

Kootenay Region

**MANAGEMENT DIRECTION  
STATEMENT**

September, 2004

**for Gilnockie Creek  
Ecological Reserve**



**BRITISH  
COLUMBIA**

Ministry of  
Water, Land and Air  
Protection  
Environmental  
Stewardship  
Division

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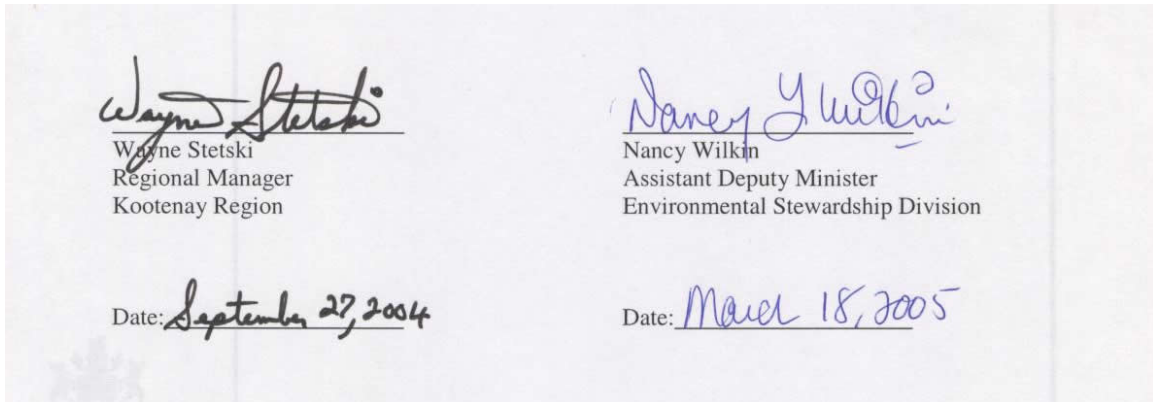
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# Gilnockie Creek Ecological Reserve Approvals Page

## Foreword

This management direction statement for Gilnockie Creek Ecological Reserve provides management direction until such time as a more detailed management plan may be prepared. Gilnockie Creek Ecological Reserve was established to preserve an undisturbed area for silvicultural research on western larch, and a genetic bank for that species.

## Approvals:



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# Gilnockie Creek Ecological Reserve Management Direction Statement

## Introduction

### Purpose of the Management Direction Statement

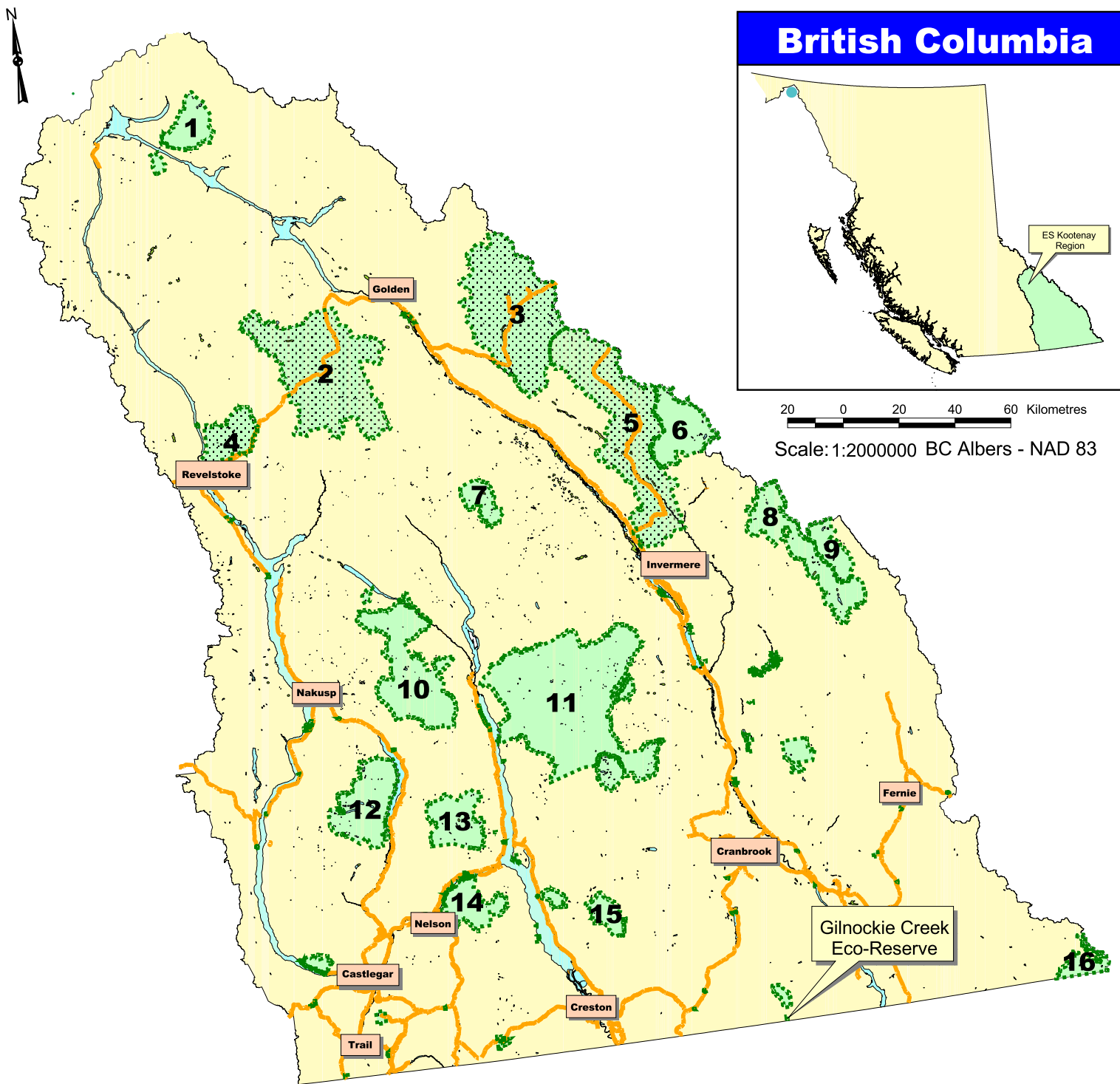
Management direction statements (MDS) provide strategic management direction for protected areas that do not have a full management plan. MDS do not negate the need for future more detailed management plans. Management direction statements also describe protected area values, management issues and concerns; 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 Gilnockie Creek Ecological Reserve for the foreseeable future.

