Kootenay Region

MANAGEMENT DIRECTION STATEMENT

September, 2004

for Ram Creek Ecological Reserve

Ministry of
Water, Land and Air
Protection
Environmental
Stewardship
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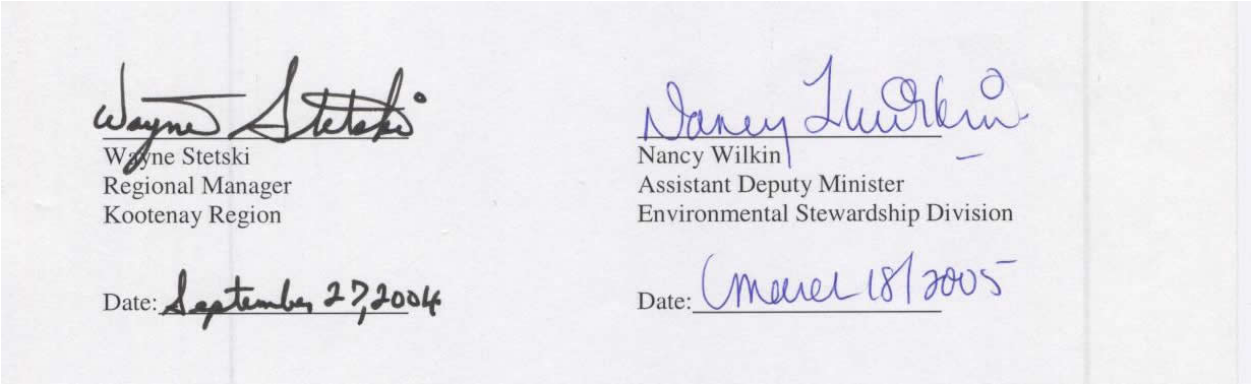
Ram Creek Ecological Reserve Approvals Page

Foreword

This management direction statement for Ram Creek Ecological Reserve provides management direction until such time as a more detailed management plan may be prepared. Ram Creek Ecological Reserve was established to protect a natural geothermal feature for scientific study and educational use.

Approvals:



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Regional Manager
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Date: September 27, 2004

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Date: March 18/2005

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Ram Creek Ecological Reserve
Management Direction Statement

Introduction

Purpose of the Management Direction Statement

Management direction statements (MDS) provide strategic management direction for protected areas that do not have a full management plan. MDS do not necessarily negate the need for future more detailed management plans. Management direction statements also describe protected area values, management issues and concerns; a management strategy focused on immediate priority objectives and strategies; and directional statements from other planning processes. While strategies may be identified in the MDS, the completion of all these strategies is subject to funding and funding procedures. In addition, all management strategies within the ecological reserve are subject to the Environmental Stewardship Division's Impact Assessment Policy. This management direction statement is intended to provide direction and guidelines for managing Ram Creek Ecological Reserve for the foreseeable future.

