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## 1.0 INTRODUCTION

### 1.1 Class Screening and the Canadian Environmental Assessment Act

The *Canadian Environmental Assessment Act* (the Act) and its regulations set out the legislative basis for federal environmental assessments. The legislation ensures that the environmental effects of projects involving the federal government are carefully considered early in project planning. The Act applies to projects which require a federal authority (FA) to make a decision or take an action, whether as a proponent, land administrator, source of funding or regulator (issuance of a permit or licence). The FA then becomes a responsible authority (RA) and is required to ensure that an environmental assessment of the project is carried out prior to making its decision or taking action.

Most projects are assessed under a screening type of assessment. A screening systematically documents the anticipated environmental effects of a proposed project, and determines the need to modify the project plan or recommend further mitigation to eliminate or minimize these effects. Screenings are conducted for projects which are not on the *Exclusion List Regulations* or the *Comprehensive Study List Regulations* and have not been identified as requiring mediation or an assessment by a review panel.

The screening of some routine projects may be streamlined through the use of a class screening report. This kind of report presents the accumulated knowledge of the environmental effects of a given type of project and identifies measures that are known to reduce or eliminate the likely adverse environmental effects. The Agency may declare such a report appropriate for use as a class screening after taking into account comments received during a period of public consultation.

A model class screening consists of two reports:

- A model class screening report (MCSR) that defines the class of projects and describes the associated environmental effects, design standards and mitigation measures; and
- A class screening project report (CSPR) that describes any additional information (e.g. environmental effects, design standards and mitigation measures) needed for each project assessed under the MCSR, and concludes on the significance of environmental effects of that project.

The inclusion of a planning process in the MCSR ensures that when the MCSR is approved by the RA and declared by the Agency (pursuant to Section 19 of the Act), CSPRs that are planned and implemented in accordance with the MCSR are also approved (pursuant to subsection 20(1)(a) of the Act).

This MCSR:

- Identifies the projects subject to the MCSR;

- Defines the scope of project and scope of assessment;
- Outlines the procedures to be used to prepare a CSPR for individual projects;
- Describes the typical environmental settings;
- Identifies the potential environmental effects of projects subject to the MCSR;
- Presents mitigation measures to minimize potential adverse environmental effects of individual projects;
- Identifies potential cumulative impacts and appropriate mitigations;
- Identifies public consultation procedures undertaken in developing the MCSR; and
- Identifies follow-up or monitoring requirements for individual projects.

## **1.2 Spatial Boundaries of the Class Screening Area**

The MCSR for Routine Projects in Banff National Park (BNP) Frontcountry areas includes projects that occur within the existing cleared area of the picnic/day-use areas, campgrounds, trailheads and highway pullouts listed in Table 1.1. These areas are referred to as the Class Screening Area (CSA). Figure 1.1 shows the locations of the sites that make up the CSA.

Only routine projects within the CSA, as defined by the MCSR and described in Section 2.4, are covered by the MCSR.

## **1.3 Steps in the Class Screening Process**

There are four steps in the Class Screening Process (Figure 1.2):

- *Step 1:* Determining whether a project requires a screening,
- *Step 2:* Determining whether a project fits within the MCSR,
- *Step 3:* Determining whether a project has significant environmental effects, and
- *Step 4:* Determining whether a project should be reclassified to an individual assessment.

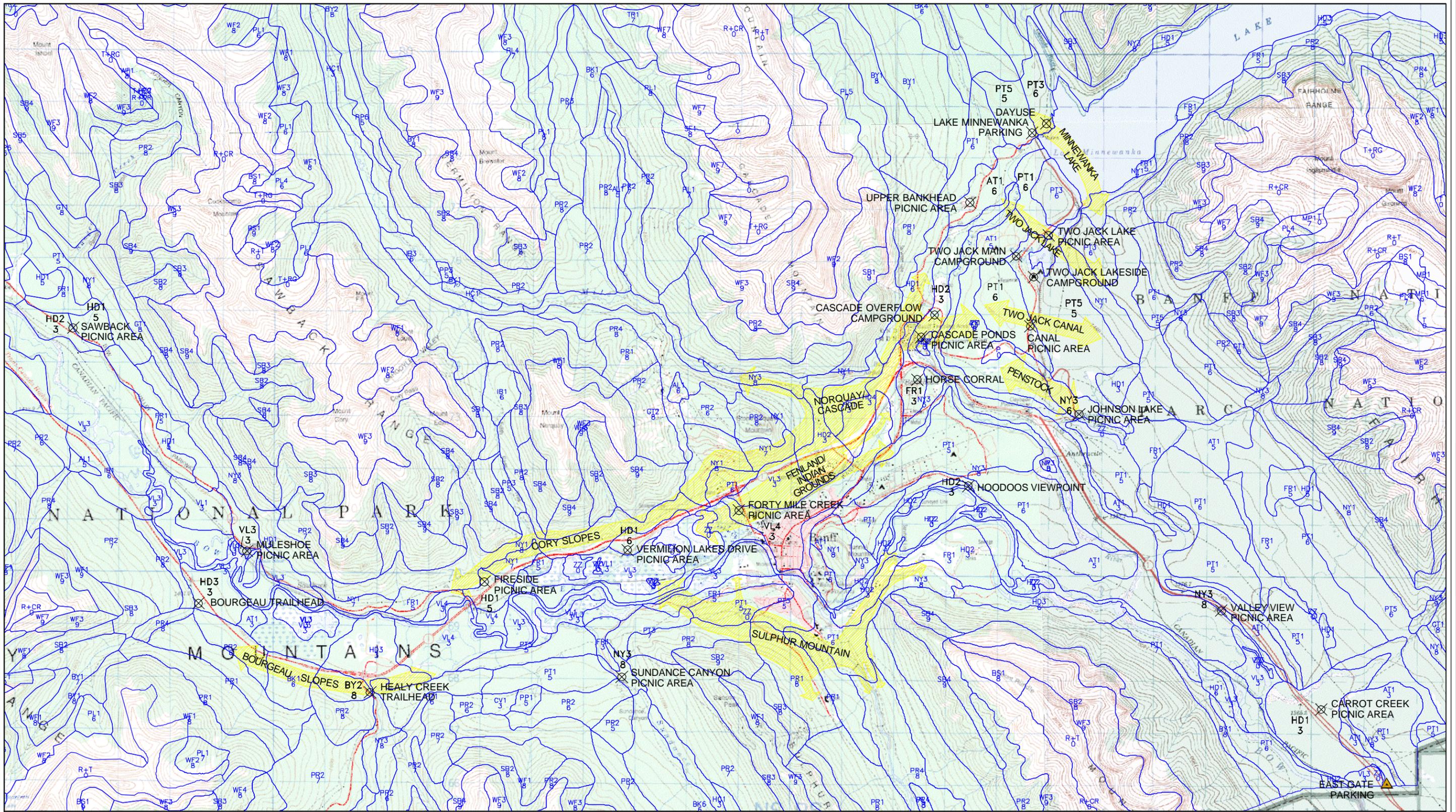
*Step 1: Determining whether a screening is required.*

Projects that require screening are described in Section 2. Based on this information, Parks Canada as the RA, will determine whether an environmental screening is required. If Parks Canada determines that no screening is required, the project may proceed.

Table 1.1 Banff National Park Frontcountry Class Screening Area (CSA) – Project Site Descriptions

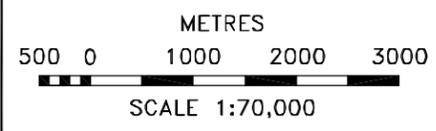
Type of Project Site	Name	Location	Facilities	Ecosite
<b>Picnic/Day-use Areas</b>				
	East Gate	Trans-Canada Hwy	Staff accommodation, gate houses	HD1/3
	Carrot Creek	Trans-Canada Hwy	Toilets	HD1/3
	Valleyview	Trans-Canada Hwy	Tables, toilets	NY3/8
	Johnson Lake	Lake Minnewanka	Tables, toilets, fireplaces	NY3/6
	Two Jack Canal	Lake Minnewanka	Tables, toilets	PT1/6
	Two Jack Lakeside	Lake Minnewanka	Tables, toilets	PT5/5
	Upper Bankhead	Lake Minnewanka	Tables, toilets, kitchen shelters, fireplaces	AT1/6
	Lake Minnewanka	Lake Minnewanka	Tables, toilets, kitchen shelters, fireplaces	PT3/6
	Cascade Ponds	Minnewanka Rd	Tables, toilets, kitchen shelters, fireplaces	HD2/3
	Forty Mile Creek	Banff Townsite	Tables, toilets	VL3/3c
	Sundance Canyon	Banff Townsite	Tables, toilets, kitchen shelters	NY3/8
	Vermillion Lakes	Trans-Canada Hwy	Toilets	HD1/6
	Fireside	Bow Valley Pkwy	Tables, toilets, fireplaces	HD1/5
	Muleshoe	Bow Valley Pkwy	Tables, toilets	VL3/3c
	Sawback	Bow Valley Pkwy	Tables, toilets	HD1/5
	Johnston Canyon	Hwy 1A	Tables, toilets	FR1/3
<b>Campgrounds</b>				
	Two Jack Lake Main Campground	Lake Minnewanka	Tables, toilets, kitchen shelters, fireplaces, staff accommodation	AT1/5
	Two Jack Lakeside	Lake Minnewanka	Tables, toilets, kitchen shelters, fireplaces	PT5/5
	Cascade Overflow Campground	Minnewanka Rd	Toilets	HD2/3
	Johnston Canyon Campground	Hwy 1A	Tables, toilets, staff accommodation	FR1/3
	Castle Mountain Campground	Hwy 1A	Tables, toilets, kitchen shelters, fireplaces	AT1/3
<b>Trailheads</b>				
	Healy Creek Trailhead	Sunshine Rd	Toilets	PT1/6c
	Bourgeau Trailhead	Trans-Canada Hwy	Toilets	HD3/3
	Red Earth Trailhead	Trans-Canada Hwy	Toilets	BK4/6c
	Rockbound Lake Trailhead	Hwy 1A	Toilets	HC1/3
	Boom Lake Trailhead	Hwy 93 South	Tables, toilets	BK4/5c
<b>Highway Pullouts</b>				
	Hoodooos Viewpoint	Tunnel Mountain Rd	Toilets	HD2/3
	Castle Mountain View Point	Trans-Canada Hwy	Toilets	VL3/3c
<b>Other</b>				
	Horse Corral	Trans-Canada Hwy	Government horse stables, toilets	FR1/3





**LEGEND**

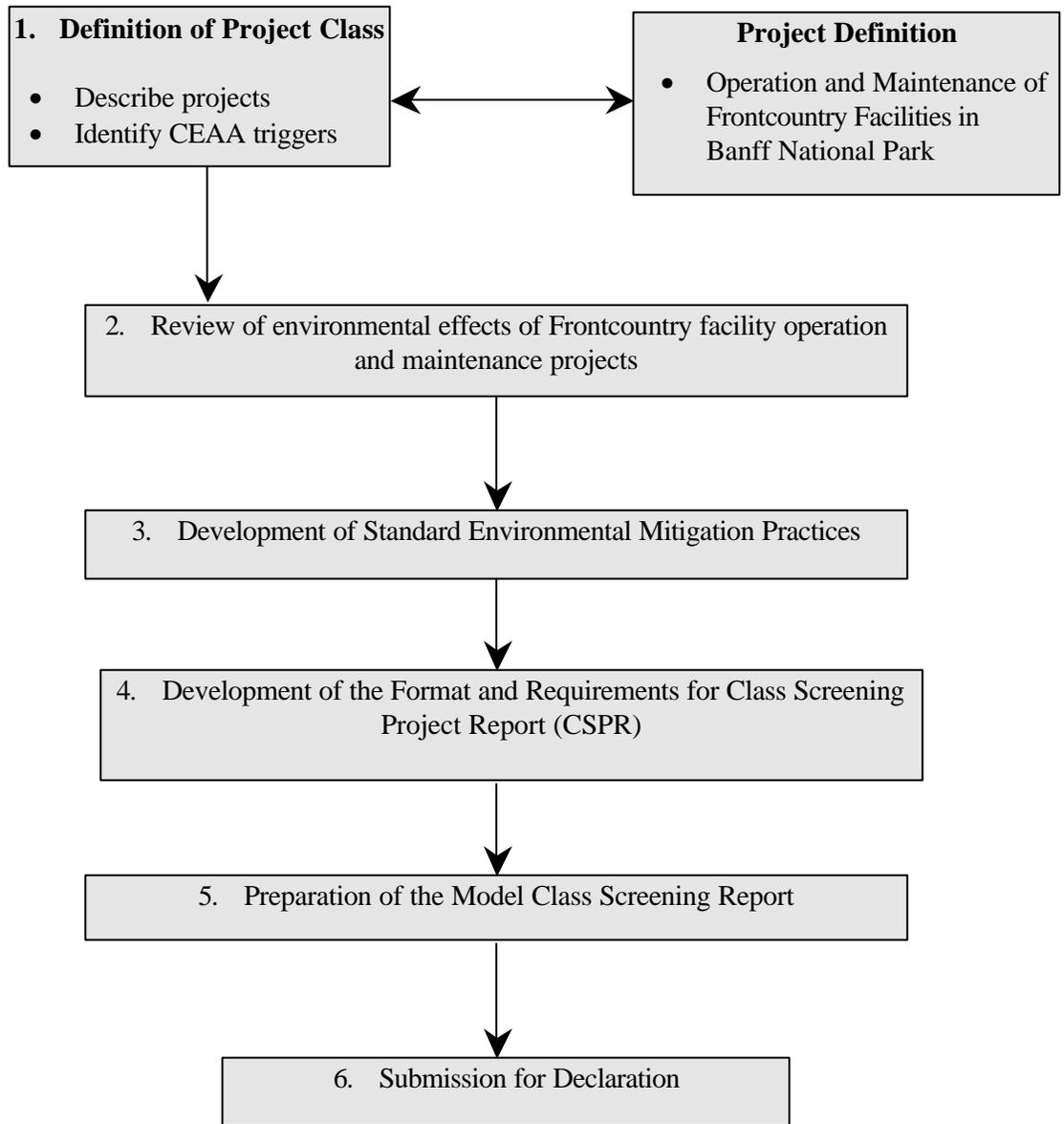
-  HERITAGE SITE
-  WILDLIFE CORRIDOR



**FIGURE 1A**  
**CLASS SCREENING AREA FOR BANFF**  
**NATIONAL PARK FRONT COUNTRY**  
**ROUTINE MAINTENANCE**



Figure 1.2 Developing the MCSR for Frontcountry Projects in Banff National Park



*Step 2: Determining whether a project fits within the Model Class Screening Report.*

If a project does require a screening, the next step is to determine whether the project fits within the Class of routine projects set out in Section 2.4 of this MCSR.

The projects set out in Section 2.4 were compiled based on the following criteria:

- The project being proposed meets the definition of a “project” under CEAA;
- The project triggers CEAA because a Federal authority has proposed the project, grants financial assistance to the project, requires a lease of Federal land, and/or requires a permit from Parks Canada that is on the Law List;
- The project is not listed on the *Exclusion List Regulation*; and
- The project is relatively routine or repetitive, with well understood, or predictable effects that can be readily mitigated.

The proponent can determine if their project fits within the class by reviewing Section 2.4. Proponents whose projects fall within the class will be required to complete the CSPR form and submit the form to the Parks Canada Warden’s Office.

*Step 3: Determining whether a project has significant environmental effects*

Completion of the CSPR form will provide the Parks Canada Environmental Assessment Office with sufficient information to determine the likely environmental effects of the project.

If the project is determined to have no significant adverse environmental effects when standard mitigation procedures are implemented, the proposed project can be approved by Parks Canada. Detailed information on preparing the CSPR form is provided in Sections 4.9 and 4.10 of this report.

Parks Canada, as the RA, will provide project approvals based on the following criteria:

- Projects are routine, repetitive and use well-understood technology;
- Create no significant environmental impacts;
- Use recognized mitigation methods to reduce impacts;
- Comply with the Banff National Park Management Plan (Amended May 2004), and
- Do not negatively impact sensitive areas.

