**Skeena Region** 

# MANAGEMENT DIRECTION STATEMENT September 2004



for Vladimir J. Krajina Ecological Reserve



Ministry of Water, Land and Air Protection Environmental Stewardship Division

### Vladimir J. Krajina Ecological Reserve Approvals Page

#### Forward

On May 29, 1973, Order In Council #1827/73 established Vladimir J. Krajina Ecological Reserve. Legislated status was provided on June 29, 2000, when the ecological reserve was listed in Schedule B of the *Protected Areas of British Columbia Act*.

This management direction statement for Vladimir J. Krajina Ecological Reserve provides management direction until the Environmental Stewardship Division revises the plan or prepares a more detailed management plan. Ongoing consultation between the Environmental Stewardship Division and First Nations may require changes to this management direction statement.

Implementation of strategies identified in the management direction statement (MDS) will be dependent on available funding and Environmental Stewardship Division priorities.

**Approvals**:

Regional Manager

Regional Manager Skeena Region Environmental Stewardship Division

Assistant Deputy Minister Environmental Stewardship Division

t. 1,2004

. sept. 25, 2007

Date

#### **Table of Contents**

#### Page

VLADIMIR J. KRAJINA ECOLOGICAL RESERVE APPROVALS PAGE	I
INTRODUCTION	1
PURPOSE OF THE MANAGEMENT DIRECTION STATEMENT	
ECOLOGICAL RESERVE ATTRIBUTES	4
CONSERVATION	
RESEARCH AND EDUCATION	
RECREATION AND COMMERCIAL USE	
OTHER VALUES OF IMPORTANCE	
SIGNIFICANCE IN THE PROTECTED AREAS SYSTEM	7
LAND USES, TENURES AND INTERESTS	7
A ccess	7
EXISTING TENURES, ALIENATIONS AND ENCUMBRANCES	
ADJACENT PATTERNS OF LAND USE	
FIRST NATIONS INTERESTS	
OTHER AGENCY INTERESTS	
PRIVATE AND PUBLIC STAKEHOLDER INTERESTS	
ECOLOGICAL RESERVE STATEMENT	8
CONSERVATION ROLE	9
RESEARCH AND EDUCATION ROLE	9
MANAGEMENT COMMITMENTS AND ISSUES	9
MANAGEMENT DIRECTION FROM PREVIOUS PLANNING	9
MANAGEMENT ISSUES	9
MANAGEMENT DIRECTION	
PRIORITY MANAGEMENT OBJECTIVES AND STRATEGIES	
CONSULTATION AND FUTURE PLANNING	

#### FIGURES

Ecological Reserve Location Map	
Ecological Reserve Map	
Acceptable Activities / Uses Matrix	

# Vladimir J. Krajina Ecological Reserve

# **Management Direction Statement**

# Introduction

# **Purpose of the Management Direction Statement**

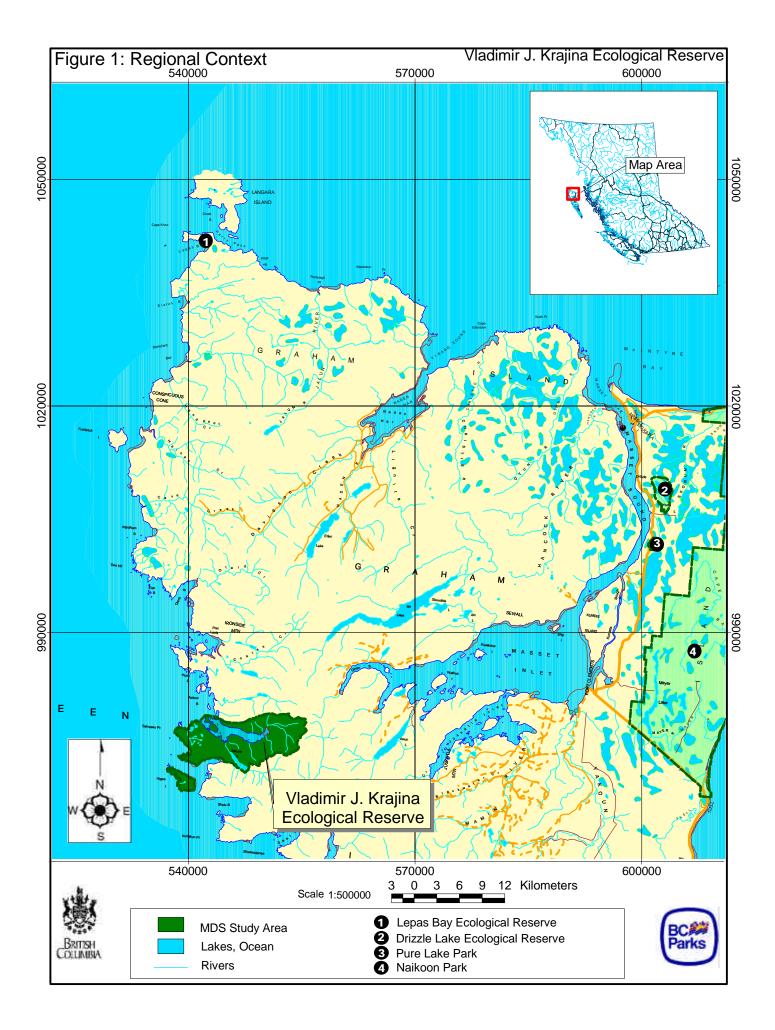
Management direction statements (MDS) provide strategic management direction for protected areas that do not have an approved management plan. Management direction statements also describe protected area values, management issues and concerns; a management strategy focused on immediate priority objectives and strategies; and, direction statements from other planning processes. While the MDS identifies strategies, the completion of strategies is dependent on funding and funding procedures. All development associated with these strategies is subject to the Parks and Protected Areas Branch's Impact Assessment Policy.