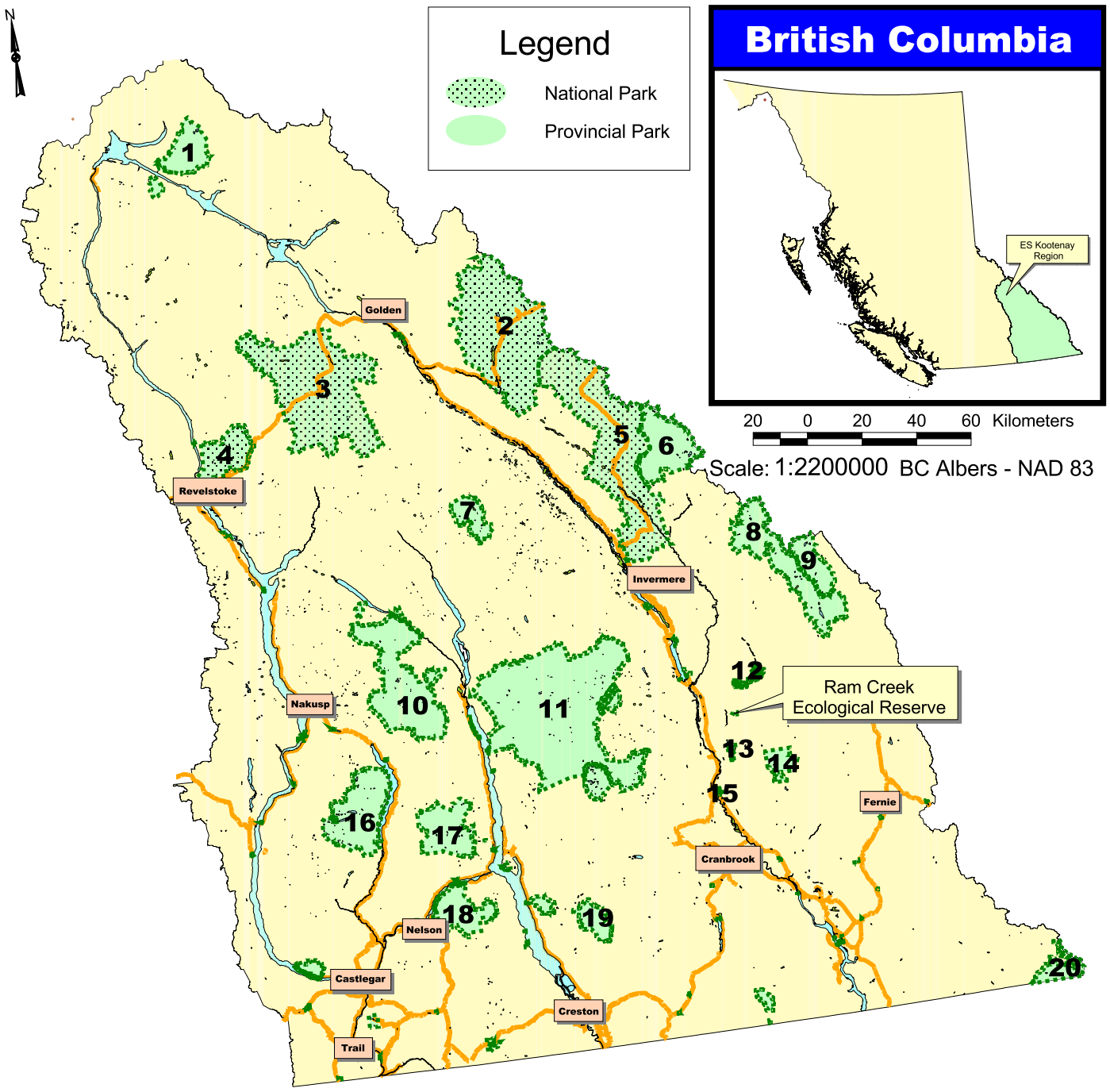
Context

- Designated by Order in Council #2721 under the *Ecological Reserve Act* in 1971 and listed and described in Schedule B of the *Protected Areas of British Columbia Act.*
- Encompassing 122 hectares and situated within the Southern Park Ranges Ecosection.
- Established to preserve natural hot springs and plant communities containing flora which are rare or outside their usual distribution range.
- Ram fire of 1985 (approximately 13,000 ha.) drastically reduced canopy closure adjacent to hot pools and thermal springs.
- The White-Ram Forest Service Road bisects the ecological reserve.
- Several thermal springs emerge from a steep valley, upslope from the White Ram Forest Service Road and eventually drain into Ram Creek.
- The largest of the springs has been directed into a series of two hot pools (largest measuring approximately 4 metres in diameter and 1 metre in depth). The pools were excavated with dynamite blasting before the ecological reserve designation.
- High recreational use has occurred since the early 1970's.
- The ecological reserve is a popular stop-over with people visiting Whiteswan Lake, Premier Lake and Top of the World provincial parks.
- Discovery of a substantial population of a red listed damselfly in the late 1980's[1] and reconfirmed in 2000 has strengthened the ecological significance of the springs.

[1] First recorded specimen collection of *Argia vivida* at the Ram Creek Ecological Reserve was made on July 1st 1989, by Jack Zlotys of the University of Calgary.