Parks Canada may request additional information if there is not sufficient information on the CSPR form to make a determination regarding significance.

*Step 4: Determining whether a project should be reclassified to an individual assessment.*

A project may not be approved under the MCSR, and may be reclassified to require an individual environmental assessment if it is determined to:

- Cause a significant adverse effect that cannot be readily mitigated; or
- The environmental effects are uncertain.

In this case, the project will be removed from the class screening process and the proponent will be required to prepare an individual assessment under CEAA.

#### **1.4 Cumulative Effects Assessment**

For the purpose of this MCSR, cumulative environmental effects are defined as those effects on the environment that result from project activities when combined with effects on the environment as a result of other past, current and imminent projects and activities.

Parks Canada considers Park Management Plans to be the appropriate mechanism for the strategic identification and management of cumulative environmental effects. Park Management Plans identify major stressors affecting natural and cultural resources from both inside and outside the park boundaries. They also identify indicators of change for monitoring the state of the park's natural and cultural resources. Monitoring of these indicators in turn facilitates the identification of cumulative environmental effects on ecological and cultural resources. The Banff National Park Management Plan (amended May 2004) sets out a Key Action to develop a monitoring program based on a wide range of indicators. Those ecological and cultural indicators relevant to this MCSR include the following:

- Native biodiversity
- Atmosphere/climate
- Geology and landforms
- Water quality/aquatic ecosystems
- Vegetation
- Wildlife
- Outside influences/shared ecosystems
- Stewardship
- Archaeological resources
- Built heritage

## 2.0 ROUTINE PROJECTS WITHIN BNP FRONTCOUNTRY AREAS COVERED BY THE MODEL CLASS SCREENING REPORT

### 2.1 Projects Subject To CEAA

This MCSR applies to ‘Construction, modification, maintenance and/or repair of buildings, utility lines, roads and/or parking areas, including site preparation and facilities decommissioning/abandonment’ projects which occur relatively frequently, typically result in environmental effects that are predictable and well understood, and can be easily mitigated using accepted mitigation methods. Routine projects conducted in the CSA that are subject to CEAA are listed in Table 2.1.

In order for the Act to be triggered a proposed development must:

- Be a “project” under the Act. A “project” is either an undertaking in relation to a physical work such as any proposed construction, operation, modification, decommissioning, abandonment; or a physical activity not relating to a physical work that is specified as a project in the *Inclusion List Regulations*.
- Not be listed in the *Exclusion List Regulation* to the Act, and
- Involve a federal authority that is required to exercise or perform one or more of the following duties relating to the project:
  - ? Propose the project;
  - ? Grant financial assistance to the project;
  - ? Grant an interest in land in order for the project to be carried out; or
  - ? Exercise a regulatory duty listed in the *Law List Regulations* (paragraphs 23(a) and (b)) that enables the project, such as issuing a permit or granting an approval.

Projects in BNP Frontcountry areas may also be required by CEAA to undergo an environmental assessment based on the Law List Trigger, which includes the following:

Section 5(1)(d) of the Act requires an assessment where a Federal Authority:

“... issues a permit or licence, grants an approval or takes any other action for the purpose of enabling the project to be carried out in whole or in part” where the authority for that permit, licence, approval or action is included in the *Law List Regulations*.

For the purposes of the routine projects that are encompassed by this MCSR, the following regulations are relevant.

Subsection 11(1) of the *National Parks General Regulations* authorizes Parks Canada to issue permits for:

“ . . . the removal of natural objects for construction purposes within a Park.”

Table 2.1 Routine Projects for Picnic/Day-Use Areas, Campgrounds, Trailheads and Highway Pullouts that trigger the Canadian Environmental Assessment Act

Routine Projects	CEAA Trigger in Banff National Park	Buildings	Utility Lines	Roads & Parking	Campground & Day Use Areas
<b>• Site Preparation</b>					
Site investigation (geotechnical)	✓	•	•		
Vegetation clearance (including under power lines)	✓	•	•	•	•
Site grading, excavation and materials stripping	✓	•	•	•	•
Digging holes for replacement poles	✓		•		
<b>• Construction, Modification, Maintenance and Repair</b>					
Construction	✓ <sup>(a)</sup>	•			
Installation or replacement of utility lines (trenching and backfilling)	✓ <sup>(b)</sup>		•		
Right-of-way maintenance	✓ <sup>(c)</sup>		•	•	
Replace or modify culverts and ditches	✓			•	
Light installation (10 or more)	✓			•	•
Fence installation	✓ <sup>(d)</sup>				•
<b>• Decommissioning or Abandonment</b>					
Utilities removal	✓ <sup>(b)</sup>	•	•		
Foundation removal	✓ <sup>(b)</sup>	•			

- (a) If a building permit is required or the project involves work on a FHBRO listed heritage building.
- (b) If excavation is required.
- (c) If vegetation clearing is involved.
- (d) If greater than 1.5 m in height or longer than 60 m.

“Natural objects” are any natural material, soil, sand, gravel, rock, mineral, fossil or other object of natural phenomenon, other than flora and fauna (these are also defined terms). Therefore projects that require the removal of natural objects will trigger CEAA including projects requiring excavation.

Subsection 12(1) of the *National Parks General Regulations* applies to the CSA, authorizing a park superintendent to:

“issue a permit to any person authorizing the person to remove, deface, damage or destroy any flora or objects for purposes of Park Management.”

Subsection 5(1) of the *National Parks Building Regulations* governs any building on the property of the national parks outside of the town of Banff, and requires a permit from a park superintendent for any construction work, including initial excavation work.

## 2.2 Routine Projects Excluded from the MCSR

Some undertakings in relation to a physical work may not require an environmental assessment under CEAA because they are listed in the *Exclusion List Regulations*. These projects are therefore not included in the MCSR. The Act defines Excluded Projects under Section 7(1) whereby an environmental assessment of a project is not required when:

- The project is described in an exclusion list;

There are *Exclusion List Regulations* that list projects and classes of projects that do not require an environmental assessment under the Act. Schedule II to *Exclusion List Regulations* specifically addresses certain kinds of National Parks projects.

Based on that schedule, the following routine projects which occur in the (CSA) will not require assessment under the Act, and therefore are not included in this MCSR:

- The proposed modification, maintenance or repair of an existing structure, outside the town of Banff, including its internal fixed structures, that would **not**:
  - Increase the footprint or height of the structure;
  - Involve a heritage structure;
  - Involve a change in the method of sewage disposal, or an increase in the amount of sewage, waste or emissions;
  - Involve any excavation beyond the footprint of the structure;
  - Create a need for related facilities such as parking spaces; or
  - Involve the likely release of a polluting substance into the environment (A polluting substance is a substance, either natural or man-made, that can potentially have adverse effects on the environment).

- The proposed modification, operation, maintenance or repair of an existing buried water, sewer, gas, electricity or telephone service line, other than a line crossing a water body, [in the Town of Banff or the Town of Jasper described in Schedule I to the National Parks Lease and Licence of Occupation Regulations (1991), in any resort subdivision described in Schedule II to those Regulations or any visitor centre described in Schedule III to those Regulations], where the modification, maintenance or repair would **not**:
  - Take place in an area that is not built-up;
  - Involve the cutting of indigenous trees;
  - Be carried out in or on or within 30 m of a water body;
  - Involve the likely release of a polluting substance into the environment (A polluting substance is a substance, either natural or man-made, that can potentially have adverse effects on the environment);
  - Increase the operating capacity of the water, sewer, gas, electricity or telephone service line; and
  - Involve a risk of physical harm to mammals.
- The proposed maintenance or repair of an existing sidewalk, boardwalk or parking lot.
- The proposed maintenance or repair of an existing fence.
- The proposed maintenance or repair of an existing road, including pull-off areas, that would be carried out on the existing right of way (RoW) and would **not**:
  - Involve the application of a dust control product or salt to the road or of a pest control product to the areas adjacent to the road.
  - Result in the likely release of a polluting substance into a water body; and
- The proposed construction or installation of an interpretive display or exhibit associated with an existing building, road, pull-off area or trail, if the construction or installation would **not**:
  - Require an expansion of any existing associated facilities; or
  - Be located in a special preservation area or a wilderness area set out in a parks management plan laid before each House of Parliament under subsection 5(1.1) of the *National Parks Act*.

## 2.3 Routine Projects Not Suited to the MCSR

Several activities conducted in the BNP Frontcountry areas do not meet the class screening requirements of being routine, repetitive activities with known, easily mitigable environmental effects. These projects could have the potential to cause unacceptable environmental impacts, and therefore, an individual assessment will be required. The projects that are *excluded* from this MCSR for that purpose are identified by the following thresholds.

- Projects outside the CSA.
- Construction of new buildings in the CSA that are not replacements of existing buildings.
- Construction of new roads and parking lots in the CSA.
- Installation of a new septic field or modification of an existing septic field.
- Projects that impact *Potentially Sensitive Sites*, **may** require a separate assessment. Sensitive Sites are described in Section 3.4 and include:
  - Critical wildlife areas including movement corridors,
  - Areas which contain Douglas fir, Limber pine or Rocky Mountain juniper, and
  - Land within 30 metres of water bodies.
- Projects that occur on contaminated sites.
- Projects that may adversely affect Species at Risk, either directly or indirectly, such as by adversely affecting their habitat. For the purposes of this MCSR, Species at Risk are identified in Section 3.4 and include:
  - Species identified on the List of Wildlife Species at Risk set out in Schedule 1 of the *Species at Risk Act (SARA)*, and including the critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of the *Species at Risk Act*.
  - Species that have been recognized as "at risk" by COSEWIC or by provincial or territorial authorities.
- Projects not permitted in the area as defined in the Banff National Park Management Plan (Amended May 2004).

## 2.4 Summary of Routine Projects Subject to Class Screening

### 2.4.1 *Facilities and Activities Included in the MCSR*

The following projects are included in this MCSR for BNP Frontcountry facilities:

- Operation and maintenance of facilities at the following campgrounds: Two Jack Main, Two Jack Lakeside, Johnson Canyon and Castle Mountain.
  - Facilities include: campground water lines, sewer lines, kitchen shelters, staff accommodation, roads and toilet facilities, including septic tanks.
  - Operations include construction, modification or replacement, maintenance and repair of existing facilities.
- Operation and maintenance of facilities at picnic/day-use areas, trailheads and highway pullouts within the CSA.
  - Facilities include: picnic tables, garbage bins and toilet facilities, as well as the stables at Horse Corral and two gate houses at BNP's East Gate.
  - Operations include: construction, modification or replacement, maintenance and repair of existing facilities.
- Maintenance, replacement and decommissioning of utility lines including water, electricity and sewer lines, when the replacement does not involve any increase in existing capacity.

Table 2.1 lists the routine projects for facilities in BNP Frontcountry areas that are included in this MCSR based on the *Canadian Environmental Assessment Act* and Parks Canada Policy. A brief overview of these projects is provided below.

### 2.4.2 *Project Activities*

#### **Site Preparation**

Site preparation may be required prior to construction or modification of buildings, utility lines, roads or parking areas within the CSA. This can include the following:

- *Site investigation*, including geotechnical investigations such as digging test pits or drilling wells with backhoes or drilling rigs. Investigation ensures there is no existing contamination on site.
- *Vegetation clearance*, including mowing and removal of shrubs and trees. Cleared vegetative material is chipped on site and is either reused as mulch on site or stored at the Cascade Pit for future use. Vegetation clearance may also be undertaken at campgrounds and picnic/day-use areas to maintain the existing cleared area.

- *Grading, excavation and material stripping* related to demolition of existing facilities; excavation of utility lines; or preparation at construction sites, roads or culverts.
- *Digging holes for new electrical poles* within RoWs, usually using a backhoe or other equipment.

## **Construction, Modification, Maintenance and Repair**

- Buildings

Buildings in the CSA include toilet facilities (outhouses and flush toilets), kitchen shelters, horse stables and staff accommodation located at picnic/day-use areas, campgrounds, trailheads and/or highway pullouts. (See Table 1.1 for which facilities are found at each location). There are also 2 gatehouses located at BNP's East Gate, which are listed as heritage structures. The *National Parks Building Regulations* requires a permit from a park superintendent for any construction work, including initial excavation work, on buildings within the park that are outside of the town of Banff.

Activities for the construction or modification of buildings in the CSA can involve excavation and pouring of foundations, transportation and storage of materials, framing and cladding/roofing, interior finishing and provision of utilities.

- Utility Lines

Utility lines in the CSA include water and sewage lines to flush toilet facilities (including at staff accommodation and horse stables), as well as electricity lines to some toilet facilities, staff accommodation and horse stables. The *National Parks General Regulations* requires a permit for the removal of any natural objects for construction purposes, such as excavation work, and the removal, damage to or destruction of any flora or objects for the purposes of Parks Management.

- *Installation or maintenance of utility lines* involves digging trenches 1 to 3 m deep and 0.5 to 1 m wide by backhoe, installing the conduit, pipe or cable, filling of the trench by backhoe, compacting material and crowning over to allow for subsidence. Final grading re-contours the surface. Smaller lines, such as electrical or phone lines, can be put in using a trenching machine, which opens the trench, lays the line and closes the trench in one pass and is less disturbing than a backhoe.
- *Maintaining the RoWs* for roads and utility lines within the CSA includes mowing and vegetation removal, including trees and minimal herbicide use. Round-Up is used for spot control occasionally on medians and shoulders. A permit must be obtained from Parks Canada for herbicide use.

- Roads and Parking Areas

Roads in the CSA include those in campgrounds, picnic/day-use areas, and at trailheads. Parking areas at these locations, as well as at highway pullouts, are also included. Road and parking lot construction activities include re-surfacing, road shoulder modification, modification or replacement of roadway water drainage systems, painting of centre and edge lines by machine and installation of wooden guideposts with plastic reflector tape.

- *Maintenance and replacement* of culverts and ditches related to roads or parking areas involves excavation, installation of culverts and backfilling by machine.
- *Maintaining the RoWs* includes mowing, vegetation removal and minimal herbicide use. Round-Up is used for spot control occasionally on medians and shoulders. A permit must be obtained from Parks Canada for herbicide use.
- *Light installation* along roads and at parking areas involves the installation of light poles, including digging holes, pouring concrete foundations and installation of electrical utility lines.

### **Campgrounds, Picnic/Day-Use Areas and Trailheads**

- *Light installation* at campgrounds involves the installation of light poles, including digging holes, pouring concrete foundations and installation of electrical utility lines.
- *Fence construction*, includes the building of permanent fences (possibly with gates for human passage) made out of metal posts and chain link or wood.

### **Decommissioning and Abandonment**

- *Removal of utility lines or building foundations* as part of any facilities decommissioning within the CSA involves excavation, followed by reclamation.

## **2.5 Typical Seasonal Scheduling and Duration of Projects:**

Seasonal scheduling of projects:

- Construction, modification, maintenance or repair and decommissioning and abandonment of facilities occur between April and October. At campgrounds, however, spring (late April to early June) and fall (September) are the most active seasons due to seasonal start-up and shutdown periods.
- Spring start-up includes cleaning facilities and initializing and checking water pump stations, which must be pressurized, as well as utility lines. Water lines in BNP are installed at a shallow depth in the ground, making them susceptible to breakage from freezing if any water remains in the lines over winter. Excavation may therefore be required for access to utility

lines if pipes or valves have broken due to freeze/thaw action or if they need to be cleared. Vegetation clearing may be required when older utility lines need repair.

- Fall shutdown includes the pump out of septic tanks at toilets and blowing of the water lines.
- Additional pump out of septic tanks may be undertaken during the summer season as required. Septic waste is trucked out of BNP for disposal.

Duration of projects:

- Depending upon the size and complexity of the facility, the duration of BNP Frontcountry projects typically extends from a few days for maintenance projects to one month for construction projects.

## **3.0 PROJECT SETTING**

### **3.1 Description of Class Screening Area**

The BNP Frontcountry CSA is located in the Lower Bow Valley in the montane and lower sub-alpine ecoregions.

