MODEL CLASS SCREENING REPORT FOR ROUTINE FRONTCOUNTRY PROJECTS IN LAKE LOUISE AND YOHO AND KOOTENAY NATIONAL PARKS

PARKS CANADA AGENCY

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Table of Contents

Tables

Figures

Appendices

1.0 INTRODUCTION

Millions of visitors come to Banff, Yoho and Kootenay National Parks each year to experience the spectacular scenery of the Canadian Rocky Mountains. Over the years, Parks Canada has developed an extensive network of facilities that offers a range of opportunities for visitors to explore the parks safely and with minimal impact to the park environment. Most of these facilities and supporting infrastructure are located adjacent to highways and secondary roads, within a zone generally referred to as the frontcountry. Buildings, utilities, roads and other physical works within these facilities periodically require maintenance, repairs or replacement. In addition, as technology improves and visitor activities and modes of travel change, there is often a need to modify or upgrade facilities. Many of these projects require an environmental assessment under the *Canadian Environmental Assessment Act (CEAA)*.

1.1 Class Screening and the *Canadian Environmental Assessment Act*

The *Canadian Environmental Assessment Act (CEAA)* is a legislated environmental assessment process designed to integrate environmental considerations into projects which require a federal authority, such as Parks Canada, to make a decision or take on a responsibility, whether as a project proponent, land manager, source of funding or regulator (issuing a permit or licence). The Act is administered by the Canadian Environmental Assessment Agency.

Environmental assessment (EA) is a planning and decision-making tool. It is used to identify the potential environmental effects of a proposed project on biophysical conditions such as air, water, land, plants, and animals, and the social and economic environments of people directly affected by the project. The primary purpose of the environmental assessment process is to determine whether or not a project, subject to all proposed mitigation measures, will result in significant adverse environmental effects.

There are several different levels of assessment under the Act. Most projects are assessed at the screening level. A screening report is prepared to describe the likely environmental effects of a project and the mitigation measures that will be implemented to minimize or eliminate adverse environmental effects. Parks Canada is tasked with determining the scope of the project subject to EA and managing the EA process.

The screening of some routine projects may be streamlined through a class screening report. A class screening 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. Under Section 19 of the Act, the Canadian Environmental Assessment Agency may declare a report to be a class screening report if projects of the class described in the report are not likely to cause significant adverse environmental effects when the design standards and mitigation measures described in the class screening report are applied.

There are two parts to the class screening report:

A model class screening report (MCSR), which defines the class of projects to be covered by the class screening and describes the associated environmental effects, design standards and mitigation measures; and

A class screening project report (CSPR) used to describe the specific project under consideration and provide any additional information (e.g. environmental effects, design standards and mitigation measures) needed to make a determination. The CSPR provides the basis for making a decision about the significance of the environmental effects of that project.

This MCSR was prepared by Parks Canada and declared by the Canadian Environmental Assessment Agency. The report:

- Identifies the class of projects subject to the MCSR;
- Defines the scope of the projects and the scope of the 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;
- Identifies public consultation procedures undertaken in developing the MSCR; and
- Identifies follow-up or monitoring requirements for individual projects.

A CSPR will be prepared for each project requiring EA by the project proponent as outlined in Chapter 6 of the MCSR. Together, these two documents constitute the environmental class screening under Sections 16 (1) and 18 (1) of *CEAA*.

1.2 Spatial Boundaries of the Class Screening Area

This Model Class Screening Report (MSCR) covers routine projects that occur in selected frontcountry areas in Kootenay National Park (KNP), Yoho National Park (YNP) and the north-western portion of Banff National Park (BNP). These three geographic areas are also referred to in this report as the Lake Louise, Yoho and Kootenay National Parks Field Unit or LLYK Field Unit. For the purposes of this document, “frontcountry areas” are considered to be those areas that contain facilities that support visitor use and experience and park management and/or operations; are zoned for Outdoor Recreation (Zone IV) or Park Services (Zone V); and where direct access by motorized vehicles is permitted.

The frontcountry areas that make up the Class Screening Area (CSA) are listed in Table 1.1. They include all the campgrounds, picnic/day use areas, trailheads, scenic

viewpoints, park gates and warden stations that can be accessed by motorized vehicle in KNP, YNP and north-western BNP. Only routine projects (as described in Section 2.4) that occur within the existing cleared area of these frontcountry areas are covered by this MCSR. For vegetation management projects **only** (see Section 2.4.4 for a description of these projects), the CSA includes a buffer of 1.5 tree lengths around the existing cleared area. Figures 1.1 to 1.6 show the locations of the frontcountry areas that constitute the CSA.

1.3 Rationale for the Model Class Screening

According to the Canadian Environmental Assessment Agency, any proposed Model Class Screening must demonstrate that projects subject to the MCSR meet several criteria. The applicability of the class screening process to routine projects at frontcountry facilities is based upon the following six criteria:

1. **Well-defined Class of Project**: Routine projects for frontcountry facilities in LLYK involve activities that have predictable mitigable environmental effects and are all triggered under CEAA in the same manner.

2. **Well-understood Environmental Setting:** Routine projects generally take place on paved or gravelled areas or involve existing infrastructure. Detailed information about landform, soils, vegetation and wildlife is available in the Ecological Land Classifications for Kootenay, Yoho and Banff National Parks. Many species or site-specific inventories and wildlife studies have been carried out over the years. There has also been significant research into archaeological and cultural resources. Given the availability of this type of information, environmental and commemorative features are easily identified and well understood.

3. **Unlikely to Cause Significant Adverse Environmental Effects, Taking into Account Mitigation Measures:** Based on previous experience with routine frontcountry projects, no significant environmental effects are likely to occur. Minor environmental impacts may have occurred in the past, but were successfully mitigated to ensure protection of ecological values and commemorative integrity. No evidence of cumulative effects has resulted following similar projects in the past.

4. **No Project Specific Follow-up Measures Required:** Project-specific follow-up programs are not required as there are no expected variations in predictions or effects to be monitored. Standard inspection of an affected site is still applicable following a routine project.

5. **Effective and Efficient Planning and Decision-Making Process:** Routine frontcountry projects involve activities that are straightforward, frequently repeated, and undertaken by experienced personnel. The planning process for

such projects is uncomplicated. Parks Canada staff are the only responsible authorities at frontcountry facilities, therefore planning and decision making procedures are streamlined and consistent.

6. **Public Concerns Unlikely:** Based on past experience, most routine projects at frontcountry facilities do not elicit much interest from stakeholders and park visitors. Inconveniences to park users are generally kept to a minimum through mitigation measures.

Table 1.1 Class Screening Area (CSA) for Frontcountry Areas in Kootenay National Park, Yoho National Park and north-west Banff National Park

Frontcountry Area	Name	Location	Facilities	Ecosite
Campgrounds				
BNP	Protection Mountain	IA Highway	septic field, tables, toilets, water, bear lockers	PP1/3c
	Lake Louise Overflow	TransCanada Highway	vault toilet, water, bear lockers	P, PR4/8
	Lake Louise Trailer	Lake Louise Townsite	hookups, shelters, tables, toilets (WWTP), water, bear lockers	CV1/3c
	Lake Louise Tent	Lake Louise Townsite	pads, septic, shelters, tables, toilets (WWTP), water, bear lockers	VD2/3
	Mosquito Creek*	Highway 93N	shelter, tables, vault toilets, water, bear pole & pulleys	AL1/3
	Waterfowl Lakes*	Highway 93N	septic field, pads, shelters, tables, vault toilets, water, bear lockers	AL1/3
	Silverhorn Overflow	Highway 93N	tables, vault toilets, bear lockers	AL2/3
	Rampart Creek	Highway 93N	pads, tables, toilets, shelters, vault water, bear lockers	PP3/3
KNP	Marble Canyon	Highway 93S	septic field, shelters, tables, toilets, water, bear lockers	AL3/5
	Crooks Meadow (group camp)*	Highway 93S	group camp, shelters, tables, vault toilets, water, bear lockers	AT1/3
	McLeod Meadows*	Highway 93S	septic field, shelter, tables, toilets, water, bear lockers	FR3/3
	Dolly Varden (winter camp)	Highway 93S	parking, shelters, vault toilet, water, bear lockers	AT1/3
	Redstreak*	Highway 93S	shelter, toilets (WWTP), water, bear lockers	WY1/3c
YNP	Takakkaw Falls	Yoho Valley	pads, shelters, tables, vault toilets, water, bear lockers	PP4/5
	Kicking Horse*	TransCanada Highway	septic field, shelter, tables, toilets, water, bear lockers	FR1/5

Frontcountry Area	Name	Location	Facilities	Ecosite
	Monarch	TransCanada Highway	shelter, tables, vault toilets, water, septic, bear lockers	FR1/5
	Chancellor Peak	TransCanada Highway	tables, vault toilets, water, bear lockers	HD6/3
	Hoodoo Creek*	TransCanada Highway	septic field, shelter, tables, toilets, water, bear lockers	FR3/3
Picnic/Day Use Areas				
BNP	Moraine Creek	TransCanada Highway	parking, tables	BK4/7c
	Storm Mountain	1A Highway	parking, signs, tables, vault toilets	PR2/7c
	Baker Creek*	IA Highway	parking, tables, vault toilets, water	AL1/3
	Corral Creek	IA Highway	firepit, parking, tables, vault toilets, historic fireplace	PP1/3c
	Moraine Lake*	Moraine Lake Road	parking, shelters, tables, vault toilets, trailhead	HC1/3c
	Upper Lake Louise*	Lake Louise Townsite	parking, vault toilets, trailhead, lakeside promenade, signs	CV1/5c
	Fairview	Lake Louise Townsite	parking, septic, shelter, vault toilets, water	PR1/5
	Herbert Lake	Highway 93N	parking, tables, vault toilets	BK4/7c
	Mosquito Creek*	Highway 93N	parking, shelters, vault toilets	AL1/3
	Bow Lake (south)	Highway 93N	parking, shelter, tables, vault toilets	SX2/5
	Bow Lake (at Num-ti-jah)*	Highway 93N	parking, vault toilets, water	NT2/3c
	Bow Summit*	Highway 93N	parking, interpretive trail, tables, vault toilets, trailhead, viewpoint	PL5/6c
	Howse River	Highway 93N	parking, signs, tables, vault toilets	NY3/7c
	Coleman Cliffs	Highway 93N	parking, tables, vault toilets	PR2/6c
KNP	Fireweed*	Highway 93S	exhibit, interpretive trailhead, parking, vault toilet	AL4/5
	Marble Canyon*	Highway 93S	parking, vault toilet, trailhead, water	AL3/5
	Paint Pots*	Highway 93S	parking, signs, vault toilet, trailhead, water	BY7/6c
	Numa Falls*	Highway 93S	parking, tables, vault toilet, trailhead, water	HC1/3
	Vermilion Crossing	Highway 93S	shelter, tables, vault toilet, water	AT1/3c

Frontcountry Area	Name	Location	Facilities	Ecosite
	Wardle Creek	Highway 93S	tables, vault toilet	FR3/5
	Kootenay Pond	Highway 93S	parking	DR7/6c
	Dolly Varden	Highway 93S	shelters, tables, water, winter camping, vault toilet	AT1/3
	Dog Lake	Highway 93S	parking, shelter, septic field, trailhead, water	AT4/3
	Kootenay River	Highway 93S	parking, tables, vault toilet, water	HD6/3
	Olive Lake	Highway 93S	interpretive trail, parking, shelter, vault toilet, water	DR3/7c
	Sinclair Creek	Highway 93S	tables, vault toilet	DR1/8
	Valley View*	Highway 93S	tables, parking, signs	WY2/8
YNP	Great Divide	1A Highway	foot access, shelter, vault toilet, water	HC4/3
	Wapta Lake	TransCanada Highway	parking,shelter, tables, vault toilet, trailhead	PR4/8
	Takakkaw Falls*	Yoho Valley Road	intepretive trail, signs, vault toilet, tables	PP3/3
	Meeting of the Waters	Yoho Valley Road	parking, tables	GA2/6c
	Amiskwi Circle*	Emerald Lake Road	tables, fire circle, bridge, pit toilet	HD6/3
	Natural Bridge	Emerald Lake Road	parking, tables, vault toilet, viewpoint	DR5/8c
	Emerald Lake*	Emerald Lake Road	parking, picnic, signs, vault toilets	FR3/6
	Finn Creek	TransCanada Highway	parking, shelter, vault toilet, water	FR3/5
	Faeder Lake	TransCanada Highway	parking, shelter, vault toilet, water, fire pits	VL3/3
	Hoodoo Creek	TransCanada Highway	parking, shelter, vault toilet, water	FR3/3
	Wapta Falls	TransCanada Highway	Parking, pic nic, vault toilets	
	Yoho West Gate	TransCanada Highway	tables, exhibit, vault toilet	DR3/6c
Trailheads				
BNP	Castle Lookout	1A Highway	parking, signs	PR2/6c
	Taylor Lake	TransCanada Highway	parking, signs, vault toilet	VD2/5
	Pipestone	TransCanada Highway	parking, signs, horse ramp, corral	BK1/6c
	Tramline	Lake Louise Townsite	parking, signs	BV1
	Paradise Valley	Moraine Lake Road	parking, signs	PR3/6c
	Fish Creek	Fish Creek Road	parking, signs	BK1/6

Frontcountry Area	Name	Location	Facilities	Ecosite
	Hector Lake	Highway 93N	roadside pullout, signs	PP3/5
	Mosquito Creek	Highway 93N	signs	AL1/3
	Helen Lake (winter)	Highway 93N	roadside pullout	CV1/5c
	Helen Lake (summer)	Highway 93N	parking, signs	EG1/6c
	Peyto Lake (lower)	Highway 93N	parking	CA1/6c
	Waterfowl Lakes	Highway 93N	roadside pullout, signs	PP6/3
	Mistaya Canyon	Highway 93N	parking, signs	BK6/5c
	Howse River	Highway 93N	roadside pullout	HD2/3
	Warden Lake	Highway 93N	Warden station,	
	Glacier Lake	Highway 93N	parking, signs,	AT1/3c
	Sunset Pass	Highway 93N	parking, signs, loading ramp, hitching rails	PR4/7c
	Alexandra River	Highway 93N	roadside pullout	PR2/6c
	Saskatchewan Glacier	Highway 93N	parking, trail signs	SC Alpine
KNP	Stanley Glacier	Highway 93S	parking, signs, vault toilet	AL4B/6c
	Floe Lake	Highway 93S	parking, signs, vault toilet	AL4/5
	Verdant Creek	Highway 93S	parking, signs	AT1/3c
	Simpson River	Highway 93S	parking, signs, horse ramp	HD6/3
	East Kootenay Fireroad	Highway 93S	parking, signs	AT1/3
	Cobb Lake	Highway 93S	parking, signs	AT1/3c
	Sinclair Creek	Highway 93S	parking, signs	DG1/8
	Kindersey Pass	Highway 93S	parking, signs	FR3/5
	Kimpton Creek	Highway 93S	parking, signs	DR5/8
	Redstreak Creek	Highway 93S	parking, signs	DR5/8
	Juniper	Highway 93S	parking, signs	DR5/8
YNP	Lake O'Hara	TransCanada Highway	parking, signs, vault toilet	HC1/3
	Yoho Pass	Takakkaw Falls Road	parking, sign	BK6A/5c
	Burgess Pass	TransCanada Highway	parking, sign	DR1/8
	Mt. Stephen	Field Townsite	parking, signs	FR3/5
	Tally Ho Road	TransCanada Highway	Pullout	DR2/7

Frontcountry Area	Name	Location	Facilities	Ecosite
	McArthur Creek	TransCanada Highway	parking, signs	DR7/6c
	Wapta Falls*	TransCanada Highway	parking, signs, toilet	RK1/5c
Viewpoints				
	Eldon	1A Highway	parking, fence	BK1/6
	Outlet Creek	1A Highway	parking, tables, exhibit	DR3F/7
	Hector Lake	Highway 93N	parking, viewpoint	PR3/6
	Crowfoot Glacier	Highway 93N	parking, signs	SX2/5
	Bow Lake (north)	Highway 93N	parking, signs	SX2/5
	Bow Lake (south)	Highway 93N	parking, signs	SX2/5
	Cirque	Highway 93N	parking, signs	CV1/5c
	Waterfowl Lake (south)	Highway 93N	Parking, no view	PR3/6
	Waterfowl Lake	Highway 93N	parking, signs	SB4/9
	Waterfowl Lake (north)	Highway 93N	Parking	AL2/5
	Sarbach	Highway 93N	pullout, garbage can	MC1/3c
	Mounts Amery and Saskatchewan	Highway 93N	signs	HC2/3
	Mount Coleman	Highway 93N	signs	HC2/3
	Weeping Wall	Highway 93N	parking, interpretive signs, vault toilet	SB4/9c
YNP	Spiral Tunnels	TransCanada Highway	parking, platform, vault toilet	DR3F/7c
	Ottertail	TransCanada Highway	parking, tables	DR3/7
KNP	Simpson's Monument	Highway 93S	parking, historic site plaque	VL6/3
	Hector Gorge	Highway 93S	Parking	DR5/8c
	Mount Harkin	Highway 93S	parking, exhibit	AT4/3
	Kootenay Valley	Highway 93S	parking, exhibit	DR3/7c
Gates				
BNP	Niblock Gate	Highway 93N	Staffed	BV2/5c
	David Thompson Gate	Highway 93N	Staffed, vault toilet	AT1/3c
YNP	Yoho West Gate	TransCanada Highway	Staffed	DR3/6c
KNP	Kootenay West Gate	Highway 93S	Staffed, toilets (WWTP)	WY2/6

Frontcountry Area	Name	Location	Facilities	Ecosite
Warden Stations				
BNP	Saskatchewan Crossing*	Highway 93N	staff housing, warden and campground offices, barn, corrals, septic field, helicopter landing site	HD2/3
KNP	Kootenay Crossing*	Highway 93S	staff housing, office, horse facilities, septic field	AT1/3
YNP	Yoho Ranch	TransCanada Highway	barn, corrals, grazing, staff housing, equipment shed, vault toilet	HD6/3
Other				
YNP	Wapta Trucker Pull-out (brake check)	TransCanada Highway	parking, vault toilet	PR4/8
KNP	Sinclair Summit Truck Check (brake check)	Highway 93S	parking, signs, vault toilet	DG1/8
BNP	Sunset Pass Corral	Highway 93N	hitching rails, loading ramp, corrals	PR4/7c
BNP	Mosquito Creek Corral	Highway 93N	corrals	AL1/3
BNP	Bow Summit Weather Station	Highway 93N	weather station	SX2/5
YNP	Boulder Compound	TransCanada Highway	equipment, garage, maintenance, offices, stores	DR8/6c
KNP	Radium Hot Springs Pools	Highway 93S	pool, washrooms, concessions, parking	DR5/8
KNP	McKay Creek Compound	Highway 93S	equipment, garage, maintenance, offices, stores	DR5/8