### Context

- Encompassing 58 hectares and situated within the McGillivray Range Ecosection.
- Located on the flat valley bottom of Gilnockie Creek at its confluence with the Yahk River, which drains southward into Montana.
- Established to protect rare old growth stands of western larch in the East Kootenay and to serve as a silvicultural research opportunity and genetic bank for the species.
- Original intent of the ecological reserve, along with Gilnockie Provincial Park, was to retain old growth representativeness in the McGillivray Range Ecosection and the Interior Cedar Hemlock Moist Cool (ICHmk) biogeoclimatic subzone/variant.
- Extensive logging in the Yahk River/Gilnockie Creek watershed has substantially reduced older age class western larch.
- A small wetland is located within the ecological reserve and contains a rare vascular plant (sweet marsh butterweed).
- Designated by Order in Council #1531 under the *Ecological Reserve Act* in 1981 and is presently listed and described in Schedule B of the *Protected Areas of British Columbia Act*.

# Figure 1: Context

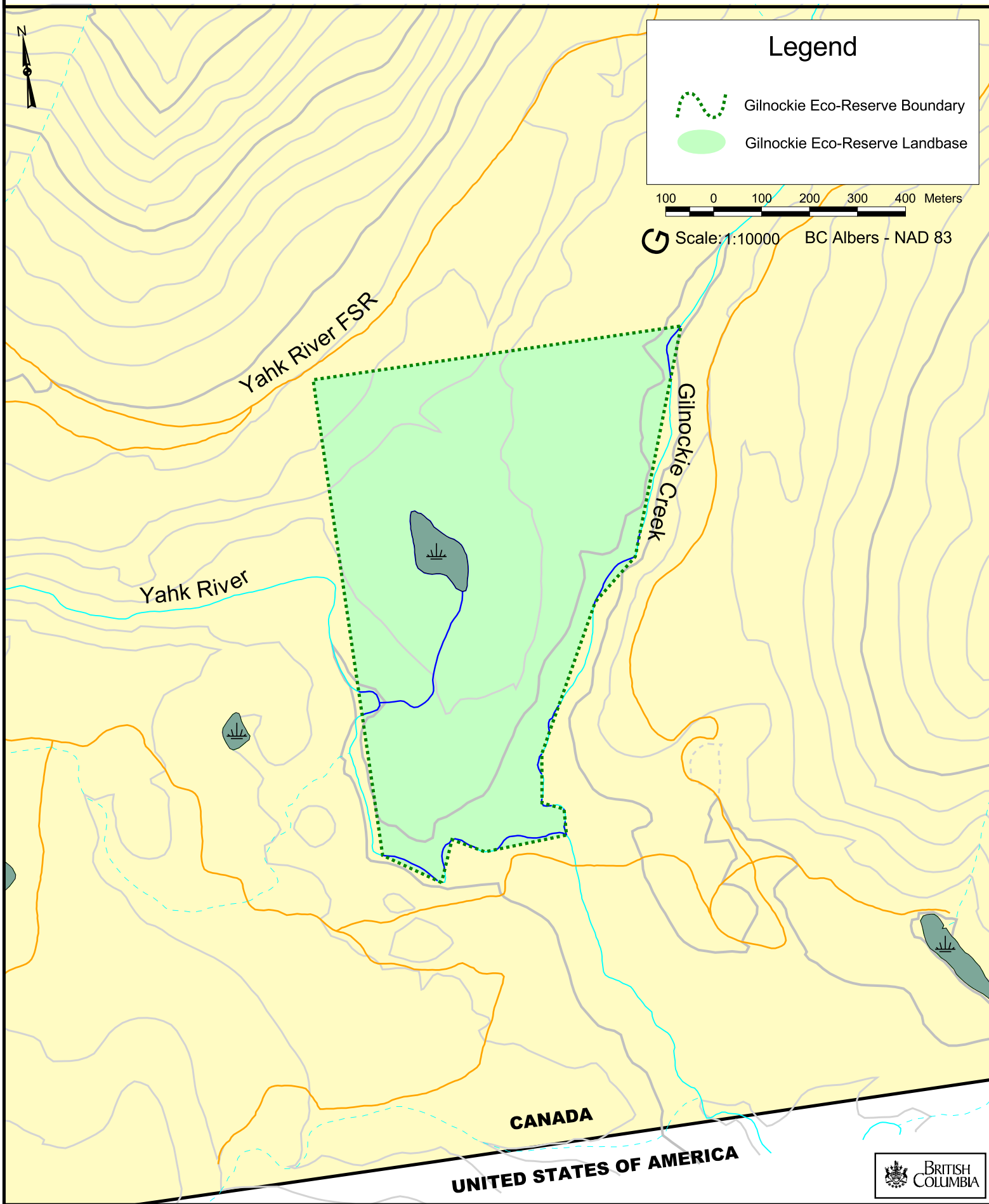
# Gilnockie Cr. Eco-Reserve



| Major Provincial & National Parks - Kootenay Region |                                         |
|-----------------------------------------------------|-----------------------------------------|
| 1. Cummins Lakes Provincial Park                    | 9. Elk Lakes Provincial Park            |
| 2. Glacier National Park                            | 10. Goat Range Provincial Park          |
| 3. Yoho National Park                               | 11. Purcell Wilderness Conservancy Park |
| 4. Mt Revelstoke National Park                      | 12. Valhalla Provincial Park            |
| 5. Kootenay National Park                           | 13. Kokanee Glacier Provincial Park     |
| 6. Mt. Assiniboine Provincial Park                  | 14. West Arm Provincial Park            |
| 7. Bugaboo Provincial Park                          | 15. Kianuko Provincial Park             |
| 8. Height of the Rockies Provincial Park            | 16. Akamina-Kishinena Provincial Park   |

# Figure 2: Base Map

# Gilnockie Cr. Eco-Reserve



## Protected Area Attributes

### Conservation

- Contains provincially significant old growth western larch.
- Situated in the under-represented McGillivray Range Ecosection (1 % protected province wide).
- Contains under-represented ICH mk1 biogeoclimatic subzone/variant (4% protected province wide).
- One red-listed plant species (sweet marsh butterweed<sup>1</sup>) occurs in the wetland portion.
- Offers habitat for elk and white tail deer.
- Offers habitat for a variety of avian species including American kestrel, ruffed grouse, red crossbill, gray jay, bald eagle, and evening grosbeak.
