

**MODEL CLASS SCREENING REPORT FOR  
ROUTINE FRONT COUNTRY PROJECTS  
BANFF FIELD UNIT  
BANFF NATIONAL PARK  
(2005)**





**MODEL CLASS SCREENING REPORT FOR  
ROUTINE FRONT COUNTRY PROJECTS  
BANFF FIELD UNIT  
BANFF NATIONAL PARK  
(2005)**

**Prepared for:**

**Parks Canada**

**Prepared by:**

**Highwood Environmental Management Limited  
Calgary, Alberta**

**May 2005  
Project No. 0091**

# TABLE OF CONTENTS

	<b>Page</b>
1.0 INTRODUCTION .....	1-1
1.1 Class Screening and the Canadian Environmental Assessment Act .....	1-1
1.2 Spatial Boundaries of the Class Screening Area.....	1-2
1.3 Steps in the Class Screening Process .....	1-2
1.4 Cumulative Effects Assessment .....	1-8
2.0 ROUTINE PROJECTS WITHIN BNP FRONT COUNTRY AREAS COVERED BY THE MODEL CLASS SCREENING REPORT .....	2-1
2.1 Projects Subject To CEAA.....	2-1
2.2 Summary of Routine Projects Subject to Model Class Screening.....	2-3
2.2.1 Facilities and Projects Included in the MCSR.....	2-3
2.2.2 Projects.....	2-4
2.3 Typical Seasonal Scheduling and Duration of Projects:.....	2-6
3.0 PROJECT SETTING .....	3-1
3.1 Description of Class Screening Area .....	3-1
3.2 Typical Project Sites and Environmental Setting .....	3-1
3.2.1 National Park Zoning System .....	3-2
3.2.2 Ecological Setting.....	3-3
3.3 Valued Ecosystem Components.....	3-7
3.3.1 Species at Risk .....	3-9
3.3.2 Migratory Birds Convention Act .....	3-11
3.3.3 Wildlife Movement Corridors.....	3-11
3.3.4 Environmentally Sensitive Sites .....	3-12
3.3.5 Special Resources .....	3-13
3.3.6 Heritage and Archaeological Sites.....	3-14
4.0 IMPACT ANALYSIS.....	4-1
4.1 Potential Environmental Effects of Routine Projects in BNP Front Country .....	4-1
4.2 Mitigation Measures, Guidelines and Standards .....	4-5
4.3 Residual Impacts.....	4-13
4.4 Cumulative Impact Assessment .....	4-14
4.5 Malfunctions and Accidents.....	4-16
4.6 Effects of the Environment on the Project.....	4-16
4.7 Follow-Up and Monitoring Programs.....	4-17
4.7.1 Monitoring during Construction .....	4-17
4.7.2 Training of Construction Crews.....	4-17
4.8 Responsibilities, Timelines & Public Review.....	4-17
4.9 Preparing the Class Screening Project Report .....	4-18
4.10 Banff National Park Front Country Class Screening Project Report Form .....	4-19

5.0	IMPLEMENTATION.....	5-1
5.1	Public Consultation.....	5-1
5.2	Canadian Environmental Assessment Registry .....	5-1
5.3	Amending the Model Class Screening Report.....	5-2
5.4	Federal Coordination Regulations .....	5-2
6.0	REFERENCES .....	6-1

## APPENDICES

APPENDIX A	Ecoregions and Ecosite Characteristics
APPENDIX B	Parks Canada Approved Grass Seed Mix

## LIST OF TABLES

		<b>Page</b>
Table 1.1	Banff National Park Front Country Class Screening Area (CSA) – Project Site Descriptions .....	1-3
Table 2.1	Routine Projects for Picnic/Day-Use Areas, Campgrounds, Trailheads and Highway Pullouts that trigger the Canadian Environmental Assessment Act.....	2-2
Table 3.1	Ecoregions and Ecosites of Front Country Facilities.....	3-2
Table 3.2	Sensitive Resources in Class Screening Area .....	3-8
Table 3.3	Archaeological / Historic Sites and Concerns .....	3-15
Table 4.1	Matrix of Potential Pre-Mitigation Environmental Impacts from Routine Projects in Banff National Park Front Country.....	4-2
Table 4.2	Impact Rating Criteria .....	4-3
Table 4.3	Mitigations for Reducing Potential Impacts of Project Activities .....	4-6

## LIST OF FIGURES

	<b>Page</b>
Figure 1.1A East Map of Class Screening Area showing Wildlife Corridors, Ecosites and Archaeology Resources.....	1-4
Figure 1.1B West Map of Class Screening Area showing Wildlife Corridors, Ecosites and Archaeology Resources.....	1-5
Figure 1.2 Developing the MCSR for Frontcountry Projects in Banff National Park .....	1-6

## 1.0 INTRODUCTION

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

The *Canadian Environmental Assessment Act* (the Act or CEAA) is a legislated environmental assessment process designed to integrate environmental considerations in projects which require a federal authority (FA) to make a decision or take on a responsibility, 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 that 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) Front Country 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.*

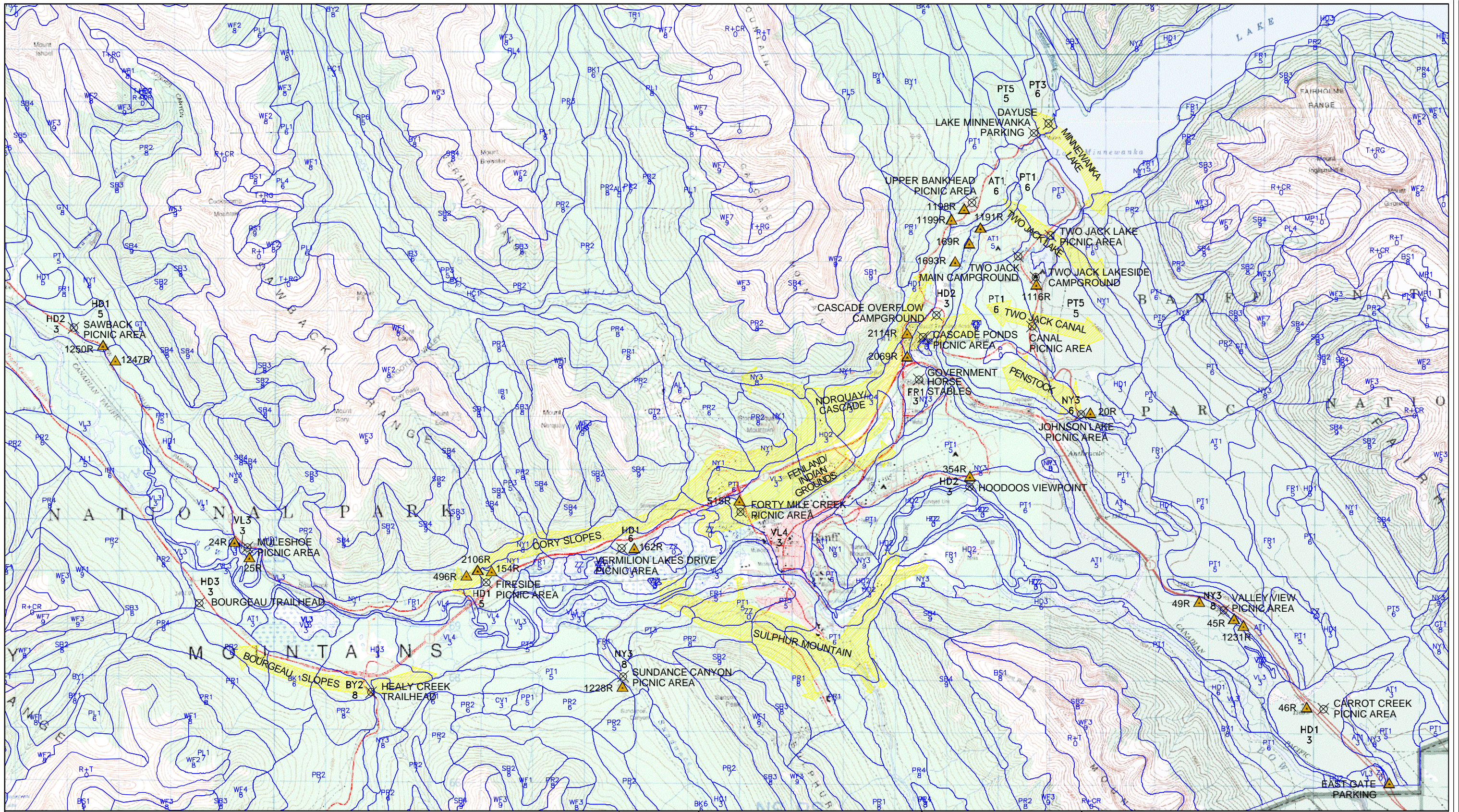
Projects that require screening are described in Section 2. Based on this information, Parks Canada as the RA, will determine whether an environmental screening is required. If Parks Canada determines that no screening is required, the project may proceed.