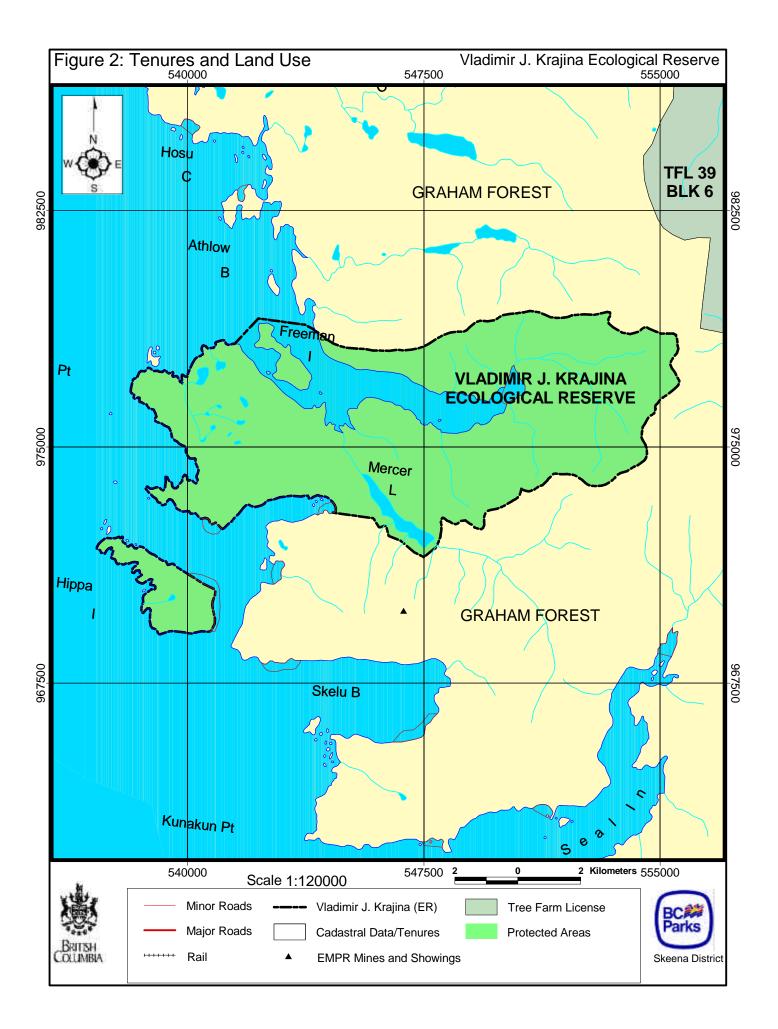
## Context

Vladimir J. Krajina Ecological Reserve is located on the middle west coast of Graham Island, the large northern island in the Queen Charlotte Islands (Haida Gwaii), approximately 35 kilometres west of Juskatla. The 9,834 ha ecological reserve was established on May 29, 1973, to protect representative ecosystems, rare genetic resources, and outstanding biological phenomena in a remote coastal setting.

The ecological reserve protects representative ecosystems within the Queen Charlotte Mountains, which contains a hyper-oceanic climate that is wetter than other parts of the archipelago. Vladimir J. Krajina Ecological Reserve conserves internationally significant wildlife and plant species that are endemic to the Queen Charlotte Islands, and protects provincially significant ecosystems, wildlife, vascular and non-vascular plant species and plant communities.

The Haida have identified the Queen Charlotte Islands, which Vladimir J. Krajina Ecological Reserve lies within, as asserted traditional territory.





# **Ecological Reserve Attributes**

## Conservation

- Vladimir J. Krajina Ecological Reserve is situated in the Windward Queen Charlotte Mountains Ecosection. This ecosection is well represented (33.28%) in the protected areas system. Vladimir J. Krajina Ecological Reserve contributes 6.78% of the overall representation of this ecosection.
- Vladimir J. Krajina Ecological Reserve is situated in the Coastal Western Hemlock, Central Very Wet Hypermaritime (CWHvh2), Mountain Hemlock, Wet Hypermaritime (MHwh) and Alpine Tundra (ATunp). The MHwh is under-represented in the protected areas system (5.18%). Vladimir J. Krajina Ecological Reserve contributes 5.16% of the protected areas system representation of this variant, placing it second overall behind South Moresby National Park Reserve.
- Vladimir J. Krajina Ecological Reserve protects two large islands, a fjord (Port Chanal) and 60 kilometres of marine shoreline that contain a complete estuary and an undisturbed littoral environment.
- Vladimir J. Krajina Ecological Reserve is the only provincial protected area that lies within the Continental Shelf Marine Ecosection; though its contribution to total representation is very minimal. 4.6% of this marine ecosection is protected. The majority of the representation is provided by the proposed Gwaii Haanas National Marine Conservation Area Reserve. Vladimir J. Krajina Ecological Reserve and the proposed Gwaii Haanas National Marine Conservation Area Reserve are the only protected areas in this marine ecosection.
- The marine portion of the ecological reserve is considered a special feature as it protects an estuary and transitional marine habitat at the edge of the continental shelf. The sockeye population in the Mercer watershed are unusual being positioned so close to the continental shelf. Northern abalone (COSEWIC listed threatened) are thought to occur within the ecological reserve.
- The ecological reserve is an internationally significant refuge for all endemic bird and mammal species that are known to occur in the Queen Charlotte Islands.
- The ecological reserve contains two (2) provincially blue-listed biogeoclimatic subzone variants, two (2) rare marine environments, 40 rare plant species including one provincially red-listed and four (4) blue-listed species and six (6) blue-listed bird species.

### Flora

- The ecological reserve contains an elevational gradient of three biogeoclimatic zones Coastal Western Hemlock, Mountain Hemlock and Alpine Tundra.
  - Two (2) of the biogeoclimatic subzone variants are provincially significant
    - The blue-listed CWHvh2 (Coastal Western Hemlock Central Very Wet Hypermaritime).
    - The blue-listed MHwh (Mountain Hemlock Wet Hypermaritime).
- Two provincial red- and 10 blue-listed plant communities are associated with the significant biogeoclimatic subzone variants (Table 1). The communities may be located in the ecological reserve, however, inventory data are lacking.

- The ecological reserve contains blanket bogs and old-growth coniferous forests, including a lowland Sitka spruce forest that show remarkable variation in composition.
- Over 40 rare plant species, including one (1) provincially red-listed and four (4) blue-listed species have been recorded in Vladimir J. Krajina Ecological Reserve (Table 2):
  - The ecological reserve is the only known location in British Columbia for the northern butterweed (*Senecio cymbalaria*) which is blue-listed.
- Two (2) sphagnum moss species that are new to science are found in the ecological reserve.
- Several plant species that are endemic to the Queen Charlotte Islands, such as the Queen Charlotte isopyrum, are found in the ecological reserve.
- The ecological reserve is extremely rich in liverworts and mosses.