Figure 1: Context

Ram Creek ER

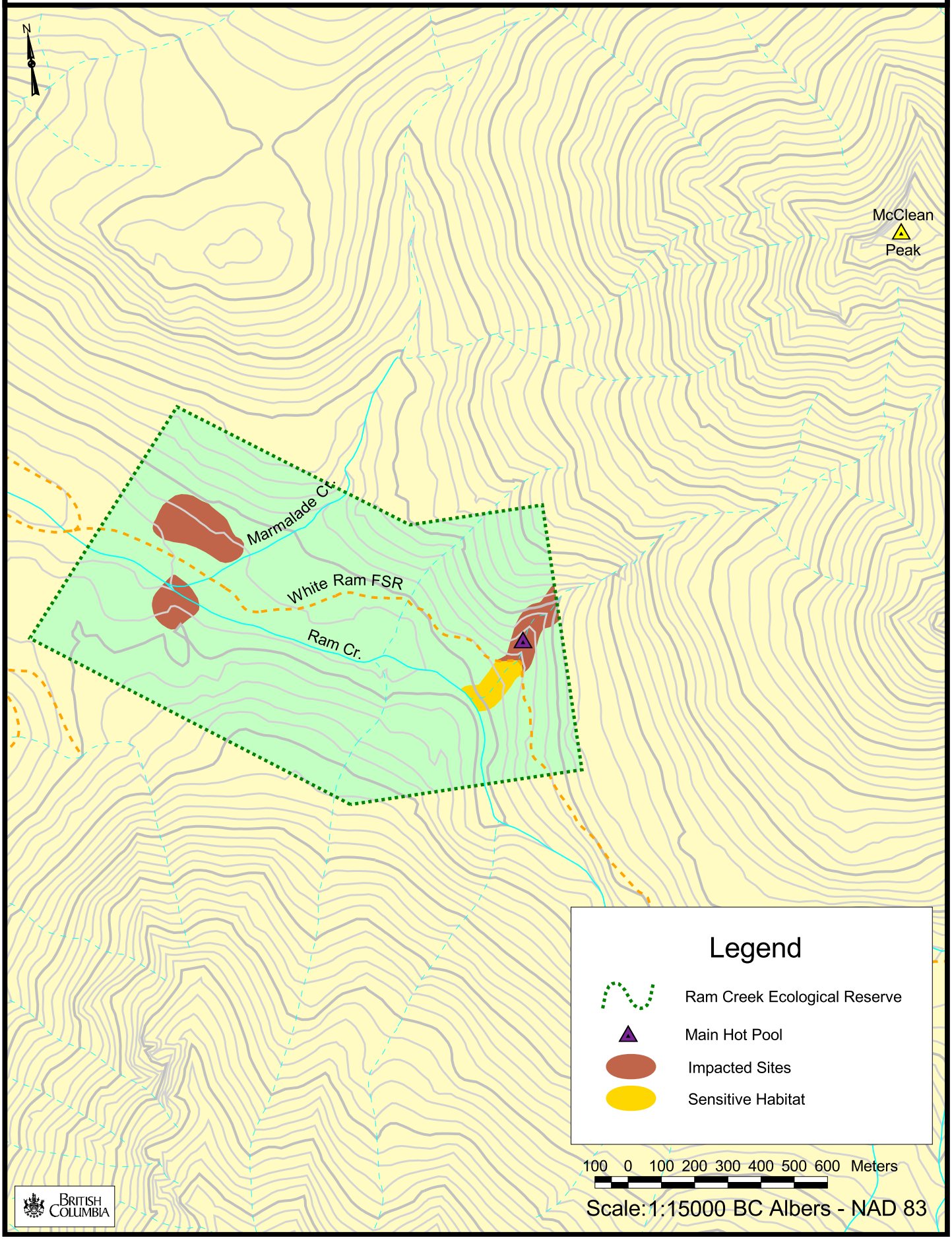


Major Provincial & National Parks - Kootenay Region	
1. Cummins Lakes Provincial Park	11. Purcell Wilderness Conservancy Park
2. Yoho National Park	12. Whiteswan Provincial Park
3. Glacier National Park	13. Premier Provincial Park
4. Mt Revelestoke National park	14. Top of the World Provincial Park
5. Kootenay National Park	15. Wasa Provincial Park
6. Mt. Assiniboine Provincial Park	16. Valhalla Provincial Park
7. Bugaboo Provincial Park	17. Kokanee Glacier Provincial Park
8. Height of the Rockies Provincial Park	18. West Arm Provincial Park
9. Elk Lakes Provincial Park	19. Kianuko Provincial Park
10. Goat Range Provincial Park	20. Akamina-Kishinena Provincial Park