The Montane Ecoregion comprises 3.0% of BNP of which 77.4% is in the Bow River valley. The very high importance of the Montane Ecoregion to wildlife, its limited extent and the concentration of developments in this region create wildlife management problems. The dominant vegetation in this ecoregion is forests of Douglas-fir, trembling aspen and lodgepole pine with patches of grasslands on dry sites. White spruce, balsam poplar and shrub meadows are found on wetter sites. The upper boundary is 1500 m on northern aspects and 1650 m on southern aspects.

The Subalpine Ecoregion which occurs at elevations above the Montane is cooler and moister, and is divided into the Lower and Upper Subalpine. It comprises 55% of BNP. The dominant vegetation in the Lower Sub-alpine is closed coniferous forest, with mature forests dominated by Engelmann spruce and subalpine fir. The upper boundary is about 2000 m in elevation. The Upper Subalpine vegetation is transitional between the Lower Subalpine closed forest and the treeless Alpine tundra, with open forests and stunted tree growth common.

The Frontcountry project sites found within these ecoregions are shown in Table 3.1. Table 3.1 also shows the specific ecosites in which each project site is located (see Appendix A for ecoregion descriptions and see Figure 1.1 for locations of ecosites).

### **3.2 Typical Project Sites and Environmental Setting**

Since the projects that are subject to this MCSR are well defined, the mitigation measures are well established, and the potential environmental effects are well understood, detailed descriptions of the environmental setting of projects subject to the MCSR are not required.

The amount of information on the environmental setting will vary with the complexity of the project, the extent of project-environment interactions, and the ability of mitigations to ensure no significant adverse environmental effects result. If project-specific mitigation is required, then a follow-up program may be required.

Site-specific information will be provided for subsequent projects through the completion of the CSPR form

Table 3.1 Ecoregions and Ecosites of Front Country Facilities

Ecosite	Front Country Facilities
<b>Montane ecoregion</b>	
Athabasca (AT)	<ul style="list-style-type: none"> <li>• Two Jack Lake Main Campground</li> <li>• Upper Bankhead Picnic Area</li> </ul>
Fireside (FR)	<ul style="list-style-type: none"> <li>• Johnston Canyon Campground</li> <li>• Johnston Canyon Picnic area/Day-use</li> </ul>
Hillsdale (HD)	<ul style="list-style-type: none"> <li>• Carrot Creek Picnic Area</li> <li>• Sawback Picnic Area</li> <li>• Fireside Picnic Area</li> <li>• Vermilion Lakes Drive Picnic Area</li> <li>• Cascade Ponds Day-use/Picnic Area</li> <li>• Hoodoos Viewpoint</li> <li>• Bourgeau Trailhead</li> </ul>
Patricia Lakes (PT)	<ul style="list-style-type: none"> <li>• Two Jack Canal Picnic Area</li> <li>• Healy Creek Trailhead</li> <li>• Lake Minnewanka Picnic area/Day-use</li> <li>• Two Jack Lakeside Picnic area/Day-use</li> <li>• Two Jack Lakeside Campground</li> </ul>
Vermilion Lakes (VL)	<ul style="list-style-type: none"> <li>• Forty Mile Creek</li> <li>• Mule Shoe</li> <li>• Castle Mountain Viewpoint Pull-out</li> </ul>
<b>Lower sub-alpine ecoregion</b>	
Altrude Lakes (AL)	<ul style="list-style-type: none"> <li>• Castle Mountain Campground</li> </ul>
Baker Creek (BK)	<ul style="list-style-type: none"> <li>• Boom Lake Trailhead</li> <li>• Red Earth Trailhead</li> </ul>
Hector Lake (HC)	<ul style="list-style-type: none"> <li>• Rockbound Lake Trailhead</li> </ul>

### 3.2.1 National Park Zoning System

The National Park Zoning System is made up of five categories delineating the type of facilities and human use permitted in the area. Project sites for the CSA are located in Zone IV. Banff National Park zoning includes:

- *Zone I* deserves special preservation because these areas contain unique, threatened, or endangered natural or cultural features and are excellent examples of representative natural regions.

- *Zone II* contains extensive areas that are good representations of a natural region and are conserved in a wilderness state. The perpetuation of ecosystems with minimal human interference is the key consideration.
- *Zone III* areas are where visitors experience the park's natural and cultural heritage through outdoor recreational activities that require minimal services and facilities of a rustic nature. Zone III applies to areas where visitor use requires facilities that exceed the acceptable standards for Zone II.
- *Zone IV* accommodates a broad range of opportunities for understanding, appreciation and enjoyment of the park's heritage. Direct access by motorized vehicles is permitted. Zone IV generally includes frontcountry facilities and the rights-of-way along park roads. Zone IV nodes also exist at various locations with intensive tourism and recreation facility development such as lodges, ski hills, campgrounds, visitor centers and day use areas.
- *Zone V* encompasses areas of intensive visitor use, including the communities of Banff, Jasper, Lake Louise, Waterton, and Field, as well as the transportation corridor through Mount Revelstoke and Glacier National Parks and the visitor facilities at Radium Hot Springs in Kootenay National Park.

### **3.2.2 Ecological Setting**

Project sites are located in a number of ecosites typical of BNP Frontcountry areas.

#### **Montane Ecoregion**

There is a high concentration of people and facilities in the montane ecoregion of the Lower Bow Valley including the Banff townsite and outlying areas. This ecoregion is also critical wildlife habitat for most wildlife species and provides connectivity with the foothills, plains and north-south expanse of the Rocky Mountains. There is a concern that Banff National Park wild lands are decreasing and this is impacting wildlife in a negative manner. Such impacts include a decrease in wildlife habitat for critical life phases and diminished connectivity for wildlife with large territory requirements.

#### ***Athabasca Ecosite (AT1)***

Two Jack Lake Main Campground and Upper Bankhead picnic/day-use area are located in the AT1 Ecosite. This area is highly important to wildlife including ungulates, carnivores, small mammals and birds. Black bear and grizzly bear are likely to occur between April and November. Long-toed salamanders and wood frogs have been recorded in the area.

The movement corridor in the area is Two Jack Lake Corridor. Wildlife species that use this corridor in the winter include deer, bighorn sheep, coyote, cougar and wolf (See Figure 1.1 or corridor locations).

### ***Fireside Ecosite (FR1)***

Johnston Canyon campground and Johnston Canyon picnic/day-use area are found in the FR1 ecosite. This area is highly important to wildlife including ungulates, carnivores, small mammals and birds. Black bear and grizzly bear likely occur in the area between April and November. Amphibians are likely to occur where there are wetland areas around the campground/picnic areas.

### ***Hillsdale Ecosite (HD1)***

Carrot Creek, Sawback, Fireside and Vermilion Lakes Drive picnic/day-use areas are highly important for all wildlife including amphibians and occur in the HD1 ecosite. Black bear and grizzly bear may occur between April and November. For Carrot Creek and area, wood frogs and long-toed salamander occur. Western (boreal) toads are found in Horse Pond, in the Carrot Creek vicinity. For Sawback and Fireside, amphibians are likely to occur in wetland areas or areas with water bodies. On Vermilion Lakes Drive, long-toed salamander, wood frogs, spotted frogs and western (boreal) toads are in the area. Ponds are important breeding sites in HD1 for wood frogs and long-toed salamander. The wandering garter snake has been recorded in the Vermilion Lakes area.

There are a number of wildlife corridors in the area used by wildlife species in the winter including the Norquay/Cascade Corridor, Fenland/Indian Grounds Corridor and the Sulphur Mountain Corridor. Wildlife species which use these corridors in the winter include elk, deer, some bighorn sheep, coyote, wolf and cougar. (See Figure 1.1 for corridor locations).

### ***Hillsdale Ecosite (HD2)***

Cascade Ponds picnic/day-use area, Cascade overflow campgrounds and Hoodoos Viewpoint occur in the HD2 ecosite. This area is highly important for all wildlife including amphibians. Black bears and grizzly bears are likely to occur between April and November. Ponds in the area are habitat for western (boreal) toads. Spotted frogs may also occur in the area. Wood frogs are found in wetlands east of Hoodoos Ridge.

There are two wildlife corridors in the area of Cascade Ponds which wildlife species are known to use during the winter. The Norquay/Cascade Corridor provides habitat for elk, deer, bighorn sheep, coyote, wolf and cougar. The Two Jack Canal Corridor provides habitat for elk, deer, bighorn sheep, coyote, wolf and moose. (See Figure 1.1 for corridor locations).

### ***Hillsdale Ecosite (HD3)***

The Bourgeau trailhead is found in the HD3 ecosite. This area is highly important for carnivores and ungulates and moderately important for small mammals. Black bear and grizzly bear may occur between April and November. There is a medium density of breeding birds. Amphibians are likely in wetland areas or areas with water bodies.

The Bourgeau Slopes Wildlife Movement Corridor occurs in the area of the project study site. Wildlife known to use this corridor in the winter include elk, deer, coyote, cougar and moose. (See Figure 1.1 for corridor locations).

### *Norquay Ecosite (NY3)*

Sundance Canyon and Johnson Lake picnic/day-use areas are found in the NY3 ecosite. This area is highly important for carnivores, ungulates, small mammals and birds. Black bear and grizzly bear may occur between April and November. Amphibians are likely in wetland areas or areas with water bodies.

The Penstock Wildlife Movement Corridor occurs near Johnson Lake picnic/day-use area. Wildlife known to use this area in the winter include elk, deer, bighorn sheep, coyote, wolf and fox. (See Figure 1.1 for corridor locations).

### *Patricia Lake Ecosites*

#### *PT1*

Two Jack Canal picnic/day-use area and Healy Creek trailhead are found in PT1. This area is moderately to highly important for all wildlife including carnivores, ungulates, small mammals and breeding birds. Black bear and grizzly bear are likely to occur in the area between April and November. In Two Jack Canal, long-toed salamanders and wood frogs are in the area. For Healy Creek trailhead, amphibians likely occur in wetland/water body areas surrounding the trailhead.

Two Jack Canal Corridor is closest to the Two Jack Canal picnic/day-use area and the Bourgeau Slopes Corridor is closest to Healy Creek trailhead. Wildlife species known to use the Two Jack Canal Corridor in the winter are elk, deer, bighorn sheep, coyote, wolf and moose. Wildlife species known to use the Bourgeau Slopes Corridor include elk, deer, bighorn sheep, coyote, cougar and moose.

#### *PT3*

Lake Minnewanka picnic/day-use area is found in the PT3 ecosite. This area is highly important to all wildlife including carnivores, ungulates, small mammals and breeding birds. Black bear and grizzly bear are likely to occur from April until November. Western (boreal) toads, long-toed salamanders and wood frogs occur in wetland areas around the picnic/day-use areas. Amphibians are unlikely in the picnic/day-use areas. Wandering garter snakes have been recorded along shores of Lake Minnewanka.

The Minnewanka Lake Corridor is nearest to the Lake Minnewanka picnic/day-use area. Wildlife species known to use this corridor in the winter include elk, deer, bighorn sheep and coyote.

## *PT5*

The Two Jack Lakeside picnic/day-use area and campground are found in the PT5 ecosite. This area is highly important for ungulates, carnivores, breeding birds and small mammals. Black bear and grizzly bear are likely to occur between April and November. The long-toed salamander, western (boreal) toad and wood frog are found in the area. In particular, amphibians are often found in the manholes that house pipe junctions or valves for the water system at Two Jack Lakeside campground.

The closest wildlife movement corridor is the Two Jack Lake Corridor. Wildlife species known to use this area during the winter include deer, bighorn sheep, coyote, cougar and wolf.

## ***Vermilion Lakes Ecosite (VL3)***

Forty Mile Creek and Mule Shoe picnic/day-use areas and Castle Mountain viewpoint are all found in the VL3 ecosite. This area is highly important for ungulates, carnivores, small mammals, breeding birds and amphibians. Black bear and grizzly bear may occur between April and November. Western (boreal) toads occur in the Forty Mile Creek area. At Muleshoe, long-toed salamander, western (boreal) toads and wood frogs occur in the area. For the Castle Mountain Viewpoint, amphibians are likely in areas where there are wetlands/water bodies away from human traffic. Ponds are important breeding sites in this ecosite for wood frogs, long-toed salamanders and western (boreal) toad.

For Forty Mile Creek, the nearest wildlife corridors are Fenland/Indian Grounds and the Norquay/Cascade Corridor. Muleshoe is nearest to the Cory Slopes Wildlife Corridor. Wildlife species known to use the Norquay/Cascade corridor in the winter include elk, deer, coyote, wolf and cougar. Wildlife species known to use the Fenland/Indian Grounds Corridor include elk, deer, coyote and wolf. Wildlife species known to use the Cory Slopes Wildlife Corridor include elk, deer, bighorn sheep, coyote, wolf and cougar.

## **Lower Sub-alpine Ecoregion**

### ***Altrude Lakes Ecosite (AL1)***

Castle Mountain campground is found in the AL1 ecosite. This ecosite is highly important for ungulates, carnivores, small mammals and breeding birds. Black bear and grizzly bear may occur between April and November. Wood frogs, spotted frogs and western (boreal) toads occur in the Castle Junction wetland areas around the campground. Amphibians are unlikely in the campground itself.

### ***Baker Lake Ecosite (BK4)***

Boom Lake and Red Earth trailheads are found in the BK4 ecosite. It is highly important for ungulates, carnivores, small mammals, breeding birds and amphibians. Black bear and grizzly bear may occur between April and November. At Boom Lake, western (boreal) toads are in the area. Amphibians are likely present in adjacent wetland areas near the Red Earth Trailhead.

## ***Hector Lake Ecosite (HC1)***

Rockbound Lake trailhead is found in the HC1 ecosite. The area is moderately important for ungulates, carnivores, small mammals, breeding birds and amphibians. Black bear and grizzly bear may occur between April and November. Bog/pond areas are important breeding habitat for wood frogs and western toad (boreal) toad. Sedge meadow areas important breeding habitat for spotted frog and western toad.

A more detailed summary of each ecosite can be found in Appendix A.

### **3.3 Valued Ecosystem Components (VECs)**

The VECs for BNP Frontcountry CSA are:

- Air quality
- Surface water quality
- Soil types and terrain
- Vegetation
- Wildlife including species at risk and wildlife movement corridors
- Human use.

#### **3.3.1 *Species at Risk***

##### **Grizzly Bears**

Grizzly bears are a Species of Special Concern in Canada and were designated ‘at risk’ by COSEWIC prior to October 1999. Such species must be reassessed using revised criteria before they can be moved from Schedule 3 to Schedule 1 of SARA. After they have been assessed, the Governor in Council may on the recommendation of the Minister, decide on whether or not they should be added to the *List of Wildlife Species at Risk*.

There are roughly 60 grizzly bears in Banff National Park. Banff’s three core grizzly bear habitat areas are Spray Lakes, northeast of Lake Louise and the northeast corner of Banff National Park. There is little available habitat in the park for grizzly bears. Most grizzly bear habitat occurs in valley bottoms in areas of high tourist traffic, including most of the CSA. Current research suggests that the population is declining; at best it is stable. The main reasons for grizzly bear decline are human-caused mortality (Trans-Canada Hwy), habitat fragmentation and increasing amounts of human activity in grizzly bear habitat (Bow Valley Grizzly Bear Alliance, 2003). Grizzly bears have large territories and travel throughout the Bow Valley. They are likely to occur in most of the CSA sites.

## **Wolverine**

Wolverines are listed by COSEWIC as a Species of Special Concern. This committee is recommending that the wolverine be legally protected under SARA. Their population is unknown because they are solitary animals and have large territories to hunt for food. The wolverine is still found in the sub-alpine and alpine tundra of the Rocky Mountains and it has been sited in BNP, however their locations in the park are unknown.

## **Western Toad**

The western (boreal) toad is listed by COSEWIC as a Species of Special Concern. This committee is recommending that the western toad be legally protected under SARA. The western (boreal) toad lives in the Rocky Mountains, and is typically found in and close to wetland areas.

The western (boreal) toad is known to be found in the following project sites within the CSA: Carrot Creek (HD1), Cascade Ponds (HD2), Lake Minnewanka (PT3), Two Jack Lakeside (PT5), Forty Mile Creek and Muleshoe (VL3), Castle Junction (AL1), Boom Lake (BK4) and Rockbound Lake (HC1). In particular, amphibians including the western (boreal) toad are often found in the manholes or valves related to the water system at Two Jack Lakeside campground.