- Provides approximately 2 km of riparian habitat along both Gilnockie Creek and the Yahk River.
- Provides potential habitat for tailed frog (red-listed).

### Cultural Heritage

- The Archaeological Registry (Ministry of Sustainable Resource Management ) has no records of archaeological sites within the boundaries of the ecological reserve.
- First Nations' traditional uses within the ecological reserve included food harvesting, habitat uses and travel camp.

### Education and Research

- Potential for silvicultural research on western larch.
- Serves as a genetic bank for old growth larch.
- Studies regarding habitat suitability/enhancement for tailed frog (possible partners: University of British Columbia and the Columbia Basin Fish and Wildlife Compensation Program).

### Significance in the Protected Area System

- One of the few areas within the province where old growth western larch are preserved.
- Protects important riparian habitat along the lower reaches of Gilnockie Creek and the Yahk River.
- The small wetland provides suitable growing conditions for one vascular plant species at risk (sweet marsh butterweed).
- Provides streamside habitat that is suitable for geographically restricted populations of tailed frog (red listed).

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<sup>1</sup> *Senecio foetidus* var. *hydrophiloides* (one of two varieties of *Senecio foetidus*) is commonly referred to as sweet marsh butterweed. Recently, the two varieties have taxonomically merged and are known solely as *Senecio hydrophiloides*.



- Complements a wildlife linkage zone with the United States through the Yahk River valley .

## **Land Use, Tenures and Interests**

### **Access**

Starting at Hwy 3, turn onto the Yahk Forest Service Road (south end of Moyie Lake). Follow the FSR for approximately 42 km. Ecological reserve boundary is approximately 1km west of bridge crossing at Gilnockie Creek.

Starting at Hwy 3/93, take Newgate Road across the Kootenay River to Caven Creek FSR. Follow the FSR for approximately 27 km to the Bloom Creek crossing onto Bloom Creek FSR. Yahk FSR begins approximately 18 km along the Bloom Creek FSR. Travel for another 19 km to reach the ecological reserve boundary. These roads are all very rough (4WD only).

### **Existing Tenures, Alienations and Encumbrances**

None in the ecological reserve.

### **Adjacent Patterns of Land Use**

- Trapping territories TR0404T004 (lic# RT132061) and TR0404T002 (Lic# RT129906) abut the ecological reserve.
- Guide Outfitter Territory #400423 surrounds the ecological reserve.
- Area falls within the Cranbrook Timber Supply Area.
- Forest Licence A19040 abuts the ecological reserve - ( Cutting Permit (CP) 502- is immediately outside the ecological reserves' s western boundary and to the east is CP 261-separated by Gilnockie Creek).