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

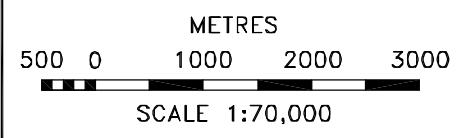
Type of Project Site	Name	Location	Facilities	Ecosite
<b>Picnic/Day-use Areas</b>				
	Carrot Creek	Trans-Canada Hwy	Toilets	HD1/3
	Valleyview	Trans-Canada Hwy	Tables, toilets	NY3/8
	Johnson Lake	Lake Minnewanka	Tables, toilets, fireplaces	NY3/6
	Two Jack Canal	Lake Minnewanka	Tables, toilets	PT1/6
	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	Bow Valley Pkwy	Tables, toilets, staff accommodation	FR1/3
	Castle Mountain Campground	Bow Valley Pkwy	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	Bow Valley Pkwy	Toilets	HC1/3
	Boom Lake Trailhead	Hwy 93 South	Tables, toilets	BK4/5c
<b>Highway Pullouts</b>				
	Hoodoos Viewpoint	Tunnel Mountain Rd	Toilets	HD2/3
	Castle Mountain View Point	Trans-Canada Hwy	Toilets	VL3/3c
<b>Other</b>				
	Government Horse Stables	Trans-Canada Hwy	Government horse stables, toilets	FR1/3
	East Gate	Trans-Canada Hwy	Staff accommodation, gate houses	HD1/3



Figure 1.1A East Map of Class Screening Area showing Wildlife Corridors, Ecosites and Archaeology Resources

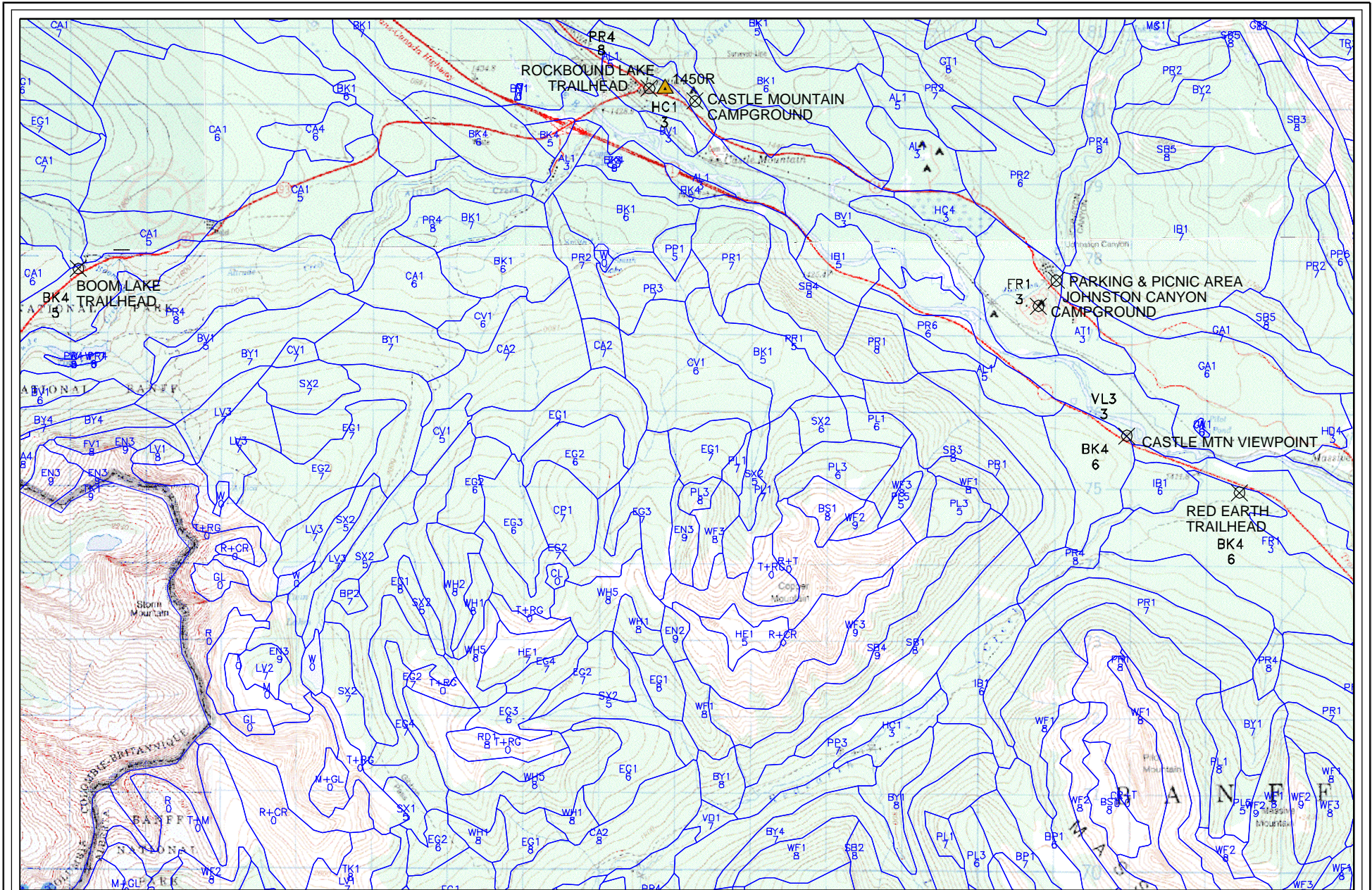


- LEGEND**
-  HISTORIC SITE
  -  WILDLIFE CORRIDOR



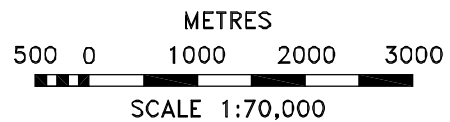
**FIGURE 1A**  
**CLASS SCREENING AREA FOR BANFF**  
**NATIONAL PARK FRONT COUNTRY**  
**ROUTINE MAINTENANCE**

Figure 1.1B West Map of Class Screening Area showing Wildlife Corridors, Ecosites and Archaeology Resources