### **3.3.2 *Wildlife Movement Corridors***

- *Two Jack Lake Corridor and Two Jack Canal Corridor* – The Two Jack Canal picnic/day-use area lies within the Two Jack Lake wildlife movement corridor, which runs north to south through the lake area. Upper Bankside picnic/day-use area and Two Jack Main and Two Jack Lakeside campgrounds lie within the Two Jack Canal Corridor, which runs southeast to northwest through the canal area. These corridors are known to be used by a diversity of wildlife species in the winter including elk, deer, bighorn sheep, coyote, cougar, wolf and moose. Black bears and grizzly bears have been observed using this corridor during the spring/summer/fall months (Ron Tessolini 2004, Pers. Comm.). See Figure 1.1 for corridor locations.
- *Minnewanka Lake Corridor* – This wildlife movement corridor skirts the western lakeshore of Lake Minnewanka. Lake Minnewanka picnic/day-use area lies within the corridor. Wildlife species known to use this corridor during the winter include elk, deer, bighorn sheep and coyote. Black bears and grizzly bears have been observed using this corridor during the spring/summer/fall months. See Figure 1.1 for corridor locations.
- *Penstock Corridor* – This wildlife movement corridor lies above the Trans-Canada Hwy and Johnson Lake picnic/day-use area is near the corridor. Wildlife species known to use the area in winter include elk, deer, bighorn sheep, coyote, wolf and fox. Black bears and grizzly bears have been observed using this corridor during the spring/summer/fall months. See Figure 1.1 for corridor locations.

- *Norquay/Cascade Corridor* – This wildlife movement corridor runs from Vermilion Lakes to the Minnewanka Interchange. Cascade Ponds picnic/day-use area lies within this corridor. Wildlife species known to use the corridor in the winter include elk, deer, bighorn sheep, coyote, wolf and cougar. Black bears and grizzly bears have been observed using this corridor during the spring/summer/fall months. See Figure 1.1 for corridor locations.
- *Ferland/Indian Grounds Corridor* - This wildlife movement corridor spans from Vermilion Lakes to the Indian Grounds. 40 Mile Creek picnic/day-use area lies in the corridor. Wildlife species known to use the area during the winter include elk, deer, coyote and wolf. See Figure 1.1 for corridor locations.
- *Sulphur Mountain Corridor* – This wildlife movement corridor spans from Vermilion Lakes southeast towards the Spray River Valley. Vermilion Lakes Drive picnic/day-use area lies north of the corridor. Wildlife species known to use the corridor in the winter include elk, deer, bighorn sheep, coyote and cougar. See Figure 1.1 for corridor locations.
- *Bourgeau Slopes Corridor* – The wildlife movement corridor spans from Healy Creek trailhead across Sunshine Road west to Bourgeau trailhead. Healy Creek trailhead lies within the corridor. Wildlife species known to use this corridor during winter include elk, deer, sheep, coyote, cougar and moose. Black bears and grizzly bears have been observed using this corridor during the spring/summer/fall months See Figure 1.1 for corridor locations.
- *Cory Slopes Corridor* - This wildlife movement corridor runs north of Highway 1A, spanning east to west from Vermilion Lakes Drive to Fireside picnic/day-use area. The project sites within this corridor are Fireside, Muleshoe and Vermilion Lakes Drive picnic/day-use areas. Black bears and grizzly bears have been observed using this corridor during the spring/summer/fall months. See Figure 1.1 for corridor locations.

### **3.4 Environmentally Sensitive Sites**

#### **3.4.1 Environmentally Sensitive Sites**

Designated Environmentally Sensitive Sites (ESSs) are identified in the Banff National Park Management Plan (Amended May 2004) and are those areas with significant and sensitive features that require special protection. ESSs located in or adjacent to the CSA include:

- *Vermilion Lakes Wetlands ESS*, which is important habitat for wildlife. The wetlands and lakeshores also contain archaeological resources. The Vermillion Lakes picnic/day-use area is located in this ESS.
- The *Fairholme-Carrot Creek Benchlands ESS*, which is the largest remaining intact block of secure montane wildlife habitat in the park. This area has been identified as an area of concern. The Carrot Creen picnic/day-use area is located in this ESS.

Other recognized sensitive areas within the CSA include:

- *Johnson Lake* where there are several sites that are considered to be sensitive. Muskrat Bay is a sensitive area for spawning rainbow trout and nesting waterfowl. The Beaver Pond wetlands are a sensitive site for nesting waterfowl. A wolf den is located at the east end of the lake. A historic cabin site is located off the main trail near the south shore of the lake. Heavy human use has resulted in damage to vegetation and the establishment of many informal trails especially along the south shoreline (Parks Canada 2004).
- The *Hoodoos* in the Tunnel Mountain area are prone to erosion and are affected by commercial use (i.e. tourists, cyclists, hikers) (Parks Canada 2004).
- *Lake Minnewanka* is considered a high priority for management (Parks Canada 2004).
- Johnston Canyon, Mount Norquay, Sawback Range, Sunshine Meadows and Tunnel Mountain are all natural areas of significance under high threat.
- The *Norquay/Cascade Wildlife Corridor* between Cascade Mountain and the Trans Canada Highway is a sensitive area because access roads and the Timberline Lodge limit the movement of wildlife between Vermilion Lakes and the Cascade Valley (Parks Canada 2004).

### 3.4.2 *Special Resources*

- There are a number of tree species which are sensitive to development in Banff National Park.
- *Douglas fir* stands are highly susceptible to erosion and therefore to development. They also have a high intolerance to saline conditions. Douglas fir stands cannot be restored by short-term methods because soils for this area tend to be droughty and infertile (B. Edwards Environmental Projects 1988).
- *Trembling aspen* stands are fairly sensitive to development specifically understory and ground cover alteration. The individual trees are short-lived however they share a common root system which is much older. The tree trunks of Aspen are susceptible to injury (B. Edwards Environmental Projects 1988).
- *Limber pine* occur in limited area on Tunnel Mountain along the Hoodoos ridge. They require dry, south and west facing aspects. Limber Pine are sensitive to development (DeLong and Pengelly 2002).
- *Rocky mountain juniper* are uncommon in Banff and are sensitive to development. This species has long root systems and do not transplant easily. They require special clearing measures. Populations may be hybridized with creeping juniper, a lower growing shrub (Wallis 1998).

### **3.5 Heritage and Archaeological Sites**

#### **3.5.1 Heritage Buildings**

The Gate Houses at the East Gate of Banff National Park are listed as heritage buildings.

The guiding principles behind the maintenance and upgrading of these historic buildings are followed by Parks Canada. Maintenance repairs or any changes to these historic buildings must follow the Code of Practice to protect Federal Heritage Buildings. The Code of Practice was established by the Federal Heritage Buildings Review Office (FHBRO) for Parks Canada in 1992.

The following is a brief summary of the Intervention Guidelines for a variety of circumstances outlined in the Code of Practice:

1. All maintenance measures carry the risk of adverse impact on heritage character. All maintenance measures should be non-abrasive, non-destructive and environmentally benign. Replacement should occur only where the major part of an element is decayed beyond repair.
2. The substitution of maintenance-free materials such as aluminum, fibreglass or vinyl for existing materials is not recommended. These material reduce heritage characteristics.
3. The design of additions or alterations to a building must respect its heritage character.
4. Uses, either existing or proposed, which damage heritage character or exceed the reasonable use capacity of the building should be avoided.
5. Where the integrity of the relationship between a building and its associated landscape is relatively unaltered, strong efforts should be made to retain this relationship and the materials that contribute to it.

#### **3.5.2 Archaeological Sites**

There are a number of archaeological sites found throughout the CSA. They include:

*List to be provided by Parks.*

*Their location is shown on Figure 1.1*

## 4.0 IMPACT ANALYSIS

### 4.1 Potential Environmental Effects of Routine Projects in BNP Frontcountry

Based on the environmental conditions, location and other site-specific conditions at project sites, potential effects from Frontcountry projects have been identified.

An environmental matrix (Table 4.1) has been used to identify which routine projects will likely impact each environmental component. This matrix identifies the potential range of magnitude of the impacts that could result from project activities if no mitigation measures are implemented. Potential impacts are rated as high, moderate or low in magnitude, or none. Table 4.2 below outlines the criteria used for determining the significance of impacts.

The highest magnitude potential **pre-mitigation** environmental effects (those with moderate ratings or higher) as identified in Table 4.1 include:

- A general decrease in ambient air quality resulting from:
  - *Dust* due to construction activities, including transportation of building materials; and
  - *Emissions* from construction vehicles and equipment at construction sites and during transportation of materials in the confined spaces of a mountain valley.
- Impact on surface water quality may result from projects located in proximity to water bodies, such as grading, excavation and the replacement of culverts. Activities closer than 30 m to a water body are not covered by the MCSR, and require a separate environmental assessment. The 30 m is measured from the high water mark.

Potential impacts to surface water quality include:

- *Sedimentation* from grading and excavation and from culvert and ditch projects. A decrease in surface water quality can result from increased sedimentation due to surface water runoff over disturbed soils. Changes in water quality can impact aquatic resources; and
- *Contamination* from use of herbicides and vehicle and equipment leaks or spills during operation. Herbicides and fertilizers can contaminate surface waters by chemical spray drift, improper chemical disposal and from runoff. Aquatic organisms can be exposed to contaminants, either causing direct mortality or affecting their growth and reproduction.

Table 4.1 Matrix of Potential Pre-Mitigation Environmental Impacts from Routine Projects in Banff National Park Frontcountry

Activities	Environmental Components							
	Air Quality	Hydrology, Water Quality <sup>(a)</sup> , Groundwater and Aquatic Resources	Landforms and Soil	Vegetation	Wildlife Habitat and Populations	Heritage Resources	Socio-Economics	Aesthetics (Vision, Noise)
<b>Site Preparation</b>								
Site investigation (geotechnical)	-	L	L	L	L-M	L	-	L
Vegetation clearance (including under power lines)	L	L	L	L-M	L-M	-	-	L
Site grading, excavation and materials stripping	L	L-M	L-M	-	L-M	-, L	-	L
Digging holes for replacement poles	-	-	L	L	L	-	-	-
<b>Construction, Modification, Maintenance and Repair</b>								
Construction	L-M	L	-	-	L-M	-	-	L
Installation and replacement of utility lines (trenching and backfilling)	L	L	L-M	-	L-M	-, L	-	L
Right-of-way maintenance	L	L	-	L	L-M	-	-	-
Replace or modify culverts and ditches	-	L-M	-	-	-	-	-	L
Light installation (10 or more)	-	-	L	L	L	-	-	-
Fence installation	-	-	-	-	L	-	-	-
<b>Decommissioning or Abandonment</b>								
Utilities removal	-	-, L	-	-	L-M	-, L	-	-, L, P
Foundation removal	L	-	L	-	L-M	-	-	L

H = High Negative M = Moderate Negative L = Low Negative - = None P = Positive

<sup>(a)</sup> This includes impacts not within 30m of a waterbody

Table 4.2 Impact Rating Criteria

Criteria	Rating Term	Definition
<b>Direction</b>	Positive	Beneficial change
	Neutral	No change
	Negative	Adverse change
<b>Geographic Extent</b>	Local	Effect is limited to the project site
	Regional	Effect extends more widely into the CSA
	Extra-regional	Effect extends regionally beyond the CSA (Banff National Park and beyond)
<b>Duration</b>	Short-term	Effect ceases once the activity ceases
	Medium-term	Effect continues up to one year after the activity ceases
	Long-term	Effect continues longer than one year after the activity ceases and beyond the life of the project
<b>Frequency</b>	Once	Effect occurs only once during the activity
	Intermittent	Effect occurs occasionally or periodically
	Continuous	Effect occurs continuously beyond the duration of the activity
<b>Reversibility</b>	Reversible	Effect is reversed after the activity ceases
	Non-Reversible	Effect will not be reversed when activity ceases
<b>Magnitude</b>	None	Magnitude describes the overall impact of the project activity, combining the ratings of the above criteria. Magnitude is relative and assigned based on professional judgment and modified by: <ul style="list-style-type: none"> <li>• Likelihood of the impact occurring; and</li> <li>• Confidence in the data or modelling used to rate the impact.</li> </ul>
	Negligible	
	Low	
	Medium	
	High	

- Potential impacts to soil include:
  - *Soil erosion*, particularly during rainfall events, from grading and excavation activities, as well as trenching and backfilling;
  - *Soil compaction* during equipment operation; and
  - *Soil contamination* from leaks and accidental spills from equipment operation and maintenance.
- Potential impacts to vegetation from project activities include:
  - *Loss of native vegetation* due to vegetation clearance;
  - *Damage to adjacent vegetation* from vehicles or stockpiling; and
  - *Potential invasion of weed species* into cleared sites.

- Potential impacts to wildlife and wildlife habitat include:
  - *Sensory disturbance* from noise and activity during site preparation, construction and equipment operation, including disruption of wildlife movement corridors for ungulates (elk, deer, moose) and carnivores (bears, cougars, wolves) resulting in displacement from suitable habitat. Displacement can lead to *habitat fragmentation* as a result of a decrease in habitat connectivity.
  - *Habitat destruction* through vegetation clearing and *loss of aquatic habitat* through encroachment on wetland areas, potentially impacting amphibians.
  - *Human encroachment on wildlife movement corridors* as a result of construction activities and presence of humans near corridor areas. Construction equipment, vehicles and humans may all be barriers to movement particularly for larger mammals like ungulates and carnivores including bears.
  - *Habituation* to the area as a result of food attractants (i.e. garbage) and barriers to movement in and around the construction site. Habituation is a result of a lowered fear response and fear avoidance of humans and human-use areas and may result in an increase in human-wildlife conflict. This can lead to a greater demand for wildlife management and/or the relocation and/or destruction of problem wildlife.
- Potential impacts to sensitive species (Species at Risk), including:
  - ◇ *Grizzly bears* have large territory requirements and are known to occupy habitat throughout the Lower Bow Valley, including the CSA. Grizzly bears are a Species of Special Concern in Canada and are listed on Schedule 3 of SARA.

Potential impacts include:

- *Habitat destruction* through clearing of important foraging/grazing vegetation found in the CSA, including Canada buffaloberry.
- *Sensory disturbance* from noise and activity during site preparation, construction and equipment operation. Critical life phases for grizzly bears include post-hibernation when adult bears and cubs are leaving denning areas and searching for food (April/May) and prior to hibernation (July to November) when they are building up their energy reserves for winter. Displacement of bears during these times can result in human/wildlife conflict and/or bears not finding sufficient food sources.
- *Habituation* to the area as a result of food attractants (i.e. garbage) and barriers to movement in and around the construction site. Habituation is a result of a lowered fear response and fear avoidance of humans and human-use areas and may result in an increase in human-wildlife conflict. This can lead to a greater demand for wildlife management and/or the relocation and/or destruction of problem wildlife.
- ◇ *The western (boreal) toad* is listed by COSEWIC as a Species of Special Concern. This committee is recommending that the western toad be legally protected and listed on

the official Species at Risk list (Schedule 1) of SARA. Degradation and loss of habitat to development are some reasons for the decline of the western (boreal) toad. Amphibians, including the western (boreal) toad, are known to be active in and around water bodies in the CSA. Frogs and toads are generally active from April (after spring thaw) until November.

Potential impacts include:

- *Sensory disturbance* during critical breeding times (April to June) can result from project activities, resulting in individual displacement from suitable habitat.
- *Habitat destruction* can result from project activities taking place in or adjacent to temporary wetland areas. This can also cause habitat fragmentation as a result of a decrease in habitat connectivity and available wetland areas.
- *Increase in predation* as a result of construction activities. Land cleared during construction activities may provide access for predators of the western (boreal) toad like birds and small mammals.

## 4.2 Mitigation Measures, Guidelines and Standards

Standard construction mitigation measures are available that significantly reduce the magnitude of the potential impacts outlined in Section 4.1 and Table 4.1.