# Table 1: Endangered (Red list) and threatened (Blue list) plant communities that may be located in the Vladimir J. Krajina Ecological Reserve

Picea sitchensis / Trisetum       Sitka spruce / Trisetum       CWHvh2/09       S2       Red         Picea sitchensis /       Sitka spruce / false lily-of-the-valley       CWHvh2/08       S2       Red         Maianthemum dilatatum Wet       Sitka spruce / false lily-of-the-valley       CWHvh2/08       S2       Red         Alnus rubra / Maianthemum       Red alder / false lily-of-the-valley       CWHvh2/10       S3       Blue         Picea sitchensis - Tsuga       Red alder / false lily-of-the-valley       CWHvh2/10       S3       Blue         Picea sitchensis - Tsuga       Sitka spruce - mountain hemlock /       reed grass       MHwh1/03       S3       Blue         Picea sitchensis /       Calamagrostis nutkaensis       Sitka spruce / reedgrass       CWHvh2/16       S3       Blue         Picea sitchensis / Carex       Sitka spruce / slough sedge       CWHvh2/18       S3       Blue         Picea sitchensis / Malus       Sitka spruce / sword fern       CWHvh2/17       S3       Blue         Picea sitchensis / Dolpanax       Western redcedar - Sitka spruce /       Sitka spruce /       Sitka spruce /       Sitka spruce /         Polystichum munitum       Sitke stern redcedar - Sitka spruce /       Sitka spruce /       Sitka spruce /       Sitka spruce /         Phorridus Very Wet       Hype		<i>a N</i>		Provincial	Provincial
canescensSitka spruce / TrisetumCWHvh2/09S2RedPicea sitchensis / Maianthemum dilatatum WetSitka spruce / false lily-of-the- valley Wet Hypermaritime 1CWHvh2/08S2RedHypermaritime 1valley Wet Hypermaritime 1CWHvh2/08S2RedAlnus rubra / Maianthemum dilatatumRed alder / false lily-of-the-valleyCWHvh2/10S3BluePicea sitchensis - Tsuga mertensiana / Calamagrostis nutkaensisRed alder / false lily-of-the-valleyCWHvh2/10S3BluePicea sitchensis / Ceadamagrostis nutkaensisreed grassMHwh1/03S3BluePicea sitchensis / Cea sitchensis / Carex obnuptasitka spruce / reedgrassCWHvh2/16S3BluePicea sitchensis / Carex obnuptasitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / Carex obnuptasitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / fuscasitka spruce / slough sedgeCWHvh2/17S3BluePicea sitchensis / fuscasitka spruce / sword fernCWHvh2/17S3BluePicea sitchensis / horridus Very Wetdevil's club Very WetcWHvh2/07S3BlueHypermaritime 2Hypermaritime 2CWHvh2/07S3BlueThuja plicata - Picea sitchensis - LysichiumWestern redcedar - Sitka spruce /cWHvh2/07S3BlueThuja plicata - Picea sitchensis - LysichiumWestern redcedar/Sitka spruce /cWHvh2/13S3BlueThuja pl	Scientific Name	Common Name	BEC	Rank	List
Picea sitchensis / Maianthemum dilatatum Wet       Sitka spruce / false lily-of-the- valley Wet Hypermaritime 1       CWHvh2/08       S2       Red         Alnus rubra / Maianthemum       Red alder / false lily-of-the-valley       CWHvh2/10       S3       Blue         Picea sitchensis - Tsuga mertensiana / Calamagrostis       Red alder / false lily-of-the-valley       CWHvh2/10       S3       Blue         Picea sitchensis - Tsuga mertensiana / Calamagrostis       Sitka spruce - mountain hemlock / reed grass       MHwh1/03       S3       Blue         Picea sitchensis / Calamagrostis nutkaensis       Sitka spruce / reedgrass       CWHvh2/16       S3       Blue         Picea sitchensis / Calamagrostis nutkaensis       Sitka spruce / reedgrass       CWHvh2/18       S3       Blue         Picea sitchensis / Carex obnupta       Sitka spruce / slough sedge       CWHvh2/18       S3       Blue         Picea sitchensis / Polystichum munitum       Sitka spruce / sword fern       CWHvh2/17       S3       Blue         Picea sitchensis / Polystichum munitum       Sitka spruce / sword fern       CWHvh2/17       S3       Blue         Thuja plicata - Picea sitchensis / Oplopanax Hypermaritime 2       Western redcedar - Sitka spruce / sword fern       CWHvh2/05       S2S3       Blue         Thuija plicata - Picea sitchensis / Polysti	Picea sitchensis / Trisetum				
Maianthemum dilatatum Wet Hypermaritime 1Sitka spruce / false lily-of-the- valley Wet Hypermaritime 1CWHvh2/08S2RedAlnus rubra / Maianthemum dilatatumRed alder / false lily-of-the-valleyCWHvh2/10S3BluePicea sitchensis - Tsuga mertensiana / Calamagrostis nutkaensisRed alder / false lily-of-the-valleyCWHvh2/10S3BluePicea sitchensis - Tsuga mertensiana / Calamagrostis reed grassSitka spruce - mountain hemlock / reed grassMHwh1/03S3BluePicea sitchensis / Calamagrostis nutkaensisSitka spruce / reedgrassCWHvh2/16S3BluePicea sitchensis / Carex obnuptaSitka spruce / reedgrassCWHvh2/18S3BluePicea sitchensis / Malus fuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / Malus fuscaSitka spruce / sword fernCWHvh2/17S3BluePicea sitchensis / Polystichum munitumSitka spruce / sword fernCWHvh2/17S3BluePicea sitchensis / Oplopanax horridus Very WetWestern redcedar - Sitka spruce / devil's club Very WetWestern redcedar - Sitka spruce / sword fernCWHvh2/07S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / sword fernCWHvh2/05S2S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / sword fernCWHvh2/13S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redc	canescens	Sitka spruce / Trisetum	CWHvh2/09	S2	Red
Hypermaritime 1valley Wet Hypermaritime 1CWHvh2/08S2RedAlnus rubra / Maianthemum dilatatumRed alder / false lily-of-the-valleyCWHvh2/10S3BluePicea sitchensis - Tsuga mertensiana / CalamagrostisSitka spruce - mountain hemlock / reed grassCWHvh2/10S3BluePicea sitchensis / Calamagrostis nutkaensisreed grassMHwh1/03S3BluePicea sitchensis / Calamagrostis nutkaensisSitka spruce / reedgrassCWHvh2/16S3BluePicea sitchensis / Carex obnuptaSitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / Malus fuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / fuscaSitka spruce / Pacific crabappleCWHvh2/17S3BluePicea sitchensis / horridus Very Wet hypermaritime 2Western redcedar - Sitka spruce / devil's club Very WetS3BlueHypermaritime 2Hypermaritime 2CWHvh2/07S3BlueThuja plicata - Picea sitchensis / Polystichum horridus Very WetWestern redcedar - Sitka spruce / western redcedar - Sitka spruce / sword fernS2S2BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / sword fernS2S2BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / sword fernS2S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / sword fernS3Blue <td>Picea sitchensis /</td> <td></td> <td></td> <td></td> <td></td>	Picea sitchensis /				
Alnus rubra / Maianthemum dilatatumRed alder / false lily-of-the-valleyCWHvh2/10S3BluePicea sitchensis - Tsuga mertensiana / CalamagrostisSitka spruce - mountain hemlock / reed grassMHwh1/03S3BluePicea sitchensis / Calamagrostis nutkaensisSitka spruce - reedgrassMHwh1/03S3BluePicea sitchensis / Calamagrostis nutkaensisSitka spruce / reedgrassCWHvh2/16S3BluePicea sitchensis / Carex obnuptaSitka spruce / reedgrassCWHvh2/18S3BluePicea sitchensis / Malus fuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / Malus fuscaSitka spruce / Pacific crabappleCWHvh2/17S3BluePicea sitchensis / fuscaSitka spruce / sword fernCWHvh2/17S3BluePolystichum munitumSitka spruce / sword fernCWHvh2/17S3BlueThuja plicata - Picea sitchensis / Oplopanax horridus Very WetWestern redcedar - Sitka spruce / devil's club Very WetHypermaritime 2S2S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / sword fernS2S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / sword fernS2S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / sword fernS2S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / <b< td=""><td></td><td></td><td></td><td></td><td></td></b<>					
