lakes, unless deemed to be a hazard tree.
- 21 Do not remove vegetation within 30 m of fish-bearing water bodies. Instead, trim shrubs to a height of 1 meter and limb trees to a height of 2.5 meters.
- 22 Selectively cut clusters of young trees to allow some to continue to grow.
- 23 Mow to a minimum height of 15 cm where appropriate (i.e. roadsides).

Hazard Tree Assessment

- 24 Prior to removal of potential danger trees, a Qualified Danger Tree Assessor should conduct a danger tree hazard assessment as per the BC Wildlife/Danger Tree (WDT) Assessors guidelines.
- 25 Submit a copy of the signed hazard tree assessment report to the IA Officer prior to tree removal.
- 26 If the hazard tree assessment identifies a tree with high wildlife value, contact the IA Officer before falling to determine if additional mitigation measures are required.
- 27 If the hazard tree assessment identifies a tree with high wildlife or cultural value, contact the IA Officer and CRM Advisor before falling to determine if additional mitigation measures are required.

Rare Plants / Invasive Alien Plants

- 28 Plant surveys for rare or invasive alien plants (IAPs) may be required for specific sites based on input from Park specialists. Results of the survey may result in additional mitigations as determined by the IA Officer and Vegetation Ecologist.
- 29 Equipment will arrive on site clean and free of soil and weed seeds to prevent the spread of IAP and will be inspected by the ESO prior to use on site. Equipment will also be cleaned prior to moving to a different work site.
- 30 Avoid staging or parking equipment on sites with high concentrations of IAP.
- 31 Mow early to mid-July along the TCH. Clean mower frequently to prevent the spread of IAPs over large areas.
- 32 Post-construction monitoring of IAP.
- 33 If IAP concerns are present, the IA Officer and Vegetation Ecologist will recommend the appropriate approach to mitigate the establishment/spread of IAP.

Migratory Birds

- 34 No killing, capturing, injuring, taking or disturbing migratory birds or damaging, destroying, removing or disturbing their nests during vegetation removal.
- 35 Implement the recommended mitigation measures for vegetation removal in the Parks Canada *National Best Management Practices for Migratory Birds* (2018).
- 36 Prior to vegetation removal during the MRG breeding bird period (April 1 – August 31), a breeding activity survey must be conducted by a Qualified Environmental Professional (QEP). For areas near tree-line (over 1,000m elevation) and based on site conditions and professional opinion, breeding activity surveys can be delayed to May 1 (by qualified Park staff and/or a QEP).
- 37 Nesting bird surveys in areas likely to support raptors (including owls) and/or waterfowl may be required from February 15 to September 30 based on input from the MRG Wildlife Ecologist.
- 38 Submit bird breeding activity survey results to the IA Officer prior to starting vegetation removal. If active nests and/or tree cavities are observed, consult with the IA Officer for advice on timing of tree removal/trimming and additional mitigation measures including buffer and setback distances from the active nest.

Bats

- 39 No killing, capturing, injuring, taking or disturbing bats or damaging, destroying, removing residences or roosts during vegetation removal.
- 40 Trees should be removed outside of the period of April 1 to August 31. Ideally, work will occur after weaning of pups (approximately August 31) but before hibernation (October 15 – November 15, depending on weather).
- 41 If trees must be removed between April 1 and August 31, a QEP or qualified PCA staff will conduct an inspection prior to the removal of trees to determine their potential to support breeding or roosting bats. Refer to the MRGNP Guidelines for Inspection of Trees and Built Assets for Bats for survey methods.
- 42 Submit bat roost inspection results to the IA Officer immediately after inspection. For trees not deemed to be roosts, removal must occur within two to five days of inspection; the timing of this should be decided in consultation with the IA Officer.

- 43 If tree removal of large diameter trees with roosting characteristics occurs in winter, conduct the removal slowly and consult with the IA Officer in advance of removal regarding the possibility that bats need to be relocated.