* there are trailheads associated with this campground or day use area

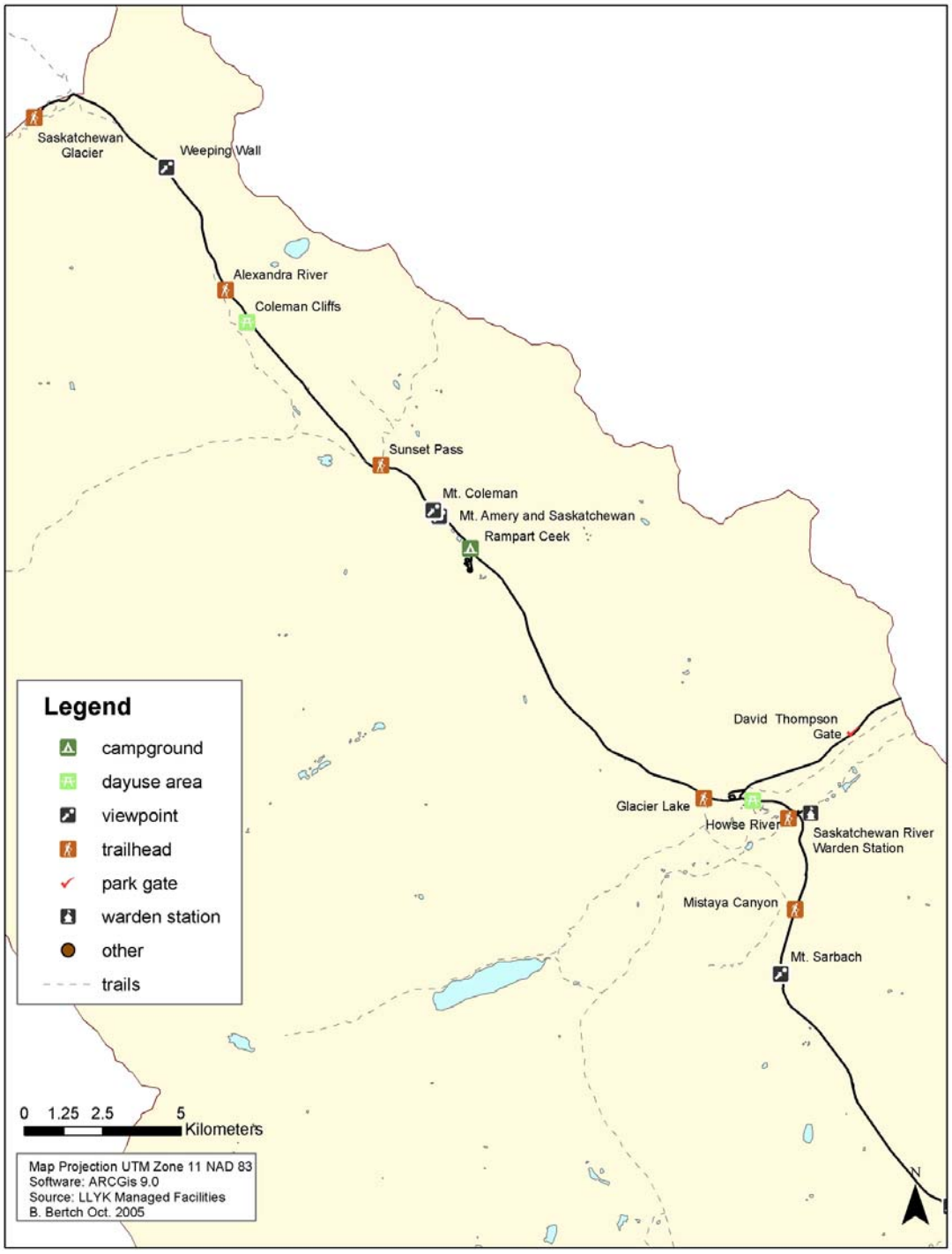

Figure 1.1 Frontcountry areas located along the Icefields Parkway between Saskatchewan Crossing and the Big Bend in Banff National Park

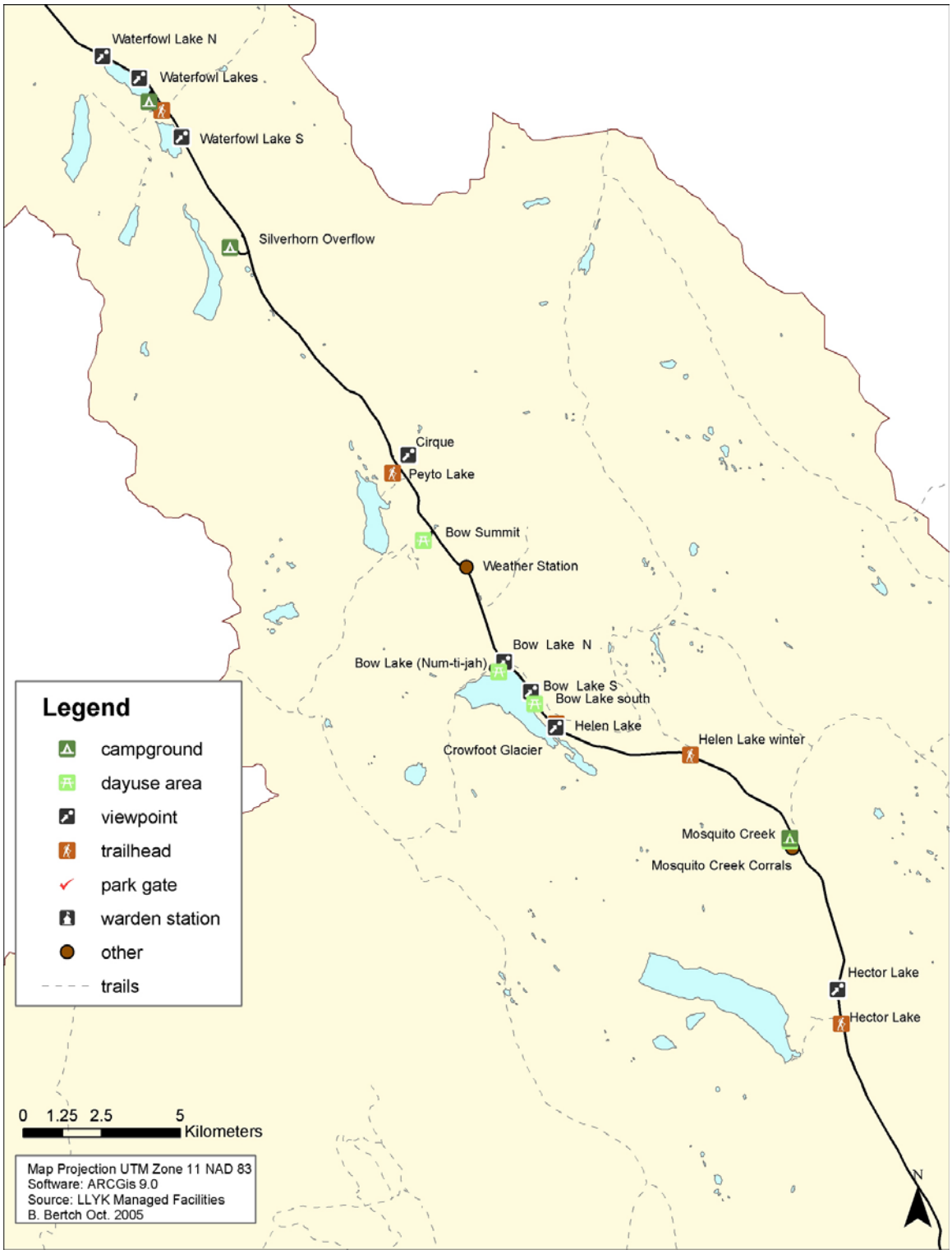

Figure 1.2 Frontcountry areas located along the Icefields Parkway between Saskatchewan Crossing and Lake Louise in Banff National Park

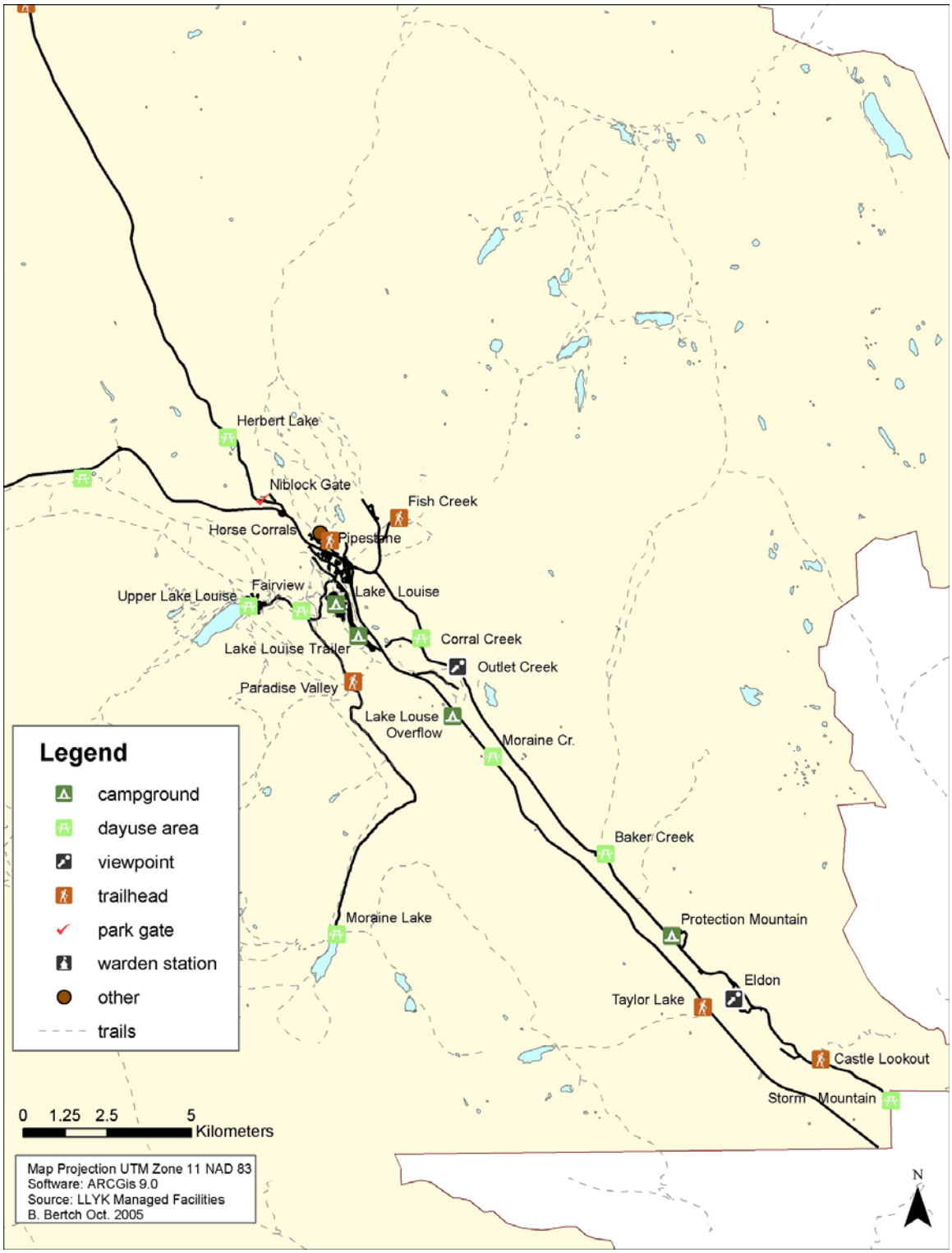

Figure 1.3 Frontcountry areas located between Castle Junction and the Alberta/British Columbia Border in Banff National Park

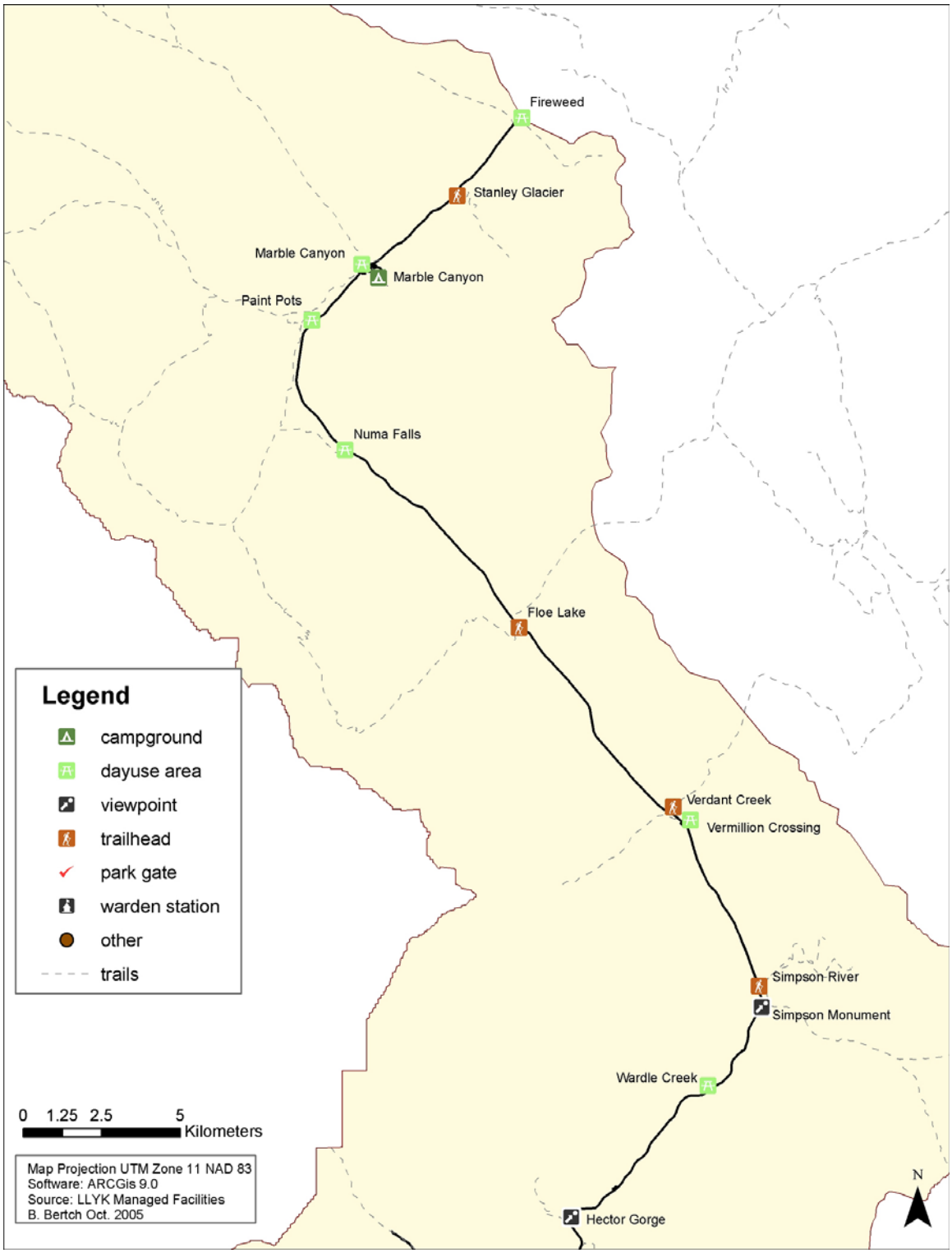

Figure 1.4 Frontcountry areas located north of Kootenay Crossing in Kootenay National Park

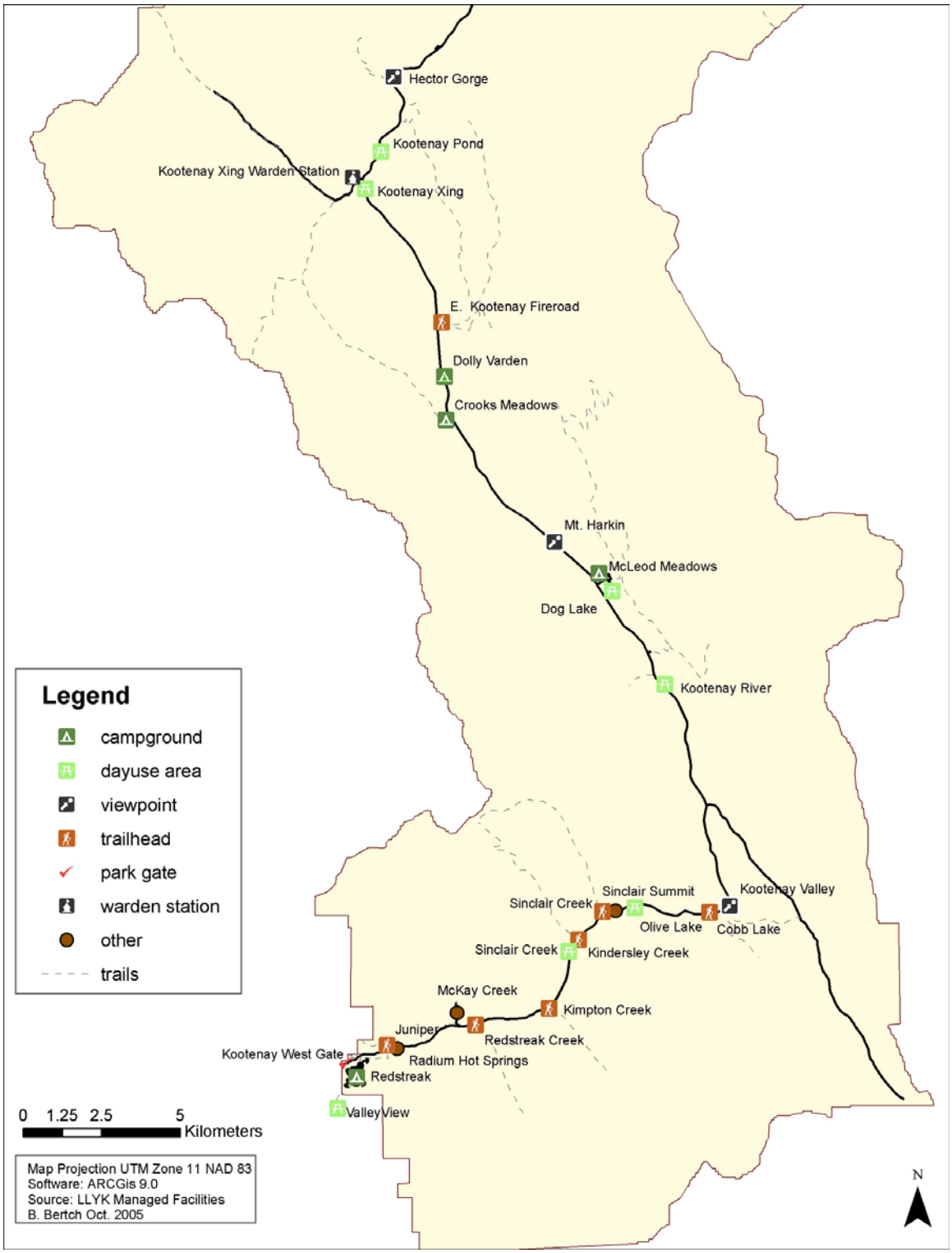

Figure 1.5 Frontcountry areas located south of Kootenay Crossing in Kootenay National Park