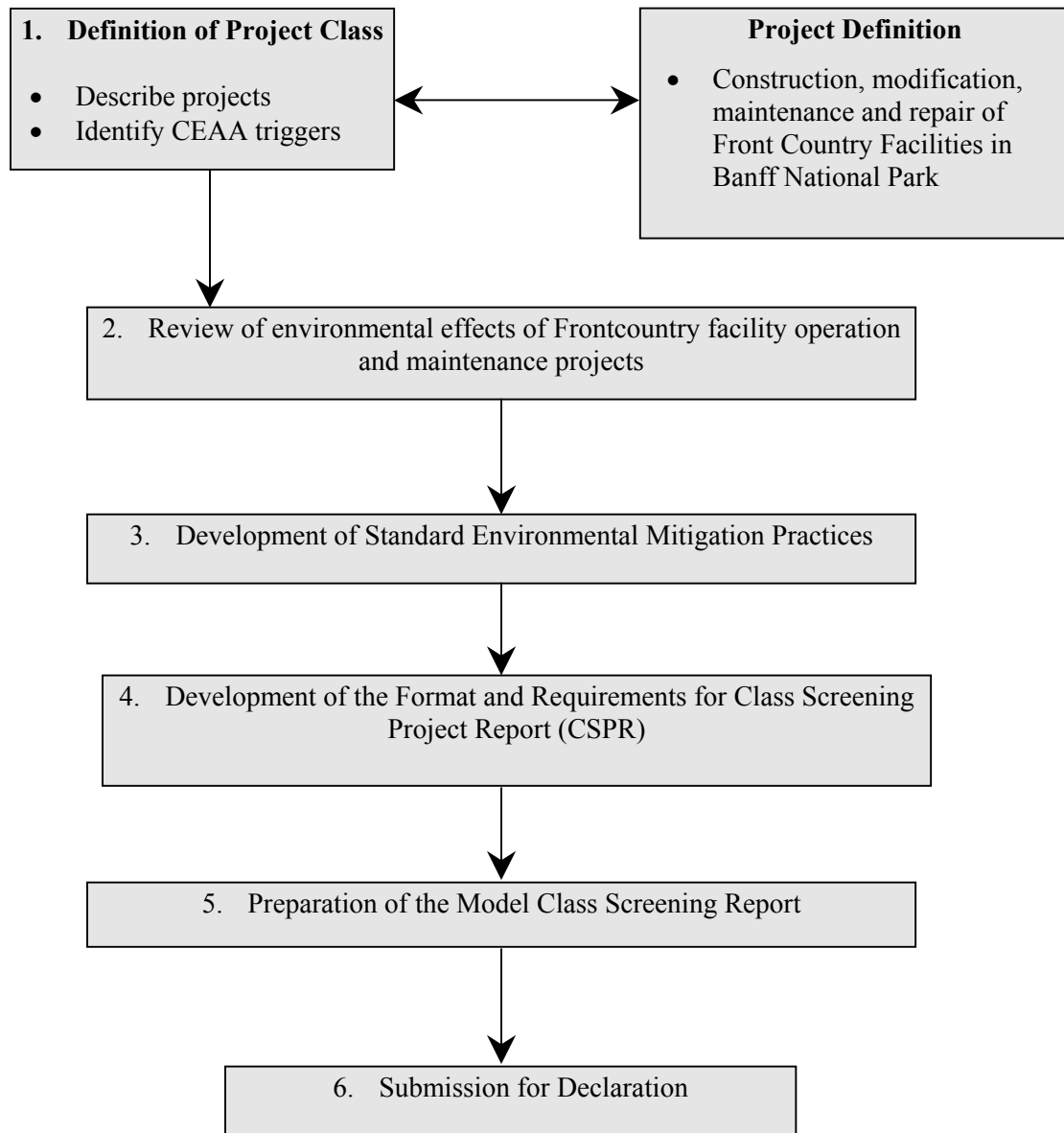
**LEGEND**

 HISTORIC SITE



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

Figure 1.2 Developing the MCSR for Front Country 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*;
- The project is routine, repetitive and uses well-understood technology; and
- Uses recognized mitigation methods to reduce impacts.

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 Environmental Assessment 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;
- Use recognized mitigation methods to reduce impacts; and
- Comply with the most recent version of the Banff National Park Management Plan.

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 not to be a routine project (i.e., it does not fit the class); and if the project may:

- 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 FRONT COUNTRY 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 that are routine, repetitive, use well-understood technology and use recognized 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 Front Country 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 of 10 or more electrical 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 light standards)	✓			•	•
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.

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*.

Activities conducted in the BNP Front Country areas that do not meet the class screening requirements of being routine, repetitive, using well-understood technology and using recognized mitigation measures are required to undergo an individual assessment.

## **2.2 Summary of Routine Projects Subject to Model Class Screening**

### **2.2.1 Facilities and Projects Included in the MCSR**

The following projects are included in this MCSR for BNP Front Country 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 holding tanks, excluding “septic fields”.
  - Projects 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 as listed in Table 1.1.
  - Facilities include: picnic tables, garbage bins and toilet facilities, as well as the Government Horse Stables and two gate houses at BNP’s East Gate.
  - Projects include: construction, modification or replacement, maintenance and repair of existing facilities.

- Maintenance, replacement and decommissioning of utility lines including water, telephone, 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 Front Country 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.

### 2.2.2 *Projects*

#### **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 may be 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 replacement of 10 or more 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 demolition, excavation and pouring of foundations, transportation and storage of materials, framing and cladding/roofing, interior finishing and provision of utilities.

Construction of new buildings in the CSA that are not replacements of existing buildings are not covered by this MCSR.

## Utility Lines

Utility lines in the CSA include water and sewage lines to flush toilet facilities (including at staff accommodation and horse stables), electricity lines to some toilet facilities, staff accommodation and government horse stables and telephone lines to staff accommodation. 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. This MCSR does not cover installation of new onsite wastewater management systems, such as septic fields, or modification of existing ones.

- *Installation or maintenance of utility lines* involves trenching 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 guideposts with plastic reflector tape. The construction of new roads and parking lots within the CSA are not covered by this MCSR.

- *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.

## **2.3 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 Front Country projects typically extends from a few days for maintenance projects to months for construction projects.

### **3.0 PROJECT SETTING**

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

The BNP Front Country 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 Front Country 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 routine, repetitive, use well understood technology and use recognized mitigation methods to reduce impacts, 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 CCSR 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</li> <li>• Government Horse Stables</li> </ul>
Hillsdale (HD)	<ul style="list-style-type: none"> <li>• East Gate</li> <li>• Carrot Creek Picnic Area</li> <li>• Valleyview Picnic Area</li> <li>• Johnson Lake Picnic Area</li> <li>• Sawback Picnic Area</li> <li>• Fireside Picnic Area</li> <li>• Vermilion Lakes Drive Picnic Area</li> <li>• Cascade Ponds Picnic Area</li> <li>• Cascade Overflow Campground</li> <li>• Sundance Canyon 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</li> <li>• Two Jack Lakeside Picnic Area</li> <li>• Two Jack Lakeside Campground</li> </ul>
Vermilion Lakes (VL)	<ul style="list-style-type: none"> <li>• Forty Mile Creek Picnic Area</li> <li>• Mule Shoe Picnic Area</li> <li>• Castle Mountain Viewpoint Pull-out</li> </ul>
Norquay (NY)	<ul style="list-style-type: none"> <li>• Valleyview Picnic Area</li> <li>• Johnson Lake Picnic Area</li> <li>• Sundance Canyon Picnic Area</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 Front Country 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 Hotsprings in Kootenay National Park.