Table 4.3 provides a summary of typical mitigation measures that should be used to reduce the magnitude of environmental impacts identified in Table 4.1. It is important to recognize that appropriate mitigation measures will depend on site-specific environmental characteristics, which can be determined from Table 3.1, Figure 1.1 and Appendix A. Mitigations are the accepted Best Management Practices that are known to reduce the level of potential impacts. If new regulations, technologies or accepted practices become recognized, they will be incorporated into the accepted mitigations. This will ensure that Parks Canada is employing adaptive management in order to achieve continuous improvement. In addition, an Emergency Response Plan should be developed for worst-case scenarios such as heavy rainfall and runoff events, spills and fires. Many of these recommended mitigation procedures are currently practised within the CSA.

Parks Canada has documented specific mitigation measures to be used during project activity in BNP. These are described in:

- Banff National Park, Directive 17 “Environmental Guidelines for Development Projects”.

Proponents of projects in the CSA are required to be familiar with recommended techniques, the mitigations in Table 4.3 and the Emergency Response Plan, and to use them at project sites to minimize the impact of their activities. In this way, residual impacts from project activities should be minimized.

Table 4.3 Mitigations for Reducing Potential Impacts of Project Activities

Activity	Potential Impacts	Mitigation Measures
Site investigation, including geotechnical investigation	Runoff / sedimentation; Erosion; Soil compaction; Loss / damage to vegetation / soil; Wildlife sensory disturbance /mortality	<ul style="list-style-type: none"> <li>• Conduct site surveys, test pits, bore holes using appropriate excavation mitigation measures for geotechnical investigation (see mitigations for “Grading and excavation; Materials stripping”).</li> <li>• Minimize the time boreholes or test pits remain open in order to reduce small terrestrial wildlife mortality. Properly seal boreholes and fit PVC pipes.</li> <li>• Avoid site investigations during dusk and dawn in order to reduce human presence and wildlife disturbance during hunting/foraging or movement through areas.</li> </ul>
<ul style="list-style-type: none"> <li>• Vegetation clearance</li> <li>• Grading, excavation &amp; material stripping</li> <li>• Building construction</li> <li>• Trenching &amp; backfilling</li> <li>• Replacement or modification of culverts &amp; ditches</li> <li>• Utilities / foundation removal</li> </ul>	Runoff / sedimentation	<ul style="list-style-type: none"> <li>• Prepare a satisfactory Sediment and Erosion Control Plan.</li> <li>• Acquire necessary sediment control equipment (i.e., straw bales, landscaping fabric, sediment fences, etc.) and install prior to construction.</li> </ul> <p>In all ecosites, on areas with a slope class of 5 (5-15%) or greater and sites close to waterbodies, but not closer than 30 m:</p> <ul style="list-style-type: none"> <li>• Assess slopes stability (based on slope length, soil texture, steepness, soil depth).</li> <li>• Use appropriate geo-technical control measures to stabilize slopes.</li> <li>• Filter or settle out sediment before the water enters any drainage pathway.</li> <li>• Halt construction activity on exposed soil during events of high rainfall intensity.</li> <li>• Periodically inspect erosion control structures for effectiveness.</li> <li>• Minimize vegetation cover removal.</li> <li>• To ensure that site runoff is minimized, control overland flow up gradient and down gradient of exposed areas by use of diversion ditches, bales, vegetative filter strips, and/or sediment traps.</li> <li>• When possible, hand clear slopes &gt; 35%. Wait to clear steep sloped areas until immediately before scheduled construction and reclaim immediately afterwards.</li> <li>• Stockpiles related to excavations will be stored a minimum of 2 m from embankments, slumps, water bodies and containment sources to prevent material loss or degradation.</li> <li>• Following excavations, lightly tamp disturbed areas to minimize slumping and potential pooling of water.</li> </ul>

Activity	Potential Impacts	Mitigation Measures
<ul style="list-style-type: none"> <li>• Vegetation clearance</li> <li>• Grading, excavation &amp; material stripping</li> <li>• Building construction</li> <li>• Trenching &amp; backfilling</li> <li>• Replacement or modification of culverts &amp; ditches</li> <li>• Utilities / foundation removal (continued)</li> </ul>	Wind and water erosion	<p>All Ecosites, especially VL3:</p> <ul style="list-style-type: none"> <li>• Protect exposed soils with coarse granular materials, mulches, straw, or landscaping fabric along drainage pathways.</li> <li>• Minimize grubbing.</li> <li>• Clear minimum area necessary. Where possible, leave stumps and roots in place.</li> <li>• Cover stockpiles of soil with polyethylene sheeting, tarps, or vegetative cover.</li> </ul>
	Compaction of soils	<ul style="list-style-type: none"> <li>• Identify soils susceptible to compaction (fine textured and organic soils).</li> <li>• In sensitive areas, use equipment of low bearing weight, low PSI tires, or tracked vehicles.</li> </ul>
	Dust production	<ul style="list-style-type: none"> <li>• Wet down dry, exposed soils, particularly during windy periods.</li> <li>• Ensure materials being stored or transported are covered with tarps or equivalent material.</li> </ul>
	<p><i>All wildlife:</i> Wildlife habitat loss and fragmentation; or encroachment on wildlife movement corridor; or increased wildlife predation as a result of cleared areas; or habituation.</p>	<ul style="list-style-type: none"> <li>• Identify wildlife habitat that may be impacted by activities and avoid sensitive areas, including wetlands.</li> <li>• When working adjacent to undisturbed areas and areas bordering natural habitat, especially wildlife movement corridors and natural wetlands: minimize activity to daylight hours, as dusk/dawn times are critical for wildlife life stages (breeding, nesting, rearing, migration).</li> <li>• Clear only the minimum area required for construction activities.</li> <li>• Minimize barriers to movement including equipment and human presence during daylight hours. Restrict activity during dusk and dawn.</li> <li>• Keep site free of garbage and dispose of garbage in bear proof containers or haul from site daily.</li> <li>• Retain vegetation barriers where possible, especially trees and shrubbery.</li> <li>• Communicate potential problem and/or habituated wildlife to Parks Canada (403-762-1416).</li> <li>• Investigate for presence of amphibians in manholes before commencing work.</li> </ul>

Activity	Potential Impacts	Mitigation Measures
<ul style="list-style-type: none"> <li>• Vegetation clearance</li> <li>• Grading, excavation &amp; material stripping</li> <li>• Building construction</li> <li>• Trenching &amp; backfilling</li> <li>• Replacement or modification of culverts &amp; ditches</li> <li>• Utilities / foundation removal</li> </ul> <p><i>(continued)</i></p>	<p><i>Species at Risk:</i></p> <p>Habitat destruction, sensory disturbance, mortality and increased predation of amphibians</p>	<p><i>Species at Risk</i></p> <p>Grizzly bears</p> <ul style="list-style-type: none"> <li>• Be aware of critical foraging times (dusk and dawn) particularly post hibernation when bears and cubs are leaving dens in the spring (April/May) and prior to hibernation (July to September).</li> <li>• Trail density should be minimized to allow bears better opportunity to access habitat at greater distances from trails.</li> <li>• Management of attractants around trails and facilities (including removal of berry shrubs like Canada buffaloberry) should be combined with restoration of alternative food sources in alternative suitable habitats.</li> </ul> <p>Western (boreal) toad</p> <ul style="list-style-type: none"> <li>• Investigate for presence of amphibians in manholes before commencing work.</li> <li>• Protect wetlands from human encroachment</li> </ul>
	<p>Loss of or damage to vegetation, weed invasion</p>	<p>To protect undisturbed areas adjacent to project site:</p> <ul style="list-style-type: none"> <li>• Minimize area cleared. Clearly mark area to be cleared with biodegradable flagging tape and/or temporary fences.</li> <li>• Ensure vertical (Rocky Mountain) juniper, Douglas fir and limber pine are protected.</li> <li>• For every tree removed, two native trees must be planted.</li> <li>• Hoarding around trees to be retained must be installed beyond the tree's drip line prior to commencement of site work.</li> <li>• Ensure excavated material does not damage or bury plant material that is to be retained on the site or in adjacent areas.</li> <li>• Trees are to be cut so that they fall inside the cleared perimeters.</li> <li>• Care must be taken during grubbing and stripping to ensure that trees and roots on the edge of the cleared area are not disturbed.</li> <li>• Grubbing and stripping may not be permitted on steep slopes to reduce the potential for erosion.</li> <li>• Sites will be reclaimed as soon as possible and seeded with a Parks Canada approved seed mix (see Appendix B).</li> </ul>

Activity	Potential Impacts	Mitigation Measures
<ul style="list-style-type: none"> <li>• Vegetation clearance</li> <li>• Grading, excavation &amp; material stripping</li> <li>• Building construction</li> <li>• Trenching &amp; backfilling</li> <li>• Replacement or modification of culverts &amp; ditches</li> <li>• Utilities / foundation removal</li> </ul> <p><i>(continued)</i></p>	Reduction of or disturbance to character of FHBRO listed heritage buildings	<ul style="list-style-type: none"> <li>• All maintenance measures should be non-abrasive, non-destructive and environmentally benign.</li> <li>• Replacement should only occur where the major part of an element is decayed beyond repair.</li> <li>• The substitution of maintenance-free materials such as aluminium, fibreglass or vinyl for existing materials is not recommended.</li> <li>• The design of additions or alterations to a building must respect its heritage character.</li> <li>• Where the integrity of the relationship between a building and its associated landscape is relatively unaltered, strong efforts should be made to retain this relationship and the materials that contribute to it.</li> </ul>
<ul style="list-style-type: none"> <li>• Grading, excavation &amp; material stripping</li> <li>• Digging holes for replacement utility or fence poles</li> </ul>	Slope failure	<ul style="list-style-type: none"> <li>• Avoid work on steep slopes unless absolutely necessary, including areas with slopes of Class 6 (15-30%) or greater, especially where shallow soils overlie bedrock.</li> <li>• Use appropriate geo-technical control measures to stabilize slopes. Consult occupational health and safety guidelines.</li> </ul>
	Loss of or damage to vegetation, weed invasion	<ul style="list-style-type: none"> <li>• Protect undisturbed land by only stockpiling materials on heavy canvas or polypropylene tarpaulins to protect native vegetation. Excavated material should not be permitted to damage or bury plant material that is to be retained on the site or in adjacent areas.</li> <li>• Sites will be reclaimed as soon as possible and seeded with a Parks Canada approved seed mix (see Appendix B).</li> </ul>

Activity	Potential Impacts	Mitigation Measures
<ul style="list-style-type: none"> <li>• Grading, excavation &amp; material stripping</li> <li>• Digging holes for replacement utility or fence poles</li> </ul> <p><i>(continued)</i></p>	Loss of organic matter, topsoil and/or topsoil-subsoil mixing	<ul style="list-style-type: none"> <li>• Use separate lifts and storage of topsoil and subsoil horizons, replacing them in the same order after completion of activity, wherever practical.</li> <li>• Topsoil will be stored away from any slopes, subsoils, spoil material, construction activities and day-to-day operations.</li> <li>• Select appropriate equipment, especially in erosion/slump prone areas. If possible, use wide tracked equipment, rubber tired vehicles and low bearing pressure weight equipment in sensitive areas.</li> <li>• Compact soil to approximate precondition conditions while allowing for settling.</li> </ul>
	Disturbance of archaeological resources	<ul style="list-style-type: none"> <li>• Consult with Parks Canada (403-762-1416) to discuss if consultation with the Park's archaeologist is required (see Attachment 2 (Figure 1.1)).</li> <li>• If it is deemed that potential archaeological sites may be subject to ground disturbance, activities should be adapted to avoid them.</li> <li>• Educate workers to notify site supervisor upon finding any archaeological artefacts and to stop work immediately.</li> </ul>
	Sensory disturbance and mortality of wildlife due to increased traffic	<ul style="list-style-type: none"> <li>• According to the wildlife that may be present, schedule high noise level activities and other intrusive construction activities to avoid critical life stages (breeding, nesting, rearing, migration). Consult with Parks Canada (403-762-1416) to discuss any localized wildlife concerns.</li> <li>• Consider posting wildlife signs to reduce vehicle speeds and increase driver awareness near construction areas where wildlife mortality has or is likely to occur.</li> <li>• Educate workers to not harass or attract wildlife, keep the site free of food scraps, and dispose of garbage in bear proof containers.</li> </ul>
	Decreased aesthetics	<ul style="list-style-type: none"> <li>• Evaluate the site layout, access routes and construction activities to minimize their visual impact.</li> <li>• Materials to be stored within the confines of the work site.</li> </ul>
	Public safety	<ul style="list-style-type: none"> <li>• Outline traffic control measures and assess the need for flagging personnel.</li> <li>• Call utility line companies to identify infrastructure locations (Alberta One Call: 1-800-242-3447).</li> </ul>
Construction (painting and paint stripping)	Contamination of soil and water from accidental spill of paint, stripping compounds, or thinners	<ul style="list-style-type: none"> <li>• Prepare an appropriate Spill Response Plan.</li> <li>• Ensure paint is stored appropriately to prevent spillage.</li> <li>• Dispose of contaminated materials at provincially certified disposal sites outside of the Park. No treatment of contaminated soils (e.g., bioremediation) is allowed in the Park. All applicable documentation demonstrating proper disposal should be obtained. Alternatively, use the paint exchange program in Banff.</li> </ul>

Activity	Potential Impacts	Mitigation Measures
Right-of-way (ROW) maintenance	Dust production	<ul style="list-style-type: none"> <li>• Wet down dry, exposed soils, particularly during windy periods.</li> <li>• Ensure materials being stored or transported are covered with tarps or equivalent material.</li> </ul>
	Loss of wilderness quality	<ul style="list-style-type: none"> <li>• Retain vegetation barriers where possible, especially trees and shrubbery.</li> <li>• Minimize the amount of vegetation removed.</li> </ul>
	Contamination from fertilizers and herbicides	<ul style="list-style-type: none"> <li>• Accurately assess the need for chemicals during right-of-way maintenance. Use products and methods identified in Parks Canada Management Directive 2.4.1 (1985).</li> <li>• A Parks Canada permit must be obtained for herbicide use.</li> <li>• Avoid herbicide/fertilizer use in proximity to, or where runoff may enter a waterbody or drainage pathway.</li> <li>• Ensure adjacent natural areas are not affected by herbicide use.</li> <li>• Do not over water.</li> </ul>
Light installation (10 or more)	Runoff / sedimentation	<ul style="list-style-type: none"> <li>• Light installations requiring small excavations for pre-formed concrete bases should minimize the amount of disturbed soil.</li> <li>• Minimize the time that borrow is exposed and the excavation remains open. If deemed necessary, use site-specific erosion control methods (see mitigations for “Grading and excavation; Materials stripping”).</li> <li>• Do not schedule work during wet weather</li> </ul>
Fence installation	Barrier to wildlife movement	<ul style="list-style-type: none"> <li>• Evaluate the need for all fences.</li> <li>• Construct fences and orient in such a manner to reduce impacts on wildlife movement. Consult with Parks staff to determine appropriate fence designs and locations (403-762-1416).</li> </ul>

Activity	Potential Impacts	Mitigation Measures
Hazardous materials management	Potential contamination	<ul style="list-style-type: none"> <li>• Prepare an appropriate Spill Response Plan. In the event of emergency operations, call 911. The Warden Dispatch can also be contacted (available 24 hours/day) at (403) 762-4506 or the Wardens Office at (403) 762-1470 to notify of any emergency procedures required.</li> <li>• All toxic/hazardous materials will be identified during demolition and will be handled as required under the Canadian Environmental Protection Act, Transportation of Dangerous Goods Act and Workplace Hazardous Materials Information Service.</li> <li>• Dispose of contaminated materials at provincially certified disposal sites outside of the Park. No treatment of contaminated soils (e.g., bioremediation) is allowed in the Park. All applicable documentation demonstrating proper disposal should be obtained. Alternatively, use the paint exchange program in Banff.</li> <li>• All hazardous materials and wastes will be clearly labelled with WHMIS labels and information.</li> <li>• Spill contingency plans, equipment and supplies will be present on-site at all times and employees trained in their use.</li> <li>• All fuels, oils, lubricants and other petrochemical products will not be stored within 100 meters of any waterbody (including wetlands).</li> <li>• Do not store fuels, lubricants, solvents, paints, and other chemicals on site overnight except within construction trailers secured with lock and key. Storage should be on a bermed, impervious site (secondary containment). Permits are required from Parks Canada or Town of Banff.</li> <li>• If any contamination is found, cease work immediately. Inform the building site supervisor and, if necessary, implement Emergency Response Plan.</li> </ul>

### 4.3 Residual Impacts

Residual impacts are those impacts still remaining after all appropriate mitigation has been implemented.