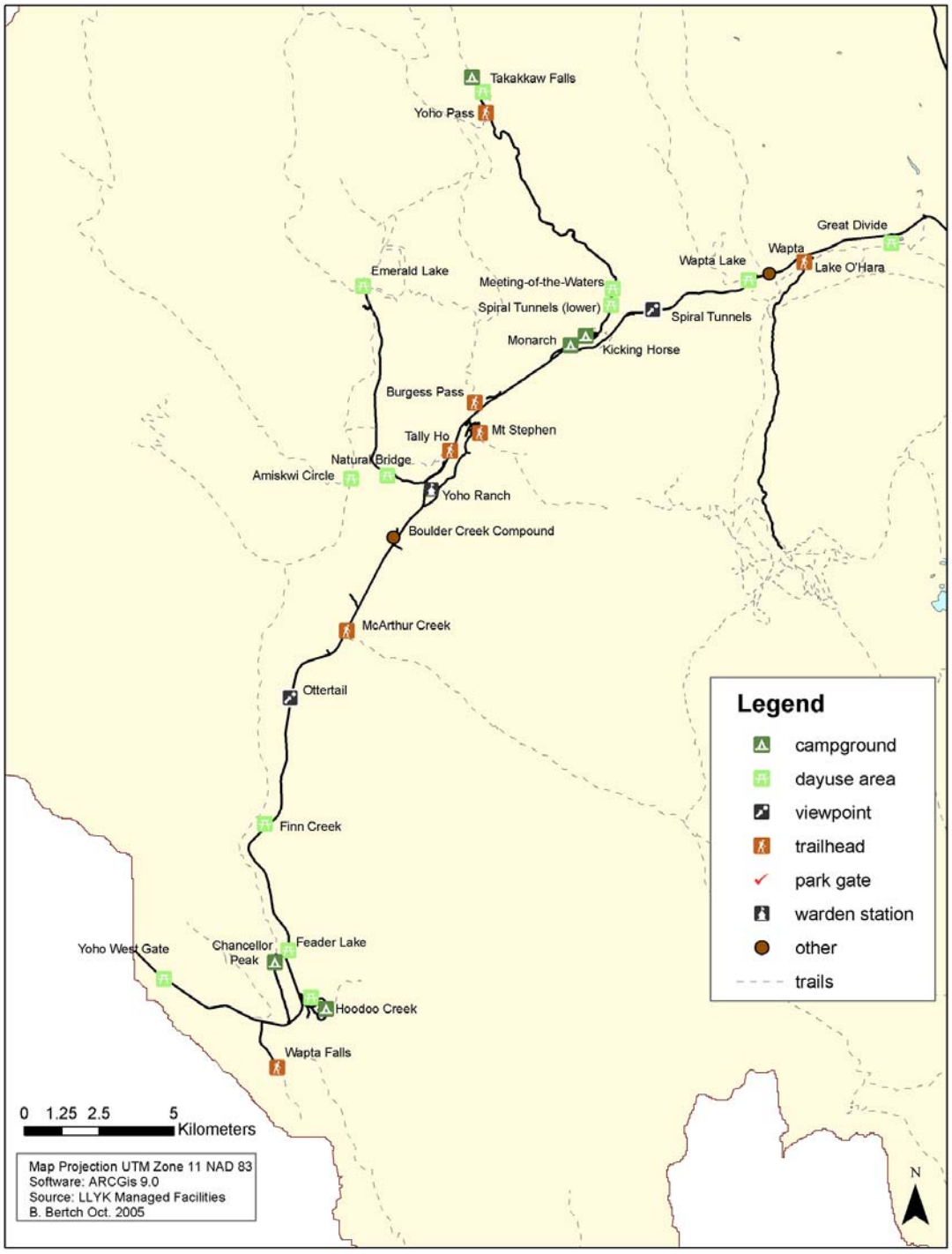

Figure 1.6 Frontcountry areas located in Yoho National Park

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

2.1 Projects Subject to the *Canadian Environmental Assessment Act* (CEAA)

This MCSR applies to projects that occur relatively frequently and result in environmental effects that are predictable, well understood and can be easily mitigated. Routine projects conducted in the CSA that are subject to CEAA are described in Section 2.3.

To require an environmental assessment under the Act, a project must:

1) be an undertaking in relation to a physical work or a physical activity captured in the *Inclusion List Regulations* of the Act: and
2) under section 5 of the Act, have Parks Canada with one or more of the following responsibilities:
    a) is the proponent of a project;
    b) grants money or other financial assistance to a project;
    c) grants an interest in land to enable a project to be carried out; or
    d) exercises a regulatory duty in relation to a project, such as issuing a permit, license or authorization that is covered under the *Law List Regulations*.

    Parks Canada is required to complete an environmental assessment before it can exercise any power, duty or function in relation to routine projects in Front Country Facilities under section 5 of the Act. .

Projects are exempt from environmental assessment if they meet all the criteria set out in the *Exclusion List Regulations.* If all components of the project are described on the *Exclusion List Regulations*, the project is exempted from an environmental assessment under the Act. If any component of the project is not described on the *Exclusion List Regulations*, an environmental assessment of the project, including all components, is required under the Act. Environmental assessment practitioners should review the most current version of the *Exclusion List Regulations* prior to initiating an environmental assessment.

2.2 Routine Projects Not Suited to the MCSR

Some projects that might be proposed in frontcountry areas do not meet the class screening requirements for routine, repetitive activities with known, easily mitigable environmental effects. These projects have the potential to cause unacceptable environmental impacts, and therefore, an individual assessment will be required. The projects that **are excluded** from this MCSR for this reason are:

- Projects outside the CSA.
- Construction of new roads and parking lots within the CSA.
- Installation of a new septic field or modification of an existing septic field.

- Projects that occur on contaminated sites.
- Projects that are not consistent with the direction contained in the Banff, Yoho and Kootenay National Park Management Plans. For example, the Banff National Park Management Plan contains a commitment to "continue to provide the existing day-use facilities and services, prohibit the development of new day-use areas; and make changes to existing infrastructure as required" (Parks Canada 2004, p.39). The decommissioning of an entire day-use area would require an individual environmental assessment, whereas the decommissioning of selected structures within the day use area that are not likely to significantly impact use of the area (e.g. firebox removal) would be covered by the class screening.
- Any vegetation removal through the use of heavy equipment (e.g. skidders and harvesters).
- Projects that may adversely affect a Species at Risk, either directly or indirectly (e.g. projects that affect critical habitat). For the purposes of this MCSR, Species at Risk are identified in Section 3.4 and include:
    - Species identified on the List of Wildlife Species at Risk set out in Schedule 1 of the *Species at Risk Act (SARA)* and including the critical habitat or the residences of the individuals of that species, as those terms are defined in subsection 2(1) of the *Species at Risk Act*.
    - Species that have been recognized as "at risk" by COSEWIC or by provincial or territorial authorities.
    - * if, after reviewing the project description using the class screening report, it becomes known or reasonably suspected that species at risk could be adversely affected by the proposed project, do not use the MCSR. The project requires an individual environmental assessment under the Act. Note, the contents of the MCSR may be used in the preparation of the individual screening report

The following projects **may** require a separate assessment depending on the nature and scale of the project:

- Projects that increase the amount of wastewater generated or change the method of disposal;
- Installation of utilities that would result in increased capacity;
- Construction of new buildings and other structures in the CSA that are not replacements of existing buildings. This would depend on the scale and nature of the project. For example, a new storage shed could be covered under the class screening, but a new washroom building might be excluded if it increases the amount of wastewater generated. A new woodbin could be covered by the class screening, but a new generator might be excluded if it increases the capacity for power supplied to an area.
- Projects that have the potential to impact environmentally sensitive sites or Zone I areas (as described in Sections 3.2 & 3.3);
- Projects in or near critical wildlife areas including movement corridors (as defined in Appendix B);
- Projects on land within 30 m of water bodies;

- Projects that may affect cultural resources.

Notwithstanding the criteria outlined above, the Environmental Assessment Office may require an individual environmental assessment for any project, if the circumstances warrant such an approach.

2.3 Summary of Routine Projects Subject to Class Screening

Table 1.1 lists the frontcountry areas that fall within the Class Screening Area (CSA) and the facilities present at each location. The following section lists and describes the types of projects that are considered routine and are covered by this MCSR:

2.3.1. Buildings and Other Structures

Buildings in the CSA include washroom facilities (e.g. dry and flush toilets, showers), cook shelters, staff kiosks and accommodations, storage sheds and campground theatres. Other fixed structures that may not be considered buildings, but meet the definition of physical works are: woodbins, fences, septic fields, generators, interpretive displays and exhibits, signs, fireplaces and fireboxes, water reservoirs, water pumps, garbage bins, bridges, culverts, etc.

The MCSR covers:

- Construction or installation of new buildings and other structures.
- Decommissioning and abandonment of buildings and other structures.
- Modification, maintenance and repair of buildings and other structures.

2.3.2 Service Lines

Service lines found within the CSA include underground and aboveground service lines for water, sanitary waste, storm water, natural gas, power and communication. Utilities (water, sanitary sewer, storm water, natural gas) that are provided in pipes are usually located under roadways. Utilities provided through an electrical cable are usually located together in a conduit that often, but not always, follows roadways either above or below ground.

The MCSR covers:

- Construction or installation of new service lines; modification, maintenance and repair of existing service lines; and decommissioning and abandonment of old service lines.

2.3.3 Roads, Parking Lots, Sidewalks, Boardwalks and Trails

Roads are found within campgrounds and some larger day use areas and may be paved or gravel. Most maintenance and repair projects (e.g. road surface patching or overlay) are excluded from CEAA. Modification of existing roads includes the realignment of roads within the right-of-way, the paving of gravel surface roads and the widening of existing roads within their right-of-way. Parking lots, sidewalks, boardwalks and formal trails are also located within the CSA.

The MCSR covers:

- Construction and installation of new boardwalks, trails and sidewalks,
- Decommissioning and abandonment of roads, parking lots, sidewalks, boardwalks and trails,
- Modification of boardwalks, sidewalks and parking lots, and
- Modification, maintenance and repair of roads and trails.

2.3.4 Vegetation Management

Periodic vegetation management is required at most frontcountry areas to keep right-of-ways clear, remove trees that pose a public safety hazard and to maintain scenic views. The MSCR only covers vegetation management within the RoW of roads and utility lines and within 1.5 tree lengths of the existing cleared area of a frontcountry area.

The MCSR covers:

- Removal of trees for public safety purposes (hazard tree removal), for fire protection or for viewscape maintenance through handfalling or brushing

Note - The MCSR does not cover projects that involve the use of heavy equipment (e.g. skidders, harvesters) to remove vegetation

3.0 ACTIVITIES ASSOCIATED WITH ROUTINE FRONTCOUNTRY PROJECTS

This section describes the activities associated with routine projects that are carried out within the Class Screening Area. The environmental effects associated with these activities are detailed in Chapter 5.0.

3.1 General Activities

General activities that apply to most projects and most stages of a project:

Material handling and storage: Includes transportation and storage of building and excavated materials (e.g. stockpiling overburden for use during backfilling and compacting).

Equipment operation: Equipment such as compactors, pumps, jackhammers, compressors, generators, cement mixers, backhoes and trucks is used for many different projects. In some cases, specialized equipment may be required (e.g. vacuum trucks and trenchers for utilities installation, paving machines for road work, bucket trucks for pruning and line work).

Waste management: Includes the collection of all non-hazardous waste and its removal to appropriate facilities, as well as re-use and recycling of building materials. Vegetative material may be chipped, burned, or in very small amounts, left to decay on site.

Hazardous material collection and disposal: Includes the safe storage and disposal of all hazardous materials such as oil-based paint, fuels, oils, lubricants and other petrochemical products.

3.2 Site Preparation

Site preparation may be required prior to construction or modification of buildings or other structures, utility lines, roads or parking areas within the CSA. Site preparation includes:

- *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, surveying the RoW for utilities or roads.
- *Vegetation clearance*, including mowing and removal of shrubs and trees.
- *Grading, excavation and/or material stripping* to prepare construction sites, reduce slope grade for trenching, carry out demolition of existing facilities, prepare a roadbed for resurfacing, repair the subgrade and install or repair storm sewers and culverts
- *Dewatering* involves the removal of excess water from an excavation using pumps, hoses and sediment traps.

3.3 Buildings

Building construction begins with site preparation, followed by a variety of general construction activities such as pouring foundations, framing, cladding, roofing, constructing vapour barriers, adding insulation and interior finishing, and providing heating, ventilation, air conditioning, plumbing and electrical systems. Painting and sandblasting buildings is also included. Some sites may be serviced with utilities, including wastewater disposal systems (see 2.5.4 Service Lines).

Modification, maintenance and repair activities include painting, reroofing and residing.

Decommissioning and abandonment of an existing building involves disconnection of utilities, which may either be removed (requiring excavation) or left in-situ, demolition activities and removal of foundations.

3.4 Service Lines

Installation or maintenance of underground utility lines involves digging trenches 1 to 3 m deep and 0.5 m to 2 m wide by backhoe, installing the conduit, pipe or cable, filling the trench, compacting the material and crowning over to allow for subsidence. Final grading recontours the surface. Smaller lines, such as electrical or phone lines can be installed using a trenching machine, which opens the trench, lays the line and closes the trench in one pass.

Aboveground utility line installation involves digging holes, pouring concrete foundations and stringing the lines. Lights may be installed as part of a building project or along roadways and in parking lots.

Installation of wastewater disposal systems involves excavation and backfilling.

Maintenance and repair of existing lines can involve many of the activities described above, but on a smaller scale, in order to inspect lines and facilities for breaks, leaks or other malfunctions, and to replace damaged or broken lines. For aboveground services, poles and lines may be replaced as necessary.

Decommissioning of underground service lines involves disconnecting and either removing and disposing of underground line or pipe, or capping/sealing to leave the disconnected line or pipe in place.

Decommissioning of aboveground service lines involves removal and disposal of aboveground poles and lines.

3.5 Roads, Parking Lots, Sidewalks and Trails

Surfacing of gravel roads or parking lots and resurfacing of asphalt roads or parking lots involves the removal of the existing surface, surface preparation (stripping or scarifying

the asphalt surface) and the laying of asphalt. Removal of the road surface and excavation may also be required to repair the subgrade, install or repair storm sewers or culverts. Maintenance or repair of roads involves patching with asphalt and in the case of gravel roads, grading and removal of rocks or debris. Asphalt may be pre-mixed or, in larger projects, prepared on-site using an asphalt plant. Posts, lights and fences may be installed as part of a road or parking lot project.

Sidewalk, curb and gutter installation involves form work and pouring of a new structure using timber forms and concrete, asphalt or paving stones. Sidewalks can be realigned through base repairs and resurfacing. Boardwalks are generally constructed from timber. Some form work and use of concrete may also be required.

Trail projects involve base preparation, grading, trail surfacing and fixture installation (e.g. lights, benches, boardwalks, garbage bins, fence).

3.6 Vegetation Management

Vegetation management involves hand falling to remove hazardous trees within 1.5 tree lengths of the existing cleared area. Right-of-ways for roads and utility lines within the CSA are maintained by mowing, pruning and removing vegetation, including trees. Removal of vegetation for fire protection purposes or to improve scenic vistas at existing scenic viewpoints is also accomplished using hand falling, brushing and pruning. Vegetative material is either chipped or burned.

3.7 Site Rehabilitation

Site rehabilitation involves backfilling, if necessary, and landscaping, grading, contouring and soil preparation. The disturbed site is revegetated through seeding, planting and sodding. Fertilizer may be used in some cases to help establish vegetation.

3.8 Scheduling of Projects

The construction season in the mountain parks typically runs from May to late October. Repairs may be scheduled for winter months if necessary for health and safety reasons (e.g. breaks in waterlines). Projects may also be scheduled for other time periods to avoid disrupting sensitive wildlife. For example, vegetation clearing should take place in late summer, fall or early winter, to avoid displacing nesting birds.
The length of time needed to complete a project must be considered when designing and coordinating the project. This can vary greatly (i.e. from a few days to several months), depending on the type and scale of work being carried out. However, routine frontcountry projects are generally completed within one construction season (i.e. projects started in the spring are usually finished by fall of the same year).

4.0 DESCRIPTION OF CLASS SCREENING AREA

4.1 Ecological Setting

Banff, Kootenay and Yoho National Parks represent the Rocky Mountain Natural Region. This region encompasses a series of parallel ranges including the Rocky Mountains and the foothills. Dramatic climate changes caused by elevation, rainshadow effects and latitude create a complex, diverse pattern of vegetation ranging from grasslands and alpine meadows to dense coniferous forests. This vegetation supports a diverse array of wildlife and aquatic species. The region is typically divided into three ecoregions based largely on vegetation characteristics and reflecting microclimatic differences: the Montane, Subalpine and Alpine. Frontcountry facilities in the LLYK Field Unit are situated in the Montane and Subalpine Ecoregions.

The Montane Ecoregion is found at lower elevations in all three parks. It is characterized by open forests dominated by species such as Douglas fir and white spruce; aspen poplar; and grasslands. Although the Montane Ecoregion only covers 13% of the field unit, it provides very important wildlife habitat.

The Subalpine Ecoregion, which occurs at elevations above the Montane, is cooler and moister. It is the most dominant ecoregion and is divided into Lower and Upper Subalpine. The dominant vegetation in the Lower Subalpine is closed coniferous forest, with mature forests dominated by Englemann spruce and subalpine fir. The Upper Subalpine vegetation is transitional between the Lower Subalpine closed forest and the treeless alpine tundra.

The Ecological Land Classifications (Holland and Coen 1983; Achuff et al. 1984; Achuff et al. 1996) contain detailed information about the landform, soil, vegetation and wildlife present within each park. Ecoregions are divided into ecosections based on broad landform, drainage and soil characteristics. Ecosections are further divided into ecosites, which are based on specific soil and vegetation differences. Table 4.1 lists the frontcountry areas found in each ecoregion and ecosection. Appendix A lists the relevant soil, vegetation and wildlife information for each frontcountry area by ecosite.

In addition to the general information contained in the Ecological Land Classification, many species-specific inventories and wildlife studies have been carried out. Important habitat and special resources that may require additional consideration or mitigation during project planning and implementation are identified in this chapter. Many of these resources, such as Zone 1 areas and Environmentally Sensitive Sites, are outlined in park management plans. Other resources have been identified through discussion with Parks Canada wildlife, aquatics and cultural resource specialists.