### **3.2.2 *Ecological Setting***

Project sites are located in a number of ecosites typical of BNP Front Country 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 for 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 located in HD1 ecosites, which are highly important for all wildlife including amphibians. 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 the 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 are 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**

Valued Ecosystem Components (VECs) were selected based on issues of concern and ecological integrity indicators identified in the BNP Management Plan. The VECs selected represent ecosystem components that are particularly vulnerable to disturbance and/or are likely to be impacted by the activities covered by this MCSR. The selected VECs serve as the focus of the environmental effects analysis. These are summarised in Table 3.2, Sensitive Resources in Class Screening Area, and Table 3.3, Archaeological/Historic Sites and Concerns.

Table 3.2 Sensitive Resources in Class Screening Area

<b>Sensitive Resources in Class Screening Area</b>
<b>Species at Risk Act</b>
Western (boreal) toad – listed on Schedule 1
Grizzly bear – Species of Special Concern
<b>Wildlife Movement Corridors</b>
Two Jack Lake Corridor
Two Jack Canal Corridor
Minnewanka Lake Corridor
Penstock Corridor
Norquay/Cascade Corridor
Fenland/Indian Grounds Corridor
Sulphur Mountain Corridor
Bourgeau Slopes Corridor
Cory Slopes Corridor
<b>Environmentally Sensitive Sites</b>
Vermilion Lakes Wetlands ESS
The Fairholme-Carrot Creek Benchlands ESS
Johnson Lake
The Hoodoos
Lake Minnewanka
Johnston Canyon
Mount Norquay
Sawback Range
Sunshine Meadows
Tunnel Mountain
The Norquay/Cascade Wildlife Corridor
<b>Special Resources</b>
Douglas fir
Trembling aspen
Limber pine
Rocky Mountain juniper

The VECs for BNP Front Country CSA are:

- *Wildlife*: Within BNP there are a number of species that are designated as “species at risk or of special concern” (see 3.3.1 below). These are considered as umbrella species that act as indicators of ecosystem health within the park and therefore require particular attention in the analysis of environmental effects. In addition, wildlife species that are top-predators and have a relatively low population within BNP and the CSA are vulnerable to ecosystem disturbance and to activities that may change predator-prey and competition processes affecting them, in particular those activities affecting important wildlife corridors (see 3.3.3 below for greater detail regarding important wildlife corridors within the CSA). Migratory birds are also protected by legislation and this is further described in Section 3.3.2 below.
- *Surface water quality*: Water quality could be impacted by sedimentation or contamination and this could result in subsequent impacts to aquatic wildlife and vegetation species. Areas sensitive to habitat disturbance within the CSA, including impacts to surface water quality, are described in Section 3.3.4 below.
- *Soil and terrain*: Impacts on soil and terrain could result from erosion, compaction or contamination. Areas sensitive to habitat disturbance within the CSA, including impacts to soil and terrain, are described in Section 3.3.4 below.
- *Vegetation*: Native vegetation in riparian and wetland areas, and in alpine areas where the growing season is short, is more vulnerable to the potential impacts of project activities. Rare or endangered species found in the areas where project activities occur may be inadvertently damaged or destroyed. Sensitive species designated as ‘Special Resources’ within BNP are described in Section 3.3.5 below. Project activities could also contribute to the introduction and spread of exotic plant species that may in turn affect the functioning of natural ecosystems and integrity of native plant communities. Areas sensitive to habitat disturbance within the CSA, including impacts on vegetation, are described in Section 3.3.4 below.
- *Cultural resources*: The Act requires consideration of the effects of changes to the environment on socio-economic conditions, as well as potential impacts on archaeological and historical sites of significance. Impacts on these sites could include ground disturbance arising from project activities or changes to the character of FHBRO listed buildings. Details regarding sites of historical and archaeological significance are provided below in Section 3.3.6.

### **3.3.1**     *Species at Risk*

In the case of federally managed species, adding a species to Schedule 1 as extirpated, endangered or threatened under the *Species at Risk Act* (SARA) leads to prohibitions on killing, harming, harassing, capturing or taking an individual of a wildlife species, or damaging or destroying its residences. These prohibitions apply automatically in the case of migratory birds protected by the *Migratory Birds Convention Act* (1994), aquatic species and those species occurring on federal lands.

For all species listed as extirpated, endangered or threatened, a recovery strategy must be prepared within fixed timelines and at least an action plan must be prepared following the development of the recovery strategy. Species within the CSA that are listed on Schedule 1 of SARA include:

- **Western (boreal) Toad**

The western (boreal) toad is listed on Schedule 1 of SARA. It 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.

Under SARA, species are given Special Concern status if they may become threatened or endangered because of a combination of biological characteristics and identified threats. For species listed as Special Concern, a management plan must be prepared. Should species not be effectively protected by the laws of a province or a territory, SARA has provisions that give the federal government the power to make an Order applying prohibitions to secure their protection. Species of Special Concern within the CSA include:

- **Grizzly Bears**

The Grizzly bear is a Species of Special Concern and is considered by COSEWIC to be at risk from expanding industrial, residential and recreational developments. In 2004, COSEWIC recommended that the Grizzly bear be legally protected under Schedule 1 of SARA.

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**

The Western population of wolverine is listed by COSEWIC as a Species of Special Concern. In 2004, COSEWIC is recommended that the wolverine be legally protected under Schedule 1 of 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 sighted in BNP, however their locations in the park are unknown.

### **3.3.2 *Migratory Birds Convention Act***

The *Migratory Birds Convention Act* (1994) protects migratory birds and their habitat within Canada. Section 12(1)(h) prohibits “the killing, capturing, injuring, taking or disturbing of migratory birds or the damaging, destroying, removing or disturbing of nests.” Section 12(1)(i) prescribes habitat protection for “areas for migratory birds and nests and for the control and management of those areas.” In addition, Section 35(1) of the Regulations Respecting the Protection of Migratory Birds states “no person shall deposit or permit to be deposited oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds.”

Authorizations are not issued to allow construction-related impacts on migratory birds, their nests and/or habitats. Mitigations must be followed to prevent contravention of the Act by protecting migratory bird habitat.

### **3.3.3 *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.

*Fenland/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.

### **3.3.4 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 Creek 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 due to the destruction of typical shoreline vegetation and aquatic habitats, and the decrease in the diversity of fish and invertebrates in the lake, from fluctuating water levels, fish stocking and fishing (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).

### **3.3.5      *Special Resources***

There are a number of tree species in Banff National Park that are sensitive to development and are thus designated as Special Resources:

*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 that 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).

### 3.3.6 *Heritage and Archaeological Sites*

#### *Heritage Buildings*

The Gate Houses at the East Gate of Banff National Park are listed as heritage buildings. All building over 40 years old, including picnic shelters, are to be reviewed by FHBRO prior to work commencing.

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 summary indicates the Code of Practice to be followed in all circumstances on FHBRO listed buildings:

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 aluminium, fibreglass or vinyl for existing materials is not recommended. These materials 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.

#### *Archaeological Sites*

There are a number of known sites of archaeological and historic interest found throughout BNP, including in the CSA (Figure 1.1), and these have been recorded and numbered by Parks Canada. Table 3.3 indicates where known archaeological and historic sites are located within or near Front Country facility areas and highlights where there are concerns that project activities could disturb these sites. These concerns relate to the disturbance of ground outside of existing paved or gravelled areas through activities such as vegetation clearance or excavation and, where applicable, will require implementation of the relevant mitigation measures described in Table 4.3.