Amphibians

- 44 If vegetation removal is to occur within 300 m from a confirmed or potential amphibian breeding wetland, or within 500 m from a confirmed SAR amphibian breeding wetland, additional impact analysis is required and site-specific mitigations developed.
- 45 If vegetation removal is scheduled to occur during non-frozen conditions, the Wildlife Ecologist may complete an amphibian and reptile ground search immediately prior to equipment activities.
- 46 Minimize removal of riparian and wetland vegetation during the amphibian breeding and dispersal period (April 1 – September 30) in areas that have confirmed or potential presence of Western Toad e.g., Rogers Pass sewage lagoon. This will avoid accidental crushing of adult toads during the breeding migration and of juvenile western toads during dispersal.
- 47 If ground disturbance activities are scheduled to occur in frozen conditions, amphibian exclusion fencing may be required in the preceding fall season at the discretion of the Wildlife Ecologist.

Cultural Resources

- 48 Consult with the Cultural Resource Management Advisor prior to start of work to determine required mitigation measures to protect potential Culturally Modified Trees (CMTs).
- 49 For all works, implement the *Accidental Finds Protocol*: if a suspected cultural resource is discovered, halt work and contact the Cultural Resource Management Advisor immediately.

Vegetation Disposal

- 50 Consult with IA Officer to select the appropriate project-specific disposal method. The method for disposal of vegetative debris will depend on specific project details and environmental site conditions at the time of the project (e.g., Fire Danger Rating). Options for vegetation disposal include any one, or combination of, the following:
- i. Buck and limb trees so that the trunk (bole) of the tree touches the ground, scatter to avoid fuel loading;
 - ii. For large diameter (>15 cm DBH) spruce, Douglas fir and subalpine fir, bark must be peeled or scored if fallen trees are left in place or used for firewood;
 - iii. Alternative preventative measures may be taken in consultation with the Vegetation Ecologist;
 - iv. Buck/spilt for re-use (for firewood: 15" to 20" long and 8" maximum diameter);
 - v. Chip and leave in-situ (see mitigation measure #53);
 - vi. Chip and dispose of elsewhere (i.e. landfill or designated area); or
 - vii. Debris may be brought to a designated area to be disposed of by burning. Additional mitigation measures may be required for burning as determined in consultation with the Fire Management Officer any burning will be authorized through a separate Restricted Activity Permit.
- 51 No mulching will occur within 30 m of riparian areas, water bodies, bogs, lakes, streams or wetlands (including ephemeral water features) due to the potential for acid leachate to negatively affect aquatic ecosystems. The distribution of mulch chips will be non-uniform so that native vegetation is not

completely covered by mulched material. Rough mulching (i.e. removing branches but leaving logs intact) is preferable to fine mulch in areas with larger stems (i.e. where small trees are being mulched).

52 Debris will not be deposited in water bodies.

Site Restoration, Monitoring and Control

53 Topsoil removal, storage and management should follow the guidelines described in the Parks Canada National PRIA for *Roadway, Highway, Parkway and Related Infrastructure* (2020).

54 Sod removal and storage is not covered under this BMP, consult the IA officer for specific mitigations.

55 For temporary clearing, re-seed as soon as practical with MRG-approved native seed mix and monitor re-growth. Seed certificates must be provided to the IA Officer for approval before seed mixes are ordered or applied to site.

56 Project proponents are responsible for ensure growth of vegetation and controlling any non-native vegetation for one-year post-construction.

57 Site inspections should be conducted by the proponent in order to monitor restoration success during the first year post construction.

58 For vegetation restoration, expectations are that:

- i. greater than 90% survivorship of planted live stakes will be achieved after the first growing season (if planted in the spring with dormant stakes from that year), greater than 70% survivorship if planted in the fall;
- ii. by the fifth growing season at least 50% of planted stakes should survive;
- iii. greater than 90% of representative native plant cover will be established on the restored site, and;
- iv. less than 10% priority invasive species plant cover will be present on the restored site.

59 For seeded grass, excessive bare ground areas after two growing season's needs to be addressed with additional seeding or alternative vegetation establishment.

60 Vegetation restoration and/or IAP will be assessed by Parks Canada before a Certificate of Project Completion is issued.

Approval

Original approved and signed by Nicholas Irving, Field Unit Superintendent, on June 4, 2015.