Table 4.1 Ecoregions and Ecosites of Frontcountry Facilities

Ecosection	Frontcountry Area
Montane Ecoregion	
Athabasca (AT)	BNP David Thompson Gate Glacier Lake Trailhead KNP Cobb Lake Trailhead Crooks Meadow Group Campground Dolly Varden Campground & DUA East Kootenay Fireroad Trailhead Kootenay Crossing Warden Station McLeod Meadows DUA Mount Harkin Viewpoint Verdant Creek Trailhead Vermilion Crossing DUA YNP Amiskwi Circle DUA
Dry Gulch (DG)	Sinclair Creek Trailhead Sinclair Summit Truck Check
Daer (DR)	KNP Hector Gorge Viewpoint Kimpton Creek Trailhead Kootenay Pond DUA Kootenay River DUA Kootenay Valley Viewpoint McKay Creek Compound Olive Lake DUA Radium Hot Springs Hot Pools Redstreak Creek Trailhead Sinclair Creek DUA YNP Boulder Compound Burgess Pass Trailhead McArthur Creek Trailhead Mt. Stephen Trailhead Natural Bridge DUA Ottertail Viewpoint Spiral Tunnels Viewpoint Tally Ho Road Trailhead Yoho Ranch Yoho West Gate & DUA
Fireside (FR)	YNP Emerald Lake DUA Finn Creek DUA Hoodoo Creek Campground Hoodoo Creek DUA Kicking Horse Campground Monarch Campground Mt. Stephen Trailhead KNP Kindersley Pass Trailhead McLeod Meadows Campground Mount Harkin Viewpoint Wardle Creek DUA
Garonne (GA)	YNP Meeting of the Waters DUA
Hillsdale (HD)	BNP Howse River Trailhead Saskatchewan Crossing Warden Station

	KNP Kootenay River DUA YNP Amiskwi Circle DUA Chancellor Peak Campground Yoho Ranch
Merlin Castle (MC)	BNP Sarbach Viewpoint
Norquay (NY)	BNP Howse DUA
Rocky (RK)	YNP Wapta Falls DUA
Vermilion Lakes (VL)	YNP Faeder Lake DUA Simpson's Monument Viewpoint
Wycliffe (WY)	KNP Kootenay West Gate Redstreak Campground Valley View DUA
Lower Subalpine	
Altrude Lakes (AL)	BNP Baker Creek DUA Bath Creek Trailhead Mosquito Creek Campground, DUA, Trailhead & Corrals Waterfowl Lakes Campground Silverhorn Overflow Campground Waterfowl Lakes Viewpoint I KNP Fireweed DUA Floe Lake Trailhead Marble Canyon Campground & DUA Stanley Glacier Trailhead
Baker Creek (BK)	BNP Eldon Viewpoint Fish Creek Trailhead Herbert Lake DUA Mistaya Canyon DUA Moraine Creek DUA Pipestone Trailhead YNP Yoho Lake Trailhead
Bow Valley (BV)	BNP Niblock Gate Storm Mountain Viewpoint Tramline Trailhead (Lower)
Bryant (BY)	KNP Paint Pots DUA
Cavell (CA)	BNP Peyto Lake Trailhead
Consolation Valley (CV)	BNP Cirque Viewpoint Helen Lake Winter Trailhead Lake Louise Trailer Campground Upper Lake Louise DUA
Hector Lake (HC)	BNP Moraine Lake DUA Mount Coleman Viewpoint Mounts Amery and Saskatchewan Viewpoint KNP Numa Falls DUA Great Divide DUA

	YNP Lake O'Hara Trailhead
Pipestone (PP)	BNP Corral Creek DUA Fairview DUA Hector Lake Trailhead Protection Mountain Campground Rampart Creek Campground YNP Takakkaw Falls Campground Takakkaw Falls DUA
Panorama Ridge (PR)	BNP Alexandra River Trailhead Castle Lookout Trailhead Coleman Cliffs DUA Storm Mountain DUA Hector Lake Viewpoint Paradise Valley Trailhead Waterfowl Lake Viewpoint III Sunset Pass Corrals Sunset Pass Trailhead Lake Louise Overflow Campground YNP Wapta Lake DUA Wapta Trucker Pull-out (Brake Check)
Sawback (SB)	BNP Waterfowl Lakes Viewpoint II Weeping Wall Viewpoint
Verdant (VD)	BNP Lake Louise Tent Campground Taylor Lake Trailhead
Upper Subalpine	
Egypt (EG)	BNP Helen Lake Trailhead
Num-ti-jah (NT)	BNP Bow Lake DUA (at Num-ti-jah)
Peyto Lake (PL)	BNP Bow Summit DUA
Sphinx (SX)	BNP Bow Lake (south) DUA Bow Lake (north & south) Viewpoints Bow Summit Weather Station Crowfoot Glacier Viewpoint

4.2 Environmentally Sensitive Sites

Designated Environmentally Sensitive Sites (ESS) are identified in the Banff National Park Management Plan (amended May 2004) and Kootenay and Yoho National Park Management Plans (1999). They are areas with significant and sensitive features that require special protection. ESSs located in or adjacent to the CSA are listed below. Table 4.2 lists those frontcountry areas that are within 100 m of an ESS. Projects taking place in an ESS may be excluded in the class screening following consultation with the Wildlife or Aquatics Specialists.

4.2.1 Kootenay National Park

Moonwort site near Marble Canyon

- Rare plant listed as species of special concern by the British Columbia Conservation Data Centre
- Very small site (less than one square kilometre)

Radium Hot Pools

- Unique geology, fauna and flora
- Very small site (less than one square kilometre)

Wardle Flats

- Significant area for wildlife (wolf, grizzly bear, black bear)

4.2.2 Yoho National Park

Ottertail Flats, Leanchoil Marsh and Wapta Marsh

These three areas are important wetlands. Montane wetlands are rare in Yoho National Park of Canada and in the Rocky Mountain National Parks in general. These areas support a diversity of species and include nesting areas for Bald Eagle and Osprey and important winter habitat for ungulates.

4.3 Zone I – Special Preservation

Zone I lands deserve special preservation because they contain or support, unique, threatened or endangered natural or cultural features, or are among the best examples of the features that represent a natural region. Most of these zones are located in the backcountry. Only one Special Preservation Zone is located in or adjacent to the CSA: Mt. Wardle and Mt. Verendrye.

The Mt. Wardle and Mt. Verendrye area contains the summer and winter range of the largest mountain goat population in the park. Mt. Wardle is the only area in the four mountain parks where mountain goats winter at montane elevations. The area also contains important grizzly bear and cougar habitats, as well as representative elements of virtually all the ecological zones that occur in the park. The area is relatively inaccessible and has no man-made trails or other facilities.

Table 4.2 Frontcountry areas within 100 m of an Environmentally Sensitive Site or Special Preservation Zone

Sensitive Sites	**Frontcountry Areas within 100 m**
Environmentally Sensitive Sites	
Marble Canyon Moonwort Site	Marble Canyon DUA
Radium Hot Pools	Radium Hot Springs Pools
Mt. Wardle Flats	Kootenay Pond DUA Wardle Creek DUA Simpson River Trailhead Hector Gorge Viewpoint Simpson Monument Viewpoint
Ottertail Flats, Leanchoil Marsh and Wapta Marsh	Ottertail Viewpoint Amiskwi Circle DUA Lake O'Hara Parking Lot
Special Preservation Zone	
Mt. Wardle and Mt. Verendrye	Hector Gorge Viewpoint

4.4 Species at Risk

Canada's Species at Risk Act (SARA) came into full force in June 2004. The goal of the Act is to protect and recover native species, sub-species and distinct populations at risk in Canada. The Act protects all animals and plants native to Canada listed on Schedule 1 of SARA. "At risk" species are categorized as either: special concern, threatened, endangered or extirpated. The Act prohibits the following:

- No person shall kill, harm, harass, capture or take an individual of a wildlife species that is listed (on Schedule 1) as an extirpated species, an endangered species or a threatened species.
- No person shall damage or destroy the residence of one or more individuals of a wildlife species that is listed (on Schedule 1) as an endangered species or a threatened species
- No person shall destroy any part of the critical habitat of any listed (on Schedule 1) endangered species or of any listed threatened species

Several species that occur in Banff, Kootenay or Yoho National Parks are listed on Schedule 1, however only the woodland caribou is listed as threatened and the badger as endangered.

A permit is required under SARA to carry out an activity that contravenes the prohibitions listed above. A permit may be issued for the following purposes:

- The activity is scientific research relating to the conservation of the species and conducted by qualified persons;
- The activity benefits the species or is required to enhance its chance of survival in the wild; or
- Affecting the species is incidental to the carrying out of the activity.

For the purposes of the class screening, if it is determined that a project has the potential to adversely affect a species at risk, the project will be excluded from the class screening and will require an individual environmental assessment. Table 4.3 lists frontcountry areas where there is the potential to disrupt the residence or critical habitat of a species at risk. The wildlife specialist will be consulted about projects to determine if there is the potential for it to impact a species at risk.

Table 4.3 Frontcountry areas where there is the potential to disrupt a species at risk

Frontcountry Area	**Species of Concern**	**Comments**
Radium Hot Springs Pools Juniper Trailhead	Rubber boa	- projects involving excavation or disturbance of rock piles have the potential to affect this species - the location of hibernacula has not been determined
Redstreak Campground	Rubber boa Badger	- projects involving excavation have the potential to disturb the residences of these species - the location of rubber boa hibernacula has not been determined - badger are not currently denning in the vicinity of the campground

4.4.1 *American Badger* (*Taxidea taxus jeffersonii*)

The American Badger (subspecies *jeffersonii*) is listed as "endangered" under Schedule 1 of SARA. An endangered species is a species that is facing imminent extirpation or extinction. This nocturnal species is generally found in open habitats, such as grasslands and open-canopied forests, in southern British Columbia, where it is also red-listed (i.e. provincially extirpated, endangered or threatened). Badgers occurred historically in the southern portion of Kootenay National Park, however they have not denned within the park in recent years. In the eighties and more recently, badgers have been observed in the Redstreak Campground area (Alan Dibb, pers. comm., Oct. 8, 2005). Low badger numbers are attributed to a combination of factors, including habitat destruction (many former habitats no longer support badgers), control of badger prey, highway mortality and fire suppression (which has resulted in a decrease in open habitats).

Between 2002 and 2004, sixteen badgers were translocated from Montana to the upper Columbia Valley as part of the East Kootenay Badger Project, in order to promote badger recovery in the area. Parks Canada is one of several organizations that supported this project. Initial results have been positive and suggest that the area has retained its capability to support badgers (Kinley and Newhouse 2005). It is hoped that the reestablishment of a population in the upper Columbia Valley may someday lead to a more permanent badger presence in Kootenay National Park.

4.4.2 *Woodland Caribou* (*Rangifer tarandus caribou*)

The woodland caribou is listed as "threatened" under SARA. A threatened species is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction. Woodland caribou occur in the northern part of Banff National Park. The ecology of woodland caribou in Banff is poorly understood and the causes of population decline are unclear. The population has dwindled over the years from a high of 23 in 1989 to five individuals at last census. Reasons may include limited patches of quality habitat; shifts in distribution and abundance of other ungulates and their principle predator, wolves; climate change; increased human and predator access via packed winter trails; and loss of connectivity with the larger Jasper caribou population.

A research program was initiated in October 2003 to gather information on the population's status, seasonal movements and habitat requirements. Based on limited information, caribou range in the LLYK field unit appears to be restricted for the most part to remoter backcountry areas, such as the Siffleur, Pipestone and Mosquito Creek drainages (see Figure 4.1). However, winter range has also included portions of the Mistaya River Valley along the Icefields Parkway. Caribou have been observed at Bow Summit, a relatively busy frontcountry area.

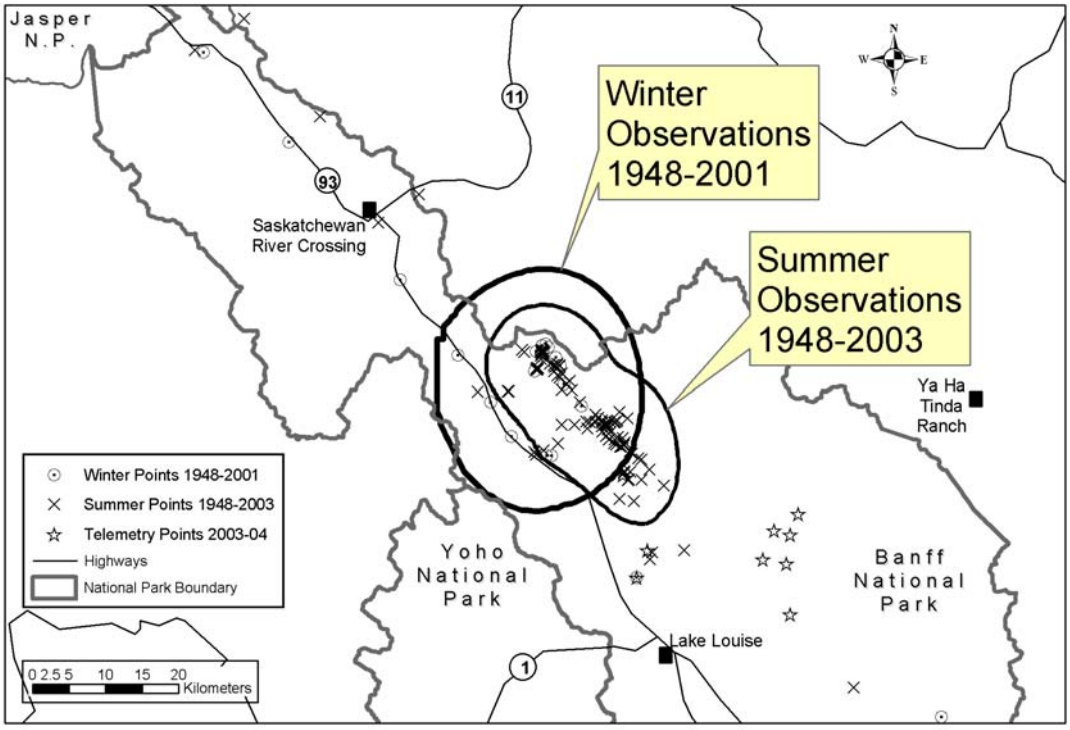

Figure 4.1 Historic caribou observations (1948-2003)

4.4.3 *Grizzly Bear* (*Ursus arctos*)

The status of grizzly bear as a species of "special concern" is currently under review for listing on Schedule 1 of SARA. A species of "special concern" may become a threatened or endangered species because of a combination of biological characteristics and identified threats. Since grizzly bears reproduce slowly, require large home ranges, and are thinly dispersed across the landscape, they are particularly sensitive to human activity and natural events. The grizzly bear population in Banff National Park and neighbouring areas has the lowest reproductive output among grizzly populations in North America (Herrero et al. 2005).

Grizzly bears are widely distributed throughout the field unit. The best available figures suggest that Banff National Park has a population of 85 to 110 bears (1.2-1.6 individuals/100 km^2) and that densities in Yoho and Kootenay National Parks may be slightly higher due to climatic differences resulting in more abundant food sources. Despite its low reproductive rate, the grizzly bear population in Banff National Park and neighbouring areas appears to be increasing (Herrero et al. 2005). Lake Louise is one of three important reproductive areas for grizzlies in Banff National Park.

Suitable and secure habitat in the mountain parks is patchy and rugged terrain dictates, to a great extent, how bears will travel from one patch to another. Figure 4.2, from Mueller's work (2001), shows some of the important travel routes and/or passes used by grizzly bears in the Lake Louise area.

The landscape is further fragmented by human development, such as transportation corridors and townsites. Recreational use of the landscape can also create temporary disturbances that limit bear movement and access to habitat. The highest quality, most continuous habitat is located in valley bottoms - also the areas where the majority of facilities and services are located. Like other wildlife, bears can be displaced from prime habitat by human activity.

The effect of human activity on grizzlies depends on a number of factors, such as sex, age and time of day. Adult males select first and foremost for high quality habitat away from human presence. Adult females and sub-adults may be forced to use either lower quality habitat or high quality habitat close to human development to avoid competing with the more aggressive adult males. In the absence of humans, wary female grizzly bears make more efficient use of higher quality habitats than habituated females by moving shorter distances while foraging. Habituated females tend to use sub-optimal habitats and travel greater distances during periods of increased human presence than wary females (Gibeau and Stevens 2005). Less energy is available to these bears for reproduction.

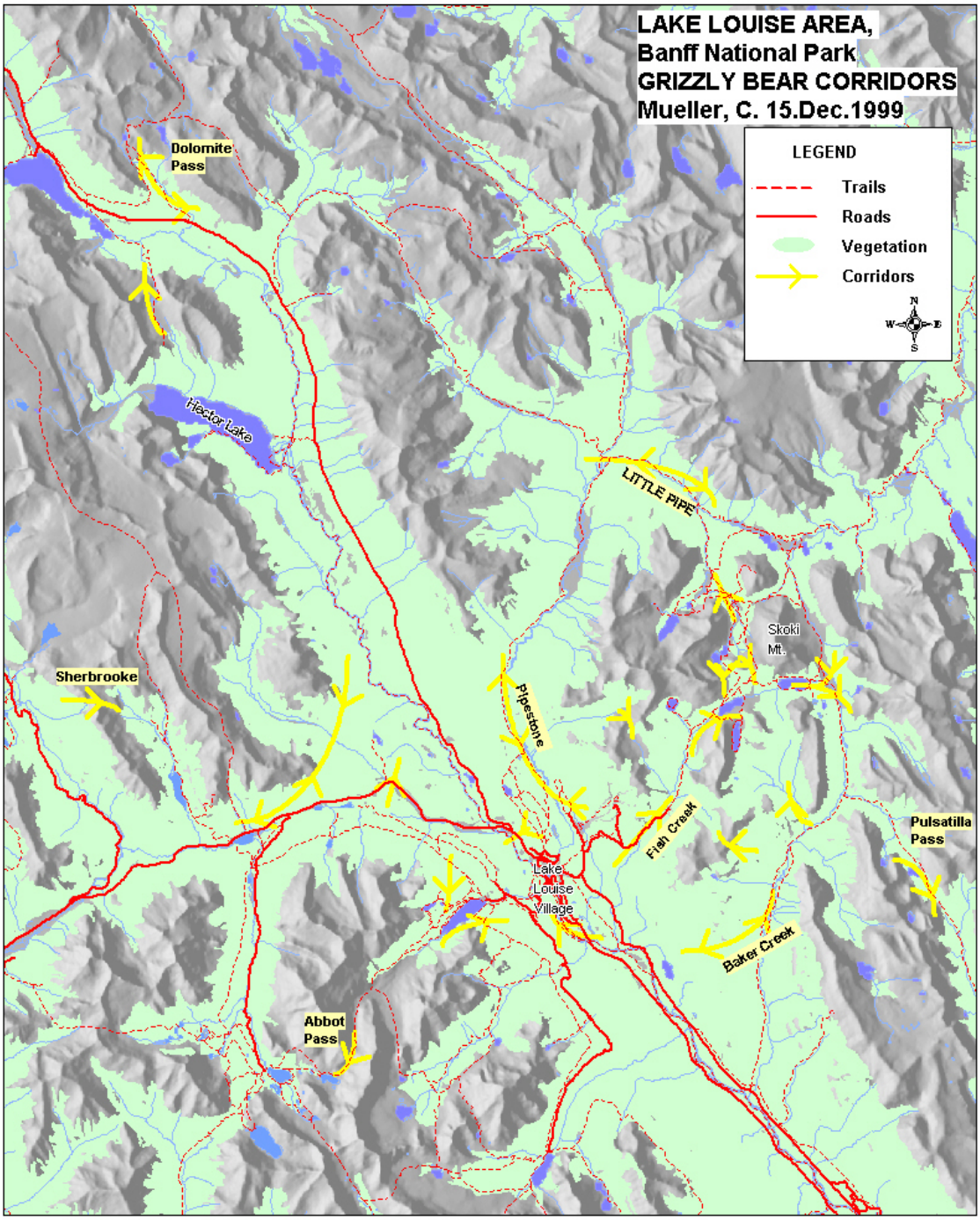

Figure 4.2 Grizzly bear movement corridors in the Lake Louise area

Bears that spend time close to human development can become habituated over time - this may bring them into conflict with humans and, for female bears, increases the likelihood that they will die of human-related causes (e.g. be killed on the highway or

railway) (Garshelis et al. 2005). Human-caused mortality is the most important cause of grizzly bear mortality today, accounting for 75% of female and 86% of male grizzly bear mortality, although improved food and garbage management in the mid-eighties played an important role in reducing habituation, and consequently mortality (Herrero et al 2005).