Table 3.3 Archaeological / Historic Sites and Concerns

Type of Project Site	Name	Site Type and #	Findings	Concerns
<b>Picnic/Day-use Areas</b>				
	East Gate	The gate houses are listed as Federal Heritage Buildings.		Maintenance repairs or changes to these buildings must follow FHBRO's Code of Practice for Federal Heritage Buildings.
	Carrot Creek	46R, Pre-contact site of limited archaeological significance.	A light surface scatter was present on an old fluvial terrace but subsurface tests recovered no further materials.	No known concerns.
	Valleyview	45R, 49R, 1231R, Pre-contact site (arbitrarily divided).	Artefacts, likely representing small campsites, right at ground level all along terrace edge and close to ground surface in vicinity of picnic tables and informal trails.	Site is vulnerable if activities occur outside of the existing parking area.
	Johnson Lake	20R, Pre-contact site.	Artefacts were found in the 70s and 80s, however area developments and a dam failure have written off much of the site.	Site is vulnerable if activities occur outside of the existing paved and gravelled area and trails.
	Two Jack Canal	No known sites.		No known concerns.
	Two Jack Lakeside	No known sites.		No known concerns.
	Upper Bankhead	1198R, Historic site. 1199R, Pre-contact site.	Major historic site of the former town of Upper Bankhead, with depressions, ruins and artefacts scattered all through the area.	Site is vulnerable if activities occur outside of the existing paved area.
	Lake Minnewanka	No known sites in day-use area, but significant pre-contact sites nearby on lakeshore.		Unlikely any sites will be affected unless activities occur outside of existing day-use area.
	Cascade Ponds	2114R, 2069R, Historic sites located west of picnic area.		No known concerns.
	Forty Mile Creek	515R, Pre-contact site.	Highly significant because in addition to an excellent Late Pre-historic record, affords evidence of a well-stratified Besant component which, at present is unique in this area of the Northern Rockies. Site holds considerable interpretive potential.	Site is vulnerable if activities occur outside of the existing paved area.
	Sundance Canyon	1228R, Pre-contact site nearby.		No known concerns.
	Vermillion Lakes	162R, Pre-contact site nearby, and others on other side of TCH.		No known concerns.

Type of Project Site	Name	Site Type and #	Findings	Concerns
<b>Picnic/Day-use Areas</b> <i>continued</i>				
	Fireside	154R, Pre-contact site.  496R, 2106R, Pre-contact and historic site nearby.	Pre-contact site 154R has artefacts right at ground surface. Site is already much disturbed by picnic area.	Site is vulnerable if activities occur outside of the existing paved area.
	Muleshoe	25R, Pre-contact site 24R, Pre-contact site nearby.	Excavation of 25R was undertaken for installation of the day-use area and results indicated a major occupation ca. 3000 – 1000 B.C. Site 24R also of high significance and probably related to 25R.	Site is vulnerable if activities occur outside of the existing paved area.
	Sawback	1247R, 1250R, Pre-contact sites nearby.		No known concerns.
	Johnston Canyon	No known sites.		No known concerns.
<b>Campgrounds</b>				
	Two Jack Lake Main	1191R, 169R, 1693R, Historic sites nearby.		No known concerns.
	Two Jack Lakeside	1116R, Historic site.	Masonry fireplace structure of historic value.	Historic fireplace must not be disturbed.
	Cascade Overflow	No known sites.		No known concerns.
	Johnston Canyon	No known sites.		No known concerns.
	Castle Mountain	No known sites.		No known concerns.
<b>Trailheads</b>				
	Healy Creek Trailhead	No known sites.		No known concerns.
	Bourgeau Trailhead	No known sites.		No known concerns.
	Red Earth Trailhead	No known sites.		No known concerns.
	Rockbound Lake Trailhead	1450R, Historic site nearby.	Structural remains demolished and plowed in. Telephone wire, insulators, asphalt shingles, old rails, and privy and corral remains.	No known concerns.
	Boom Lake Trailhead	No known sites.		No known concerns.
<b>Highway Pullouts</b>				
	Hoodoos Viewpoint	354R, Pre-contact site.	Artefacts scattered throughout picnic area.	Site is vulnerable if activities occur outside of the existing paved and gravelled area and trails.
	Castle Mountain Viewpoint	572R, Palaeontological site.	Triassic fossil fish remains present in rock slabs in area and along waterline. Has been pothunted and vandalised.	Site is unlikely to be affected if activities are restricted to the existing paved area.
<b>Other</b>				
	Government Horse Stables	No known sites.		No known concerns.

## 4.0 IMPACT ANALYSIS

### 4.1 Potential Environmental Effects of Routine Projects in BNP Front Country

Based on the environmental conditions, location and other site-specific conditions at project sites, potential effects from Front Country 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, wastewater leaks or spills (including overflows) 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 Front Country

Activities	Environmental Components										
	Air Quality	Ground-water	Surface Water Quality <sup>(a)</sup> and flows	Aquatic Resources	Land-forms and Soil	Vegetation	Wildlife Habitat and Populations	Heritage Resources	Socio-Economics	Aesthetics (Vision, Noise)	
<b>Site Preparation</b>											
Site investigation (geotechnical)	-	L	N	N	L	L	L-M	L	-	L	L
Vegetation clearance (including under power lines)	L-M	N	L	N	L	L-M	L-M	-	-	L	L
Site grading, excavation and materials stripping	L	N	L-M	L	L-M	-	L-M	-/L	-	L	L
Digging holes for 10 or more replacement electrical poles	-	-	-	-	L	L	L	-	-	-	-
<b>Construction, Modification, Maintenance and Repair</b>											
Construction	L-M	N	L	N	-	-	L-M	-	-	L	L
Installation and replacement of utility lines (trenching and backfilling)	L	L	L	N	L-M	-	L-M	-/L	-	L	L
Right-of-way maintenance	L	N	L	N	-	L	L-M	-	-	-	-
Replace or modify culverts and ditches	-	L	M	L	-	-	-	-	-	L	L
Light installation (10 or more)	-	-	-	-	L	L	L	-	-	-	-
Fence installation	-	-	-	-	-	-	L	-	-	-	-
<b>Decommissioning or Abandonment</b>											
Utilities removal	-	-	N	N	-	-	L-M	-/L	-	-/L/P	L
Foundation removal	L	-/N	N	N	L	-	L-M	-	-	L	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 wastewater leaks or spills (including overflows) and 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 or introduction of non-native 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/of Special Concern), 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.

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 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 can 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 Tables 3.1 and 3.3, 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 when applicable during project activity in BNP. These are described in:

- Banff National Park, Directive 17 “Environmental Guidelines for Development Projects”; and
- Sediment and Erosion Control Plan, when required.

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 ensure the residual impacts of project activities are minimized.

Table 4.3 Mitigations for Reducing Potential Impacts of Project Activities

Activity	Potential Impacts	Best Management Practices
<ul style="list-style-type: none"> <li>• Site investigation, including geotechnical investigation</li> </ul>	<p>Runoff / sedimentation; Erosion; Soil compaction; Loss / damage to vegetation / soil; Wildlife sensory disturbance / mortality</p>	<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, excavation and 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>	<p>Runoff / sedimentation</p>	<ul style="list-style-type: none"> <li>• Prepare a Sediment and Erosion Control Plan satisfactory to Park Superintendent.</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 ecotopes, 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 and leave a crown when tamping down to allow for settling.</li> </ul>

Activity	Potential Impacts	Best Management Practices
<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>Wind and water erosion</p>	<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>
	<p>Compaction of soils</p>	<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>
	<p>Dust production</p>	<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></p> <p>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> <li>• Sweep for bird nests before commencing work. Young birds must be allowed to fledge before nests are disturbed.</li> </ul>