BRITISH COLUMBIA

Figure 2: Base

Ram Creek ER



Ecological Reserve Attributes

Conservation

- Within the well represented Southern Park Ranges (SPR) Ecosection (31% of this ecosection is protected province wide). However, more than 2/3 of existing SPR ecosection protection is provided by Kootenay and Yoho national parks.
- Protects the greatest area (0.21%) of the Montane Spruce Dry Cool (MSdk) biogeoclimatic subzone/variant of the three ecological reserves containing this Biogeoclimatic Ecosystem Classification unit within the East Kootenay.
- The bulk of MSdk (90%) protected province wide is within Kootenay and Yoho national parks.
- Maintains the rich biological diversity and microclimate characteristics associated with thermal springs in the East Kootenay.
- Protects a species at risk (*Argia vivida*) that is dependant on aquatic habitat/thermal characteristics of the hot springs. Other species at risk occurring in the reserve include one red-listed vascular plant (Crawe's sedge) and habitat supporting Rocky Mountain bighorn sheep and wolverine (both blue-listed).
- Retains intrinsic value of undeveloped hot springs.

Education and Research

- There is potential for long term scientific study associated with hydrological patterns in thermal springs (e.g., physical monitoring stations), habitat impacts on species at risk as a result of recreation use and feeding relationships (trophic levels) of damselflies.

Cultural Heritage

- No studies have been conducted to confirm the existence of cultural resources in the ecological reserve. Further discussions with the Ktunaxa Kinbasket Tribal Council may provide additional information.

Significance in the Protected Area System

- Contains a large and vigorous population of the red-listed *Argia vivida* "Vivid Dancer" damselfly - extirpated from other hot spring locations in the Kootenays[2].
- Protects a rare and unique plant species, Crawe's sedge (red-listed).
- Retains vegetation characteristics that represent restricted local distribution (only found around hot springs) and rare occurrence of plant species at high elevations, specifically poison ivy.

[2] 23 of 87 species of dragonflies are considered rare or potentially at risk in B.C.. The Vivid Dancer is known to be extirpated from developed hot springs at Radium (BC CDC March 2002). The population of Vivid Dancer in the ecological reserve is suspected to be isolated from other damselfly populations in the East Kootenay.

Land Use, Tenures and Interests

Access

Located 35 km east of Hwy 93/95 and the community of Skookumchuck.

West approach is via the White-Ram Forest Service Road, 12 km from its junction with North Lussier Rd. East approach is via the White-Ram Forest Service Road, 5 km from its junction with South Lussier River Road.

Existing Tenures, Alienations and Encumbrances

- None in park.

Adjacent Patterns of Land Use

- Invermere Timber Supply Area borders the entire ecological reserve. Tembec Inc. has an active Forest Licence (FLA18978-CP 156) approximately 4 km west of the ecological reserve.
- Trapping territory TR0421T004 abuts the reserve.

First Nations Interests

- Management of the ecological reserve will require ongoing consultation with the Ktunaxa Nation along with the Shuswap Nation.
- Ktunaxa Kinbasket Tribal Council requested that the Chief and Council of both the Columbia Lake and Shuswap (Secwepemc) Indian Band be consulted with reference to any future management planning for the ecological reserve.

Other Agency Interests

- Regional District of the East Kootenay (dealing with issues surrounding local government)
- Ministry of Water, Land and Air Protection
  - water protection, monitoring and reporting
  - enforcement of applicable acts and regulations
  - management of Wildlife Management Areas
- Ministry of Sustainable Resource Management
  -Kootenay Region of SRM (responsible for strategic planning and implementing the Kootenay Boundary Land Use Plan
- Land and Water British Columbia Inc. (responsible for adjacent Crown land tenures)
- Environment Canada:
  - Ecological Monitoring and Assessment (Inland Waters and Aquatic Habitat)

Private and Public Stakeholder Interests

- *Concerned Residents of Sheep Creek*
  Interest: advocates meaningful inclusion of the public in decision-making and more decision-making at the community level with respect to logging practices within Invermere TSA. Ram Creek is a tributary within their community watershed.

- *EKES (East Kootenay Environmental Society)*
  Interest: concerned over land use issues (logging, off-road vehicles, recreation) and the potential negative effect on biodiversity within the ecological reserve.

- *Rocky Mountain Naturalists*
  Interest*:* species inventory and monitoring of known species at risk in the ecological reserve.

- *Friends of Ecological Reserves*
  Interest: promote the interests of the ecological reserves program in British Columbia, by raising public awareness of the ecological reserves program and by raising funds that are used to:
  - support research in and around ecological reserves
  - support wardens and the warden function within ecological reserves
  - prepare and circulate a regular newsletter
  - educate the public regarding the important features of ecological reserves, including plant and animal conservation, within British Columbia.