dilatatumRed alder / false lily-of-the-valleyCWHvh2/10S3BluePicea sitchensis - Tsuga mertensiana / Calamagrostis nutkaensisSitka spruce - mountain hemlock / reed grassMHwh1/03S3BluePicea sitchensis / Calamagrostis nutkaensisSitka spruce / reedgrassMHwh1/03S3BluePicea sitchensis / Carex obnuptaSitka spruce / reedgrassCWHvh2/16S3BluePicea sitchensis / Carex obnuptaSitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / Malus fuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / Malus fuscaSitka spruce / slough sedgeCWHvh2/19S3BluePicea sitchensis / Polystichum munitumSitka spruce / sword fernCWHvh2/17S3BluePicea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / devil's club Very WetHypermaritime 2Hypermaritime 2Hypermaritime 2Thuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / sword fernCWHvh2/05S2S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce - sword fernCWHvh2/13S3BlueThuja plicata - Picea sitchensis - LysichitumWestern redcedar/Sitka spruce - skunk cabbageCWHvh2/13S3BlueThuja plicata/Picea sitchensis - LysichitumWestern hemlock - Sitka spruce - skunk cabbageS3Blue	Hypermaritime 1	valley Wet Hypermaritime 1	CWHvh2/08	S2	Red
Picea sitchensis - Tsuga mertensiana / Calamagrostis nutkaensisSitka spruce - mountain hemlock / reed grassMHwh1/03S3BluePicea sitchensis / Calamagrostis nutkaensisSitka spruce / reedgrassCWHvh2/16S3BluePicea sitchensis / Carex obnuptaSitka spruce / reedgrassCWHvh2/18S3BluePicea sitchensis / Carex obnuptaSitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / Malus fuscaSitka spruce / slough sedgeCWHvh2/19S3BluePicea sitchensis / Polystichum munitumSitka spruce / Pacific crabappleCWHvh2/17S3BlueThuja plicata - Picea sitchensis / Oplopanax horridus Very WetWestern redcedar - Sitka spruce / devil's club Very WetWestern redcedar - Sitka spruce / western redcedar - Sitka spruce / S3BlueThuja plicata - Picea sitchensis / Dolystichum munitumWestern redcedar - Sitka spruce / devil's club Very WetS3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / devil's club Very WetS3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / stus apruce / S3BlueS3BlueThuja plicata - Picea sitchensis - Lysichitum skunk cabbageWestern redcedar - Sitka spruce / S3S3BlueThuja plicata/Picea sitchensis - Lysichitum skunk cabbageWestern redcedar/Sitka spruce - skunk cabbageS3BlueTsuga heterophylla - Picea sitchensis / Rhytidiadelphus <td>Alnus rubra / Maianthemum</td> <td></td> <td></td> <td></td> <td></td>	Alnus rubra / Maianthemum				
mertensiana / CalamagrostisSitka spruce - mountain hemlock / reed grassMHwh1/03S3BluePicea sitchensis / Calamagrostis nutkaensisSitka spruce / reedgrassCWHvh2/16S3BluePicea sitchensis / Carex obnuptaSitka spruce / reedgrassCWHvh2/16S3BluePicea sitchensis / Carex obnuptaSitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / Malus fuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / Polystichum munitumSitka spruce / Pacific crabappleCWHvh2/17S3BlueThuja plicata - Picea sitchensis / Oplopanax horridus Very WetWestern redcedar - Sitka spruce / devil's club Very WetWestern redcedar - Sitka spruce / S3BlueThuja plicata - Picea sitchensis / Oplopanax horridus Very WetWestern redcedar - Sitka spruce / Western redcedar - Sitka spruce / S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / Western redcedar - Sitka spruce / S3BlueThuja plicata - Picea sitchensis / Polystichum skunk cabbageCWHvh2/05S2S3BlueThuja plicata/Picea sitchensis - Lysichitum skunk cabbageWestern redcedar/Sitka spruce - skunk cabbageS3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / stika spruce - stika spruce - stika spruce - skunk cabbageS3Blue	dilatatum	Red alder / false lily-of-the-valley	CWHvh2/10	<b>S</b> 3	Blue
nutkaensisreed grassMHwh1/03S3BluePicea sitchensis / Calamagrostis nutkaensisSitka spruce / reedgrassCWHvh2/16S3BluePicea sitchensis / Carex obnuptaSitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / Malus fuscaSitka spruce / slough sedgeCWHvh2/19S3BluePicea sitchensis / fuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / Polystichum munitumSitka spruce / sword fernCWHvh2/17S3BlueThuja plicata - Picea sitchensis / Oplopanax Hypermaritime 2Western redcedar - Sitka spruce / devil's club Very Wet Hypermaritime 2Kestern redcedar - Sitka spruce / Kestern redcedar - Sitka spruce / S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / Kestern redcedar - Sitka spruce / S3BlueThuja plicata/Picea sitchensis / LysichitumWestern redcedar/Sitka spruce / skunk cabbageCWHvh2/05S2S3Thuja plicata/Picea sitchensis - LysichitumWestern redcedar/Sitka spruce - skunk cabbageS3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / Sitka spruce /S3Blue	Picea sitchensis - Tsuga				
nutkaensisreed grassMHwh1/03S3BluePicea sitchensis / Calamagrostis nutkaensisSitka spruce / reedgrassCWHvh2/16S3BluePicea sitchensis / Carex obnuptaSitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / Malus fuscaSitka spruce / slough sedgeCWHvh2/19S3BluePicea sitchensis / fuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / Polystichum munitumSitka spruce / sword fernCWHvh2/17S3BlueThuja plicata - Picea sitchensis / Oplopanax Hypermaritime 2Western redcedar - Sitka spruce / devil's club Very Wet Hypermaritime 2Kestern redcedar - Sitka spruce / Kestern redcedar - Sitka spruce / S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / Kestern redcedar - Sitka spruce / S3BlueThuja plicata/Picea sitchensis / LysichitumWestern redcedar/Sitka spruce / skunk cabbageCWHvh2/05S2S3Thuja plicata/Picea sitchensis - LysichitumWestern redcedar/Sitka spruce - skunk cabbageS3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / Sitka spruce /S3Blue	mertensiana / Calamagrostis	Sitka spruce - mountain hemlock /			
Calamagrostis nutkaensisSitka spruce / reedgrassCWHvh2/16S3BluePicea sitchensis / Carex obnuptaSitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / Malus fuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / Polystichum munitumSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / Polystichum munitumSitka spruce / sword fernCWHvh2/17S3BlueThuja plicata - Picea sitchensis / Oplopanax horridus Very WetWestern redcedar - Sitka spruce / devil's club Very WetCWHvh2/07S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / devil's club Very WetCWHvh2/07S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / western redcedar - Sitka spruce / sword fernCWHvh2/05S2S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / western redcedar - Sitka spruce / sword fernCWHvh2/05S2S3BlueThuja plicata / Picea sitchensis - LysichitumWestern redcedar/Sitka spruce - skunk cabbageS3BlueS3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / Western hemlock - Sitka spruce /S3Blue	_	-	MHwh1/03	<b>S</b> 3	Blue