### **First Nations Interests**

- Ktunaxa Nation have included Gilnockie Creek Ecological Reserve within their asserted traditional territory.
- Management of the ecological reserve will require ongoing consultation with the Ktunaxa/Kinbasket Tribal Council.
- It is the request of the Ktunaxa/Kinbasket Tribal Council that the Chief and Council of both the Columbia Lake and Shuswap (Secwepemc) Indian Band be consulted with reference to any future management planning of 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
- Ministry of Sustainable Resource Management

- Land and Water British Columbia Inc. (responsibility for adjacent Crown land tenures)
- Ministry of Forests
  - Research Branch (involved with forest ecology, genetics and forest productivity)

### **Private and Public Stakeholder Interests**

- *Friends of Ecological Reserves*  
Interest: promote the interests of the ecological reserves program in British Columbia, by raising public awareness of the ecological reserve 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 BC
- *Centre for Applied Conservation Biology, UBC*  
*Interest:* confirming existence of tailed frogs within the East Kootenay and pursuing management directive of establishing Wildlife Habitat Areas. This would encompass confirming known populations and habitat to ensure the continued survival of tailed frogs in the East Kootenay.

## Ecological Reserve Role Statement

The primary role of the Gilnockie Creek Ecological Reserve is to protect provincially rare old growth stands of western larch. Furthermore, the ecological reserve complements riparian and wetland values in a watershed that has undergone extensive logging.

The ecological reserve secondarily serves a research and education role by providing opportunities to study a remnant old growth ecosystem and its associated plant communities.



Photo 1 : Old growth larch in the Ecological Reserve

## 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             | <ul style="list-style-type: none"><li>• Adjacent logging has created an ecological reserve which is essentially an island of old growth.</li><li>• Edge effect on old growth values is unknown.</li><li>• No rare and endangered species inventory has been conducted.</li><li>• Lack of baseline ecological data and visitor use impact.</li><li>• Limited staff presence.</li><li>• Ecological Reserve Warden Program in this ecological reserve has been inactive for 10 years.</li><li>• Current tailed frog habitat use and population is unknown.</li></ul> |
| Protecting cultural values               | <ul style="list-style-type: none"><li>• Extent of traditional use within the ecological reserve is undetermined.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Providing ecological reserve information | <ul style="list-style-type: none"><li>• Currently, little information on the ecological reserve is available to the public. No boundary markers or signage is present informing public of sensitivity/formal designation of the site.</li></ul>                                                                                                                                                                                                                                                                                                                   |

## Management Direction

### Priority Management Objectives and Strategies

| Objective                                                                 | Strategy                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| To mitigate adjacent logging impacts on the ecological reserve.           | <ul style="list-style-type: none"> <li>• Liaison with Forest Licence and Ministry of Forests to ensure adequate buffers are placed along the ecological reserve boundary (as per MOU: The Management of Forestry Issues of Mutual Interest in Relation to Provincial Protected Areas 01/03)</li> <li>• Monitor edge effect (windthrow damage, species movement).</li> </ul>                            |
| To increase knowledge of species diversity within the ecological reserve. | <ul style="list-style-type: none"> <li>• Conduct rare and endangered species inventory.</li> <li>• Confirm existence of tailed frog and identify key habitat within the ecological reserve.</li> </ul>                                                                                                                                                                                                 |
| To manage reserve visitation to protect the reserve's ecological values.  | <ul style="list-style-type: none"> <li>• Initiate BRIM (Backcountry Recreation Impact Monitoring) and gather ecological baseline data (e.g., Terrestrial Ecosystem Mapping/Predictive Ecosystem Mapping, site series classification, fire history).</li> <li>• Coordinate patrols of the ecological reserve with Gilnockie Provincial Park.</li> <li>• Reinstate Ecological Reserve Warden.</li> </ul> |
| To protect the ecological reserve's cultural values.                      | <ul style="list-style-type: none"> <li>• Work with First Nations to determine traditional use values, and work to protect these values.</li> </ul>                                                                                                                                                                                                                                                     |
| To provide information to ecological reserve's visitors.                  | <ul style="list-style-type: none"> <li>• Produce more accurate information about the ecological reserve through the internet.</li> <li>• Post signage (interpretive) informing public of the sensitivity of the site. Use enforcement tools to seek compliance.</li> </ul>                                                                                                                             |

## Consultation and Future Planning

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 relevant laws, regulations and policies.

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.