Although the grizzly bear population in Banff National Park and surrounding areas increased from 1994 to 2002, intensive management and monitoring is still required. Given the small population size and slow growth rate, random and unpredictable events could have an important impact on population viability, and even small changes in bear or human behaviour could tip the balance towards decline. In order to maintain a stable population, annual survival rate of 91% for female grizzly bears is required (Garshelis 2005). For this reason, "the emphasis on controlling human-caused mortality is critical to the continued health of the grizzly bear population (Herrero et al. 2005, p. viii)."

4.4.4 *Wolverine* (*Gulo gulo*)

The status of wolverine as a species of "special concern" is currently under review for listing on Schedule 1 of SARA. Information on wolverine in Banff, Kootenay and Yoho National Parks is limited. The wolverine is a solitary animal that occupies large home ranges. They are believed to be widespread throughout the mountain parks, but occur at low densities. These low densities, a low reproductive rate, a range that is significantly smaller than its historic range, and sensitivity to human disturbance make the wolverine a candidate for additional protection. Winter disturbance in the vicinity of natal dens is thought to be particularly disruptive.

Wolverine are most commonly associated with Engelmann spruce-subalpine fir forests of the Subalpine ecoregion in Banff National Park, but can occur at all elevations (Tremblay 2001). A Parks Canada study of winter wolverine ecology showed that wolverine in the Lake Louise and Yoho areas used a wide variety of habitats, but made significant use of avalanche paths (Michel et al. 2002). Wolverines crossed trails created by humans (e.g. ski trails, groomed ski runs) and roads with low traffic volumes (e.g. Icefields Parkway, Whitehorn Road) on several occasions, however no crossings of the Trans-Canada Highway were observed (Michel et al. 2002). In a 1998 study in Kicking Horse Pass, wolverines avoided areas within 100 m of the Trans-Canada Highway and preferred areas greater than 1000 m from it (Austin 1998, cited in Tremblay 2001).

4.4.5 *Boreal Toad* (*Bufo boreas*)

The boreal, or western, toad is listed as a species of "special concern" on Schedule 1 of SARA. This species is widely distributed in Western Canada and is one of only a few amphibians known to occur in alpine areas. Breeding occurs in the spring in waterbodies that are often very small or ephemeral. Boreal toads are highly philopatric; most males return to breeding sites annually whereas females return every one to three years (COSEWIC 2002). This toad was listed as a species of special concern due to population declines, particularly south of the border. Although it is locally abundant and widespread

through most of its historic range in Canada, the boreal toad is relatively intolerant of urban expansion and conversion of habitat to agriculture, and has also be affected by introduced non-native predators and competitors and disease (COSEWIC 2000).

4.4.6 *Rubber Boa* (*Charina bottae*)

The rubber boa is a secretive snake that is mainly active at night. Little is known about the habitat requirements of this species, but they have been found in southern British Columbia in habitats as varied as grasslands, open canopy forests, moist coniferous forests and riparian areas. It has been listed as a species of special concern due to its patchy distribution and low reproductive potential (COSEWIC 2003). An isolated population exists in the Radium Hot Springs area of Kootenay National Park at the northern extent of their range.

The Radium Hot Springs population is thought to be small, therefore the loss of only a few individuals could affect the viability of the local population. Rubber boas also hibernate communally. If a winter hibernaculum is disturbed by a project, there could be serious impacts to the whole population. A radiotelemetry project was initiated in 2005 to try to identify critical habitat used by the snakes, and in particular, the location of winter hibernacula. Individual snakes have been sighted at the hot pools and on trails in the area (St. Clair n.d.).

4.5 Other Important Areas for Wildlife

As the descriptions of Zone I areas and species at risk demonstrate, some areas in Banff, Yoho and Kootenay National Parks are particularly important to wildlife. For example, the Lake Louise area is clearly of particular significance to grizzly bears. Sinclair Canyon provides unique habitat for rubber boa, and potentially badger. Mount Wardle and Mount Verendrye are identified as important areas for several species, including mountain goat, grizzly bear and cougar. The management plans for Yoho and Kootenay National Parks also outline several different movement corridors:

Kootenay National Park

Dainard/Wolverine/Vermilion Corridor
Kootenay Valley Corridor

Yoho National Park

Amiskwi Corridor
Kicking Horse Corridor
Cataract Brook / McArthur Corridor

Research is constantly improving and refining knowledge of habitat and corridor requirements. Since different species have different habitat and movement requirements, the list of important wildlife areas is long. This section attempts to describe a few areas

that are significant in terms of ensuring connectivity on a regional scale for multiple species and contain a high concentration of frontcountry facilities. Emphasis has been placed on wide-ranging species, such as wolves, bighorn sheep and elk, since these species often use habitat outside the parks and if their habitat requirements can be met, it is quite likely that other species will be protected as well.

4.5.1 *Sinclair Canyon and the Redstreak Area*

In addition to rubber boa and badger, the south end of Kootenay National Park is an important area for several larger species. Tremblay (2001) identified 18 potential corridors for elk and /or grizzly bear and 12 potential corridors for bighorn sheep in the Radium area. Movement corridors for elk and grizzly bear are probably suitable for a range of species. The presence of visual cover is important for both species, as is low levels of human disturbance, terrain which is easy to travel in, and the presence of some forage. Elk tend to favour areas where there is an edge effect (where open areas for foraging and areas with good cover abut) and riparian corridors are believed to be important travel routes. The Upper Benchlands corridor, which runs along the southwest boundary of Kootenay National Park, intersecting Highway 93 at Sinclair Canyon, is an important movement corridor for these two species (Tremblay 2001). Redstreak Campground is located within this corridor.

Unlike grizzly bears and elk, bighorn sheep have very specific habitat requirements. They tend to select for movement corridors with escape terrain and high visibility. The Lower Sinclair Creek corridor is particularly important to sheep; they use it to move between winter and summer range (Tremblay 2001). In recent years, Parks Canada, with provincial and non-governmental partners, has initiated a project to restore historic winter range for bighorn sheep in the Redstreak area. This should also improve the outlook for other species (e.g. badger) that use the Douglas fir/grasslands community found in the area.

4.5.2 *Lake Louise*

Several valleys intersect in the Lake Louise area, the Bow, the Upper Bow, the Pipestone, the Kicking Horse, which make it an important area for wildlife to move through. This area also provides more permanent habitat for year round residents, such as wolverine, lynx, mountain goats and bears (the importance of the Lake Louise area to grizzly bears is described in section 4.4.3)**.** In the summer, elk and moose are also found in the area. Three main corridors have been identified: the Fairview Corridor on the south side of the Bow Valley, the Whitehorn Corridor on the north side of the valley and the Bow River Corridor that runs along the middle of the valley.

Despite a relatively homogenous stand age and low density of snowshoe hares, Lake Louise seems to be an important area for lynx. The lynx is a medium-sized carnivore that is near the southwestern extent of its range in the southern Canadian Rockies. Although it has not been listed in Canada, it was recently listed as “threatened” in the United States

due to intensive forest management, overharvest, range expansion of competing species, and increasing levels of human access into lynx habitat (Apps 2003).

Recent research in Kootenay National Park and the Bow Valley showed that the preferred prey of the lynx, the snowshoe hare, was most abundant in early seral stage forests (20 to 60 years old) (Apps 2003). Lynx require older stands for cover, resting and denning as they move about a patchy landscape. Mature stands also harbour another important prey species, the red squirrel.

In the Lake Louise area, lynx use the Whitehorn corridor more frequently than the Fairview corridor. Juveniles have been observed not to cross the TransCanada Highway (Tremblay 2001).

4.5.3 *Kicking Horse Pass*

Kicking Horse pass is the primary movement corridor between Banff and Yoho National Parks. It is a narrow corridor, bisected by the TransCanada Highway and Canadian Pacific Railway. Use of this corridor by wolverine is well-documented. The Mount Bosworth – Wapta Lake area is one of few areas where there is potential for goats to cross the TransCanada Highway (A. Dibb, LLYK Wildlife Specialist, pers. comm., April 18, 2005).

4.5.4 *Vermilion Valley*

The Vermilion Valley contains a key movement corridor that connects provincial lands west of Kootenay National Park to the Bow Valley via Wolverine and Vermilion Passes. This area is particularly important for large carnivores and goats. The Marble Canyon/Paint Pots area has been identified as a major pinch point in the movement corridor.

Prior to the 2003 Kootenay Fires, the Vermilion Valley also provided important habitat for lynx, due to a variety of stand ages and a high density of snowshoe hare. The Vermilion Pass is believed to be a more important dispersal route for lynx than the Kicking Horse Pass, due to better habitat (Apps 2003). With changes in the forest cover following the Kootenay Fires, the importance of the area for lynx may have changed.

4.5.5 *Montane Areas*

Large areas of high quality habitat are found at lower elevations in all three parks. Ungulates, carnivores and other species need secure habitat in these areas to maintain viable populations. In Banff National Park, the Saskatchewan Crossing area is of particular importance, both for the habitat it provides and as a regional wildlife corridor (linking provincial lands in British Columbia and Alberta through the Howse Pass wildlife corridor). The Kootenay Valley in Kootenay National Park has historically provided important foraging areas (i.e. open meadows) for ungulates, and in particular elk. The west end of Yoho National Park contains important montane habitat as well,

including wetlands and a major north-south wildlife corridor between the Beaverfoot and Amiskwi/Blaeberry Valleys.

4.6 Aquatic Resources

4.6.1 *Amphibians*

Amphibian populations worldwide are in decline. The reasons for this decline are unclear, but potential causes in the national parks include habitat loss, introduction of non-native species (i.e. stocking non-native fish that eat amphibian eggs), impacts to water quality from chemicals or siltation, global climate change and disease. Four amphibian species are found in Banff, Yoho and Kootenay National Parks: the long-toed salamander, boreal or western toad, wood toad and Columbia spotted frog. Many frontcountry areas occur close to bodies of water that may provide habitat for amphibians and can be impacted by activities. Only one frontcountry area is within 100 m of a known amphibian site (see Table 4.4).

Table 4.4 Frontcountry Areas within 100 m of Known Amphibian Sites

Frontcountry Area	**Amphibian Site Name**	**Species Present**
Sunset Pass Trailhead	Sunset West	Boreal Toad

4.6.2 *Fish*

Banff, Yoho and Kootenay National Parks support many different species of native and non-native fish including: bull trout, cutthroat trout, rainbow trout, brook trout, brown trout, kokanee salmon, mountain whitefish and several different species of sculpin. Bull trout and cutthroat trout are of particular concern, because they both have characteristics that make them particularly sensitive to human activities. The introduction of non-native fish into many mountain waterbodies has led to a decline in the abundance of native species due to intraspecific competition and hybridization (Corbett 2003). Other human activities, such as in-stream disturbances due to construction, the creation of barriers to fish movement, and alteration of stream channels and water levels have also affected fish populations.

Bull trout are slow to mature, easy to catch and spawn in small tributary streams that can be easily disrupted by human activities (Courtney et al. 1998). Bull trout is listed as a species of special concern (not at immediate risk of extinction or extirpation) under the Province of Alberta's Wildlife Act (Alberta's Endangered Species Conservation Committee 2003).

Cutthroat trout face similar issues to bull trout. Fisheries research in the mid-nineties revealed that cutthroat trout are almost completely absent from the mainstem of the Bow

River below Lake Louise (Brewin 1994; Mayhood and Paczkowski 1993). The Alberta population of westslope cutthroat trout was listed as threatened by COSEWIC in May 2005. The BC population was listed as endangered. This species currently has no standing under the Species at Risk Act (SARA), however it may be listed under Schedule 1 of the Act in the near future.

Although no projects involving in-stream work are covered as part of this class screening, land-based activities can affect aquatic ecosystems through sedimentation, release of nutrients and alteration of surface and groundwater patterns. Many frontcountry areas occur near waterbodies. Table 4.5 Lists the frontcountry areas located 100 m or less from fish-bearing waterbodies.

Table 4.5 Frontcountry Areas Located less than 100 m from Water

Waterbody	**Fish Species Present in Waterbody**	**Frontcountry Areas Within 100 m of Waterbody**
Amiskwi River	Bull Trout, Brook Trout	Amiskwi Circle DUA
Baker Creek	Cutthroat Trout, Bull Trout, Brook Trout, Brown Trout, Mountain Whitefish	Baker Creek DUA
Bow Lake	Cutthroat Trout, Rainbow Trout, Brook Trout, Lake Trout	- Bow Lake DUA (north, south) - Bow Lake Viewpoint
Bow River	Cutthroat Trout, Bull Trout, Rainbow Trout, Brook Trout, Brown Trout, Mountain Whitefish	- Lake Louise Campground - Moraine Creek DUA - Mosquito Creek Campground - Storm Mountain Viewpoint
Corral Creek	Cutthroat Trout, Brook Trout	Corral Creek DUA
Emerald Lake	Bull Trout (may be present), Rainbow Trout, Brook Trout	Emerald Lake DUA
Helen Creek	No fish recorded	Helen Creek Winter Trailhead
Herbert Lake	Cutthroat Trout, Rainbow Trout, Brook Trout	Herbert Lake DUA
Kicking Horse River	Bull Trout, Rainbow Trout, Brook Trout, Lake Trout	- Amiskwi DUA - Chancellor Peak Campground - Finn Creek DUA - Kicking Horse Campground - Meeting of the Waters DUA - Natural Bridge DUA - Ottertail Viewpoint
Kootenay Pond	No fish recorded	Kootenay Pond DUA
Kootenay River	Cutthroat Trout, Bull Trout, Rainbow Trout, Brook Trout, Mountain Whitefish, Kokanee Salmon	- Kootenay River DUA - Dolly Varden DUA - McLeod Meadows Campground
Louise Creek/Lake Louise	Bull Trout, Brook Trout, Cutthroat Trout, Mountain Whitefish, Rainbow Trout	Upper Lake Louise DUA
McKay Creek	No fish recorded	McKay Creek Compound
Meadow Creek	Cutthroat Trout, Rainbow Trout, Brook Trout, Kokanee Salmon	Dog Lake DUA

Waterbody	Fish Species Present in Waterbody	Frontcountry Areas Within 100 m of Waterbody
Moraine Creek	Cutthroat Trout, Brook Trout	Moraine Lake DUA
Mosquito Creek	Cutthroat Trout, Brook Trout	- Mosquito Creek DUA - Mosquito Creek Campground
North Saskatchewan River	Rainbow Trout, Brook Trout, Mountain Whitefish	- Alexandra River Trailhead - Coleman Cliffs DUA - Howse River Trailhead - Mounts Amery and Saskatchewan Viewpoint - Saskatchewan Crossing Warden Station - Saskatchewan Glacier Trailhead - Weeping Wall Viewpoint
Noyes Creek	No fish recorded	Waterfowl Lakes Trailhead
Olive Lake	Brook Trout	Olive Lake DUA
Sinclair Creek	Brook Trout, Kokanee Salmon	- Radium Hot Springs Pools - Kimpton Creek Trailhead - Redstreak Creek Trailhead - Sinclair Creek Trailhead
Silverhorn Creek	Rainbow Trout	Silverhorn Creek Overflow
Simpson River	Cutthroat Trout, Rainbow Trout	Simpson River Trailhead
Stephen Creek	No fish recorded	Mt. Stephen Trailhead
Taylor Creek	Cutthroat Trout, Brook Trout (may be present)	Taylor Lake Trailhead
Tokumm Creek	Bull Trout	Marble Canyon DUA
Vermilion River	Cutthroat Trout, Bull Trout, Rainbow Trout, Mountain Whitefish, Kokanee Salmon	- Fireweed DUA - Marble Canyon Campground - Marble Canyon DUA - Numa Falls DUA - Paint Pots DUA - Simpson River Trailhead - Stanley Glacier Trailhead - Vermillion Crossing DUA
Wapta Lake	Cutthroat Trout, Rainbow Trout, Brook Trout	Wapta Trucker Pull-out
Wardle Creek	No fish recorded	Wardle Creek DUA
Waterfowl Lake	Cutthroat Trout, Rainbow Trout, Brook Trout	Waterfowl Lake Viewpoint
Whiskeyjack Creek	No fish recorded	Yoho Pass Trailhead
Yoho River	No fish recorded	- Meeting of the Waters DUA - Takakkaw Falls Campground

4.7 Cultural Resources

4.7.1 *Heritage Buildings*

All buildings over 40 years old must be reviewed by the Federal Heritage Buildings Review Office (FHBRO) before any work, including renovations or additions to the building, is carried out. A building is considered to be any structure with a roof (i.e. picnic shelters and hay sheds are buildings). Several heritage buildings within the Class Screening Area (CSA) have already been evaluated by FHBRO. They are listed in Table 4.6. If any changes to these buildings are proposed, the Cultural Resources Specialist should be involved early on in project planning.

If a building is over 40 years old, but has never been evaluated, a FHBRO evaluation must be conducted before any major works are carried out. The Cultural Resources Specialist will assist with this process.

The guiding principles behind the maintenance and renovation of buildings recognized or classified by FHBRO are followed by Parks Canada. Maintenance, repairs or any changes to these historic buildings must be consistent with 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.

Table 4.6 Buildings within the CSA Recognized or Classified by FHBRO

Frontcountry Area	**Building**	**Year Built**	**Status**	**FHBRO#**
Radium Hot Springs	Aquacourt	1951	Classified	92-079
Saskatchewan Crossing Warden Station	Warden Residence #1	1929	Recognized	84-22
Yoho Ranch	Warden Residence	1925	Recognized	00-02
	Barn & Hay Loft	1957	Recognized	00-02
	Tack Shed	1957	Recognized	00-02

The following is a summary of the Code of Practice to be followed in all circumstances for 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.

The Western Canada Service Centre maintains a database that records the age of many buildings in the field unit. The database also shows if a FHBRO evaluation has been conducted. The database can be viewed at: http://westnet/intranet/calgary/cultural_resource/historical_services/Buildings.htm

4.7.2 *Archaeological Sites*

There are a number of known sites of archaeological and historic interest throughout Banff, Yoho and Yoho National Parks. These sites have been recorded and numbered by Parks Canada. Table 4.7 lists where known archaeological and historic sites are located within or near frontcontry areas. Routine projects have the potential to affect archaeological resources if they will disturb ground outside of existing paved areas through activities such as vegetation clearance or excavation. Where a project may affect a cultural resource, additional mitigations may be required. The Environmental Assessment Office will contact the Park Archaeologist and Cultural Resource Management Specialist to determine the appropriate measures.

Table 4.7 Archaeological Sites Located within 100 m of a Frontcountry Area

Frontcountry Area	**Archaeological Site Type**
Mt. Stephen Trailhead	Refuse area
Kootenay Pond DUA	Campsite
Radium Hot Springs Pools	Lithic scatter
Upper Lake Louise DUA	Chateau Lake Louise and related buried structural features

5.0 ENVIRONMENTAL ASSESSMENT OF ROUTINE PROJECTS WITHIN FRONTCOUNTRY AREAS

This chapter describes the environmental effects that are likely to be caused by the projects covered under this MCSR. A project can only be approved by Parks Canada if it is not likely to result in significant adverse environmental effects. The first step in this process is to determine what adverse environmental effects are likely to result from the projects described in Chapter 3.