Activity	Potential Impacts	Best Management Practices
<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>	<p><i>Species at Risk / of Special Concern:</i> Habitat destruction, sensory disturbance, mortality and increased predation of amphibians</p>	<p><i>Species at Risk / of Special Concern</i> 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 toads 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 of same species must be planted on site if possible.</li> <li>• Hoarding around trees to be retained must be installed at 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	Best Management Practices
<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>Reduction of or disturbance to character of FHBRO listed heritage buildings</p>	<ul style="list-style-type: none"> <li>• All building over 40 years old, including picnic shelters, are to be reviewed by FHBRO prior to work commencing.</li> <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> <li>• Consult FHBRO Code of Practice for complete details.</li> </ul>
	<p>Disturbance of archaeological resources</p>	<ul style="list-style-type: none"> <li>• Determine if project activities have the potential to disturb a site or sites of archaeological or historic interest (see Table 3.3).</li> <li>• Consult with Parks Canada (403-762-1416) to discuss if consultation with the Park's archaeologist is required.</li> <li>• If it is deemed that potential archaeological sites may be subject to ground disturbance, activities should be adapted to avoid them if possible. Monitoring by an archaeologist, and possibly preliminary archaeological work, may also be required.</li> <li>• Work must be stopped immediately and the site supervisor notified if any archaeological artefacts are found and workers must be educated accordingly.</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>	<p>Slope failure</p>	<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>

Activity	Potential Impacts	Best Management Practices
<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>	<p>Loss of or damage to vegetation, weed invasion</p>	<ul style="list-style-type: none"> <li>• Protect undisturbed land by only stockpiling materials on heavy canvas, plywood 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>
	<p>Loss of organic matter, topsoil and/or topsoil-subsoil mixing</p>	<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 Use wide tracked equipment, rubber tired vehicles and low bearing pressure weight equipment in sensitive areas or avoid vehicle use.</li> <li>• Compact soil to approximate precondition conditions while allowing for settling.</li> </ul>
	<p>Disturbance of archaeological resources</p>	<ul style="list-style-type: none"> <li>• Determine if project activities have the potential to disturb a site or sites of archaeological or historic interest (see Table 3.3).</li> <li>• Consult with Parks Canada (403-762-1416) to discuss if consultation with the Park's archaeologist is required.</li> <li>• If it is deemed that potential archaeological sites may be subject to ground disturbance, activities should be adapted to avoid them if possible. Monitoring by an archaeologist, and possibly preliminary archaeological work, may also be required.</li> <li>• Educate workers to stop work immediately and to notify site supervisor upon finding any archaeological artefacts. Not to resume work in that area until Parks gives approval.</li> </ul>
	<p>Sensory disturbance and mortality of wildlife due to increased traffic</p>	<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>

Activity	Potential Impacts	Best Management Practices
<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>	<p>Decreased aesthetics</p>	<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>
	<p>Public safety</p>	<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>
<p>Construction (painting and paint stripping)</p>	<p>Contamination of soil and water from accidental spill of paint, stripping compounds, or thinners</p>	<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>
<p>Right-of-way (ROW) maintenance</p>	<p>Dust production</p>	<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>Loss of wilderness quality</p>	<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> <li>• Restore vegetation where required.</li> </ul>
	<p>Contamination from fertilizers and herbicides</p>	<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 use near or over water.</li> </ul>



Activity	Potential Impacts	Best Management Practices
Light installation (10 or more)	Runoff / sedimentation	<ul style="list-style-type: none"> <li>• Minimize the amount of disturbed soil.</li> <li>• Minimize the time that bare soil is exposed and the excavation remains open. If deemed necessary, use site-specific erosion control methods (see mitigations for “Grading, excavation &amp; materials stripping”).</li> <li>• Stop 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>
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 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>• Fuels, oils, lubricants and other petrochemical products will not be stored within 100 meters of any waterbody (including wetlands).</li> <li>• On-site storage of fuels is not permitted.</li> <li>• If any contamination is found, cease work immediately. Inform the building site supervisor and, if necessary, implement Emergency Response Plan.</li> <li>• Where demolition is involved, check for hazardous materials including asbestos, PCBs, etc.</li> </ul>

### 4.3 Residual Impacts

Residual impacts are those impacts remaining after all relevant 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 relevant 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. These can be reduced through minimizing idling of vehicles, and ensuring engines are well tuned. Dust can be reduced by covering spoil stockpiling and building materials with tarps during on-site storage and transportation, and by watering exposed soil to minimize dust caused by construction equipment. 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 related to grading, excavation, materials stripping and culvert/ditch modification or maintenance activities. These can be reduced provided that contractors use relevant mitigations when operating in proximity to water bodies, as described in Table 4.3, including preparing a Sediment and Erosion Control Plan that covers 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. These can be reduced through relevant 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 be considered not significant.
- Potential impacts on vegetation, such as loss or damage to native vegetation. These 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 be considered not significant.
- Potential impacts to wildlife. These 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/of Special Concern 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 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, the implementation of relevant mitigation measures should be effective in minimizing impacts from routine projects in BNP Front Country.

#### **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. Front Country 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 likely to contribute to cumulative effects.

All projects covered by the MCSR are in accordance with the BNP Management Plan. A strategic 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. Front Country 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 (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 Front Country 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 form by identifying other projects and activities that may occur within the geographical area and same temporal scale as the proposed Front Country 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 3.2 to 3.4):

- Special resources;
- Environmentally Sensitive Sites;
- Park zoning;
- Species at Risk;

- Heritage buildings; and
- Archaeological sites.

Development of new Front Country facilities, construction of new roads or buildings and construction and modification of septic fields 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 Front Country 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, having site inspected when work not in progress and having appropriate erosion control materials on site to contain and direct flow.
- Spills of petroleum products from vehicles and construction equipment and during fuelling 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 accidents and malfunctions such 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 environmental effects of these unlikely events.

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

Natural events including flooding, landslides or slumps, 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 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 Front Country facilities will not have an effect on this program. However, should a fire spread to or occur within the boundary of a Front Country campground, Parks Canada would attempt to fight the fire in order to preserve the site and its facilities.

#### **4.7 Follow-Up and Monitoring Programs**

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

##### **4.7.1 *Monitoring during Construction***

Parks Canada is the proponent for BNP Front Country 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 usually 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 proper training, tailgate meetings and other measures 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; 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 Front Country Class Screening Project Report Form

##### COMPLETING A CLASS SCREENING PROJECT REPORT FORM

The CSPR form is to be completed by Parks Canada as the proponent of routine BNP Front Country projects as described in Section 2.4 of the MCSR. Parts 1 to 3 of the forms are to be completed by the PC staff proposing the project. These sections are then to be submitted to the Parks Canada Environmental Assessment Office where Parts 4 to 7 will be completed. Information and forms can be obtained at the Environmental Assessment Office at Banff National Park Warden's Office.

If you have questions about completing Parts 1 to 3 of 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.

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

Following the submission of Parts 1 to 3 of the forms, the Parks Canada Environmental Assessment Office will complete Parts 4 to 7 within 7 days of its submission, and the appropriate PC staff will be informed of the decision. In some cases you may be asked to supply additional information. 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. 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.