Photo 2:Wetland habitat of the Ecological Reserve

## 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                                   | N             |
| 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                 | N1            |
| Scientific Research (specimen collection)     | N             |
| 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 Gilnockie Creek Ecological Reserve)

| Scientific Name                                           | English Name                    | G Rank        | Subnational        | COSEWIC        | BC Status |
|-----------------------------------------------------------|---------------------------------|---------------|--------------------|----------------|-----------|
| <i>Allium validum</i>                                     | swamp onion                     | G4            | S1                 |                | RED       |
| <i>Androsace chamaejasme</i> ssp. <i>lehmanniana</i>      | sweet-flowered fairy-candelabra | G5T5          | S2S3               |                | BLUE      |
| <i>Anemone canadensis</i>                                 | Canada anemone                  | G5            | S2S3               |                | BLUE      |
| <i>Apocynum x floribundum</i>                             | western dogbane                 | G4G5          | S2S3               |                | BLUE      |
| <i>Arabis lemmonii</i> var. <i>drepanoloba</i>            | Lemmon's rockcress              | G5T4?         | S2S3               |                | BLUE      |
| <i>Arnica chamissonis</i> ssp. <i>incana</i>              | meadow arnica                   | G5T?          | S2S3               |                | BLUE      |
| <i>Artemisia ludoviciana</i> var. <i>incompta</i>         | western mugwort                 | G5T?          | S2S3               |                | BLUE      |
| <i>Astragalus bourgovii</i>                               | Bourgeau's milk-vetch           | G5            | S3                 |                | BLUE      |
| <i>Astragalus crassicaarpus</i>                           | ground plum                     | G5            | S1                 |                | RED       |
| <i>Astragalus drummondii</i>                              | Drummond's milk-vetch           | G5            | S1                 |                | RED       |
| <i>Astragalus microcystis</i>                             | least bladderly milk-vetch      | G5            | S1                 |                | RED       |
| <i>Astragalus vexilliflexus</i> var. <i>vexilliflexus</i> | bent-flowered milk-vetch        | G4T?          | S2S3               |                | BLUE      |
| <i>Atriplex argentea</i> ssp. <i>argentea</i>             | silvery orache                  | G5T5          | S1                 |                | RED       |
| <i>Besseya wyomingensis</i>                               | Wyoming kitten-tails            | G5            | S2S3               |                | BLUE      |
| <i>Botrychium crenulatum</i>                              | dainty moonwort                 | G3            | S2S3               |                | BLUE      |
| <i>Botrychium simplex</i>                                 | least moonwort                  | G5            | S2S3               |                | BLUE      |
| <i>Bouteloua gracilis</i>                                 | blue grama                      | G5            | S1                 |                | RED       |
| <i>Brickellia grandiflora</i>                             | large-flowered brickellia       | G5            | S1                 | NAR (1996)     | RED       |
| <i>Bupleurum americanum</i>                               | American thorough-wax           | G5            | S2S3               |                | BLUE      |
| <i>Carex geyeri</i>                                       | elk sedge                       | G5            | S3                 |                | BLUE      |
| <i>Carex incurviformis</i> var. <i>incurviformis</i>      | curved-spiked sedge             | G4G5T4T5      | S2S3               |                | BLUE      |
| <i>Carex lenticularis</i> var. <i>lenticularis</i>        | lakeshore sedge                 | G5T5          | S2                 |                | RED       |
| <i>Carex paysonis</i>                                     | Payson's sedge                  | G4            | S2S3               |                | BLUE      |
| <i>Carex rupestris</i> ssp. <i>drummondiana</i>           | curly sedge                     | G5T5          | S2S3               |                | BLUE      |
| <i>Carex saximontana</i>                                  | Rocky Mountain sedge            | G5            | S3                 |                | BLUE      |
| <i>Carex sychnocephala</i>                                | many-headed sedge               | G4            | S3                 |                | BLUE      |
| <i>Carex xerantica</i>                                    | dry-land sedge                  | G5            | S2S3               |                | BLUE      |
| <i>Castilleja cusickii</i>                                | Cusick's paintbrush             | G4G5          | S1                 |                | RED       |
| <i>Cheilanthes gracillima</i>                             | lace fern                       | G4G5          | S2S3               |                | BLUE      |
| <i>Cirsium scariosum</i>                                  | elk thistle                     | G5            | S2S3               |                | BLUE      |
| <i>Claytonia megarhiza</i> var. <i>megarhiza</i>          | alpine springbeauty             | G4?T?         | S2S3               |                | BLUE      |
| <i>Cryptantha ambigua</i>                                 | obscure cryptantha              | G4            | S2                 |                | RED       |
| <i>Delphinium bicolor</i> ssp. <i>bicolor</i>             | Montana larkspur                | G4G5T?        | S2S3               |                | BLUE      |
| <i>Draba densifolia</i>                                   | Nuttall's draba                 | G5            | S2S3               |                | BLUE      |
| <i>Elodea nuttallii</i>                                   | Nuttall's waterweed             | G5            | S2S3               |                | BLUE      |
| <i>Epilobium leptocarpum</i>                              | small-fruited willowherb        | G5            | S2S3               |                | BLUE      |
| <i>Epilobium pygmaeum</i>                                 | smooth spike-primrose           | G5            | SH                 |                | RED       |
| <b>Scientific Name</b>                                    | <b>English Name</b>             | <b>G Rank</b> | <b>Subnational</b> | <b>COSEWIC</b> | <b>BC</b> |