5.1 Likely Environmental Effects of Routine Projects

Based on the environmental conditions described in Chapter 4 and experience with numerous frontcountry projects, a comprehensive list of potential environmental effects created by routine frontcountry projects has been developed (see Table 5.1). These environmental effects are considered likely to occur in the absence of mitigation measures. The environmental effects have been organized according to eight broad areas of concern or environmental components: air quality and noise, soils and topography, hydrological and aquatic resources, vegetation, wildlife, cultural heritage, socio-economic conditions and human health. These are standard components that are considered in all environmental assessments undertaken in the Mountain Parks. For simplicity's sake, each environmental effect has been given a unique identifier.

Table 5.2 shows which potential environmental effects are likely to be associated with the activities required to implement a particular project (as described in Chapter 3). In many cases, an individual project will involve several different activities. For example, site preparation is usually required for building construction. General activities, such as equipment operation and waste management, are also involved. The environmental effects of a building project would therefore include effects under the "General Activities", "Site Preparation" and "Buildings" categories.

5.2 Mitigation of Environmental Effects

Standard mitigation measures are available that significantly reduce the magnitude, extent, frequency, duration and reversibility of the potential environmental effects described in Tables 5.1 and 5.2. Tables 5.3 to 5.7 provide a summary of the mitigation measures that allow a project proponent to reduce the environmental effects of a project to a level that is not significant. Proponents must be familiar with these mitigation measures and must implement them on the work-site in order to comply with the requirements of the MCSR. In order to determine what mitigations are required for a project, the proponent should generate a list of the activities required to be carried out during the project. For example, construction of a new picnic shelter could involve: general activities (e.g. materials handling and storage, equipment operation and maintenance, waste management), site preparation (vegetation clearing, excavating, dewatering), building construction, and site rehabilitation. The proponent should then review all the mitigations described under those headings (Tables 5.3, 5.4, 5.5 and 5.8) and incorporate them into project planning. In this way residual adverse environmental

effects from project activities are not likely to occur. For more information on specific mitigation measures, contact the Environmental Assessment Office.

Table 5.1 Likely Environmental Effects of Routine Frontcountry Projects

Environmental Component	Code	Likely Environmental Effects
Air Quality and Noise	A-1	Decreased ambient air quality (i.e. from dust and other particulate matter)
	A-2	Increased ambient noise levels
Soils and Topography	S-1	Changes in slopes, landforms and landscape diversity
	S-2	Soil compaction and rutting
	S-3	Ground subsidence from soil thaw, poor excavation and backfilling practices; ground surface mounding/structure movement due to frost heave from inappropriate backfill material or shallow foundation depth
	S-4	Loss of topsoil, topsoil and subsoil mixing, soil erosion, slope instability, due to increased soil exposure or improper excavation and storage techniques
	S-5	Loss of organic matter/soil sterilization due to intense burning
	S-6	Soil contamination due to leaks or accidental spills
Hydrological and Aquatic Resources	H-1	Adverse modifications to surface drainage patterns; stormwater runoff volumes and rate of runoff; stream or shoreline morphology; water flow volumes, levels and rates
	H-2	Changes in groundwater flow patterns, recharge and levels (e.g. due to dewatering)
	H-3	Reduced water quality and clarity due to increased erosion, sedimentation, transport of debris, point or non-point sources of pollution (e.g. discharge of water, leaks and accidental spills, metal corrosion, contaminated groundwater input, inputs of contaminants from construction activities and from surface runoff)
	H-4	Introduction of nutrients through improper wastewater treatment, burning vegetation piles, use of fertilizers
	H-5	Physical alteration of waterbody substrates
Vegetation	V-1	Damage to and/or removal of vegetation
	V-2	Introduction of non-native invasive plant species
Wildlife	W-1	Sensory disturbance causing displacement/habitat avoidance
	W-2	Wildlife habituation/attraction to artificial food sources
	W-3	Impeded/altered wildlife movement due to encroachment on wildlife movement corridors, creation of barriers to wildlife movement, habitat fragmentation
	W-4	Loss of habitat (food and cover)
	W-5	Damage to nests and/or disruption of nesting birds, disruption of denning animals
	W-6	Decreased wildlife abundance due to direct mortality from physical activities (e.g. road kill)
Cultural Heritage	C-1	Loss or disruption of heritage, archaeological and paleontological features
Socio-Economic Conditions	SE-1	Disruption to park visitors, residents and businesses due to changed noise, air and water quality and traffic and changed aesthetics
Human Health	HH-1	Injuries to public and workers arising from a change in the environment (e.g. increased bear-human conflicts, wind throw due to tree removal)

Table 5.2 Likely Environmental Effects of Routine Frontcountry Projects by Physical Activity

		Air Quality and Noise		Soils and Topography						Hydrological and Aquatic Resources					Vegeta-tion		Wildlife						Cult-ural Heri-tage	Socio-Econo-mic	Human Health
		A-1	A-2	S-1	S-2	S-3	S-4	S-5	S-6	H-1	H-2	H-3	H-4	H-5	V-1	V-2	W-1	W-2	W-3	W-4	W-5	W-6	C-1	SE-1	HH-1
General Activities	Materials handling and storage	Y					Y					Y	Y	Y	Y					Y				Y	
	Equipment operation and maintenance	Y	Y		Y				Y	Y					Y	Y	Y			Y		Y		Y	
	Waste management							Y					Y	Y				Y						Y	
	Hazardous materials management and disposal								Y			Y												Y	
Site Preparation	Site investigation	Y	Y		Y		Y		Y	Y	Y	Y			Y	Y	Y			Y	Y	Y	Y	Y	Y
	Vegetation clearing		Y	Y	Y		Y			Y		Y			Y	Y	Y		Y	Y	Y			Y	
	Grading, excavating, and/or material stripping	Y	Y	Y	Y		Y		Y	Y	Y	Y			Y	Y	Y			Y		Y	Y	Y	Y
	Dewatering of excavations		Y							Y	Y	Y					Y							Y	
Buildings	Construction	Y	Y			Y				Y		Y	Y				Y		Y				Y	Y	
	Demolition	Y	Y			Y			Y	Y		Y					Y						Y	Y	
Utilities	Underground line installation	Y	Y		Y	Y	Y					Y				Y	Y			Y		Y	Y	Y	
	Aboveground line installation		Y		Y	Y											Y		Y				Y	Y	
	Abandonment/ decommissioning		Y		Y	Y					Y	Y					Y		Y						
Roads, Parking Lots, Sidewalks and Trails	Surfacing	Y	Y						Y	Y		Y					Y							Y	
	Sub-grade excavation	Y	Y			Y	Y			Y		Y		Y		Y	Y							Y	
	Sidewalk/trail construction	Y	Y		Y		Y			Y		Y			Y		Y		Y	Y			Y	Y	
Vegetation Management*	*see Vegetation clearing																								
Site Rehabilition	Landscaping	Y	Y	Y			Y			Y		Y	Y			Y	Y							Y	

Table 5.3 Environmental Effects and Mitigation Measures of Routine Frontcountry Projects by Physical Activity: General Activities

Environmental Component	Code	Description of Effect	Mitigation
Air Quality and Noise	A-1	Decreased ambient air quality	• Minimize idling of vehicles. • Stabilize soil and other material storage piles against wind erosion. • Cover and contain fine particulate materials during transportation to and from the site. • Minimize vehicle traffic on exposed soils. • Wet down exposed soil and dry areas.
	A-2	Increased ambient noise levels	• Confine "noise" activities to daylight hours.
Soils and Topography	S-2	Soil compaction and rutting	• Use existing roadways or disturbed areas to access and travel within the site. • Identify and avoid soils susceptible to compaction (e.g. fine textured and organic soils). • In sensitive areas, use equipment of low bearing weight, low PSI (Pounds per Square Inch) tires or tracked vehicles. • Store construction materials in one area of the site. Flag clearly to reduce the area of disturbance and limit soil compaction.
	S-4	Loss of topsoil, topsoil and subsoil mixing, soil erosion, slope instability	• Avoid equipment operation on steep or unstable slopes. • Keep site clearing to a minimum to maintain vegetative cover. • Phase work to minimize exposure of disturbed areas. • Direct runoff and overland flow away from working areas and areas with exposed soils. • If a prolonged period of exposure is expected, protect exposed soils with temporary cover (e.g. mulch, gravel, erosion blanket, vegetative cover) • Halt activity on exposed soils during periods of high rainfall and runoff • Assess site for erosion control requirements and implement control measures as required (e.g. tarps, straw bales, erosion blankets, silt fencing) • Store topsoil separately from subsoil and other construction materials. • Cover stockpiles of soil with polyethylene sheeting, tarps or vegetative cover.
	S-5	Loss of organic matter/soil sterilization due to intense burning	• Salvage as much timber as possible for other uses (e.g. firewood). • Locate burn piles on previously disturbed areas. • Limit size of burn piles to reduce intensity of fire.

Environmental Component	Code	Description of Effect	Mitigation
	S-6	Soil contamination due to leaks or accidental spills	• Ensure machinery is in good working order and free of leaks. • Identify and handle all toxic/hazardous materials as required under the Canadian Environmental Protection Act, Transportation of Dangerous Goods Act and Workplace Hazardous Materials Information Service. • Prepare an appropriate Spill Response Plan. • Ensure spill containment equipment is on hand and personnel are trained in its use. • Report all spills to Banff Dispatch at (403) 762-1473. • Store fuel and hazardous materials in a berm or secondary containment designed to contain 125% of the product's volume. Ensure other materials are stored appropriately to prevent spills. • Designate refuelling areas on hardened surfaces at least 100 m away from water bodies. • Clean up all spills immediately, as per the Spill Response Plan. If contamination is found, cease work and inform the site supervisor or environmental surveillance officer. • Dispose of contaminated soil at provincially certified disposal sites outside of the field unit. Documentation confirming proper disposal must be provided to Parks Canada. • Remove waste oil-based paints from the park in accordance with the federal and provincial *Transportation of Dangerous Goods Act* and Regulations.
Hydrological and Aquatic Resources	H-1	Adverse modifications to surface drainage patterns	• Locate staging areas away from drainage features.
	H-3	Reduced water quality and clarity due to increased erosion, sedimentation, transport of debris, point or non-point sources of pollution	• To minimize site run-off, control overland flow up gradient and down gradient of exposed areas (i.e. using diversion ditches, vales, vegetative filter strips and/or sediment traps). • Store stockpiles (covered) a minimum of 2 m from embankments, slumps and water bodies to prevent material loss or degradation. • Filter or settle out sediment before the water enters any drainage pathway. • Periodically inspect erosion control structures for effectiveness. If not effective, will be replaced by different mitigation measure. • Halt activity on exposed soil during events of high rainfall and runoff. • Refuel at least 100 m from all waterbodies (including wetlands). • Do not store fuels, oils, solvents, and other chemicals overnight within 100 m of a waterbody. • Ensure cleared vegetation does not enter watercourses.

Environmental Component	Code	Description of Effect	Mitigation
			• See spill control measures under S-6.
			• Do not place or allow to disperse any rock, silt, cement, grout, asphalt, petroleum product, lumber, vegetation, domestic waste, or any deleterious substance into any waterbody, stormwater system or sanitary sewer.
	H-4	Introduction of nutrients into waterbodies	• Locate burn piles a minimum of 30 m from watercourses.
	H-5	Physical alteration of waterbody substrates	• Store stockpiles (covered) a minimum of 2 m from water bodies to prevent material loss.
Vegetation	V-1	Damage to and/or removal of vegetation	• Operate machines carefully to avoid damaging surrounding vegetation. • Ensure excavated material does not damage or bury plant material that is to be retained on the site or in adjacent areas. Store excavated soils and construction materials in a well-defined area. Use tarps and/or snow fences to limit damage to vegetation. • Install fencing around trees to be retained beyond the trees' drip line. • Reclaim and revegetate the site (including temporary access roads, staging and storage areas) as soon as possible following the project. • Identify and avoid areas with rare plants or valued vegetation features.
	V-2	Introduction of non-native invasive plant species	• Clean construction equipment before entering the park. • Revegetate with Parks Canada recommended seed mix. Contact the Environmental Assessment Office for the appropriate mix for the ecosite.
Wildlife	W-1	Sensory disturbance causing displacement/habitat avoidance	• Limit activities to daylight hours.
			• Limit activities during 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).
	W-2	Wildlife habituation/attraction to artificial food sources	• Keep site free of garbage and dispose of garbage in bear proof containers or remove daily from the site. • Educate workers that wildlife harassment or feeding is not permitted. • Communicate potential problem and/or habituated wildlife to Parks Canada at (403) 762-1473. • Store hazardous chemicals (e.g. antifreeze) that might be attractants in animal proof containers.
	W-4	Loss of habitat	• Retain vegetation where possible, especially trees and shrubbery.

Environmental Component	Code	Description of Effect	Mitigation
	W-6	Decreased wildlife abundance due to direct mortality	• Observe local speed limits.
Socio-Economic Conditions	SE-1	Disruption to park visitors, residents and businesses due to increased noise and traffic, changes in air, water quality and aesthetics	• Evaluate site layout, access routes and construction activities to minimize their visual impact. • Limit noise-producing activities to daylight hours. • Outline traffic control measures and assess the need for flagging personnel. • Store materials within the confines of the work site.

Table 5.4 Environmental Effects and Mitigation Measures of Routine Frontcountry Projects by Physical Activity: Site Preparation

Environmental Component	Code	Description of Effect	Mitigation
Air Quality and Noise	A-1	Decreased ambient air quality	• Avoid site preparation during dry and windy periods.
	A-2	Increased ambient noise levels	• Confine "noise" activities to daylight hours.
Soils and Topography	S-1	Changes in slopes, landforms and landscape diversity	• Assess slope stability (based on slope length, soil texture, steepness, soil depth). Adjust activities to avoid these areas if possible (particularly where slopes are 15 degrees or greater and where soils are shallow and likely to move with disturbance). • Hand clear on steep slopes that do not require grading. Wait to clear steep slopes until immediately before scheduled construction and reclaim immediately afterwards. • Use appropriate geo-technical control measures to stabilize slopes.
	S-4	Loss of topsoil, topsoil and subsoil mixing, soil erosion, slope instability	• Clear minimum area necessary. Where possible, leave stumps and roots in place. • Stabilize slopes as appropriate for local site conditions. Possible methods include: armor stones, crib walls, erosion control blankets, etc. • Create interceptor swales to divert runoff from the top of erodable slopes. • Minimize the amount of time that excavations and trenches remain open. • Dewater all excavations, but not directly into a waterbody.
	S-6	Soil contamination due to leaks or accidental spills	• If any contamination is uncovered during excavation, investigate and identify the source, properly remove the contaminated soil and dispose of it in a certified landfill.

Environmental Component	Code	Description of Effect	Mitigation
Hydrological and Aquatic Resources	H-1	Adverse modifications to surface drainage patterns; stormwater runoff volumes and rate of runoff; stream or shoreline morphology; water flow volumes, levels and rates	• Properly seal boreholes as per provincial standards. • Maintain effective surface drainage upon completion of the project, which may include re-establishment of, or improvement to, the original site drainage. • Minimize changes to the ground surface that affect its infiltration and runoff characteristics. • Retain vegetated buffer around waterbodies.
	H-2	Changes in groundwater flow patterns, recharge and levels	• Avoid intercepting aquifers when drilling or excavating. • Maintain surface drainage, ponding, existing soil and groundcover conditions in groundwater recharge areas.
	H-3	Reduced water quality and clarity due to increased erosion, sedimentation, transport of debris, point or non-point sources of pollution	• Dewatering directly into a waterbody, sanitary or stormwater system is not permitted. Sediment must settle out or be filtered before water from an excavation is allowed to enter a drainage pathway. • Dewatering onto vegetated areas is permitted provided that water velocity is controlled to dissipate energy, prevent soil erosion and allow for infiltration, and dewatering structures are continuously monitored to ensure no damage is being done to soil or vegetation. • Minimize clearing, grubbing and grading near water bodies.
Vegetation	V-1	Damage to and/or removal of vegetation	• During grubbing and stripping, minimize damage to trees and roots on the edge of the cleared area. • Minimize area cleared. Clearly mark area to be cleared with flagging tape and/or temporary fencing. • Salvage and replant shrubs and small trees. • Cut trees so that they fall within the cleared perimeter.
Wildlife	W-4	Loss of habitat (food and cover)	• Retain vegetation where possible, especially trees and shrubbery.
	W-5	Damage to nests and/or disruption of nesting birds, disruption of denning animals	• Conduct any clearing outside of the nesting season for migratory and resident birds known to breed in the area. Owls and corvids may begin nesting from February onwards. Songbirds generally nest from May until mid-July. Some migratory raptors (e.g. osprey) rear their young well into August. • If clearing takes place during the breeding and nesting season, sweep for bird nests before commencing work. Young birds must be allowed to fledge before nests are disturbed. • Check the area for dens before commencing work.

Environmental Component	Code	Description of Effect	Mitigation
	W-6	Decreased wildlife abundance due to direct mortality from physical activities	• Observe local speed limits. Drive during daylight hours. • Minimize the time boreholes or test pits remain open in order to reduce small terrestrial wildlife mortality. Properly seal boreholes and fit PVC pipes. • Fence excavations to prevent injury to wildlife. • Investigate for presence of amphibians in manholes before commencing work.
Cultural Heritage	P-1	Loss or disruption of heritage, archaeological and paleontological features	• If any artefacts are uncovered, stop work until a Parks Canada archaeologist is consulted.
Human Health	HH-1	Injuries to public and workers arising from a change in the environment	• All trenches or ditches left unattended overnight must be fenced.

Table 5.5 Environmental Effects and Mitigation Measures of Routine Frontcountry Projects by Physical Activity: Buildings

Environmental Component	Code	Description of Effect	Mitigation
Soils and Topography	S-6	Soil contamination	• When building demolition is required, check for hazardous materials (e.g. asbestos, PCB's, etc.).
Hydrological and Aquatic Resources	H-3	Reduced water quality and clarity due to increased erosion, sedimentation, transport of debris, point or non-point sources of pollution	• Backfill and compact excavations as soon as possible. Optimize degree of compaction to minimize erosion and allow for revegetation.
	H-4	Introduction of nutrients to waterbodies	• Wastewater disposal systems must meet the Alberta Private Sewage Systems Standard of Practice (1999).
Wildlife	W-3	Impeded/altered wildlife movement due to encroachment on wildlife movement corridors	• Evaluate the need for permanent fences. • Construct fences and orient in such a manner to reduce impacts on wildlife movement. Consult Wildlife Specialist to determine appropriate fence design and location.

Environmental Component	Code	Description of Effect	Mitigation
Cultural Heritage	P-1	Loss or disruption of heritage, archaeological and paleontological features	• All buildings over 40 years old, including picnic shelters, must be reviewed by FHBRO prior to disposal or renovation. • Replacement should only occur when the major part of an element is decayed beyond repair. • The substitution of maintenance-free materials such as aluminium, fibreglass or vinyl for existing materials is not recommended. • The design of additions or alterations to a building must respect its heritage character. • Where the integrity of the relationship between a building and its associated landscape is relatively unaltererd, strong efforts should be made to retain this relationship and the materials that contribute to it. • Consult the FHBRO Code of Practice for complete details.