The potential residual impacts likely to result from this project have been defined using the terms in Table 4.2, Impact Rating Criteria.

If the appropriate measures identified in Table 4.3 are followed, most of the potential impacts identified in Table 4.1 and described in Section 4.1 should be reduced to insignificant levels. Potential residual impacts include:

- Potential impacts on ambient air quality from vehicle and equipment emissions can be reduced through minimizing idling of vehicles, and ensuring engines are well tuned. Dust can be reduced by covering building materials with tarps during on-site storage and transportation. Provided these mitigations, and others described in Table 4.3 are followed, the residual impact on ambient air quality would be low, negative, short-term, intermittent, local and reversible. This would be considered not significant.
- Potential impacts on surface water quality from sedimentation and contamination from equipment operation and herbicide use can be reduced provided that contractors use appropriate mitigations when operating in proximity to water bodies, as described in Table 4.3, including preparing a Sediment and Erosion Control Plan and controlling overland flow. Resulting effects would be low, negative, short-term, intermittent, local and reversible. This would be considered not significant.
- Potential impacts on soil, such as erosion, compaction and contamination, during site preparation activities and equipment operation can be reduced through appropriate mitigations. These include restricting vehicular traffic and other equipment operation to approved access routes, minimizing or halting construction activities during wet conditions, and preparing an appropriate Spill Response Plan prior to site preparation. Provided these mitigations and others in Table 4.3 are followed, the residual impact to soil would be low, negative, short-term, local and reversible. This would not be considered significant.
- Potential impacts on vegetation, such as loss or damage to native vegetation, can be reduced through mitigations such as minimizing vegetation clearance, cutting trees so that they fall inside cleared areas and others outlined in Table 4.3. Provided these mitigations are followed, the residual impact to vegetation would be low, negative, short term, local and reversible. This would not be considered significant.
- Potential impacts to wildlife can be reduced by avoiding project activities during dawn/dusk, ensuring wildlife is not harassed if they approach a worksite, and management of garbage. Provided these mitigations, and others in Table 4.3 are followed, the residual impact to wildlife would be low, negative, short-term, local and irreversible. This would be considered not significant.

- Potential impacts to Species at Risk can be reduced.
  - *Grizzly bear*. Habitat destruction and sensory disturbance to grizzly bears can be minimized by:
    - ◇ Working only during daylight hours, particularly avoiding twilight;
    - ◇ Removing berry-bearing shrubs from the area, particularly Canada buffaloberry; and
    - ◇ Planting berry-bearing shrubs in alternative locations.

Provided these mitigations, and those described in Table 4.3, are implemented, any impact to grizzly bears and their habitat from project activities should be low, negative, short-term, intermittent, local and irreversible. This would be considered not significant.
  - *Western (boreal) toad*. Potential impacts to western (boreal) toad and their habitat can be reduced by minimizing disturbance in wetland areas and checking for all amphibians in utility lines before undertaking project activities related to spring start-up (breeding season). Provided these mitigations, and others described in Table 4.3, are implemented, any impact from project activities should be low, negative, short-term, intermittent, local and irreversible. This would be considered not significant.

In summary, appropriate mitigation measures should be effective in minimizing impacts from routine projects in BNP Frontcountry to insignificant levels.

#### 4.4 Cumulative Impact Assessment

The *Canadian Environmental Assessment Act* requires the consideration of cumulative environmental effects that are likely to result from a project in combination with existing, planned or imminent projects occurring in the same time and space. Cumulative effects are defined as ‘changes to the environment that are caused by an action in combination with other past, present and future human actions’ (Hegmann *et al.*, 1999). A cumulative effects assessment determines the potential for project effects to combine with other activities in the project area to produce a cumulative impact on the environment. Although project-specific impacts may be small, the combined effects of the project with other effects from existing or planned projects may contribute to cumulative effects. Mitigation measures are intended to minimize project-specific impacts that could contribute to cumulative effects.

When there are no project-specific impacts, there can be no cumulative effects (Hegmann *et al.* 1999). The type of routine projects which are included in class screenings are typically those with none, or easily mitigable effects, and therefore they do not contribute to cumulative impacts. Frontcountry MCSR project activities are generally localized, of short duration and are predicted to have negligible to low negative impacts that are largely mitigable. Such projects are not considered to contribute to cumulative effects.

All projects covered by the MCSR are in accordance with the BNP Management Plan. An environmental assessment of the BNP Management Plan was conducted by Parks Canada. It concluded that projects in conformance with the plan will not contribute to significant cumulative effects.

Many small activities within the same area have the potential to cause ‘nibbling’ effects. For example, repeated incidents of sedimentation or contamination within a water body could result in a significant impact on its aquatic ecosystem. Frontcountry facilities are located within the busy Bow Valley corridor in proximity to transportation corridors such as the Trans-Canada Highway, the Canadian Pacific Railway (CPR) and Highway 1A (see Figure 1.1). The routine maintenance projects covered by this MCSR therefore occur in a regional setting where numerous activities that affect the environment are occurring simultaneously. Other activities that could result in similar types of impacts, and to which Frontcountry maintenance projects could add an incremental cumulative effect include:

- The operation and maintenance of Trans-Canada Highway;
- The operation and maintenance of Highway 1A;
- The operation and maintenance of Canadian Pacific Railway;
- The operation and maintenance of electrical power transmission and distribution lines;
- The operation and maintenance of gas pipelines; and
- Other Parks Canada activities such as prescribed burns and trail maintenance.

Cumulative environmental effects will be addressed in the CSPR by identifying other projects and activities that may occur within the geographical area and same temporal scale as the proposed Frontcountry facility maintenance project. If necessary, such projects will be assessed in combination with the maintenance project for cumulative environmental effects. Additional mitigation will be recommended as required. Significance of cumulative effects evaluation on a project-specific basis is facilitated through the CSPR.

In order to facilitate a practical determination of the potential for cumulative effects using available information, this MCSR has examined the following datasets that provide a strategically focused analysis of the BNP indicators (see Section 3.4):

- Special resources;
- Environmentally Sensitive Sites;
- Park zoning;
- Species at Risk;
- Heritage buildings; and
- Archaeological sites.

Development of new Frontcountry facilities or construction of new roads or buildings are excluded from this MCSR. As their potential impact and contribution to cumulative effects may be greater than routine maintenance and replacement projects, they require individual assessments, including cumulative effects assessments.

#### **4.5 Malfunctions and Accidents**

The likelihood of accidents and malfunctions occurring that could cause negative environmental impacts is minimal, as the projects associated with BNP Frontcountry facilities are routine and their effects predictable. Examples of unlikely accidents or malfunctions, and indications of how they should be addressed, include:

- Heavy rains during construction could lead to unexpected erosion and overflows of sediment traps. The best mitigation measures include careful planning and preparation, including having an effective Erosion and Sediment Control Plan in place, stopping work during heavy rains, and the use of straw bales and other appropriate erosion control measures to contain and direct flow.
- Spills of petroleum products from vehicles and construction equipment could impact surface water or soils. The best mitigation to prevent such events is careful planning, including a suitable Emergency Response Plan, immediate notification of spills, and onsite availability of standard spill containment kits and procedures.
- Fire could occur during construction, modification or decommissioning, due to such malfunctions as gas leaks, or possibly as a result of wild fires or prescribed burns. The best mitigation to prevent such events is careful planning of appropriate prevention measures, including an Emergency Response Plan.

These actions should reduce the potential impacts of these unlikely events.

#### **4.6 Effects of the Environment on the Project**

Natural events including flooding, forest fire, heavy wind or snow have the potential to affect construction projects, and, in extreme cases, create emergency situations. These issues and concerns are considered to be mitigable through use of careful planning and Emergency Response procedures. Such measures should be included in an Emergency Response Plan, as recommended in Section 4.2, Mitigation Measures.

In particular, the increase in drier conditions, and other factors associated with climate change that are affecting BNP, are resulting in a significantly greater risk of forest fires. This has led to recognition of the need for a comprehensive prescribed burn program and it should be noted that BNP Frontcountry facilities will not have an effect on this program. However, should a fire spread to or occur within the boundary of a Frontcountry campground, Parks Canada would attempt to fight the fire in order to preserve the site and its facilities.

## **4.7 Follow-Up Programs**

Follow-up is required to ensure compliance with project mitigations, and to track whether the recommended mitigations are effective in reducing predicted impacts.

### ***4.7.1 Surveillance during Construction***

Parks Canada is the proponent for BNP Frontcountry projects. A Parks Canada surveillance officer shall ensure that the mitigations and any other conditions of the MCSR are implemented during the project.

As the projects included in this MCSR are small scale, routine and located within the boundaries of existing cleared and disturbed areas, long-term site specific monitoring is not required.

### ***4.7.2 Training of Construction Crews***

Parks Canada will ensure that construction crews on their construction sites are familiar with the mitigations and any other conditions of approval of the MCSR. This will be done through tailgate meetings before construction begins.

Parks Canada will be responsible to audit construction sites to confirm compliance with this provision by undertaking spot checks on a minimum of 50% of projects.

## **4.8 Responsibilities, Timelines & Public Review**

The responsibilities of Parks Canada, as proponent and RA, in the Class Screening Process are outlined below:

- It will be the responsibility of the proponent to prepare a CSPR form.
- It will be the responsibility of the proponent to ensure that all information provided in the CSPR form is accurate. The proponent will be required to sign a statement to this effect. If it becomes known that inaccurate information has been provided by the proponent, any approval will be invalidated.
- It will be the responsibility of the Parks Canada Environmental Assessment Office to:
  - Provide the necessary forms, appropriate information and advice to the proponent;
  - Review the completed CSPR form(s); and
  - Approve or reject the proposed development pursuant to Section 20(1) of the Act, or reclassify the project to an individual assessment.

Parks Canada, as the RA, will review all projects and provide a response to the proponent as soon as possible, and within the following time frames when there are no outstanding issues:

- For projects that fit under the MCSR: within 7 days of submission of the CSPR form.
- For projects that are reclassified from the MCSR to an individual assessment, notification of this reclassification will be provided within 14 days of submission of the CSPR form.

#### **4.9 Preparing the Class Screening Project Report**

The information included in this MCSR provides the background environmental and project information necessary to prepare the CSPR form. It is the responsibility of the project proponent to provide site-specific information necessary for the Parks Canada Environmental Assessment Office, to reach a decision on project approval. This information will be provided through completion of a CSPR form.

The CSPR form will be completed by the proponent, and submitted to the Parks Canada Environmental Assessment Office. Depending upon the expected environmental effects of the individual project, the project will receive approval based on the information in the CSPR form, or the proponent will be requested to either provide additional information or will require an individual environmental assessment.

Projects that have:

- Potential significant adverse environmental impacts that are not or cannot be mitigated; or
- Uncertain environmental impacts;

will not receive approval under the MCSR but will be reclassified, and an individual assessment will be required. The Parks Canada Environmental Assessment Office will specify the scope of assessment required for these projects. This does not mean the project may not proceed. Instead, it means that the project activities and/or the environmental impacts are not covered under the MCSR.

Approval will be given within 7 calendar days of the CSPR form being submitted, or notification of reclassification will be provided within 14 calendar days.

## 4.10 Banff National Park FrontCountry Class Screening Project Report Form

### COMPLETING A CLASS SCREENING PROJECT REPORT FORM

The CSPR form is to be completed by the proponent of routine BNP Frontcountry projects described in Section 2.4 of the MCSR, and submitted to the Parks Canada Environmental Assessment Office. Information and forms can be obtained at the Environmental Assessment Office at Banff National Park Warden's Office.

If you have questions about completing the form or the assessment process you should call the Environmental Assessment Office. The address and phone number for the Parks Canada Environmental Assessment Office are provided below. Incomplete or improperly completed forms will be returned. In some cases you may be asked to supply additional information or to do an individual environmental assessment.

The Parks Canada Environmental Assessment Office will complete a review of the form within 7 days of its submission, and the proponent will be informed of the decision. If approved, a signed document, called the "Environmental Screening Approval Report" will be delivered to you.

Certain projects may not need an environmental assessment. Other projects may require a more detailed individual environmental assessment. Such projects are usually those that are located near environmentally sensitive areas, are excluded from the MCSR or those where unproven mitigations are to be used. If your project requires an individual environmental assessment, you will be advised. An individual environmental assessment may need to be prepared by an individual or firm with experience in environmental assessment.

The Environmental Assessment Office Banff Warden's Office 238 Hawk St, Industrial Compound P.O. Box 900 Banff, Alberta T1L 1K2 Tel. (403) 762-1416
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It is the responsibility of the proponent to ensure that all information provided in the CSPR form is accurate and correct. Incomplete or inaccurate forms will be returned. To assist you in the preparation of the form, the following attachments have been provided:

- **Attachment 1:** Mitigations for reducing impacts of project activities (Table 4.3)
- **Attachment 2:** Map of Wildlife Corridors, Ecosites and Archaeology Resources (Figure 1.1)

- **Attachment 3:** Potentially Sensitive Sites in the Class Screening Area (Section 3.4)
- **Attachment 4:** Species At Risk Act (SARA) list (Section 3.3.1)

## PART 1: DESCRIPTION OF THE PROJECT

*This section is designed to determine whether you have a project as defined in the Canadian Environmental Assessment Act that requires an environmental screening. It has been divided into four sub-sections covering buildings, utility lines, roads/parking areas and campground/day-use areas and trailheads respectively. Please fill out those that apply and tick Not Applicable in the sub-section heading line for those that do not.*

### Who is the project being completed for?

Name:

Contact Details:

### Who is the project manager, if different from above?

Name:

Contact Details:

## 1. FACILITY

Please provide a **summary description of your project** on a separate sheet and attach, including a site plan showing the proposed development and work schedule (start/end dates). A one-page site plan is acceptable.

### *Buildings*

N/A

#### a. Does your project involve (check all of the following that apply)?

- |   |                              |                             |
|---|------------------------------|-----------------------------|
| i. Geotechnical investigation   | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| ii. The replacement of an existing structure  | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| iii. The demolition of an existing structure(s)   | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| iv. The modification of an existing structure(s)  | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| v. A change in the method of sewage disposal or an increase in the amount of sewage, waste or emissions | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| vi. Creation of a need for related facilities such as parking spaces                                    | <input type="checkbox"/> YES | <input type="checkbox"/> NO |

#### b. If your project is the replacement or modification of an

<input type="checkbox"/> YES	<input type="checkbox"/> NO
------------------------------	-----------------------------

**existing building, will your project increase the footprint or height of the structure?**

**PART 1: Continued**

**Utility Lines**

N/A

**a. Does your project involve (check all of the following that apply)?**

- vii. The construction of a new service line  YES  NO
- viii. The disconnection of an existing service line  YES  NO
- ix. The modification of an existing service line  YES  NO
- x. Risk of physical harm to mammals  YES  NO

**b. If your project is the modification of an existing service line, will your project increase the carrying capacity of the water, sewer, gas, electricity or telephone service lines?**  YES  NO

**Roads and Parking Areas/Highway Pullouts**

N/A

**a. Does your project involve (check all of the following that apply)?**

- xi. The modification, maintenance or repair of a road  YES  NO
- xii. The modification, decommissioning or abandonment of a sidewalk or parking lot up to 75 stalls  YES  NO
- xiii. The application of a dust control product or salt to the road or a of a pest control product to the areas adjacent to the road  YES  NO

**Campgrounds/Day Use Areas and Trailheads**

N/A

**a. Does your project involve the construction or installation of an interpretive display or exhibit associated with an existing building, road, pull-off area or trail?**  YES  NO

If YES, will it:

- xiv. Require an expansion of any existing associated facilities?  YES  NO

**b. Does your project involve the construction of a permanent fence made out of metal posts and chain link or wood?**  YES  NO

If YES, will it:

- xv. Be greater than 1.5 m in height or longer than 60m?  YES  NO

**PART 1: Continued**

**2. EXCAVATION**

- a. Will your project require excavation?**  YES  NO
- If YES, will it be:
- i. For geotechnical investigation?  YES  NO
  - ii. For a building foundation?  YES  NO
  - iii. For post or footing holes only?  YES  NO
  - iv. Outside the footprint of an existing building?  YES  NO
  - v. Associated with work on a utility line?  YES  NO
  - vi. Will the excavated material be re-used on site?  YES  NO
  - vii. What is the total quantity of material to be excavated?  
(specify units) \_\_\_\_\_

**3. RIGHT-OF-WAY (ROW)**

- a. Will a new a new right-of-way be required to accommodate your project?**  YES  NO

**4. VEGETATION CLEARANCE**

- a. Will you be clearing any vegetation or cutting any trees?**  YES  NO
- If YES, what quantity and type?