|                                                       |                            |               |                    |                | <b>Status</b> |
|-------------------------------------------------------|----------------------------|---------------|--------------------|----------------|---------------|
| <i>Epilobium saximontanum</i>                         | Rocky Mountain willowherb  | G5            | S2S3               |                | BLUE          |
| <i>Epipactis gigantea</i>                             | giant helleborine          | G3            | S2S3               | SC (1998)      | BLUE          |
| <i>Erigeron ochroleucus</i> var. <i>scribneri</i>     | buff daisy                 | G5T5          | S2S3               |                | BLUE          |
| <i>Erigeron ochroleucus</i> var. <i>scribneri</i>     | buff daisy                 | G5T5          | S2S3               |                | BLUE          |
| <i>Erigeron trifidus</i>                              | three-lobed daisy          | G2G3          | S2                 |                | RED           |
| <i>Eriogonum androsaceum</i>                          | androsace buckwheat        | G4G5          | S2S3               |                | BLUE          |
| <i>Eriogonum pauciflorum</i> var. <i>pauciflorum</i>  | few-flowered buckwheat     | G5T5          | SH                 |                | RED           |
| <i>Gaura coccinea</i>                                 | scarlet gaura              | G5            | S1                 |                | RED           |
| <i>Gayophytum humile</i>                              | dwarf groundsmoke          | G5            | S2S3               |                | BLUE          |
| <i>Gayophytum racemosum</i>                           | racemed groundsmoke        | G5            | S1                 |                | RED           |
| <i>Gayophytum ramosissimum</i>                        | hairstem groundsmoke       | G5            | S1                 |                | RED           |
| <i>Gentiana affinis</i>                               | prairie gentian            | G5            | S2S3               |                | BLUE          |
| <i>Gentiana calycosa</i>                              | mountain bog gentian       | G4            | S2S3               |                | BLUE          |
| <i>Glycyrrhiza lepidota</i>                           | wild licorice              | G5            | S2                 |                | RED           |
| <i>Hedeoma hispidum</i>                               | mock-pennyroyal            | G5            | S1                 |                | RED           |
| <i>Helenium autumnale</i> var. <i>grandiflorum</i>    | mountain sneezeweed        | G5T?          | S2S3               |                | BLUE          |
| <i>Helianthus nuttallii</i> var. <i>nuttallii</i>     | Nuttall's sunflower        | G5T5          | S1                 |                | RED           |
| <i>Heterocodon rariflorum</i>                         | Heterocodon                | G5            | S3                 |                | BLUE          |
| <i>Hypericum scouleri</i> ssp. <i>nortoniae</i>       | western St. John's-wort    | G5T?          | S2S3               |                | BLUE          |
| <i>Impatiens ecalcarata</i>                           | spurless touch-me-not      | G3G4          | S2S3               |                | BLUE          |
| <i>Isoetes howellii</i>                               | Howell's quillwort         | G4G5          | S1                 |                | RED           |
| <i>Juncus confusus</i>                                | Colorado rush              | G5            | S1                 |                | RED           |
| <i>Juncus regelii</i>                                 | Regel's rush               | G4?           | S3                 |                | BLUE          |
| <i>Lathyrus bijugatus</i>                             | pinewood peavine           | G4            | S1                 |                | RED           |
| <i>Lepidium densiflorum</i> var. <i>pubicarpum</i>    | prairie pepper-grass       | G5T4          | S1                 |                | RED           |
| <i>Lewisia triphylla</i>                              | three-leaved lewisia       | G4?           | S2S3               |                | BLUE          |
| <i>Linanthus septentrionalis</i>                      | northern linanthus         | G5            | S2S3               |                | BLUE          |
| <i>Lomatium sandbergii</i>                            | Sandberg's desert-parsley  | G4            | S2S3               |                | BLUE          |
| <i>Lomatium triternatum</i> ssp. <i>platycarpum</i>   | nine-leaved desert-parsley | G5T?          | S2                 |                | RED           |
| <i>Lupinus arbustus</i> ssp. <i>neolaxiflorus</i>     | spurred lupine             | G5T?          | SH                 |                | RED           |
| <i>Lupinus arbustus</i> ssp. <i>pseudoparviflorus</i> | Montana lupine             | G5T?          | S1                 |                | RED           |
| <i>Lupinus bingenensis</i> var. <i>subsaccatus</i>    | Suksdorf's lupine          | G4G5T?        | S1                 |                | RED           |
| <i>Melica spectabilis</i>                             | purple oniongrass          | G5            | S2S3               |                | BLUE          |
| <i>Minuartia austromontana</i>                        | Rocky Mountain sandwort    | G4            | S2S3               |                | BLUE          |
| <i>Minuartia elegans</i>                              | northern sandwort          | G4G5          | S2S3               |                | BLUE          |
| <i>Minuartia nuttallii</i> ssp. <i>nuttallii</i>      | Nuttall's sandwort         | G5T4T5        | S2S3               |                | BLUE          |
| <i>Muhlenbergia filiformis</i>                        | slender muhly              | G5            | S1                 |                | RED           |
| <i>Orobanche corymbosa</i> ssp. <i>mutabilis</i>      | flat-topped broomrape      | G4T3?         | S2                 |                | RED           |
| <i>Orobanche ludoviciana</i>                          | Suksdorf's broomrape       | G5T5          | S1                 |                | RED           |
| <b>Scientific Name</b>                                | <b>English Name</b>        | <b>G Rank</b> | <b>Subnational</b> | <b>COSEWIC</b> | <b>BC</b>     |