Photo 2: Red listed Vivid Dancer damselfly

Ecological Reserve Role Statement

The primary role of the Ram Creek Ecological Reserve is to protect regionally significant hot springs, representative vegetation and habitat supporting one known rare insect species. The ecological reserve secondarily serves a research and education role by providing opportunities to study microclimatic vegetation, hydrology and invertebrate feeding relationships associated with thermal springs.

Photo: Ram Creek upper pool with Forest Service access road in background.

Management Commitments and Issues

Management Direction from Previous Planning

There has been no prior management direction for this ecological reserve.

Management Issues

Theme	Issue
Protecting ecological values	• The natural hot springs upstream of road have been heavily modified and are used by hundreds of visitors a year. • Accurate visitor use data are difficult to acquire because of the lack of staff presence, and vandalism of trail counters. • Limited knowledge of recreational impacts on species diversity and species at risk. • Modification of stream flow by visitors (cool stream diversion) may have a detrimental effect on population of *A. vivida.* • Outflow (downstream of road) must be maintained. *A vivida* could easily be extirpated if the stream flow was restricted or occluded. • An Ecological Reserve Warden has not been designated for the reserve. • Public knowledge of the hot springs is increasing due to promotion by media and local tourism operators.
Protecting cultural values	• Extent of traditional use within the ecological reserve is undetermined.
Providing ecological reserve information	• Currently, little information on the ecological reserve is available to the public. Apart from boundary markers, no signage is present informing public of sensitivity/formal designation of the site.

Management Direction

The following objectives and strategies will direct the short and long-term management of the ecological reserve.

Priority Management Objectives and Strategies

Objective	Strategy
To protect known species at risk and ensure the ecological reserve serves the purpose for which it was created.	• Strictly prohibit any further manipulation in and around the hotpools (seek compliance through enforcement and visitor education). • Safeguard stream flow below the Forest Service Road (culvert maintenance and monitoring).
To provide greater on-site monitoring of the ecological reserve's resource values	• Recruit an Ecological Reserve Warden. • Seek academic partner to assist in physical monitoring of the stream (flow rate, temperature, conductivity) and recreational impacts on insect habitat.
To reduce the level of non-conforming recreational activity and associated impacts.	• Explore options for managing access to the Ecological Reserve to promote public safety and minimize adverse effects on ER values through regional recreation or access management planning initiatives • Ensure BRIM (Backcountry Recreation Impact Monitoring) is maintained and scope of assessment area increased. • Determine current recreation use levels and record over the next several years. • Minimize promotion of the ecological reserve for recreation in local media (e.g., guidebooks, maps) by asking publishers to remove the ecological reserve from future publications. • Work with recreational users to direct use towards more appropriate sites providing similar recreational experiences

Objective	Strategy
To increase public understanding and appreciation of hot springs as special natural features and respect for the fragility of the site.	• Produce improved information about the ecological reserve via the internet. • Post signage (interpretive) informing public of the sensitivity of the site. Use enforcement tools to seek compliance.
To protect the ecological reserve's cultural values	• Investigate and collect information on cultural heritage values, and work to protect these values.

Consultation and Future Planning

Planning and management of the ecological reserve will conform to the intent and directions as set forth in the Protected Areas Strategy. The Environmental Stewardship Division is accountable for planning, administration and management of the ecological reserve through the application of the *Ecological Reserve Act* and other applicable laws, policies and regulations.

Although no specific future planning is envisioned beyond the term of this management direction statement, the Environmental Stewardship Division will coordinate management of the ecological reserve with other agencies, the Regional District of the East Kootenay, various public stakeholders, and First Nations as required.