**5. POLLUTING SUBSTANCES**

- a. If your project is a maintenance or repair project, will it:**
- i. Result in the likely release of a polluting substance into a waterbody?  YES  NO
  - ii. Involve the application of oil or salt to a road, sidewalk, or parking lot?  YES  NO
  - iii. Involve the application of a control product (e.g., herbicide) to the areas adjacent to the road, sidewalk or parking lot  YES  NO

## PART 2: DESCRIPTION OF THE ENVIRONMENTAL AND CULTURAL SETTING

*This section is designed to determine whether your project could potentially impact any valued environmental or cultural components, and if it may cause any impacts not identified in the MSCR.*

- a. Will your planned development be located on or adjacent to any of the potentially sensitive sites or special resources described in Attachment 3?**

YES  NO

If **YES**, please identify the type of site or resource by circling the appropriate resource(s) on Attachment 3 and returning it with this form.

- b. Is your proposed project located on or adjacent to any of the following?**

- Previously undisturbed or undeveloped land  YES  NO
- Land with steep or unstable slopes  YES  NO
- Wildlife corridors (see Attachment 2)  YES  NO
- Within 30 meters of a waterbody (river, stream, creek)  YES  NO
- Any Environmentally Sensitive Sites (see Attachment 3)  YES  NO

- c. Has any investigative work been done by you or previous owners to determine:**

- Possible contamination of the site  YES  NO  UNSURE
- The existence of hazardous materials in the building(s) on the site (e.g., asbestos, lead, PCB) or in the soil  YES  NO  UNSURE
- The presence of fuel tanks, fuel storage etc. on the site (Fuel includes gasoline, propane, diesel, heating oil *i.e.*, any hydrocarbon product)?  YES  NO  UNSURE

*If YES, please attach a list of the work done or copies of the reports or documents.*

**Note:** Parks Canada may request that a Phase I Environmental Site Assessment be completed as part of the environmental screening depending on the history of the site.

- d. Are any historic or archaeological resources directly or indirectly affected by your project (see Attachment 2)?**  YES  NO  UNSURE

- e. Is a federally or provincially designated heritage building or site affected by your project?** *(Note: The gatehouses at the East Gate of BNP are federally listed as heritage buildings).*  YES  NO

**PART 2: Continued**

**f. Will your project cause any impacts to the environmental or cultural/heritage setting that have not been identified below in Table 1?**  YES  NO

**g. If you answered YES in Part 2(f), briefly describe those impacts not already identified. Please attach a separate sheet to this form.**

Table 1: Potential environmental and cumulative effects from Frontcountry projects

<ul style="list-style-type: none"><li>• Dust production</li><li>• Decrease in air quality</li><li>• Runoff/sedimentation of waterbodies</li><li>• Soil and water contamination</li><li>• Soil compaction and erosion</li><li>• Slope failure</li><li>• Loss of topsoil</li><li>• Damage/loss of vegetation</li><li>• Changes in noise/visual quality</li></ul>	<ul style="list-style-type: none"><li>• Habitat loss, fragmentation</li><li>• Wildlife sensory disturbance</li><li>• Encroachment on wildlife movement corridors</li><li>• Increased traffic</li><li>• Risk to public safety</li><li>• Waste production</li><li>• Hazardous materials</li><li>• Impact to historical or archaeological resources</li></ul>
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**PART 3: MITIGATIONS**

*This section is designed to identify what mitigations will be used to remove or reduce the potential impacts identified above, and to determine the potential for impacts to remain after the mitigations are implemented.*

**a. Will Standard MCSR mitigations as described in Attachment 1 be used?**  YES  NO  UNSURE

**b. Will any environmental mitigations be undertaken other than or in addition to those listed in Attachment 1?**  YES  NO  UNSURE

If you answer **YES** or **UNSURE** to Part 3(b), please submit detailed information on your proposed mitigations on a separate sheet along with this form.

**c. Will your project involve blasting, dredging, surface or groundwater dewatering, excavation of contaminated soil or disposal of any hazardous materials? If so, please specify on a**  YES  NO

**separate sheet.**

**PART 3: Continued**

- d. Will your project require geo-technical investigation - drilling, soil sampling, - to determine soil capacity, contamination, groundwater depth etc?  YES  NO

**PART 4: PUBLIC INFORMATION**

*This section is designed to determine how you will ensure that all potential impacts have been identified through stakeholder consultation.*

- a. Please indicate those groups/individuals you have informed about your project.

**PART 5: APPLICATION SIGNATURE**

*As the proponent of the proposed project or his/her authorized agent, I guarantee that to the best of my knowledge all information provided here is complete, correct and accurate.*

Signature:	Date:
Name:	Phone:
Address:	

**PART 6: (Parks Canada to complete)**

- a. **Will the project adversely affect species at risk, either directly or indirectly, such as by adversely affecting their habitat?**

YES  NO

For the purposes of this document, species at risk include:

- species identified on the List of Wildlife Species at Risk set out in Schedule 1 of SARA, and including the critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of SARA.
- species that have been recognized as "at risk" by COSEWIC or by provincial or territorial authorities.

Within the CSA, there are two species that are listed as Species of Special Concern. The **grizzly bear** is listed on Schedule 3 of SARA and, following reassessment, will likely be added to the List of Wildlife Species at Risk, Schedule 1 of SARA, in the near future. The **western (boreal) toad** is being recommended for legal protection under SARA by COSEWIC. Potential impacts to these two species must therefore be assessed within this regulatory context.

To obtain information on species at risk, consult the following:

- Provincial conservation data centre (contact by email to receive map showing location of known species at risk)

e.g. British Columbia Conservation Data Centre  
<http://srmwww.gov.bc.ca/cdc/>

- Environment Canada

Species at Risk [www.speciesatrisk.gc.ca](http://www.speciesatrisk.gc.ca)

COSEWIC [www.cosewic.gc.ca](http://www.cosewic.gc.ca)

SARA Registry [www.sararegistry.gc.ca](http://www.sararegistry.gc.ca)

**PART 6: Continued**

- b. Have any other projects or activities not being undertaken as part of Frontcountry maintenance been identified as contributing to cumulative environmental effects in that they may interact or contribute to the environmental effects of the proposed Frontcountry maintenance activities, which have not already been addressed in the MCSR, Section 4.4 (Cumulative Impacts Assessment)?**

Please Check (✓) and complete the box below by circling the relevant projects/activities.

Potential External Contributors to Cumulative Impacts	Projects / Activities
NO	N/A
YES	CPR – construction/maintenance AltaLink – construction/maintenance Aquila Networks Canada – construction/maintenance TransCanada Highway – construction/maintenance ATCO Gas – construction/maintenance Banff National Park activities – prescribed burns trails construction Other (please describe):

If yes, specify what mitigation measure(s) will be applied and indicate the significance rating for the residual environmental effect(s) and/or cumulative environmental effects following mitigation as negligible, low, moderate or high. For more details on the evaluation of significance refer to the MCSR Section 4.1 and Table 4.2.

Environmental and Cumulative Environmental Effects not covered in the MCSR

Effect	Mitigation	Significance Rating <sup>(a)</sup>

<sup>(a)</sup> N – Negligible                      L – Low                      M – Moderate                      H – High

**Note:** This page is to be submitted with rest of the Banff National Park Environmental Screening Approval Report Form.

**PART 6: Continued**

**c. Is the project likely to cause significant environmental effects if all of the mitigations are followed?**

NEGLIGIBLE

LOW

MED

HIGH

Screening Reviewed:

Date:

Environmental Assessment Specialist

Screening Approved by:

Date:

Ecosystem Secretariat

**Note:** This page is to be submitted with rest of the Banff National Park Environmental Screening Approval Report Form.

## **5.0 IMPLEMENTATION**

### **5.1 Public Consultation**

A public consultation program was pursued in the development of this MCSR, which included the following components:

- Local non-government environmental organisations in Banff were notified of the Draft document, and were requested to provide feedback.
- Government agencies were requested to provide comments on the Draft report (as per Section 5.4, Federal Coordination Regulations).
- There will be an additional mandated 30 day review period to comment on the report once it is submitted to the Canadian Environmental Assessment Agency, before they consider declaration of the MCSR.

### **5.2 Canadian Environmental Assessment Registry**

The purpose of the Canadian Environmental Assessment Registry (the Registry) is to facilitate public access to records relating to environmental assessments and to provide notice in a timely manner of assessments. The Registry consists of two components – an Internet site and a project file.

The Internet site is administered by the Agency. The RA and the Agency are required to post specific records to the Internet site in relation to a MCSR and any related CSPRs.

Upon declaration of the MCSR, the Act requires responsible authorities to post on the Internet site of the Registry, at least every three months, a statement of projects for which a MCSR was used. The statement should be in the form of a list of projects, and will include:

- The title of each project for which the MCSR was used;
- The location of each project;
- A contact number; and
- The date of the decision.

The project file component is a file maintained by the RA during an environmental assessment. The project file must include all records produced, collected or submitted with respect to the environmental assessment of projects, including CSPRs and all records included on the Internet site. The RA must maintain the file, ensure convenient public access, and respond to information requests in a timely manner.

Further information regarding the Registry can be found in “The Canadian Environmental Assessment Registry”, prepared by the Agency.

### **5.3 Amending the Model Class Screening Report**

The purpose of an amending procedure is to allow the modification of the MCSR after experience has been gained with its operation and effectiveness. The reasons for such modification may include:

- clarification of ambiguous areas of document and procedures;
- streamlining or modifying the planning process in areas where problems may have arisen;
- minor modifications and revisions to the scope of assessment to reflect new or changed regulatory requirements, policies or standards; and
- new procedures and environmental mitigation practices that have been developed over time.

The RA will notify the Agency in writing of its interest to amend the MCSR. It will discuss the proposed amendments with the Agency and affected federal government departments and may invite comment from stakeholders and the public on the proposed changes. The RA will then submit the amended MCSR to the Agency, along with a request that the Agency amend the MCSR and a statement providing a rationale for the amendment.

The Agency may amend the MCSR without changing the declaration period if the changes:

- are minor;
- represent editorial changes intended to clarify or improve the screening process;
- do not materially alter either the scope of the projects subject to the MCSR or the scope of the assessment required for these projects; and
- do not reflect new or changed regulatory requirements, policies or standards.

The Agency may initiate a new declaration for the MCSR for the remaining balance of the original declaration period or for a new declaration period if the changes:

- are considered to be substantial; or
- represent modifications to the scope of the projects subject to the class or the scope of the assessment required for these projects.

### **5.4 Federal Coordination Regulations**

Section 12 (3) of CEAA states that every federal authority that is in possession of specialist or expert information or knowledge with respect to a project shall, on request, make available that information or knowledge to the RA.

Other expert federal departments were consulted during development of the MCSR, including Environment Canada and the Department of Fisheries and Oceans. Consultation with these federal departments ensured that appropriate environmental mitigation practices were included in the MCSR,

and that environmental issues associated with the routine maintenance projects in BNP Frontcountry were identified.

## 6.0 REFERENCES

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**APPENDIX A**  
**Ecoregions and Ecosite Characteristics**

**APPENDIX A**

**Ecosite Characteristics**

Day Use Area/ Campground	Ecosite	Soils and Terrain	Vegetation	Wildlife				
				Ungulates	Carnivores	Small Mammals	Breeding Birds	Amphibians
<i>Montane Ecoregion</i>								
Two Jack Lake Main Campground Upper Bankhead	AT1 5c/6	Slope: 3 (0-5%) complex 5 (5-15%) complex  Landform: Fluvial, calcareous,  Texture: coarse,  Soils: Orthic and Eluviated Eutric Brunisols	(C3) Lodgepole pine/juniper/ bearberry,  (C6) Lodgepole pine/ buffaloberry/ showy aster,  (C19) Lodgepole pine/buffalo berry/ twin flower	Highly important at all times of the year, especially to deer and elk.	Highly important to wolf, coyote, and cougar.  Black bear and grizzly bear are likely April until November and grizzlies are common mid to late summer.  Two Jack Lake Corridor.	Highly important especially to bat survival in the park. High density and diversity of small mammals including deer mice / voles / hares / red squirrels).	Medium density and diversity of bird species.	Long-toed salamanders and wood frogs are in the area.
Johnston Canyon Campground  Johnston Canyon Picnic area/Day-use Horse Corral	FR1 3	Slope: 3 (0-5%) 5 (5-15%)  Landform: Fluvial fans and aprons, calcareous,  Texture: coarse stratified,  Soils: well drained Orthic and Eluviated Eutric Brunisols	(C6) Lodgepole pine/buffalo berry/ showy aster,  (C19) Lodgepole pine/ buffaloberry/ twin flower  [(C9) Lodgepole pine/dwarf bilberry between Banff and Johnston Canyon]	Highly important, especially to deer, moose and elk in the winter in terms of bedding areas.	Highly important, especially to wolf, coyote, cougar and lynx because of high density of prey species - especially in the winter.  Black bear and grizzly bear likely occur in the area April until November.	High density and diversity of small mammals; the presence of the little brown bat and the bushy tailed wood rat make ecosite important. Other species include hares, red squirrels, beavers, deer mice and voles.	High number of species at high densities.	Amphibians likely occur where there are wetland and/or water body areas around the campground/picnic areas. They are unlikely in areas of human use.

Day Use Area/ Campground	Ecosite	Soils and Terrain	Vegetation	Wildlife				
				Ungulates	Carnivores	Small Mammals	Breeding Birds	Amphibians
<b>Montane Ecoregion</b>								
Carrot Creek Sawback Fireside (HD1/5) Vermilion Lakes Drive East Gate Parking	HD1 3/5/6	Slope: 3 (0-5%) 5 (5-15%) 6 (15-30%)  Landform: Fluvial fans and aprons, material B, calcareous,  Texture: coarse, stratified,  Soils: Orthic and Cumulic Regosols	(C16) Aspen/hairy wild rye – peavine  (C17) Balsam poplar/ buffalo berry	Highly important especially to elk and deer in the winter – snow accumulation is low	Highly important especially coyote, wolf, cougar, and marten. Moderately important to lynx.  Black bear and grizzly bear may be present from April until November.  Cascade/Norquay Corridor.  Fenland/Indian Grounds Corridor.  Sulphur Mountain Corridor.	High number of species, high density of Columbian ground squirrels, red squirrels, and meadow voles	Very high diversity and density of bird species.	<i>Carrot Creek:</i> Ponds are important breeding sites for wood frogs and long-toed salamander. Western (boreal) toad are found in Horse Pond.  <i>Sawback and Fireside:</i> Amphibians likely in wetland areas or areas with water bodies.  <i>Vermilion Lakes Drive:</i> Ponds are important breeding sites for wood frogs and long-toed salamander. Spotted frogs and western (boreal) toads also occur in area. The wandering garter has been recorded in the area.