Picea sitchensis / Carex obnuptaSitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / Malus fuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / Polystichum munitumSitka spruce / Pacific crabappleCWHvh2/17S3BluePicea sitchensis / Polystichum munitumSitka spruce / sword fernCWHvh2/17S3BlueThuja plicata - Picea sitchensis / Oplopanax horridus Very Wet Hypermaritime 2Western redcedar - Sitka spruce / devil's club Very WetKestern redcedar - Sitka spruce / S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / devil's club Very WetCWHvh2/07S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / sword fernCWHvh2/05S2S3BlueThuja plicata - Picea sitchensis - Lysichitum a mericanumWestern redcedar/Sitka spruce - skunk cabbageCWHvh2/13S3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / stka spruce /CWHvh2/13S3Blue	Picea sitchensis /				
Picea sitchensis / Carex obnuptaSitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / Malus fuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / Polystichum munitumSitka spruce / Pacific crabappleCWHvh2/17S3BluePicea sitchensis / Polystichum munitumSitka spruce / sword fernCWHvh2/17S3BlueThuja plicata - Picea sitchensis / Oplopanax horridus Very Wet Hypermaritime 2Western redcedar - Sitka spruce / devil's club Very WetKestern redcedar - Sitka spruce / S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / devil's club Very WetCWHvh2/07S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / sword fernCWHvh2/05S2S3BlueThuja plicata - Picea sitchensis - Lysichitum a mericanumWestern redcedar/Sitka spruce - skunk cabbageCWHvh2/13S3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / stka spruce /CWHvh2/13S3Blue	Calamagrostis nutkaensis	Sitka spruce / reedgrass	CWHvh2/16	<b>S</b> 3	Blue
obnuptaSitka spruce / slough sedgeCWHvh2/18S3BluePicea sitchensis / MalusSitka spruce / Pacific crabappleCWHvh2/19S3BluefuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis /Sitka spruce / sword fernCWHvh2/17S3BluePolystichum munitumSitka spruce / sword fernCWHvh2/17S3BlueThuja plicata - PiceaWestern redcedar - Sitka spruce / devil's club Very Wet<	Ť.				
Picea sitchensis / MalusSitka spruce / Pacific crabappleCWHvh2/19S3BluefuscaSitka spruce / Pacific crabappleCWHvh2/17S3BluePicea sitchensis / Polystichum munitumSitka spruce / sword fernCWHvh2/17S3BlueThuja plicata - Picea sitchensis / OplopanaxWestern redcedar - Sitka spruce / devil's club Very WetHypermaritime 2Hypermaritime 2CWHvh2/07S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / western redcedar - Sitka spruce / sword fernCWHvh2/07S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / western redcedar - Sitka spruce / sword fernCWHvh2/05S2S3BlueThuja plicata/Picea sitchensis - LysichitumWestern redcedar/Sitka spruce - skunk cabbageS3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / stka spruce /S3Blue		Sitka spruce / slough sedge	CWHvh2/18	<b>S</b> 3	Blue
fuscaSitka spruce / Pacific crabappleCWHvh2/19S3BluePicea sitchensis / Polystichum munitumSitka spruce / sword fernCWHvh2/17S3BlueThuja plicata - Picea sitchensis / Oplopanax horridus Very WetWestern redcedar - Sitka spruce / devil's club Very WetImage: CWHvh2/17S3BlueHypermaritime 2Hypermaritime 2CWHvh2/07S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / devil's club Very WetImage: CWHvh2/07S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / western redcedar - Sitka spruce / western redcedar - Sitka spruce / munitumS2S3BlueThuja plicata/Picea sitchensis - LysichitumWestern redcedar/Sitka spruce - skunk cabbageCWHvh2/13S3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / Western hemlock - Sitka spruce /Image: CWHvh2/13S3Blue	<b>^</b>				
Picea sitchensis / Polystichum munitumSitka spruce / sword fernCWHvh2/17S3BlueThuja plicata - Picea sitchensis / OplopanaxWestern redcedar - Sitka spruce / devil's club Very WetImage: CWHvh2/07S3BlueHypermaritime 2Hypermaritime 2CWHvh2/07S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / devil's club Very WetImage: CWHvh2/07S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / western redcedar - Sitka spruce / munitumImage: CWHvh2/05S2S3BlueThuja plicata/Picea sitchensis - LysichitumWestern redcedar/Sitka spruce - skunk cabbageCWHvh2/13S3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / Western hemlock - Sitka spruce /Image: CWHvh2/13S3Blue	fusca	Sitka spruce / Pacific crabapple	CWHvh2/19	<b>S</b> 3	Blue
Thuja plicata - Picea sitchensis / OplopanaxWestern redcedar - Sitka spruce / devil's club Very Wet Hypermaritime 2Western redcedar - Sitka spruce / CWHvh2/07S3BlueThuja plicata - Picea sitchensis / PolystichumWestern redcedar - Sitka spruce / sword fernCWHvh2/07S3BlueThuja plicata / Picea sitchensis - LysichitumWestern redcedar/Sitka spruce - skunk cabbageCWHvh2/13S3Blue	Picea sitchensis /				
sitchensis / OplopanaxWestern redcedar - Sitka spruce / devil's club Very WetImage: CWHvh2/07Image:	Polystichum munitum	Sitka spruce / sword fern	CWHvh2/17	<b>S</b> 3	Blue
sitchensis / OplopanaxWestern redcedar - Sitka spruce / devil's club Very WetImage: CWHvh2/07Image:	Thuja plicata - Picea				
horridus Very Wet Hypermaritime 2devil's club Very Wet Hypermaritime 2CWHvh2/07S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / sword fernCWHvh2/05S2S3BlueThuja plicata/Picea sitchensis - Lysichitum americanumWestern redcedar/Sitka spruce - skunk cabbageCWHvh2/13S3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / stka spruce /CWHvh2/13S3Blue	0 1	Western redcedar - Sitka spruce /			
Hypermaritime 2Hypermaritime 2CWHvh2/07S3BlueThuja plicata - Picea sitchensis / Polystichum munitumWestern redcedar - Sitka spruce / sword fernCWHvh2/05S2S3BlueThuja plicata/Picea sitchensis - Lysichitum americanumWestern redcedar/Sitka spruce - skunk cabbageCWHvh2/13S3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / stka spruce /CWHvh2/13S3Blue		<u> </u>			
Thuja plicata - PiceaWestern redcedar - Sitka spruce / sword fernCWHvh2/05S2S3BlueThuja plicata/PiceaWestern redcedar/Sitka spruce - sitchensis - LysichitumWestern redcedar/Sitka spruce - skunk cabbageBlueBlueTsuga heterophylla - PiceaWestern hemlock - Sitka spruce / Sitka spruce /CWHvh2/13S3Blue	-	2	CWHvh2/07	<b>S</b> 3	Blue
sitchensis / PolystichumWestern redcedar - Sitka spruce / sword fernCWHvh2/05S2S3BlueThuja plicata/PiceaCWHvh2/05S2S3Bluesitchensis - LysichitumWestern redcedar/Sitka spruce - skunk cabbage </td <td></td> <td></td> <td></td> <td></td> <td></td>					
munitumsword fernCWHvh2/05S2S3BlueThuja plicata/PiceaWestern redcedar/Sitka spruce - skunk cabbageHereinHereinHereinTsuga heterophylla - PiceaWestern hemlock - Sitka spruce /S3Blue		Western redcedar - Sitka spruce /			
Thuja plicata/PiceaWestern redcedar/Sitka spruce - skunk cabbageBlueamericanumS3BlueTsuga heterophylla - PiceaWestern hemlock - Sitka spruce /CWHvh2/13	-	<u> </u>	CWHvh2/05	S2S3	Blue
sitchensis - LysichitumWestern redcedar/Sitka spruce - skunk cabbageCWHvh2/13S3BlueTsuga heterophylla - Picea sitchensis / RhytidiadelphusWestern hemlock - Sitka spruce / </td <td></td> <td></td> <td></td> <td></td> <td></td>					
americanumskunk cabbageCWHvh2/13S3BlueTsuga heterophylla - Piceasitchensis / RhytidiadelphusWestern hemlock - Sitka spruce /	* *	Western redcedar/Sitka spruce -			
Tsuga heterophylla - Picea       sitchensis / Rhytidiadelphus       Western hemlock - Sitka spruce /	-	-	CWHvh2/13	<b>S</b> 3	Blue
sitchensis / Rhytidiadelphus Western hemlock - Sitka spruce /					
	0 1 2	Western hemlock - Sitka spruce /			
	loreus	lanky moss	CWHvh2/04	<b>S</b> 3	Blue