Appendix A: Table of Acceptable Uses, Activities and Facilities

Activity/Use/Facility	Acceptability
Aboriginal traditional activities and uses	**M**
Hunting	**N**
Fishing	**N**
Trapping	**N**
Utility Corridors	**N**
Communication Sites	**N**
Horse Use (Pack Animals)	**N**
Guide Outfitting (hunting)	**N**
Guide Outfitting (fishing)	**N**
Guide Outfitting (nature tours)	**N**
Ski hills	**N/A**
Grazing (Domestic Livestock)	**N**
Recreational Gold Panning/ Rock Hounding	**N**
Commercial Recreation (facility-based)	**N**
Commercial recreation (non-facility based)	**N**
Backcountry Huts	**N/A**
Water Control Structures	**N**
Fish Stocking and Enhancement	**N**
Road Access	**N2**
Off-road Access (snowmobiling)	**N**
Off-road Access (motorized)	**N**
Off-road Access (mechanized activities)	**N**
Motorized Water Access (Non -swimming Areas)	**N/A**
Aircraft Access	**N/A**
Fire Management (suppression)	**N1**
Fire Management (prescribed fire management)	**N1**
Fire Management (prevention)	**N**
Forest Insect/Disease Control	**N1**
Noxious Weed Control	**Y**
Exotic Insect/Disease Control	**N**
Scientific Research (specimen collection)	**N1**
Scientific Research (manipulative activities)	**M**

Y= allowed, subject to conditions identified in the management direction statement or management plan
M= may be permitted if compatible with protected area objectives

N = not allowed
N1= allowed for expressed management purposes only
N2= present and allowed to continue, but not normally allowed
N/A = not applicable

Appendix B: Flora Species at Risk in the Rocky Mountain Forest District

(shading indicates confirmation in Ram Creek Ecological Reserve).

Scientific Name	English Name	G Rank	Subnational	COSEWIC	BC Status
Adiantum capillus-veneris	southern maiden-hair	G5	S1	E (May 2000)	RED
Agoseris lackschewitzii	pink agoseris	G4	S2S3		BLUE
Arabidopsis salsuginea	saltwater cress	G4G5	S1		RED
Aster ascendens	long-leaved aster	G5	S2S3		BLUE
Astragalus bourgovii	Bourgeau's milk-vetch	G5	S3		BLUE
Astragalus filipes	threadstalk milk-vetch	G5	S3		BLUE
Atriplex argentea ssp. *argentea*	silvery orache	G5T5	S1		RED
Bouteloua gracilis	blue grama	G5	S1		RED
Braya purpurascens	purple braya	G4G5Q	S2S3		BLUE
Calamagrostis montanensis	plains reedgrass	G5	S1		RED
Carex crawei	Crawe's sedge	G5	S1		RED
Carex incurviformis var. *incurviformis*	curved-spiked sedge	G4G5T4T5	S2S3		BLUE
Carex rostrata	swollen beaked sedge	G5	S2S3		BLUE
Carex scoparia	pointed broom sedge	G5	S2S3		BLUE
Carex sychnocephala	many-headed sedge	G4	S3		BLUE
Castilleja cusickii	Cusick's paintbrush	G4G5	S1		RED
Castilleja minor ssp. *minor*	annual paintbrush	G5T5	S1		RED
Delphinium bicolor ssp. *bicolor*	Montana larkspur	G4G5T?	S2S3		BLUE
Delphinium sutherlandii	Sutherland's larkspur	G?	S2S3		BLUE
Draba porsildii	Porsild's draba	G3G4	S2S3		BLUE
Draba ruaxes	coast mountain draba	G3	S2S3		BLUE
Eleocharis rostellata	beaked spike-rush	G5	S2S3		BLUE
Epilobium glaberrimum ssp. *fastigiatum*	smooth willowherb	G5T?	S2S3		BLUE
Epipactis gigantea	giant helleborine	G3	S2S3	SC (1998)	BLUE
Erigeron trifidus	three-lobed daisy	G2G3	S2		RED
Gaura coccinea	scarlet gaura	G5	S1		RED
Gayophytum ramosissimum	hairstem groundsmoke	G5	S1		RED
Scientific Name	**English Name**	**G Rank**	**Subnational**	**COSEWIC**	**BC Status**
Glyceria pulchella	slender mannagrass	G5	S2S3		BLUE
Helianthus nuttallii var. *nuttallii*	Nuttall's sunflower	G5T5	S1		RED
Hypericum scouleri ssp. *nortoniae*	western St. John's-wort	G5T?	S2S3		BLUE
Juncus arcticus ssp. *alaskanus*	arctic rush	G5T?	S2S3		BLUE
Lomatium triternatum ssp. *platycarpum*	nine-leaved desert-parsley	G5T?	S2		RED
Megalodonta beckii var. *beckii*	water marigold	G4G5T4	S3		BLUE
Melica bulbosa var. *bulbosa*	oniongrass	G5T5	S2		RED
Minuartia austromontana	Rocky Mountain sandwort	G4	S2S3		BLUE