Day Use Area/ Campground	Ecosite	Soils and Terrain	Vegetation	Wildlife				
				Ungulates	Carnivores	Small Mammals	Breeding Birds	Amphibians
<i>Montane Ecoregion</i>								
Cascade Ponds Day-use/Picnic Area Hoodoos Viewpoint	HD2 3c	Slope: 3 (0-5%)  Landform: level fluvial fans or aprons, floodplains, material B, calcareous,  Texture: coarse, stratified,  Soils: Orthic and Cumulic Regosols	(O3) White spruce/shrubby cinquefoil/ bearberry  [(O17) White spruce/juniper/ bearberry	Highly important to ungulates year round, especially deer and elk.	Highly important to wolf, coyote, cougar, and lynx.  Black bear and grizzly bear are likely from April until November.  Corridors in the Cascade Ponds area include the Norquay Cascade Corridor and the Two Jack Canal Corridor.	High diversity of species – only record of northern pocket gopher at Ghost Lakes area in Banff	High diversity and density of bird species.	Cascade ponds are habitat for western (boreal) toads. Spotted frogs may also occur in the area.  <i>Hoodoos:</i> Wood frogs are found in wetlands east of Hoodoos Ridge.
Bourgeau Trailhead	HD3 3	Slope: 3 (0-5%)  Landform: fluvial fans and aprons, calcareous, often channelled  Texture: coarse, stratified,  Soils: Orthic and Cumulic Regosols	(C2) white spruce/fern moss  (C27) White Spruce/prickly rose/ fern moss  (C5) white spruce- <b>Douglas fir</b> / feather moss  (C26) white spruce/buffalo berry/ fern moss	Highly important in autumn and winter	Highly important in autumn and winter to wolf, cougar, coyote and lynx.  Black bear and grizzly bear may be present from April until November.  Bourgeau Slopes Corridor.	Moderate number of species	Medium number of species at high densities.	Amphibians are likely in wetland areas or areas with water bodies.
Johnson Lake Picnic Area Sundance Canyon Picnic Area Valley View Picnic Area	NY3 6/8	Slope: 6 (15 to 30%)  Landform: Inclined, gullied hummocky terrain. South aspects are the warmest. Stratified drift, calcerous  Soils: Brunisol and Regisol	(O5) <b>Douglas fir</b> /juniper/bearberry  (L1) Shrubby cinquefoil/bearberry/ northern bedstraw  (C1) <b>Douglas fir</b> /hairy wild rye  (C3) Lodgepole pine/juniper/ bearberry  (O2) Limber pine- <b>Douglas fir</b> /juniper/bearberry	Highly important to deer, elk and bighorn sheep. It is valuable winter range and important for forage and cover.	Highly important for wolf, cougar, coyote and marten.  Black bear and grizzly bear may occur from April until November.  Penstock Corridor	High densities occur here.	A high number of species at high densities occur here.	Amphibians are likely in wetland areas or areas with water bodies.

Day Use Area/ Campground	Ecosite	Soils and Terrain	Vegetation	Wildlife				
				Ungulates	Carnivores	Small Mammals	Breeding Birds	Amphibians/Rep tiles
<i>Montane Ecoregion</i>								
Two Jack Canal Healy Creek Trailhead	PT1 6c	Common on broad valley floors and benchlands and sometimes on lower slopes of valley walls. Ridged or hummocky moraine blankets  Slope: 5 (5-15%) complex 6 (15-30%) complex  Landform: Morainal, calcareous,  Texture: medium till C,  Soils: Brunisol, Luvisol	(C6) Lodgepole pine/buffalo berry/showy aster,  (C19) Lodgepole pine/ buffalo berry/twin flower  (C1) <b>Douglas fir</b> / hairy wild rye  (C5) White Spruce/ <b>Douglas fir</b> /feather moss  (C3) Lodgepole pine/juniper/ bearberry,  (C10) Lodgepole pine – white spruce/green alder/ feather moss	Moderately important in the summer and highly important in the winter. Low snow accumulation and abundant forage make it important to elk and deer year round	Highly important to coyote and cougar in the summer – highly important to coyote, wolf and cougar in the winter due to low snow depth. All other species of carnivores have been recorded here.  Black bear and grizzly bear are likely April until November and grizzlies are common mid to late summer.  Two Jack Canal Corridor.  Bourgeau Slopes Corridors.	High number of species occur here including the bushy tailed woodrat, and bats	High number of bird species.	<i>Two Jack Canal:</i> Long-toed salamanders and wood frogs are in the area.  <i>Healy Creek Trailhead:</i> Amphibians likely occur in wetland/water body areas surrounding the trailhead.

Day Use Area/ Campground	Ecosite	Soils and Terrain	Vegetation	Wildlife				
				Ungulates	Carnivores	Small Mammals	Breeding Birds	Amphibians/Rep tiles
<b>Montane Ecoregion</b>								
Lake Minnewanka Picnic Area/Day- use	PT3 6c	Slope: 5 (5- 15%) Landform: ridged moraine, calcarous Texture: medium till and exposed bedrock segments Soil: (dry) Lithic phase Orthic and Eluviated Eutric Brunisols (Wet) Orthic and rego gleysols and terric mesisols	(C6) Lodgepole pine/buffalo berry/showy aster (C11) Lodgepole pine/feather moss (C19) Lodgepole pine/buffaloberry/ twin flower	Highly important in the winter and of low importance in the summer for bighorn sheep, elk and deer.	Highly important to carnivores, particularly wolf, coyote and cougar. Moderately important to martin and lynx.  Black bear and grizzly bear are likely to be present from April until November and grizzlies are common mid to late summer.  Lake Minnewanka Corridor.	Moderate number of species.	High number of species at high densities	Western (boreal) toads, long-toed salamanders and wood frogs occur in wetland areas around the day-use areas. Amphibians are unlikely in the picnic/day-use areas.  Wandering garter snakes have been recorded along shores of Lake Minnewanka.

Day Use Area/ Campground	Ecosite	Soils and Terrain	Vegetation	Wildlife				
				Ungulates	Carnivores	Small Mammals	Breeding Birds	Amphibians
<i>Montane Ecoregion</i>								
Two Jack Lakeside Picnic area/Day-use Two Jack Lakeside Campground	PT5 5c	Common on Broad benchlands throughout montane.  60% well drained mesic, 40% wet (poorly drained hygric)  Slope: 5 (5-15%)  Landform: ridged moraine, calcarous  Texture: medium till (interridge depressions frequently mantled in organic deposits (horizontal fens)  Soil: (dry) Orthic and eluviate Eutric Brunisols and Brunisollic Grey Luvisols  (Wet) Rego gleysols and terric mesisols	(C6) Lodgepole pine/buffalo berry/showy aster  (C11) Lodgepole pine/feather moss  (C19) Lodgepole pine/buffaloberry/twin flower	Highly important in the winter and moderately important in the summer	Highly important to carnivores, particularly coyote, cougar and lynx.  Black bear and grizzly bear are present from April until November and grizzlies are common mid to late summer.  Two Jack Lake Corridor.	Moderate number of species.	High number of bird species at high densities.	<i>Two Jack area:</i> The long-toed salamander, western (boreal) toad and wood frog are found in the area.

Day Use Area/ Campground	Ecosite	Soils and Terrain	Vegetation	Wildlife				
				Ungulates	Carnivores	Small Mammals	Breeding Birds	Amphibians
<b>Montane Ecoregion</b>								
Forty Mile Creek Mule Shoe Castle Mountain Viewpoint	VL3 3c	Wet level floodplains forest and shrub vegetation Slope: 3 (0-5%) complex Landform: Fluvial, calcareous, Texture: fine, fluvialacustrine and coarse stratified, Soils: Poorly drained Regogleysol	White spruce, wet shrubby meadow, wet shrub thicket (C4) White spruce/prickly rose/horsetail, (S1) Dwarf birch – shrubby cinquefoil – willow/ brown moss, (S7) Willow/horsetail	High importance in winter, medium importance in summer for deer and elk.	Highly important especially to wolf, coyote, cougar, weasel and lynx. Black bear and grizzly bear may be present from April until November. Fenland/Indian Grounds Corridor. Norquay / Cascade Corridor. Cory Slopes Wildlife Corridor.	One of the most important ecosites for small mammals given the density and diversity of species, the presence of bats, beaver and muskrat	Very high diversity and density of bird species.	<i>40 Mile Creek:</i> Western (boreal) toads in area. <i>Muleshoe:</i> Long-toed salamander, western (boreal) toads and wood frogs in area. <i>Castle Mountain Viewpoint:</i> Amphibians are likely in areas where there are wetlands/ water bodies away from human traffic. Ponds are important breeding sites in this ecosite for wood frogs, long-toed salamanders and western (boreal) toad.

Day Use Area/ Campground	Ecosite	Soils and Terrain	Vegetation	Wildlife				
				Ungulates	Carnivores	Small Mammals	Breeding Birds	Amphibians
<b><i>Lower Sub-Alpine Ecoregion</i></b>								
Castle Mountain Campground	AL1 3	Slope: 3(0-5%)  Landform: Stable fluvial fans and aprons of calcareous, stratified fluvial material.  Texture: Medium  Soils: Orthic and Eluviated Eutric Brunisols.	(C19) Lodgepole pine/buffaloberry/ twinflower dominates on <i>mesic</i> sites  (C6) Lodgepole pine/buffaloberry/ showy aster  (C18) Lodgepole pine/buffaloberry/ grouseberry are accessory sites  (C11) Lodgepole pine/feather moss  (C20) Lodgepole pine/false azalea/grouseberry  (C29) Lodgepole pine/labrador tea	The ecosite is highly important to ungulates year round. Deer, moose and elk are common and the ecosite is especially important for deer and elk in the summer.	This ecosite is important particularly to wolf, coyote and cougar in summer and lynx and wolverine year-round.  Black bear and grizzly bear may be present from April until November.	A moderate number of species occur at moderate densities.	A high number of species occur here at medium densities.	Castle Mountain Campground: Wood frogs, spotted frogs and western (boreal) toads in Castle Junction wetland areas around the campground. Amphibians are unlikely in the campground itself.

Day Use Area/ Campground	Ecosite	Soils and Terrain	Vegetation	Wildlife				
				Ungulates	Carnivores	Small Mammals	Breeding Birds	Amphibians
<b>Lower Sub-Alpine Ecoregion</b>								
Boom Lake Trailhead Red Earth Trailhead	BK4	Slope: 5 (5-15%) complex 6 (15-30%) complex  Landform: Hummocky ridged moraine-like glacial landform - ice contact stratified drift B, calcareous, Texture: variable  Soils: Dry - Brunisol > Luvisol Wet – Gleysol, organic	(C18) Lodgepole pine/buffalo berry/ grouseberry, (C19) Lodgepole pine/ buffalo berry/ twin flower (C3) Lodgepole pine/juniper/ bearberry (C6) Lodgepole pine/ buffalo berry/ showy aster (C20) Lodgepole pine/false azalea/ grouseberry (C29) Lodgepole pine/ Labrador tea (S1)Dwarf birch – shrubby cinquefoil – willow/brown moss (O11) Spruce/Labrador tea/ brown moss (S3)Dwarf birch – shrubby cinquefoil/needlerush	Overall, highly important year round. Very highly important to elk in the summer, highly important to deer in the summer and to moose in the winter (especially wet depressions) winter snow depths limit movement for smaller ungulates.	Very highly important – high densities of lynx, marten, coyote, wolf and cougar.  Black bear and grizzly bear may be in area from April to November.	Moderate number of species but high densities of various hares, and red-backed voles. Flying squirrels ( <i>dependant on old-growth forest cavities</i> ) and bushy- tailed woodrats noted.	High number of bird species at high densities.	<i>Boom Lake:</i> Western (boreal) toads in area.  <i>Red Earth Trailhead:</i> Amphibians are likely present in adjacent wetland areas.

Day Use Area/ Campground	Ecosite	Soils and Terrain	Vegetation	Wildlife				
				Ungulates	Carnivores	Small Mammals	Breeding Birds	Amphibians
<i>Lower Sub-Alpine Ecoregion</i>								
Rockbound Lake Trailhead	HC1 3c	Slope: 3 (0-5%) complex Landform: wet Fluvial material B >fen, variable calcareousness, Texture: coarse stratified, Soils: Gleysol>Regosol, Organic Rego Gleysols are dominant Gleyed Cumulic Regosols and Terric Mesisols are subdominant	(C32) Engelmann spruce/horsetail/ feather moss, (O6) Engelmann spruce – subalpine fir/willow/ ribbed bog moss Subdominant vegetation types: (S1) Dwarf birch – shrubby cinquefoil – willow/brown moss, (S3) Dwarf birch – shrubby cinquefoil/ needlerush [ (O11) Spruce/Labrador tea/brown moss, (H11) Water sedge – beaked sedge]	Moderate importance overall, but high importance to moose – shrub lands offer ample forage  Sedge meadow, willow low importance – elk graze meadows in all seasons, winter use depends on snow depth	Sedge meadow, willow moderately important to mustelid species but low importance to other carnivores.  Black bear and grizzly bear may be present from April until November.	Open spruce & birch willow bogs, some ponds and springs high number of species at high numbers including the rare water shrew.  Sedge meadow, willow, few species at low to moderate densities.	Medium number of species at high densities	Bog/pond areas are important breeding habitat for wood frogs and western toad (boreal) toad.  Sedge meadow areas important breeding habitat for spotted frog and western toad.

<b>Wildlife Species</b>	<b>Species at Risk Act (SARA) - Public Registry (Schedule 3)<sup>(a)</sup></b>	<b>Committee on the Status of Endangered Wildlife in Canada (COSEWIC)<sup>(b)</sup></b>
<b>Mammals</b>		
Grizzly bear	v Species of Special Concern (Schedule 3)	
Wolverine		v Species of Special Concern
<b>Herptiles</b>		
Western toad		v Species of Special Concern

**Source:**

- (a) Government of Canada. (November 23, 2004). Species at Risk Act Public Registry – *Schedule 3* Retrieved November 23, 2004, from [http://www.sararegistry.gc.ca/species/schedules\\_e.cfm?id=3](http://www.sararegistry.gc.ca/species/schedules_e.cfm?id=3).
- (b) Government of Canada. (October 1, 2004). Committee on the Status of Endangered Wildlife in Canada - *Database*; Retrieved November 23, 2004, from [http://www.cosewic.gc.ca/eng/sct5/index\\_e.cfm](http://www.cosewic.gc.ca/eng/sct5/index_e.cfm).

**Note:**

- (a) Species that were designated at risk by COSEWIC (Committee on the Status of Endangered Wildlife in Canada) prior to October 1999 must be reassessed using revised criteria before they can be moved from Schedule 3 to Schedule 1 of SARA. After they have been assessed, the Governor in Council may on the recommendation of the Minister, decide on whether or not they should be added to the *List of wildlife species at risk*.
- (b) Species listings by COSEWIC are status rankings only and may be considered for legal protection under SARA at a later date. They are not legally protected under SARA at present.

ECOREGION	ECOSECTION	ECOSITE CODE	SLOPE CLASSES	
			% Slope	Symbol
Montane	AT – Athabasca	AT1/5c; AT1/6	0-5	3
	FR – Fireside	FR1/3	5-15	5
	HD - Hillsdale	HD1/3; HD1/5; HD1/6; HD2/3c; HD3/3	15-30	6
	NY – Norquay	NY3/6c; NY3/8	30-45	7
	PT – Patricia Lake	PT1/6c; PT3/6c; PT5/5c	45-70	8
	VL – Vermilion Lake	VL3/3c	>70	9
Lower sub-alpine	AL - Altrude	AL1/3		
	BK – Baker Creek	BK4/5c; BK4/6c		
	HC – Hector Lake	HC1/3c		

**APPENDIX B**

**Parks Canada Approved Grass Seed Mix**

## GRASS SEED MIXTURE FOR LANDSCAPE REHABILITATION<sup>(a)</sup>

Species	Variety	%
Agropyron riparium “Sodar”	Western Wheat Grass	25
Agropyron smithii, common	Awned Wheat Grass	25
Agropyron subsecundum	Slender Wheat Grass	20
Festuca ovina “Nakista”	Hard Fescue	5
Koeleria macrantha (cristata)	June Grass	5
Lolium perenne	Perennial Rye Grass	5
Poa alpina	Alpine Bluegrass	15

<sup>(a)</sup> Apply at a rate of 55 kg per hectare, working into soil or hydroseeding.