References:

British Columbia Ministry of the Environment. 2006. Best Management Practices for Hazard Tree and Non-Hazard Tree Limbing, Topping or Removal.

British Columbia Ministry of the Environment. 2012. Wildlife/Danger Tree Assessor's Course Workbook, Parks and Recreation Sites Course Module, Wildlife Tree Committee of British Columbia.

British Columbia Ministry of Transportation and Infrastructure. 2010. Environmental Best Practices for Highway Maintenance Activities. British Columbia Ministry of Transportation and Infrastructure.

British Columbia Ministry of Transportation and Infrastructure. 2014. Best Practices for Managing Invasive Species on Roadsides. A Pocket Guide for British Columbia's Utility Workers.

Parks Canada. 2010. Mount Revelstoke National Park of Canada, Glacier National Park of Canada, Rogers Pass National Historic Site of Canada Management Plan.

Parks Canada. 2012. Nesting Bird Windows, Mount Revelstoke & Glacier National Parks.

Parks Canada. 2013. Pukaskwa National Park Best Management Practice for Routine Vegetation Trimming and Clearing.

Parks Canada. 2015. National Best Management Practices for Roadway, Highway, Parkway and Related Infrastructure. 2015.

Parks Canada. 2017. BFU/LLYK Woody/Vegetative Debris Management Guidelines

Appendix A

DEFINITIONS

Approved Native Seed Mix:*

General Location	Species	% by Weight in each Seed Mix
Beaver Valley TCH and lower Mount Revelstoke	<i>Elymus glaucus</i>	38%
	<i>Bromus carinatus</i> var. <i>marginatus</i>	47%
	<i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>	15%
TCH (except Beaver Valley)	<i>Calamagrostis canadensis</i>	2%
	<i>Agrostis scabra</i>	2%
	<i>Elymus glaucus</i>	54%
	<i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>	42%

*Approved mix for highway corridor, some areas of MRGNPs will require specific seed mixes, IAO will identify the mix in the approved IA pathway document.

To request a copy of this document with images, please contact ia-ei@pc.gc.ca.

Source : <http://www.fs.fed.us/psw/publications/documents/gtr-155/06-duriscoe.html>

Bat Roost Survey: A survey conducted by a qualified professional to determine the presence of bat roosts in trees, caves, or buildings, and is conducted as per direction of the Parks' Ecologist.

Diameter at Breast Height: The diameter of a tree taken at approximately 1.37 metres from ground level. See diagram on right.

Hazard Tree: (Danger Tree) A tree which has been assessed by a qualified Danger Tree Assessor as dead or dying, dead parts of live trees or unstable trees that have the potential to cause property damage, personal injury or fatality due to the proximity to public use areas, assets, roads or trails.

Qualified Danger Tree Assessor: A person that has a minimum of 3 years of practical field experience in forestry or related field and has completed a 2 day Wildlife Danger Tree Assessor's Course and has passed the written and field practical exam. Renewal required every 4 years.

Qualified Environmental Professional (QEP): an applied scientist or technologist, acting alone or together with another QEP. He or she must be registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, acting under that association's code of ethics and subject to disciplinary action by that association. The QEP may be a professional Biologist, Agriologist, Forester, Geoscientist, Engineer, or Technologist. To be able to certify that they are qualified to conduct an assessment methodology, the individual's area of expertise must be recognized

in the assessment methods as one that is acceptable for the purpose of providing all or part of an assessment report in respect of the particular development proposal that is being assessed. The individual is considered a QEP only for that portion of the assessment that is within their area of expertise, as identified in the assessment methodology (BC Ministry of Environment Website).

Nesting Bird and Bat Roost Survey: A nest survey conducted by a QEP or qualified PCA staff to observe the presence of nesting bird habitat and is conducted as per the Resource Inventory Standards Committee Inventory Methods for Forest and Grassland Songbirds, March 16, 1999 V 2.0 or equivalent. A bat roost survey conducted QEP following the most recent approved survey methods (federal and provincial).

Wildlife Tree: Any standing dead or live tree with special characteristics that provide valuable habitat for the conservation or enhancement of wildlife.