# Table 2.Endangered (Red list) and threatened (Blue list) plant species located in the<br/>Vladimir J. Krajina Ecological Reserve

Scientific Name	Common Name	<b>Provincial Rank</b>	<b>Provincial List</b>
Salix reticulata ssp. glabellicarpa	net-veined willow	S2	Red
Senecio cymbalaria	northern butterweed	S2S3	Blue
Pedicularis verticillata	whorled lousewort	S2S3	Blue
Helictotrichon hookeri	spike-oat	S2S3	Blue
Enemion savilei	Queen Charlotte false rue- anemone	S2S3	Blue

#### Fauna

- Two (2) provincially blue-listed birds have large nesting colonies in Vladimir J. Krajina Ecological Reserve:
  - Ancient murrelets (Synthliboramphus antiquus, and
  - Cassin's auklets (*Ptychoramphus aleuticus*)
- Four (4) provincially blue-listed endemic bird species reside in the ecological reserve:
  - The Queen Charlotte Island sub-species of northern saw-whet owl (*Aegolius acadicus brooksi*),
  - Stellar's Jay (Cyanocitta stelleri carlottae),
  - Hairy woodpecker (*Picoides villosus picoideus*); and
  - Peregrine falcon (Falco peregrinus pealei).
- Four (4) salmon species spawn in the ecological reserve.
- A Stellar sea lion haul-out is located in the ecological reserve.
- Nesting birds found in the ecological reserve include peregrine falcons (*pealei* subspecies); fork-tailed petrels, bald eagles, black oystercatchers and pigeon guillemots.

### **Research and Education**

- Promotes scientific research and educational uses in a natural environment.
- Provides opportunities for scientific study of rare and endemic plant species.
- Provides opportunities for scientific study of endemic bird and mammal species.
- Provides opportunities for archaeological research and studies of the Haida use of the area.

### **Recreation and Commercial Use**

Recreational use is neither provided for nor encouraged. Opportunities associated with education tours that are consistent with the *Ecological Reserve Act* and Vladimir J. Krajina Ecological Reserve are considered to be very limited.