|                                                        |                               |        |      |  | <b>Status</b> |
|--------------------------------------------------------|-------------------------------|--------|------|--|---------------|
| <i>Papaver pygmaeum</i>                                | dwarf poppy                   | G3     | S2S3 |  | BLUE          |
| <i>Pellaea gastonyi</i>                                | Gastony's cliff-brake         | G2G3   | S2   |  | RED           |
| <i>Penstemon nitidus</i> var. <i>nitidus</i>           | shining penstemon             | G5T?   | S1   |  | RED           |
| <i>Phacelia lyallii</i>                                | Lyall's phacelia              | G3G4   | S2S3 |  | BLUE          |
| <i>Physaria didymocarpa</i> var. <i>didymocarpa</i>    | common twinpod                | G5T4   | S2S3 |  | BLUE          |
| <i>Plantago canescens</i>                              | arctic plantain               | G4G5   | S2S3 |  | BLUE          |
| <i>Plantago eriopoda</i>                               | alkali plantain               | G5     | S1   |  | RED           |
| <i>Polemonium elegans</i>                              | elegant Jacob's-ladder        | G4     | S2S3 |  | BLUE          |
| <i>Polygonum douglasii</i> ssp. <i>austiniae</i>       | Austin's knotweed             | G5T4   | S2S3 |  | BLUE          |
| <i>Polygonum douglasii</i> ssp. <i>engelmannii</i>     | Engelmann's knotweed          | G5T?   | S2S3 |  | BLUE          |
| <i>Potentilla diversifolia</i> var. <i>perdissecta</i> | diverse-leaved cinquefoil     | G5T4   | S2S3 |  | BLUE          |
| <i>Potentilla nivea</i> var. <i>pentaphylla</i>        | five-leaved cinquefoil        | G5T4   | S2S3 |  | BLUE          |
| <i>Potentilla ovina</i> var. <i>ovina</i>              | sheep cinquefoil              | G5?T5? | S2S3 |  | BLUE          |
| <i>Prenanthes sagittata</i>                            | arrow-leaved rattlesnake-root | G3G4   | S1   |  | RED           |
| <i>Salix boothii</i>                                   | Booth's willow                | G5     | S2S3 |  | BLUE          |
| <i>Schizachyrium scoparium</i>                         | little bluestem               | G5     | S1   |  | RED           |
| <i>Scolochloa festucacea</i>                           | Rivergrass                    | G5     | S2   |  | RED           |
| <i>Scutellaria angustifolia</i>                        | narrow-leaved skullcap        | G5     | S2S3 |  | BLUE          |
| <i>Senecio conterminus</i>                             | high alpine butterweed        | G3     | S2S3 |  | BLUE          |
| <i>Senecio hydrophiloides</i>                          | sweet-marsh butterweed        | G4G5   | S1   |  | RED           |
| <i>Senecio megacephalus</i>                            | large-headed groundsel        | G4?    | S2S3 |  | BLUE          |
| <i>Silene drummondii</i> var. <i>drummondii</i>        | Drummond's campion            | G5T5   | S3   |  | BLUE          |
| <i>Silene spaldingii</i>                               | Spalding's campion            | G2     | S1   |  | RED           |
| <i>Sphaeralcea coccinea</i>                            | scarlet globe-mallow          | G5?    | S1   |  | RED           |
| <i>Sphenopholis intermedia</i>                         | slender wedgegrass            | G5     | S2   |  | RED           |
| <i>Stellaria obtusa</i>                                | blunt-sepaed starwort         | G5     | S2S3 |  | BLUE          |
| <i>Thermopsis rhombifolia</i>                          | prairie golden bean           | G5     | S1   |  | RED           |
| <i>Townsendia hookeri</i>                              | Hooker's townsendia           | G5     | S2   |  | RED           |
| <i>Townsendia parryi</i>                               | Parry's townsendia            | G4?    | S1   |  | RED           |
| <i>Valeriana edulis</i> ssp. <i>edulis</i>             | edible valerian               | G5T5   | S2S3 |  | BLUE          |
| <i>Veronica catenata</i>                               | pink water speedwell          | G5     | S1   |  | RED           |