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:** Sensitive Resources in Class Screening Area (Table 3.2)
- **Attachment 4:** Archaeological/Historic Sites and Concerns (Table 3.3)



*Parts 1 to 3 are to be filled out by the Parks Canada staff proposing the project, to the best of their ability. These sections are meant to provide the Parks Canada Environmental Assessment staff with the information required to determine: if the proposed project will require an environmental assessment under the CEA Act; if this MCSR is the appropriate tool to evaluate this project; and if the project will cause any additional environmental effects that are not identified in the MCSR.*

**PART 1: DESCRIPTION OF THE PROJECT**

*This section will provide the information required for the PC EA staff to determine if the proposed project requires an environmental assessment under the CEA Act. It has been divided into four sub-sections covering buildings, utility lines, roads/parking areas and campground/day-use areas and trailheads respectively. Please complete those sub-sections that apply to your project and tick Not Applicable in the sub-section heading line for those that do not apply to your project.*

**Who is the project being completed for?**

Parks Canada Division:  
 Parks Canada Manager:  
 Contact Details:  
 Project Manager, if different from above:

**1. FACILITY**

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

**Buildings**  N/A

- a. Does your project involve (check all of the following that apply)?
  - i. The replacement of an existing structure(s)  YES  NO
  - ii. The demolition of an existing structure(s)  YES  NO
  - iii. The modification of an existing structure(s)  YES  NO
  - iv. A change in sewage disposal method or an increase in the amount of sewage, waste or emissions  YES  NO
  - v. Creation of a need for related facilities such as parking spaces  YES  NO

b. If your project involves replacement or modification of an existing building, will your project increase the footprint or height of structure?  YES  NO

If YES, what are the dimensions of and percentage of the increase? Footprint \_\_\_\_m<sup>2</sup> \_\_\_\_%  
 Height \_\_\_\_m \_\_\_\_%

**Utility Lines**

N/A

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

- vi. The construction of a new service line  YES  NO
- vii. The disconnection of an existing service line  YES  NO
- viii. The modification of an existing service line  YES  NO
- ix. 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)?

- x. The modification, maintenance or repair of a road  YES  NO
- xi. The modification, decommissioning or abandonment of a sidewalk or parking lot up to 75 stalls  YES  NO
- xii. 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:

- xiii. 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:

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

**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 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

***If you answered 'NO' to all relevant questions, your project may not require an Environmental Screening. Please discuss your project with the Environmental Assessment Office before submitting a completed PART 1 of this form.***

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

*This section will provide the information required for the PC EA staff to determine if the proposed 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, including archaeological or historic sites?**  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

- c. **Will your project require geotechnical investigation – drilling, soil sampling, test pitting – to determine the soil capacity, contamination, groundwater depth etc.?**  YES  NO

- d. **Has any investigative work been done 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.

- e. **Will your project involve blasting, dredging, surface or groundwater dewatering, excavation of contaminated soil or disposal of any hazardous materials?**  YES  NO

If YES, please specify on a separate sheet.

**PART 3: MITIGATIONS**

*This section is designed to identify what mitigations will be used to remove or reduce potential impacts. Please review the list of project specific mitigations listed in Attachment 1.*

- 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
  
- c. 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.

**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:	

***Parks Canada Environmental Assessment Office to complete the following:***

**Does this project require an environmental assessment under the Canadian Environmental Assessment Act?**  YES  NO

**If YES, from the information supplied in Parts 1 to 3, is the project covered by the MCSR?**  YES  NO

*Parts 4 to 7 are to be filled out by the Parks Canada Environmental Assessment specialist.*

**PART 4: ENVIRONMENTAL ASSESSMENT**

*This section is designed to evaluate the type of environmental impacts associated with projects and their specific sites. It also identifies any impacts that are not readily mitigated through standard mitigation measures.*

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

b. If you answered YES in Part 4(a), briefly describe in Table 2 those impacts not already identified in Table 1.

Table 1: Potential project environmental effects from Front Country projects

• Dust production	• Habitat loss, fragmentation
• Decrease in air quality	• Wildlife sensory disturbance
• Runoff/sedimentation of waterbodies	• Encroachment on wildlife movement corridors
• Soil and water contamination	• Increased traffic
• Soil compaction and erosion	• Risk to public safety
• Slope failure	• Waste production
• Loss of topsoil	• Hazardous materials
• Damage/loss of vegetation	• Impact to historical or archaeological resources
• Changes in noise/visual quality	

Table 2: Project Environmental Effects not covered in the MCSR

Project Impacts	Mitigation <sup>(b)</sup>	Impact Rating <sup>(a)</sup>

<sup>(a)</sup>N – Negligible – not likely to effect ecological or cultural integrity L – Low – insignificant impacts to ecological or cultural integrity M – Moderate – there is potential for considerable impacts to ecological or cultural integrity H – High – there is potential for significant impact to ecological or cultural integrity

<sup>(b)</sup>Standard and additional mitigation measures as described in Table 2 will be attached as conditions of the project approval.

c. Are any site-specific mitigations required to address those impacts identified in Section 4(b) and Table 2?  YES  NO

d. If you answered YES in Part 4(c), briefly describe those mitigations in Table 2.

e. Will the standard and site-specific mitigations identified in Attachment 1 and Part 4(d) (Table 2) reduce the level of project impacts? Please rate the residual project impacts?  Negligible  
 Low  
 Moderate  
 High

(See Table 2 for rating definitions)

If the level of effect is rated as moderate, or if the environmental effect of the proposed activities are not adequately addressed through the CSPR process; the project may not be suitable for the MCSR and may require an individual environmental screening.

#### **PART 5: CUMULATIVE EFFECTS ASSESSMENT**

*In general, it is considered that projects in conformance with the MCSR do not contribute to cumulative environmental effects. This section is designed to evaluate any potential cumulative environmental impacts associated with MCSR projects and any other activities occurring in the Class Screening Area.*

- a. Have any other projects or activities not being undertaken as part of Front Country maintenance been identified as contributing to cumulative environmental effects in that they may interact or contribute to the environmental effects of the proposed Front Country maintenance activities?  YES  NO
- b. If Yes, please identify those activities by checking (✓) and completing Table 3 below by circling the relevant projects/activities.





- f. If you answered YES in Part 5(e), briefly describe those mitigations in Table 5, as well as the impact rating.

Table 5: Cumulative Environmental Effects not covered in the MCSR

Cumulative Impacts	Mitigation <sup>(b)</sup>	Impact Rating <sup>(a)</sup>

<sup>(a)</sup>N – Negligible – not likely to effect ecological or cultural integrity L – Low - insignificant impacts to ecological or cultural integrity M – Moderate – there is potential for considerable impacts to ecological or cultural integrity H – High – there is potential for significant impact to ecological or cultural integrity

<sup>(b)</sup>Standard and additional mitigation measures as described in Table 5 will be attached as conditions of the project approval.

- e. Will the standard and site-specific mitigations identified in Attachment 1 and Part 5(f) (Table 5) reduce the level of project impacts? Please rate the residual project impacts?

- Negligible
- Low
- Moderate
- High

(See Table 5 for rating definitions)

**If the level of effect is rated as moderate, or if the environmental effect of the proposed activities are not adequately addressed through the CSPR process; the project may not be suitable for the MCSR and may require an individual environmental screening.**

**PART 6: SPECIES AT RISK**

**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, species listed in Schedule 1 of SARA include:

- The western (boreal) toad.

Species recognized as “at risk” by COSEWIC include:

- The grizzly bear.

**If YES, consult with Parks Canada Wildlife specialist to determine if the project may proceed.**

**PART 7: DECISION STATEMENT**

**a. Is the project likely to cause unacceptable adverse environmental effects if all of the mitigations are followed?**

YES  NO

**APPROVAL SIGNATURE**

Screening Reviewed by (print name):	Environmental Assessment Specialist
Signature:	Date:
Screening Approved by (print name):	Ecosystem Secretariat
Signature:	Date:

This CSPR is approved, with the condition that all mitigations identified in this CSPR form and Attachment 1 are implemented.

## **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 organizations 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 Agency 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 MCSR will be declared for a five-year period. After five years, the MCSR may be reviewed and, if deemed appropriate, may be declared for another five-year period. The MCSR may also be amended during the five-year declaration period using the amending procedure outlined below.

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 Front Country were identified.