Table 5.6 Environmental Effects and Mitigation Measures of Routine Frontcountry Projects by Physical Activity: Utilities

Environmental Component	Code	Description of Effect	Mitigation
Soils and Topography	S-3	Ground subsidence from soil thaw, poor excavation and backfilling practices; ground surface mounding/structure movement	• Ensure backfilling is undertaken using suitable materials free of ice and frozen soils and that adequate soil compaction is conducted to avoid ground subsidence. • Provide additional backfill where subsidence has occurred. • In areas with high groundwater levels, ensure that soils susceptible to frost heave (generally fine sands to silty soils) are not used for backfill.
	S-4	Loss of topsoil, topsoil and subsoil mixing, soil erosion	• Install trench breakers of impervious material to direct groundwater seepage to the surface. • Minimize the length of exposed trench and the exposure time. • Use interceptor ditches or berms (bales) upgradient of construction to divert overland flow around exposed soil surfaces. • Line steep ditches with filter fabric, rock or polyethylene lining to prevent channel erosion.

Environmental Component	Code	Description of Effect	Mitigation
			• Delay trenching until just prior to pipe installation.
Hydrological and Aquatic Resources	H-2	Changes in groundwater flow patterns, recharge and levels	• Pipes to be abandoned must be pressure tested for leaks and sealed with no part of the line exposed above the surface.

Table 5.7 Environmental Effects and Mitigation Measures of Routine Frontcountry Projects by Physical Activity: Roads, Parking Lots, Sidewalks and Trails

Environmental Component	Code	Description of Effect	Mitigation
Soils and Topography	S-6	Soil contamination	• Do not use oil-based dust suppressants. • Paints with minimal amounts of potentially harmful substances, particularly water soluble organic chemicals, lead and other metals, are preferred. Rust inhibiting paints should be chosen over barrier types of paints do reduce the total volume of paint required over the long-term. • Hand painting is preferred over spray painting. Where sprayers are used, they must be properly adjusted and shielded to minimize the amounts of paint lost to overspray. • Do not spray in high winds.
Hydrological and Aquatic Resources	H-3	Reduced water quality and clarity due to increased erosion, sedimentation, transport of debris, point or non-point sources of pollution	• Apply seal coat to dry surface only and not prior to (within 24 hours) or during rainfall.

Table 5.8 Environmental Effects and Mitigation Measures of Routine Frontcountry Projects by Physical Activity: Site Restoration/Reclamation

Environmental Component	Code	Description of Effect	Mitigation
Hydrological and Aquatic Resources	H-4	Introduction of nutrients to waterbodies	• Limit use of fertilizer to re-establish groundcover. • Avoid use of fertilizer in proximity to, or where runoff may enter a waterbody or drainage pathway.
Vegetation	V-2	Introduction of non-native invasive plant species	• Use certified weed free topsoil. If clean topsoil is not available, monitor the site for three years following landscaping and control for weeds. • Revegetate with Parks Canada recommended seed mix. Contact the Environmental Assessment Office for the appropriate mix for the ecosite.

5.3 Accidents and Malfunctions

The potential environmental effects of accidents and malfunctions are among the potential environmental effects listed in Table 5.1. Accidents and malfunctions generally fall into four main categories: vehicle collisions, fire, structural failures and spills and/or leaks. The potential environmental effects of these events are: reduced air quality, soil contamination and sterilization, impacts to water quality and nutrient loading, damage to vegetation, loss of heritage features, disruption to park visitors, residents and businesses, and human injury. No significant adverse environmental effects on the project resulting from the accidents/malfunctions are likely with proper implementation of the identified mitigations measures in Tables 5.3 to 5.6. For example, observing local speed limits and ensuring access routes are well defined can reduce vehicle collisions. Fires can be prevented through proper on-site storage of hazardous materials and regular maintenance of equipment.

5.4 Effects of the Environment on the Project

Under the Act, an environmental assessment must consider the potential effects the environment may have on the project as part of the assessment of effects. Weather-related events, such as extreme rainfall, flooding, wildfire, extreme winds and landslides, may damage physical works and delay project activities. Most of the environmental effects of these events as they relate to routine projects (e.g. increased run off from the work site causing sedimentation) are anticipated in this report. No significant adverse environmental effects on the project resulting from the existing environment are likely with proper implementation of the identified mitigation measures described in Tables 5.3 to 5.6

5.5 Significance of Likely Potential Environmental Effects

This section assesses the significance of the environmental effects of routine frontcountry projects following implementation of the mitigation measures recommended in the MCSR. The following criteria were used to assess the significance of each effect: magnitude, geographic extent, duration, frequency and reversibility. Table 5.8 illustrates how these criteria were defined. The criteria are then used to assess the significance of each potential environmental effect in Table 5.9.

With application of mitigation measures, most of the environmental effects of routine frontcountry projects can be successfully reduced to the level where they are negligible - they are expected to be low in magnitude, geographic extent, frequency, duration and reversibility. For example, with proper mitigation, most of the effects of heavy equipment operation on soils (e.g. compaction/rutting, loss of topsoil, soil contamination) can be avoided during construction. Likewise, most of the potential environmental effects on aquatic ecosystems (e.g. siltation of waterbodies, contamination) can be avoided by implementing the mitigation measures proposed in Tables 5.3 to 5.7. Habituation of wildlife, disruption of nesting and denning animals and wildlife mortality

can also be prevented by following the mitigation measures presented in the previous section.

Table 5.9 Definitions of Criteria used to Assess Significance of Potential Environmental Effects Following Mitigation

Criterion	Level	Definition
Magnitude	Low	There is little discernable change from background conditions
	Moderate	Change is above background conditions, but within thresholds and range of natural variability
	High	Change exceeds thresholds and causes changes beyond the range of natural variability
Geographic Extent	Low	Impacts restricted to site
	Moderate	Impacts extend beyond site, but remain within local area
	High	Impacts extend beyond the local area
Frequency	Low	Occurs once
	Moderate	Occurs more than once or intermittently
	High	Occurs often or continuously
Duration	Low	Impact limited to the construction period
	Moderate	Impact extends beyond the construction period
	High	Impact occurs for the operation/lifetime of the facility
Reversibility	Low	Effect reverses when activity ceases
	Moderate	Effect may be reversed over time
	High	Effect cannot be reversed

Table 5.10 Definitions of Significance Levels

Significance Level	Definition
Negligible	Those environmental effects which, after taking into consideration applicable mitigation measures have been assessed to have a "low" level of significance for the majority (i.e. at least 3 out of 5) of the criteria described above, and have not been assessed to be "moderate" or "high" in either the "magnitude" or "reversibility" category. Overall, these effects are not likely to be measurable or noticeable beyond the project site / footprint boundary, are only evident during the site preparation, construction or decommissioning of the project or occur only once, and are completely reversible within a short period of time.
Minor Adverse	Those environmental effects which, after taking into consideration applicable mitigation measures have been assessed to have a "low" or "moderate" level of significance for the majority of the criteria described above. Any effect that has been assessed as "moderate" for either "magnitude" and/or "reversibility" is considered to be a minor adverse effect (not significant).
Significant	Those environmental effects which, after taking into consideration applicable mitigation measures, have a magnitude that is "high" and exhibit any or all of the following: effect extends into areas beyond those adjacent to the project site/footprint boundary; effect is evident beyond the life of the project; effect occurs at regular or frequent intervals; and effect is permanent.

Table 5.11 Significance of Potential Environmental Effects of Routine Frontcountry Projects Following Mitigation

Environmental Component	Code	Likely Environmental Effects	Significance Criteria					Significance of Effect
			Magnitude	Geographic Extent	Frequency	Duration	Reversibility	
Air Quality and Noise	A-1	Decreased ambient air quality	M	L	M	L	L	Minor Adverse Effect
	A-2	Increased ambient noise levels	M	L	M	L	L	Minor Adverse Effect
Soils and Topography	S-1	Changes in slopes, landforms and landscape diversity	L	L	L	H	M	Minor Adverse Effect
	S-2	Soil compaction and rutting	L	L	L	L	L	Negligible
	S-3	Ground subsidence and ground surface mounding/structure movement	L	L	L	L	L	Negligible
	S-4	Loss of topsoil, topsoil and subsoil mixing, soil erosion, slope instability	L	L	L	L	L	Negligible
	S-5	Loss of organic matter / soil sterilization	L	L	L	L	L	Negligible
	S-6	Soil contamination	L	L	L	L	L	Negligible
Hydrological and Aquatic Resources	H-1	Adverse modifications to surface drainage patterns; stormwater runoff volumes and rate of runoff; stream or shoreline morphology	M	L	L	H	M	Minor Adverse Effect
	H-2	Changes in groundwater flow patterns, recharge and levels	M	L	L	L	L	Minor Adverse Effect
	H-3	Reduced water quality and clarity	L	L	L	L	L	Negligible
	H-4	Introduction of nutrients into waterbodies	L	L	L	L	L	Negligible
	H-5	Physical alteration of waterbody substrates	L	L	L	L	L	Negligible
Vegetation	V-1	Damage to and/or removal of vegetation	M	L	M	H	M	Minor Adverse Effect
	V-2	Introduction of non-native invasive plant species	L	L	L	L	L	Negligible
Wildlife	W-1	Sensory disturbance causing displacement/habitat avoidance	M	L	M	L	L	Minor Adverse Effect

Environmental Component	Code	Likely Environmental Effects	Significance Criteria					Significance of Effect
			Magnitude	Geographic Extent	Frequency	Duration	Reversibility	
	W-2	Wildlife habituation/attraction to artificial food sources	L	L	L	L	L	Negligible
	W-3	Impeded/altered wildlife movement due to encroachment on wildlife movement corridors, creation of barriers to wildlife movement, habitat fragmentation	L	L	L	L	L	Negligible
	W-4	Loss of habitat	M	L	M	H	M	Minor Adverse Effect
	W-5	Damage to nests and/or disruption of nesting birds	L	L	L	L	L	Negligible
	W-6	Decreased wildlife abundance due to direct mortality from physical activities	L	L	L	L	L	Negligible
Physical and Cultural Heritage	P-1	Loss or disruption of heritage, archaeological and paleontological features	L	L	L	L	L	Negligible
Socio-Economic Conditions	SE-1	Disruption to park visitors, residents and businesses due to changes in the environment	L	L	L	L	L	Negligible
Human Health/Public Safety	HH-1	Injuries to public and workers arising from a change in the environment	L	L	L	L	L	Negligible

5.6 Residual Environmental Effects

Residual environmental effects are those effects that are likely to occur even once mitigation measures have been implemented. With the application of mitigation measures, most of the activities related to routine frontcountry projects are not expected to have any residual environmental effects. However, some environmental effects cannot be eliminated entirely through mitigation measures. The majority of these effects will only be evident while construction activities are ongoing and the effects will disappear on their own once the activities cease.

Temporary residual environmental effects include:

Air quality: Even with reductions in idling and the implementation of dust control measures, air quality in the project area is likely to be reduced during the construction phase of the project. This effect is a Minor Adverse Effect: moderate in magnitude and frequency, but low in geographic extent, duration and reversibility.

Ambient Noise / Wildlife Disturbance: Although an increase in ambient noise in the project area can be reduced by limiting the hours during which construction activities take place to daylight hours, there is likely to be some sensory disturbance to wildlife above and beyond the levels normally found at the facility. However, given the high levels of visitor use at most frontcountry areas, it is likely that most wary wildlife already avoid these areas and that wildlife that do frequent these areas have already developed some tolerance for human disturbance. This effect was rated a Minor Adverse Effect: moderate in magnitude and frequency, but low in geographic extent, duration and reversibility.

Groundwater Flows: Dewatering can cause changes in groundwater flows that last until dewatering ceases. This effect was rated a Minor Adverse Effect: moderate in magnitude, but low in geographic extent, frequency, duration and reversibility.

Other environmental effects of routine frontcountry projects are more permanent in nature. Changes to landforms and surface drainage patterns, and the removal of vegetation and consequently habitat, are effects that may last beyond the construction phase of the project. Longer-term alteration of ecosystem components may have more serious impacts on the viability of plant and wildlife populations, to give a few examples. However, since all of these projects will take place within a previously disturbed footprint, adverse effects will be smaller in magnitude than they would be in an undisturbed setting.

Changes to Landforms: Slopes and other landforms may be permanently regraded to accommodate new buildings or other structures. These are very small changes compared with the large-scale, protracted geological processes that typically govern landforms in the mountain parks. Additionally, landforms in most frontcountry areas have been previously disturbed and work on slopes will be avoided as much as possible to minimize

soil erosion and chronic slope instability or slumping. This effect is a Minor Adverse Effect: low in magnitude, geographic extent and frequency, but high in duration and moderate in reversibility.

Modifications to Surface Drainage: Surface drainage can be altered when a site is regraded and impermeable surfaces such as asphalt or a new building are installed. Altered drainage patterns can promote unwanted soil erosion, and if water from the site enters a watercourse directly, there may be adverse effects on aquatic ecosystems downstream of the project. These effects will last for the lifetime of the new facility, but can be mitigated through careful pre-planning (i.e. grading the site to direct drainage away from watercourses, maintaining vegetation on-site, minimizing compaction or other changes to the ground surface that affect infiltration). This effect is a Minor Adverse Effect: low in geographic extent and frequency, moderate in magnitude and reversibility, and high in duration.

Vegetation Removal and Habitat Loss: The removal of vegetation can reduce the amount of habitat available to wildlife. Frontcountry areas are typically heavily visited sites, so that the effectiveness of available habitat is already limited. Limiting the amount of vegetation that is cleared, controlling where materials are stored and how equipment accesses the site, and revegetating the site when the project is complete can mitigate habitat loss. This effect is a Minor Adverse Effect: low in geographic extent, moderate in frequency, magnitude and reversibility, and high in duration.

5.7 Cumulative Effects

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 routine projects which are included in class screenings are typically those with minor and easily mitigable effects, and therefore do not make a significant contribution to cumulative effects. Frontcountry MCSR project activities are generally localized, of short duration and are predicted to have negligible to minor adverse effects that are largely mitigable. Such projects are not likely to contribute in a significant way to cumulative effects.

All projects covered by the MCSR comply with the direction in the Banff, Yoho and Kootenay National Park Management Plans. Strategic environmental assessments of these plans were conducted by Parks Canada. They concluded that projects that conform to the plans would not contribute to significant cumulative effects.

Direction in the management plans regarding frontcountry areas is to "continue to provide the existing day-use facilities and services" and "to make changes to existing infrastructure as required" (Parks Canada 2003, p.39). "Minor changes to facilities and services" will be allowed "to address changing visitor needs, public safety, educational opportunities, and ecological issues" (Parks Canada 2000b, p.34). The projects covered by this MCSR are required to meet this direction.

Projects that fall outside of this direction, such as the expansion of frontcountry facilities, are not covered by this class screening (as described in Section 2.3). Projects that have the potential to impact sensitive resources, and therefore make a greater contribution to cumulative effects will be excluded from the class screening process. In order to facilitate a practical determination of the potential for cumulative effects using available information, this MCSR has examined the following datasets (see Chapter 4.0):

- Environmentally Sensitive Sites;
- Park zoning;
- Species at risk;
- Amphibian sites;
- Proximity to waterbodies;
- Heritage buildings; and
- Archaeological resources.

Many small activities within the same area have the potential to cause cumulative effects. For example, repeated incidents of sedimentation or contamination within a water body could result in a significant impact on aquatic ecosystems. Frontcountry areas are located within the busy Bow Valley corridor in proximity to transportation corridors such as the TransCanada Highway, the Icefields Parkway, the Kootenay Parkway and the Canadian Pacific Railway (CPR). 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 environmental effects, and to which routine frontcountry projects could add an incremental cumulative effect, include:

- Highway and secondary road operation and maintenance;
- The operation and maintenance of the Canadian Pacific Railway;
- Electrical power transmission and distribution line operation and maintenance;
- The operation and maintenance of outlying commercial accommodations; and
- Other Parks Canada activities such as fuel reduction and prescribed burns.

Cumulative environmental effects will be addressed in the CSPR form by identifying other projects and activities that may occur within the same geographical area and

temporal scale as the proposed frontcountry 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 CPSR.

5.8 Monitoring

Parks Canada staffs are the proponents for projects at the frontcountry facilities covered by this class screening. A Parks Canada surveillance officer will ensure that mitigations and any other conditions of the MCSR are implemented during the project. Parks Canada will ensure that work crews are familiar with the mitigation measures and any other conditions of approval of the MCSR. This may be accomplished through tailgate meetings or specialized training before the project begins.

Since the projects included in this MCSR are small in scale, routine and located within the boundaries of existing cleared and disturbed areas, long-term site-specific monitoring will not normally be required. Parks Canada staffs are responsible to audit construction sites to confirm compliance.

6.0 REVIEWING AND AMENDING THE MODEL CLASS SCREENING REPORT

6.1 Consultation and the Class Screening Process

During the development of this MCSR consultations were undertaken with the following:

- Local non-government environmental organizations were notified of the draft MCSR, and were requested to provide feedback.
- Environment Canada and the Department of Fisheries and Oceans were provided the draft MCSR to review and comment on prior to the submission of the final draft to the Agency.

Comments received during the entire process were considered and incorporated into the final draft report, as appropriate.

Following the submission of the final draft, the Agency conducted a 30-day public consultation on the MCSR. All comments received were taken into consideration and incorporated in to the final MCSR, as appropriate, prior to its declaration by the Canadian Environmental Assessment Agency

6.2 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 of environmental assessments in a timely manner. 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.

Note: The schedule for posting a statement is:

- July 15 - (for projects assessed from April 1 to June 30)
- October 15 - (for projects assessed from July 1 to September 30)
- January 15 - (for projects assessed from October 1 to December 31)

- April 15 – (for projects assessed from January 1 to March 31).

The project file component is a file maintained by the responsible authority during an environmental assessment. The project file must include a copy of the MCSR, including CSPRs and all records included on the Internet site. The responsible authority 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.

6.3 Amending the Model Class Screening Report

The MCSR is 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 intent 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 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.

7.0 PREPARATION OF INDIVIDUAL CLASS SCREENING REPORTS

7.1 Responsibilities and Timelines

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

- It is the responsibility of the Parks Canada staff proposing the project to prepare a CSPR form.
- It is the responsibility of the Parks Canada staff proposing the project to ensure that all the information provided in the CSPR form is accurate and said staff will be required to sign a statement to this effect. If the Environmental Assessment (EA) Office becomes aware that the proponent has provided inaccurate information, any approvals will be invalidated.

It is the responsibility of the Parks Canada EA 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 Parks Canada staff proposing the project 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 the reclassification will be provided within 14 days of submission of the CSPR form.

7.2 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 Parks Canada staff proposing the project to provide site-specific information necessary for the Parks Canada EA Office to reach a decision on project approval. This information will be provided through the completion of a CSPR form.

The CSPR form will be completed and submitted to the Parks Canada EA Office. Depending upon the expected environmental effects of the individual project, the project will either receive approval based on the information in the CSPR form, or receive a request to provide additional information or may 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 submission of the CSPR form, or notification of reclassification will be provided within 14 calendar days.

7.3 LLYK Frontcountry Class Screening Project Report Form

7.3.1 *Instructions for Completing the Class Screening Project Report Form*

The CSPR form is to be completed by Parks Canada staff, as the proponent of routine frontcountry projects, as described in Chapter 3.0 of the MCSR. Parts 1 to 3 of the form are to be completed by the Parks Canada staff proposing the project. These sections are to be submitted to the Parks Canada Environmental Assessment (EA) Office where Parts 4 to 7 will be completed. Information and forms can be obtained at the EA Office at the Lake Louise Warden Office.