Scientific Name	English Name	G Rank	Subnational	COSEWIC	BC Status
Muhlenbergia andina	foxtail muhly	G4	S1		RED
Muhlenbergia glomerata	marsh muhly	G5	S3		BLUE
Pellaea gastonyi	Gastony's cliff-brake	G2G3	S2		RED
Phacelia lyallii	Lyall's phacelia	G3G4	S2S3		BLUE
Physaria didymocarpa var. *didymocarpa*	common twinpod	G5T4	S2S3		BLUE
Plantago eriopoda	alkali plantain	G5	S1		RED
Poa laxa ssp. *banffiana*	Banff bluegrass	G5?T1	SH		RED
Potamogeton strictifolius	stiff-leaved pondweed	G5	S2S3		BLUE
Potentilla ovina var. *ovina*	sheep cinquefoil	G5?T5?	S2S3		BLUE
Salix boothii	Booth's willow	G5	S2S3		BLUE
Scirpus pallidus	pale bulrush	G5	S1		RED
Scolochloa festucacea	rivergrass	G5	S2		RED
Schizachyrium scoparium	little bluestem	G5	S1		RED
Sphenopholis intermedia	slender wedgegrass	G5	S2		RED
Sphenopholis obtusata	prairie wedgegrass	G5	S1		RED
Sphaeralcea coccinea	scarlet globe-mallow	G5?	S1		RED
Stuckenia vaginata	sheathing pondweed	G5	S2S3		BLUE
Townsendia hookeri	Hooker's townsendia	G5	S2		RED
Trisetum wolfii	Wolf's trisetum	G4	S2S3		BLUE

Appendix C : Fauna Species at Risk in the Rocky Mountain Forest District

(shading indicates confirmation in Ram Creek Ecological Reserve).

Scientific Name	English Name	G Rank	Subnational	COSEWIC	BC Status
Acrocheilus alutaceus	Chiselmouth	G5	S3	DD (1997)	BLUE
Aeronautes saxatalis	White-throated Swift	G5	S3S4B,SZN		BLUE
Ardea herodias herodias	Great Blue heron, *herodias* subspecies	G5T5	S3B,S4N		BLUE
Argia vivida	Vivid Dancer	G5	S2		RED
Asio flammeus	Short-eared Owl	G5	S3B,S2N	SC (1994)	BLUE
Botaurus lentiginosus	American Bittern	G4	S3B,SZN		BLUE
Buteo swainsoni	Swainson's Hawk	G5	S2B,SZN		RED
Chrysemys picta	Painted Turtle	G5	S3S4		BLUE
Colias meadii	Mead's Sulphur	G4G5	S3		BLUE
Dolichonyx oryzivorus	Bobolink	G5	S3B,SZN		BLUE
Falco mexicanus	Prairie Falcon	G5	S2B,SZN	NAR (1996)	RED
Grus Canadensis	Sandhill Crane	G5	S3S4B,SZN	NAR (1979) G. canadensis tabida assessed	BLUE
Gulo gulo luscus	Wolverine, *luscus* subspecies	G4T4	S3	SC (1989) WESTERN POPULATION ONLY	BLUE
Martes pennanti	Fisher	G5	S3		BLUE
Melanerpes lewis	Lewis's Woodpecker	G4	S3B,SZN	SC (NOV 2001)	BLUE
Myotis septentrionalis	Northern Long-eared Myotis	G4	S2S3		BLUE
Numenius americanus	Long-billed Curlew	G5	S3B,SZN	SC (1992)	BLUE
Oncorhynchus clarki lewisi	Cutthroat Trout, *lewisi* subspecies	G4T3	S3SE		BLUE
Otus flammeolus	Flammulated Owl	G4	S3S4B,SZN	SC (NOV 2001)	BLUE
Ovis canadensis	Bighorn Sheep	G4	S2S3		BLUE
Rana pipiens	Northern Leopard Frog	G5	S1	E (May 2000)	RED
Salvelinus confluentus	Bull Trout	G3	S3		BLUE
Tamias minimus selkirki	Least Chipmunk, *selkirki* subspecies	G5T1T3	S1S3		RED
Taxidea taxus	Badger	G5	S1	E (May 2000)	RED
Tympanuchus phasianellus columbianus	Sharp-tailed Grouse, *columbianus* subspecies	G4T3	S2S3		BLUE
Ursus arctos	Grizzly Bear	G4	S3	SC (MAY 2002)	BLUE