## 6.0 REFERENCES

- Alberta Environment (AENV). 1995. Environmental Protection Guidelines for Electric Transmission Lines. Conservation and Reclamation Information Letter 95-2.
- Aquila. No Date. Class Screening Project Report Forms for Vegetation Management by Aquila Networks Canada in Banff National Park.
- Axys Environmental Consulting Ltd. and David Walker and Associates. 1998. Best available methods for common leaseholders activities. Prepared for Line Leaseholders Working Group, Jasper National Park.
- Alberta Transportation and Utilities. 1995. Standard Specification for Highway Maintenance. Edmonton, Alberta.
- Bow Valley Grizzly Bear Alliance. 2003. The Bear Necessities – A Grizzly Bear Conservation Strategy for Banff National Park.
- Delcan Corporation. 1989. Environmental Standards For Road Maintenance Functions in National Parks. Submitted to Natural Resources Branch, Canadian Parks Service, Environment Canada.
- DeLong, R. and Pengelly, I. 2002. Banff Field Unit Vegetation Management Plan. Banff National Park.
- Environment Canada and Health Canada. 2001. Canadian Environmental Protection Act. Priority Substances List Assessment, Road Salt. Canadian Environmental Protection Act, 1999.
- Environment Canada. (November 10, 2004). Species at Risk; Retrieved November 23, 2004, from [http://www.speciesatrisk.gc.ca/search/speciesDetails\\_e.cfm?SpeciesID=172](http://www.speciesatrisk.gc.ca/search/speciesDetails_e.cfm?SpeciesID=172)
- Environment Canada. (November 10, 2004). Species at Risk; Retrieved November 23, 2004, from [http://www.speciesatrisk.gc.ca/search/speciesDetails\\_e.cfm?SpeciesID=748](http://www.speciesatrisk.gc.ca/search/speciesDetails_e.cfm?SpeciesID=748)
- Government of Canada and Government of Alberta. 1989. Town of Banff Incorporation Agreement. December 12, 1989.
- Hegmann, G., C. Cocklin, R. Creasey, S. Dupuis, A. Kennedy, L. Kingsley, W. Ross, H. Spaling and D. Stalker. 1999. Cumulative effects assessment practitioners guide. Prepared by AXYS Environmental Consulting Ltd. and the CEA Working Group for the Canadian Environmental Assessment Agency, Hull, Quebec.
- Highwood Environmental Management Limited. 2002. Baseline Monitoring Report for Air Quality in the Town of Banff. An Ecological Indicator for the Town of Banff's Environmental Management Project. Report 1 of 6.

- Highwood Environmental Management Limited. 2002. Baseline Monitoring Report for Native Vegetation Communities in the Town of Banff. An Ecological Indicator for the Town of Banff's Environmental Management Project. Report 2 of 6.
- Highwood Environmental Management Limited. 2002. Baseline Monitoring Report for Trail Condition and Use in the Town of Banff. An Operational Indicator for the Town of Banff's Environmental Management Project. Report 3 of 6.
- Highwood Environmental Management Limited. 2002. Baseline Monitoring Report for the Aquatic Resources of Whiskey Creek. An Ecological Indicator for the Town of Banff's Environmental Management Project. Report 4 of 6.
- Highwood Environmental Management Limited. 2002. Baseline Monitoring Report for Water Quality of the Bow River. An Ecological Indicator for the Town of Banff's Environmental Management Project. Report 5 of 6.
- Highwood Environmental Management Limited. 2002. Baseline Monitoring Report for Effluent Quality of the Banff Wastewater Treatment Plant. An Operational Indicator for the Town of Banff's Environmental Management Project. Report 6 of 6.
- Holland, W. D. and G. M. Coen. 1982. Integrated Ecological (Biophysical) Land Classification for Banff and Jasper National Parks. Vol. II: Soil and Vegetation Resources.
- Holroyd, G.L. and K.J. Van Tighen. 1983. Integrated Ecological (Biophysical) Land Classification for Banff and Jasper National Parks. Vol. III. Wildlife Inventory.
- Hunter, Dave. 2001. Aboveground Storage Tank Installation: Parks Canada Operations Compound *and* Magnesium Chloride Use for Winter Road Maintenance activities in Banff National Parks and the Town of Banff, Alberta. Prepared for Banff National Park.
- Hydrogeological Consultants Ltd. 2001. Banff Water Master Plan – Banff Aquifer. Prepared for the Town of Banff.
- Leeson, B.F. and G. Harrison. 1988. Banff Townsite Peripheral Land Use. Initial Environmental Evaluation. Final Report. Natural History Research Division, Environment Canada, Canadian Parks Service, Western Region Office, Calgary.
- OCA Review Panel. 1999. Redevelopment Guidelines for Outlying Commercial Accommodation and Hostels in the Rocky Mountain National Parks. Presented to the Honourable Andy Mitchell.
- Pacas, C., D. Bernard, N. Marshall, and J. Green. 1996. State of the Banff-Bow Valley: A Compendium of Information. Prepared for the Banff-Bow Valley Study. Department of Canadian Heritage, Ottawa, ON. October 1996. 291 pp. and appendices.
- Parks Canada. 1985. Management Directive 2.4.1 The Management of Pesticides.
- Parks Canada. 1986. Management Directive 2.4.4 Fire Management.

- Parks Canada. 1989. Management Directive 2.4.7. Sand, Gravel and Other Earth Materials: Excavation
- Parks Canada. 1993. Banff National Park Directive 17. Environmental Guidelines for Development Projects.
- Parks Canada. 1997. Banff National Park Management Plan. Ottawa: Ministry of Public Works and Government Services Canada and Canadian Heritage.
- Parks Canada. 2000. Waskesiu Community Plan. 44 p.
- Parks Canada. 2004. Model Class Screening Report for Land-based Commercial Guiding Activities in the Mountain National Parks of Canada. 171 p.
- Pope, Wendy. 2001. Wildlife Corridors Around Developed Areas in Banff National Park. Progress Report Winter 2000/01. Prepared for Parks Canada.
- Town of Banff. 1998. Town of Banff Land Use Bylaw #31-1. Amended as per Bylaw 194, March 29, 2001.
- Town of Banff. 1998. Town of Banff Noise Bylaw # 32-3, August, 1998.
- Town of Banff. 1999. Town of Banff Waste Bylaw #18-3, 1999.
- Town of Banff. 2000. Town of Banff Heritage Resource Policy # C23, December, 2000.
- Town of Banff. No date. Town of Banff Parks Maintenance Management System.
- Wallis, C. 1998. Rare Plant Species Field Survey of Banff National Park. Prepared by Cottonwood Consultants. Calgary, AB.



**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
<i>Montane Ecoregion</i>								
Carrot Creek Sawback Fireside (HD1/5) Vermilion Lakes Drive East Gate	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 Cascade Overflow Day-use/Picnic Area Hoodooos 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>Hoodooos:</i> Wood frogs are found in wetlands east of Hoodooos 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
<i>Montane Ecoregion</i>								
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
<b>Montane Ecoregion</b>								
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
<i>Montane Ecoregion</i>								
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>Lower Sub-Alpine Ecoregion</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.

**Species at Risk Act (SARA) - Public Registry**

<b>Wildlife Species</b>	<b>Schedule 1 of SARA</b>	<b>Species of Special Concern <sup>(a)</sup></b>
<b>Mammals</b>		
Grizzly bear		v
Wolverine		v
<b>Herptiles</b>		
Western toad	v	

<sup>(a)</sup> 'Species of Special Concern' is a status ranking only. These species are not legally protected under SARA at present but may be considered for legal protection under SARA at a later date.

**Source:**

Government of Canada. (January 31, 2005). Species at Risk Act Public Registry; Retrieved January 31, 2005, from [http://www.sararegistry.gc.ca/species/default\\_e.cfm](http://www.sararegistry.gc.ca/species/default_e.cfm).

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 (crinata)	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.