If you have questions about completing Parts 1 to 3, please contact the EA Office at:

Environmental Assessment Office
Lake Louise, Yoho and Kootenay National Parks Field Unit
P.O. Box 213
Lake Louise, AB T0L 1E0
Phone : (403) 522-1222

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

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 within 14 days of submission of the form.

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: Mitigation measures for reducing impacts of project activities (Tables 5.3 to 5.7)
Attachment 2: Tables relating to sensitive resources (Tables 4.2 to 4.7)

Parts 1 to 3 are to be filled out by the Parks Canada staff proposing the project. 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 *CEAA*; 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 Parks Canada EA staff to determine if the proposed project requires an environmental assessment under the CEAA. It has been divided into four sub-sections covering: buildings and other structures; service lines; roads, parking lots, sidewalks, boardwalks and trails; and vegetation management. Please complete those sub-sections that apply to your project.

Who is the project being completed for?

Parks Canada Function:_____
Responsible Manager:_____

Who is the project manager, if different from above?

Name:_____
Position:_____Phone:_____

1. FACILITY

Please provide a summary description of your project on a separate sheet including a site plan showing the proposed development. The project description should include: all activities being carried out as part of the project (e.g. excavation, vegetation removal, dewatering, site rehabilitation, etc.); construction methods and materials to be used; and, project timeframes (i.e. when the work is scheduled to take place). A one-page site plan showing the area of disturbance and dimensions of structures is acceptable.

Buildings and Other Structures

a. Does your project involve (check all of the following that apply):
   i. The construction of a new structure ___YES___NO
   ii. The replacement of an existing structure ___YES___NO
   iii. The demolition of an existing structure ___YES___NO
   iv. The modification, maintenance or repair of an existing structure ___YES___NO
   v. A change in the method of sewage disposal or an

increase in the amount of sewage, waste or emissions ___YES___NO

vi. Creation of a need for related facilities such as parking spaces ___YES___NO

b. If your project involves the modification, maintenance or repair of an existing building, will it:

i. Increase the footprint or height of the structure ___YES___NO

i.i By approximately how much? _____

iii. Involve a heritage building ___YES___NO

c. If your project involves the construction or installation of an interpretive display or exhibit associated with an existing building, road, pull-off area or trail, will it require the expansion of any existing associated facilities?

___YES___NO

d. If your project involves the construction, installation, maintenance or repair of a sign, is the sign located:

i. Within an existing right-of-way ___YES___NO

ii. Less than 15 m from an existing building ___YES___NO

Service Lines

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

i. The construction of a new service line ___YES___NO

ii. The removal of contaminated soil ___YES___NO

iii. The abandonment of an existing service line ___YES___NO

iv. The maintenance or repair of an existing service line ___YES___NO

v. The modification of an existing service line ___YES___NO

vi. Risk of physical harm to mammals ___YES___NO

b. If your project involves the modification of an existing service line, will your project increase the carrying capacity of the water, sewer, gas, electricity or telephone service line? ___YES___NO

Roads, Parking Lots, Sidewalks, Boardwalks and Trails

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

i. The construction or installation of a new boardwalk, trail or sidewalk ___YES___NO

ii. The decommissioning of a road, parking lot, sidewalk, boardwalk or trail ___YES___NO

iii. The modification of a boardwalk, sidewalk or parking lot ___YES___NO

iv. The modification, maintenance or repair of a road or trail ___YES___NO

b. If your project is a road maintenance or repair project, will it involve:

i. The application of a dust control product or salt to a road ___YES___NO

ii. The application of a pest control product to areas adjacent to the road ___YES___NO

Vegetation Management

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

i. Hazardous tree removal ___YES___NO

ii. Clearing to maintain the view at a viewpoint ___YES___NO

2. SITE PREPARATION

(a) Will your project involve blasting or dredging? ____YES___NO

(b) Will your project involve surface or groundwater dewatering? __YES___NO

(c) Will your project involve excavation of contaminated soil or disposal of any hazardous materials? ____YES___NO

(d) If you answered yes to (a), (b), or (c) please provide details on a separate sheet.

3. EXCAVATION

a. Will your project require excavation? ___YES___NO

If YES, will it be (check all of the following that apply):

i. For geotechnical investigation? ___YES___NO

ii. For a building foundation? ___YES___NO

iii. For post or footing holes? ___YES___NO

iv. Outside the footprint of an existing building? ___YES___NO

v. Associated with work on a utility line? ___YES___NO

b. Will adjacent trees be affected? ___YES___NO

c. Will the excavated material be re-used on site? ___YES___NO

d. What is the total quantity of material to be excavated (specify units)? _____

4. RIGHT-OF-WAY (ROW)

a. Will a new right-of-way be required to accommodate your project? ___YES___NO

5. VEGETATION CLEARANCE

a. Will you be clearing any vegetation or cutting any trees? ___YES___NO

b. If yes, what quantity and type?_____

6**. POLLUTING SUBSTANCES**

a. If your project is a maintenance, modification, or repair project, will it result in the likely release of a polluting substance into a waterbody?
___YES____NO

b. Will it involve the application of oil or salt to a road, sidewalk or parking lot?
____YES___ NO

c. Will it 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 the questions above, 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 Parks Canada EA staff to determine if the proposed project could potentially impact any valued environmental or cultural components, and if it may cause any environmental effects not identified in the MCSR.

Sensitive Resources

a. Is your project located within 100 m of an Environmentally Sensitive Site or Zone I area (see Table 4.2 in Attachment 2)? ___YES___NO

b. Is your project located on undisturbed or undeveloped land? ___YES___NO

Species-at-Risk

a. Is your project located in a frontcountry area where there is potential to disrupt a species at risk (see Table 4.3 in Attachment 2)? ___YES___NO

Aquatic Resources

a. Is your project located within 100 m of an identified amphibian site (see Table 4.4 in Attachment 2)? ___YES___NO

b. Is your project located within 100 m of a waterbody (see Table 4.5 in Attachment 2)? ___YES___NO

Cultural Resources

a. Are there any archaeological resources within 100 m of the project site (see Table 4.6 in Attachment 2)? ___YES___NO

f. If your project involves maintenance, modification or disposal of an existing building:

i. What date was the building built?_____

The Western Canada Service Centre maintains a database with the dates of construction and FHBRO status of all the buildings in field unit. The database can be accessed at: http://westnet/intranet/calgary/cultural_resource/historical_services/Buildings.htm

ii. If the building is more than 40 years old, has it been evaluated by FHBRO (see Table 4.7 in Attachment 2)? ___YES___NO

iii. If you answered YES to question f(ii), is the building (circle the appropriate answer):

- recognized
- classified
- n/h

Soils/Landforms

a. Is your project located on land with steep or unstable slopes? ___YES___NO

b. Will your project require geotechnical investigation - drilling, soil sampling, test pitting - to determine the soil capacity, contamination, groundwater depth, etc.? ___YES___NO

Pollution

a. Will you be using any hazardous materials on-site? If yes, what?

_____

b. Has any investigative work been carried out 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 ____YES____NO____UNSURE

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

PART 3: MITIGATION MEASURES

This section is designed to identify what mitigation measures will be used to remove or reduce potential environmental effects. Please review the list of project specific mitigations listed in Attachment 1. ***In order to be in compliance with the model class screening, all mitigation measures identified in Attachment 1 that apply to your project must be implemented.***

a. Will any environmental mitigation measures be undertaken other than or in addition to those listed in Attachment 1? ___YES____NO

b. If you answer YES to Part 3(a), 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 the 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 environmental effects listed in Table 1? If so, please circle the applicable effects. **Refer to Tables 5.3-5.8 in Chapter 5 of the MCSR, and implement associated mitigation measures**.

b. Will the project cause any environmental or cultural/heritage effects that have not been identified in Table 1? ___YES___NO

Table 1: Potential project environmental effects from frontcountry projects

▪ Decrease in air quality ▪ Changes in landform ▪ Soil compaction ▪ Ground subsidence ▪ Soil erosion/slope instability ▪ Soil sterilization ▪ Soil and water contamination ▪ Alteration of surface and groundwater patterns ▪ Reduced water quality ▪ Alteration of substrates ▪ Damage/loss of vegetation ▪ Introduction of non-native species	▪ Wildlife sensory disturbance ▪ Habituation ▪ Encroachment on wildlife corridors ▪ Habitat loss ▪ Disruption of nests and dens ▪ Direct mortality ▪ Loss/damage to cultural resources ▪ Disruption to the public due to changes in the environment ▪ Risk to public safety

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

d. Are any site-specific mitigation measures required to address those effects in Section 4(c) and Table 2?
___YES___NO

e. If you answered YES in Part 4(d), briefly describe those mitigation measures in Table 2.

f. Will the standard and site-specific mitigation measures identified in Attachment 1 and Part 4(e) (Table 2) reduce the significance of the environmental effects of the

project? Please rate the level of significance for potential residual environmental effects in Table 2. (using the criteria provided in Table 5.8 of the MSCR).

If the level of effect is rated as significant, or if the environmental effects 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.

Table 2: Project Environmental Effects not Covered in the MCSR

Project Effects	Significance Rating[(a)]	Mitigation Measures[(b)]

[(a)]Negligible, Minor Adverse or Significant – see Table 5.8 in the MCSR for definitions of these environmental effects.
[(b)]Standard and additional mitigation measures as described in Table 2 will be attached as conditions of project approval.

If the environmental effect is rated as significant, or if the effects are not adequately addressed through the CSRP, the project is not suitable for the MCSR and will require an individual environmental assessment.

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 frontcountry maintenance been identified as contributing to cumulative environmental effects in that they may interact or contribute to the environmental effects of the proposed frontcountry project? ___YES___NO

b. If YES, please identify those activities by completing Table 3 (circle the relevant projects/activities).

Table 3. Potential External Contributors to Cumulative Effects

Potential External Contributors to Cumulative Effects
▪ Highway and secondary road operation and maintenance

▪ Operation and maintenance of the Canadian Pacific Railway ▪ Electrical power transmission, pipeline, communication, and distribution line operation and maintenance ▪ Operation and maintenance of outlying commercial accommodations ▪ Other Parks Canada activities (e.g. prescribed burns, trail maintenance)

c. Will the project contribute to any cumulative effects listed in Table 4? If so, please circle the applicable effects. **Refer to Tables 5.3-5.8 in Chapter 5 of the MCSR, and implement associated mitigation measures**.

d. Will the project contribute to any cumulative effects that have not been identified in Table 4? ___YES___NO

Table 4. Potential cumulative effects from frontcountry projects

▪ Decrease in air quality ▪ Changes in landform ▪ Soil compaction ▪ Ground subsidence ▪ Soil erosion/slope instability ▪ Soil sterilization ▪ Soil and water contamination ▪ Alteration of surface and groundwater patterns ▪ Reduced water quality ▪ Alteration of substrates ▪ Damage/loss of vegetation ▪ Introduction of non-native species	▪ Wildlife sensory disturbance ▪ Habituation ▪ Encroachment on wildlife corridors ▪ Habitat loss ▪ Disruption of nests and dens ▪ Direct mortality ▪ Loss/damage to cultural resources ▪ Disruption to the public due to changes in the environment ▪ Risk to public safety

e. If you answered YES in Part 5(d), briefly describe those cumulative effects in Table 5.
f. Are any mitigation measures not identified in Attachment 1 required to address those impacts identified in Part 5(e)? ___YES___NO
g. If you answered YES in Part 5(f), briefly describe those mitigation measures in Table 5.
h. Will the standard and site-specific mitigation measures identified in Attachment 1 and Part 4(e) (Table 2) reduce the significance of the cumulative effects of the project? Please rate the significance level of the potential residual cumulative effects in Table 5 (using the criteria provided in Table 5.8 in the MCSR).

Table 5: Cumulative Environmental Effects not Covered in the MCSR

Project Effects	Significance Rating[(a)]	Mitigation Measures[(b)]

[(a)]Negligible, Minor Adverse or Significant – see Table 5.8 in the MCSR for definitions of these environmental effects
[(b)]Standard and additional mitigation measures as described in Table 2 will be attached as conditions of project approval.

If the cumulative environmental effect is rated as significant, or if the effects are not adequately addressed through the CSRP, the project is not suitable for the MCSR and will require an individual environmental assessment

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

Species listed in Schedule 1 of SARA include:

- American badger "jeffersonii"
- Woodland caribou
- Western toad
- Rubber boa

Species recognized as "at risk" by COSEWIC:

- Wolverine
- Grizzly bear
- Cutthroat trout

If YES, consult with the Parks Canada Wildlife or Aquatics Specialist to determine if the project may proceed.

PART 7: DECISION STATEMENT

Is the project likely to cause significant environmental effects if all of the mitigation measures are followed (based on the following criteria: magnitude, geographic extent, frequency, duration and reversibility)?

____YES. The project is likely to cause significant adverse environmental effects- ***project is not approved***.

____NO. The project is not likely to cause significant adverse environmental effects- ***project is approved***.

____ **A**dditional mitigation measures attached.

APPROVAL SIGNATURE:

Screening reviewed by (print name):	Environmental Assessment Office
Signature:	Date:
Screening approved by (print name):	Position:
Signature:	Date:

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

8.0 References

Achuff, P.L., Holland, W.D., Coen, G.M. and K. Van Tighem (eds.). 1984. Ecological land classification of Kootenay National Park, British Columbia. Volume I: Integrated resource description. Alberta Institute of Pedology Publication M-84-10.

Achuff, P.L., Taylor, W.S., Knapik, L.J., Wallis, C., Wershler, C. and J. Salt. 1996. Ecological land classification of Yoho National Park, British Columbia. Volume I: Integrated resource description. Department of Canadian Heritage.

Alberta's Endangered Species Conservation Committee. (2003). Species currently listed under the Wildlife Act. Last reviewed/updated on August 20, 2003. Retrieved on January 20, 2005 from: http://www3.gov.ab.ca/srd/fw/escc/aaisar_1.html

Apps, C.D. 2003. Ecology and Conservation of Canada Lynx in the Southern Canadian Rocky Mountains (Version 1.0). Prepared for Habitat Conservation Trust Fund, Columbia Basin Fish and Wildlife Compensation Program, Parks Canada and BC Ministry of Environment, Lands and Parks. Southern Canadian Rockies Lynx Project, Calgary, Alberta.

Austin, M. 1998. Wolverine Winter Travel Routes and Response to Transportation Corridors in Kicking Horse Pass Between Yoho and Banff National Parks. MSc Thesis. Faculty of Environmental Design, University of Calgary, Alberta. 40pp.

Brewin, M. K. (1994). 1993 Fishery investigations in the Upper Bow River system, Banff National Park, Alberta. Banff National Park, Ecosystem Management, AB.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2003. COSEWIC Assessment and Status Report-Rubber Boa. Downloaded from http://www.sararegistry.gc.ca/status/showDocument_e.cfm?id=144 on October 5, 2005.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2002. COSEWIC Status Report-Western Toad. Downloaded from http://www.sararegistry.gc.ca/status/showDocument_e.cfm?id=226 on September 22, 2005.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2000. COSEWIC Assessment -Western Toad. Downloaded from http://www.sararegistry.gc.ca/status/showDocument_e.cfm?id=227 on September 22, 2005.

Corbett, P. 2003. Aquatic Fish and Fish Habitat Assessment for the Parks Canada Phase IIIB of the TCH Upgrade: Final Report. Prepared by Mirkwood Ecological Consultants Ltd. For Parks Canada. Calgary, AB.

Courtney, R., Lightle, D. and McPherson, G. (1998). A literature review of winter fish habitat requirements and a proposed winter water withdrawal system for the Pipestone River and Corral Creek. Prepared by EnviResource Consulting Ltd. for Skiing Louise Ltd., Calgary, AB.

Garshelis, D., Gibeau, M. and S. Herrero. 2005. Grizzly Bear Demographics in and around Banff National Park and Kananaskis Country, Alberta. Pages 26 to 47 *in* S. Herrero, editor. Biology, demography, ecology and management of grizzly bears in and around Banff National Park and Kananaskis Country: The final report of the Eastern Slopes Grizzly Bear Project. Faculty of Environmental Design, University of Calgary, Calgary, AB.

Gibeau, M. and S. Stevens. 2005. Grizzly Bear Response to Human Use. Pages 182 to 192 *in* S. Herrero, editor. Biology, demography, ecology and management of grizzly bears in and around Banff National Park and Kananaskis Country: The final report of the Eastern Slopes Grizzly Bear Project. Faculty of Environmental Design, University of Calgary, Calgary, AB.

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 AYXS Environmental Consulting Ltd. And the CEA Working Group for the Canadian Environmental Assessment Agency, Hull, Quebec.

Herrero, S., Gibeau, M., Garshelis, D., Benn, B., Theberge, J., Stevens, S., Stelfox, B., Nielsen, S., Proctor, M., Jevons, S., Cattet, M., and L. Felicetti. 2005. Summary: Eastern Slopes Grizzly Bear Project Final Report. Pages vii to xviii *in* S. Herrero, editor. Biology, demography, ecology and management of grizzly bears in and around Banff National Park and Kananaskis Country: The final report of the Eastern Slopes Grizzly Bear Project. Faculty of Environmental Design, University of Calgary, Calgary, AB.

Holland, W.D. and G.M. Coen (eds.). 1983. Ecological (biophysical) land classification of Banff and Jasper National Parks. Volume I: Summary. Alberta Institute of Pedology Publication M-83-2.

Kinley, T. and N. Newhouse. 2005. East Kootenay Badger Project Update 2004-2005 Update: Ecology, Translocation, Sightings and Communications. March 2005. Prepared by Sylvan Consulting Ltd., Invermere, BC.

Mayhood, D.W. and J. Paczkowski. (1993). Preliminary fall survey of fishes of the upper Bow River. Banff National Park, Banff AB.

Michel, S., Tucker, W. and A. Dibb. 2002. Wolverine Winter Ecology and Human Disturbance in the Lake Louise and Yoho National Park Areas: Season 1 (2001-2002) Final Report. Parks Canada Species at Risk Recovery Fund Project # SARRF 2-14. Parks Canada Agency, Kootenay, Yoho, Lake Louise Field Unit, Lake Louise, AB.

Mueller, C. 2000. Lake Louise Grizzly Bear Project. 1999 Year-end Progress Report and Preliminary Results. Prepared for Parks Canada. Or Mueller, C. 2001. Distribution of subadult and adult grizzly bears in relation to human development and human activity in the Bow River Watershed, Alberta. Thesis, University of Calgary, Calgary, AB.

Parks Canada. 1999a. Kootenay National Park Management Plan.

Parks Canada. 1999b. Yoho National Park Management Plan.

Parks Canada. 2003. Banff National Park Management Plan.

St. Clair, Robert. N.d. Rubber boas in Radium Hot Springs: Inventory of habitat, record of sightings, and suggestions for management. Report prepared for Parks Canada.

Tremblay, M. 2001. Wildlife Corridors in the Lake Louise Area, Alberta: A Multi-Scale, Multi-Species Management Strategy. Prepared for Parks Canada Agency, Kootenay, Yoho, Lake Louise Field Unit. Calgary, AB.