# **Other Values of Importance**

- Vladimir J. Krajina Ecological Reserve is within the asserted traditional territory of the Haida First Nation.
  - There is a known First Nations sustenance fishing area at the mouth of Mercer Creek.
  - A significant archaeological site is recorded within the ecological reserve.
  - Other cultural heritage attributes have not been identified to Environmental Stewardship Division.

# Significance in the Protected Areas System

- Protects valuable habitat for rare and endemic wildlife, plants, and plant communities, many of which are only found in the Queen Charlotte Islands.
- Conserves unique genetic resources and uncommon biological phenomena.
- Protects representative ecosystems in an area that is virtually undisturbed by humans.
- Protects an elevational gradient of biogeoclimatic zones in the Windward Queen Charlotte Mountains Ecosection.

# Land Uses, Tenures and Interests

#### Access

• Access to the ecological reserve is limited to boat and foot access. Other means of access must receive prior approval..

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

- The Department of Fisheries and Oceans has a small cabin near Empire Anchorage.
- Canadian Coast Guard navigational lights are in the ecological reserve under permit.
- There is a shipwreck on Hippa Island, the Clarksdale Victory 1942.
- There are research use permits for scientific study.
- The marine waters of the ecological reserve are open to commercial fishing and shellfish harvesting.
- No other formal facilities exist.

# **Adjacent Patterns of Land Use**

- One guide outfitter is licensed for surrounding areas.
- One Trapping License 613T024 is adjacent to the ecological reserve.
- Provincial forest within the Queen Charlotte Forest District and Timber Supply Area, surrounds the ecological reserve on the eastern, northern and southern boundaries.
- Forest harvesting activities are noted as occurring in the Mercer Creek watershed.

# **First Nations Interests**

- The Haida have identified the Queen Charlotte Islands, which Vladimir J. Krajina Ecological Reserve lies within, as their traditional territory. The Haida have advised that:
  - Haida culture represents evidence of Haida activity over millennium and into the present modern age.
- The Council of the Haida Nation has expressed an interest in cooperative management of all protected areas within their traditional territory and have advised that:
  - That proposed planning and development activities should carry Haida protective clauses and monitoring of activities that include the Council of the Haida Nation.
  - The Haida would like to see all research methods designed and approved by the Council of the Haida Nation.
  - Archaeological content should be controlled by the Council of the Haida Nation.
  - Researchers selection should be controlled by Council of the Haida Nation.
  - All researchers should sign the Council of the Haida Nation's Archaeology paper that recognises Council of the Haida Nation's ownership.
- The Haida would like to see "Haida Occupancy and Resource Use" noted as an existing tenure.

# **Other Agency Interests**

- The Department of Fisheries and Oceans has an interest in managing salmonid stocks.
- Ministry of Forests has an interest in adjacent forest land and forest harvesting activities outside of the ecological reserve.

# **Private and Public Stakeholder Interests**

- Canadian Wildlife Service participates in seabird colony monitoring programs in the area
- Parks Canada
- Environment Canada
- BC Wildlife Federation
- Local residents
- Pacific Biological Station
- Scientific communities
- Friends of Ecological Reserves

# **Ecological Reserve Statement**

Vladimir J. Krajina Ecological Reserve achieves all four conservation (representation, special features, research and education) goals for ecological reserves as identified in BC Parks Conservation Program Policies.

# **Conservation Role**

Vladimir J. Krajina Ecological Reserve protects internationally significant wildlife and plant species that are endemic to the Queen Charlotte Islands, and protects provincially significant ecosystems, wildlife, vascular and non-vascular plant species and plant communities.

Special features include rare genetic resources and outstanding biological phenomena in a remote coastal setting. Habitat for rare and endemic plant and animal species are present throughout the ecological reserve. In particular, there are large nesting colonies of Cassin's auklets and ancient murrelets (both are blue-listed species) present in the ecological reserve. As well, there are over 40 species of rare plants, including two mosses new to scientific study within the ecological reserve.

# **Research and Education Role**

The ecological reserve protects a terrestrial and marine environment that is virtually undisturbed by humans. The ecological reserve offers a unique opportunity for scientific research and education on internationally and provincially significant wildlife, plant species, plant communities and natural ecosystem processes.

# **Management Commitments and Issues**

# **Management Direction from Previous Planning**

Scientific studies gathered data of biological phenomena and established the presence of rare plant and animal communities. Consequently, in 1973, Vladimir J. Krajina Ecological Reserve was established. In 1982, Hippa Island was added to the existing ecological reserve.

An Ecological Reserve Management Statement was approved on March 6, 1990 for Vladimir J. Krajina Ecological Reserve. In addition an annual management plan is prepared detailing current year activities. This management direction statement will provide more up-to-date management direction.

### **Management Issues**

Environmental Stewardship Division identified the following management issues.

Theme Issue
-------------

Theme	Issue	
Protecting ecological values	Ecological reserve boundaries not clearly marked.	
	Inventory of natural features is incomplete.	
	• Concern that adjacent uses may be impacting vegetation communities and	
	wildlife populations within the ecological reserve (e.g. fragmentation /	
	disturbance during critical life-stages, such as nesting). Identified concerns	
	include:	
	<ul> <li>Forestry activities on adjacent land and the impact on seabird colonies</li> </ul>	
	and vegetation communities.	
	<ul> <li>Roe harvesting in kelp beds and potential relationship with depleting</li> </ul>	
	marine derived nutrients and impacting sea bird colonies.	
	<ul> <li>Activities of sport fishers adjacent to the ecological reserve have been</li> </ul>	
	reportedly impacting bird populations (e.g. reports exist of ancient	
	murrelets being run over by small fishing boats).	

<ul> <li>Introduced species</li> <li>Raccoons are having a detrimental affect on seabird colonies, particularly on Hippa Island.</li> <li>Increased deer grazing will impact native plant species         <ul> <li>There are no natural predators for introduced species (deer and raccoons).</li> </ul> </li> </ul>
--

Protecting Ecological Values (continued)	• Unknown amount of visitors use (marine access, floatplane and helicopter access, beachcombing, kayaking, hiking).
	• Unknown/unregulated use of the ecological reserve by fish charter companies.
	• Unknown effect of recreational access and hiking on the ecological reserve's vegetation.
	• Illegal access by air charter companies taking tourists heli-hiking in area.
	• Unknown access/use in adjacent waters.
	• DFO cabin (near Empire Anchorage).
	Unknown harvesting of natural resources from:
	<ul> <li>Tourists using floating homes in Nesto Inlet for fishing purposes.</li> </ul>
	<ul> <li>Fish guiding (base camp) located on the water in Nesto Inlet.</li> </ul>
	<ul> <li>Fish guiding camp located in waters around the ecological reserve.</li> </ul>
	<ul> <li>Commercial harvest of fish and shellfish within ecological reserve.</li> </ul>

Protecting cultural heritage values	<ul> <li>A significant archaeological site has been identified within the ecological reserve and must be protected from visitor use and indirect research.</li> <li>Cultural features have not been identified to the Environmental Stewardship Division.</li> <li>The Council of the Haida Nation would like control of archaeological and cultural materials.</li> </ul>
First Nation Involvement	<ul> <li>Fishing occurs at the mouth of Mercer Creek.</li> <li>The Council of the Haida Nation would like to co-manage the ecological reserve.</li> <li>The Haida assert historic use of the area and would like all necessary research to be conducted with the Council of the Haida Nation direction and control of content.</li> </ul>
Public Safety	• Breakers and reefs near Hippa Island are a safety hazard.