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

| Scientific Name                     | English Name                                       | G Rank | Subnational | COSEWIC                                         | BC Status |
|-------------------------------------|----------------------------------------------------|--------|-------------|-------------------------------------------------|-----------|
| <i>Aeronautes saxatalis</i>         | White-throated Swift                               | G5     | S3S4B,SZN   |                                                 | BLUE      |
| <i>Ardea herodias herodias</i>      | Great Blue heron, <i>herodias</i> subspecies       | G5T5   | S3B,S4N     |                                                 | BLUE      |
| <i>Ascaphus montanus</i>            | Rocky Mountain Tailed Frog                         | G4     | S1          | E (May 2000)                                    | RED       |
| <i>Asio flammeus</i>                | Short-eared Owl                                    | G5     | S3B,S2N     | SC (1994)                                       | BLUE      |
| <i>Botaurus lentiginosus</i>        | American Bittern                                   | G4     | S3B,SZN     |                                                 | BLUE      |
| <i>Buteo swainsoni</i>              | Swainson's Hawk                                    | G5     | S2B,SZN     |                                                 | RED       |
| <i>Chrysemys picta</i>              | Painted Turtle                                     | G5     | S3S4        |                                                 | BLUE      |
| <i>Clethrionomys gapperi galei</i>  | Southern Red-backed Vole, <i>galei</i> subspecies  | G5T?Q  | S3S4        |                                                 | BLUE      |
| <i>Colias meadii</i>                | Mead's Sulphur                                     | G4G5   | S3          |                                                 | BLUE      |
| <i>Cottus bairdi hubbsi</i>         | Mottled Sculpin, <i>hubbsi</i> subspecies          | G5T4Q  | S3          | SC (MAY 2000)                                   | BLUE      |
| <i>Dolichonyx oryzivorus</i>        | Bobolink                                           | G5     | S3B,SZN     |                                                 | BLUE      |
| <i>Everes comyntas</i>              | Eastern Tailed Blue                                | G5     | S3          |                                                 | BLUE      |
| <i>Falco mexicanus</i>              | Prairie Falcon                                     | G5     | S2B,SZN     | NAR (1996)                                      | RED       |
| <i>Falco peregrinus anatum</i>      | Peregrine Falcon, <i>anatum</i> subspecies         | G4T3   | S2B,SZN     | T (MAY 2000)                                    | RED       |
| <i>Grus canadensis</i>              | Sandhill Crane                                     | G5     | S3S4B,SZN   | NAR (1979) <i>G. canadensis tabida</i> assessed | BLUE      |
| <i>Gulo gulo luscus</i>             | Wolverine, <i>luscus</i> subspecies                | G4T4   | S3          | SC (1989) WESTERN POPULATION ONLY               | BLUE      |
| <i>Lycaena dione</i>                | Dione Copper                                       | G5     | S1          |                                                 | RED       |
| <i>Martes pennanti</i>              | Fisher                                             | G5     | S3          |                                                 | BLUE      |
| <i>Melanerpes lewis</i>             | Lewis's Woodpecker                                 | G4     | S3B,SZN     | SC (NOV 2001)                                   | BLUE      |
| <i>Myotis septentrionalis</i>       | Northern Long-eared Myotis                         | G4     | S2S3        |                                                 | BLUE      |
| <i>Numenius americanus</i>          | Long-billed Curlew                                 | G5     | S3B,SZN     | SC (1992)                                       | BLUE      |
| <i>Oncorhynchus clarki lewisi</i>   | Cutthroat Trout, <i>lewisi</i> subspecies          | G4T3   | S3SE        |                                                 | BLUE      |
| <i>Otus flammeolus</i>              | Flammulated Owl                                    | G4     | S3S4B,SZN   | SC (NOV 2001)                                   | BLUE      |
| <i>Otus kennicottii macfarlanei</i> | Western Screech-Owl, <i>macfarlanei</i> subspecies | G5T4   | S1          | E (MAY 2002)                                    | RED       |

|                                             |                                                    |               |                    |                                                   |                  |
|---------------------------------------------|----------------------------------------------------|---------------|--------------------|---------------------------------------------------|------------------|
| <i>Ovis canadensis</i>                      | Bighorn Sheep                                      | G4            | S2S3               |                                                   | BLUE             |
| <i>Parnassius clodius altaurus</i>          | Clodius Appolo, <i>altaurus</i> subspecies         | G5T3T4        | S3S4               |                                                   | BLUE             |
| <b>Scientific Name</b>                      | <b>English Name</b>                                | <b>G Rank</b> | <b>Subnational</b> | <b>COSEWIC</b>                                    | <b>BC Status</b> |
| <i>Pyrgus communis</i>                      | Checkered Skipper                                  | G5            | S3                 |                                                   | BLUE             |
| <i>Rana pipiens</i>                         | Northern Leopard Frog                              | G5            | S1                 | E (May 2000)                                      | RED              |
| <i>Rangifer tarandus</i> pop. 1             | Caribou (southern population)                      | G5T2Q         | S2                 | T (MAY 2000) SC (MAY 2002) COSEWIC recognizes two | RED              |
| <i>Salvelinus confluentus</i>               | Bull Trout                                         | G3            | S3                 |                                                   | BLUE             |
| <i>Sphyrapicus thyroideus nataliae</i>      | Williamson's sapsucker, <i>nataliae</i> subspecies | G5TU          | S1S2B              |                                                   | RED              |
| <i>Tamias minimus oreocetes</i>             | Least Chipmunk, <i>oreocetes</i> subspecies        | G5T3          | S2S3               |                                                   | BLUE             |
| <i>Tamias ruficaudus ruficaudus</i>         | Red-tailed Chipmunk, <i>ruficaudus</i> subspecies  | G5T5          | S2                 |                                                   | RED              |
| <i>Taxidea taxus</i>                        | Badger                                             | G5            | S1                 | E (May 2000)                                      | RED              |
| <i>Tympanuchus phasianellus columbianus</i> | Sharp-tailed Grouse, <i>columbianus</i> subspecies | G4T3          | S2S3               |                                                   | BLUE             |
| <i>Ursus arctos</i>                         | Grizzly Bear                                       | G4            | S3                 | SC (MAY 2002)                                     | BLUE             |