# Management Direction

Objective	Strategy
Protecting ecological values	<ul> <li>Implement a management approach that will conserve biodiversity and allow natural processes to predominate.</li> <li>Continue annual monitoring of the ecological reserve for introduced species/predators (e.g. beavers and deer) <ul> <li>Develop and conduct control strategies for introduced species as necessary.</li> </ul> </li> <li>Continue monitoring the health of the seabird colonies.</li> <li>Conduct an inventory to identify sensitive and critical habitats and red- and blue-listed wildlife and plant communities. <ul> <li>Develop special management plans for rare, threatened and endangered species as required.</li> </ul> </li> <li>Monitor the effects of scientific research and study and limit access if research is impacting the conservation values of the ecological reserve.</li> <li>Prepare a fire management plan.</li> <li>Determine if the DFO cabin (near Empire Anchorage) should be tenured or removed.</li> </ul> <li>Develop a non-extractive research program for known internationally and provincially significant species in the ecological reserve.</li> <li>Ensure that research permits (non-extractive) are issued for all acceptable research.</li>
	<ul> <li>Access and use</li> <li>Post signs identifying ecological reserve boundaries.</li> <li>Monitor visitor use.</li> <li>Consider closing high value areas of the ecological reserve to entry (e.g. nesting colonies on Hippa Island). <ul> <li>Minimize impacts on vegetation and nesting colonies.</li> </ul> </li> <li>Identify companies that may use the ecological reserve for guiding purposes (heli-hiking, fishing, hiking, etc) to advise them what activities are not permitted within the ecological reserve.</li> <li>Increase management presence (e.g. increased number of visits; recruit and retain an ecological reserve warden).</li> <li>Work with other agencies to conduct joint patrols in the area (e.g. DFO, Coast Guard, Conservation Officer Service, Parks Canada).</li> </ul>

# **Priority Management Objectives and Strategies**

Objective	Strategy
	<ul> <li>Use of adjacent land and water</li> <li>Liaise with Ministry of Forests to ensure harvesting practices on neighbouring forest land does not impact the integrity of the ecological reserve.</li> <li>Liaise with Land and Water BC to ensure future developments do not impact the ecological reserve.</li> <li>Develop mechanisms to monitor incidental use of the ecological reserve from sport and recreational fishers.</li> <li>Identify and talk with commercial operators that are operating near the ecological reserve to ensure ecological reserve values are considered and respected.</li> <li>Work with DFO, local tourism operators, and roe harvesters to limit use of marine waters immediately surrounding the ecological reserve.</li> <li>Investigate options and usefulness of implementing a marine component to the ecological reserve through land use planning processes or treaty negotiations.</li> <li>Investigate options and support for an area closure in tidal fishing regulations.</li> <li>Establish a working relationship with the Council of the Haida Nation to preserve the conservation values of the ecological reserve.</li> </ul>
Protect cultural heritage values	<ul> <li>Investigate and collate existing information on cultural heritage values.</li> <li>Prepare a Cultural Features Information Summary (based on Haida interests and desires).</li> <li>Work with the Council of the Haida Nation to identify cultural heritage sites and traditional use in the area.</li> <li>Work to determine how the Council of the Haida Nation and Environmental Stewardship can work together on issues related to archaeological and cultural materials.</li> </ul>
First Nations Involvement	<ul> <li>Through the treaty process or other mechanisms in place, investigate options for a more formal relationship with the Haida. Relationships should facilitate increased First Nation involvement in the stewardship and protection of the ecological reserve.</li> <li>Work with the Council of the Haida Nation to develop cultural heritage information for the public and define protective measures for their culture.</li> <li>Honour established aboriginal rights subject to conservation and safety concerns.</li> </ul>

Objective	Strategy
Public Safety	• Continue to permit the Canadian Coast Guard to service navigational
	lights in the ecological reserve.

# **Consultation and Future Planning**

Environmental Stewardship Division will continue consultations with the Haida First Nation to design and implement research programs that properly identify and locate heritage and cultural values while ensuring their protection. The division will also work with other agencies to ensure that the values within the ecological reserve are considered in adjacent future development and forestry harvesting activities. Internally, the Parks and Protected Areas Section will continue to work with the Fish and Wildlife Science and Allocation Section, Conservation Officer Service and Ecosystems Section to ensure effective protected area management within Vladimir J. Krajina Ecological Reserve.

#### Activity/Use/Facility Acceptability Υ Aboriginal Traditional Uses Ν Hunting Trapping Ν Grazing (domestic livestock) Ν Recreational Gold Panning/Rock Hounding Ν Utility corridors Ν **Communication Sites** Ν Horse Use/ Pack Animals Ν Guide Outfitting (hunting) Ν Guide Outfitting (fishing) Ν Guide Outfitting (nature tours) Ν Guide Outfitting (river rafting) Ν Cat-Assisted Skiing Ν Ski Hills Ν Commercial Recreation (facility-based) Ν Ν Commercial recreation (non-facility based) **Backcountry Huts** Ν Water Control Structures Ν Fish Stocking and Enhancement Ν Ν Road Access Off-road Access (snowmobiling) Ν Off-road Access (motorised) Ν Off-road Access (mechanical activities) Ν Motorised Water Access - Saltwater Υ Motorised Water Access - Freshwater Ν Aircraft Access **N1** Fire Management (suppression) **N1** Fire Management (prescribed fire management) **N1** Fire Management (prevention) **N1** Forest Insect/Disease Control Μ Noxious Weed Control Υ Υ Exotic Insect/Disease Control Introduced Species Control М Scientific Research (specimen collection) М Scientific Research (manipulative activities) М

# Figure 3. Table of acceptable uses, activities and facilities in Vladimir J. Krajina Ecological Reserve

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