

APPLICATION FOR ECOLOGICAL RESERVE

1. Legal description of the area (or general "Metes and bounds" description)

2. Geographical location (relate to nearest settlement, mountain, river, etc.)

Lightning Creek forest, 2 mi. E. of Coldspring House, 20 miles E. of Quesnel, S. of Highway No. 26 (the Barkerville road).

3. Indicate the biogeoclimatic zone of which the reserve is representative.

SBS(/CALPDF)

4. Approximate total acreage.

717 acres

5. Purpose of the reserve.

Conservation of an area containing a variety of sub-boreal forest types.

- (a) Primary (state acreage)

717 acres

- (b) Others if any (state acreage)

-

- (c) Buffer areas (state acreage)

-

6. Attach a map and indicate: (a) the perimeters and acreage of the areas detailed in 5 above, and
(b) indicate the species and total timber volumes in these areas.

Pinus contorta
Picea engelmannii
P. glauca
Abies lasiocarpa
Pseudotsuga menziesii
Populus tremuloides
P. trichocarpa
Betula papyrifera

J. Pojar *V.J. Krajina*
 Signature J. Pojar, R.G. McMinn,
I.B.P. Surveyor
V.J. Krajina, C. Parsons

INTERNATIONAL BIOLOGICAL PROGRAMME

SECTION CT : CONSERVATION OF TERRESTRIAL BIOLOGICAL COMMUNITIES

CHECK SHEET (Mark VII) FOR SURVEY OF IBP AREAS*

To be completed with reference to the GUIDE TO THE CHECK SHEET

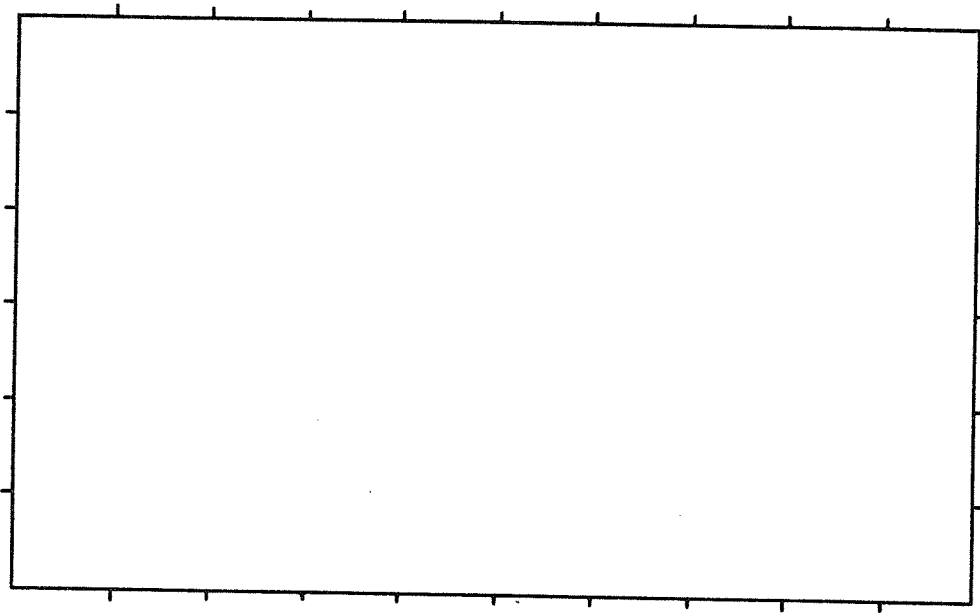
Serial Number

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For Data Centre Use only

1. 1. Name of surveyor *J. Pojar, **R.G. McMinn, *V.J. Krajina, *C. Parsons
2. Address of surveyor *Dept. of Botany, University of British Columbia
Vancouver, B.C.
**Canada Dept. of Environment, Victoria, B.C.
3. Check Sheet completed (a) on site X (b) from records X
4. Date Check Sheet completed November 2, 1974.

2. 1. Name of IBP Area Lightning Creek forest, 2 mi. E. of Coldspring House, 20 miles E. of Quesnel, S. of Highway No. 26 (the Barkerville road).
2. Name of IBP Subdivision (or serial letter) SBS (/CALPDF)
3. Map of IBP Area* showing boundaries attached? Yes X No
4. Sketch map of IBP Area*. Please mark direction of north, the scale and grid numbers where applicable.



* For "IBP Area", read IBP Area and/or IBP Subdivision.

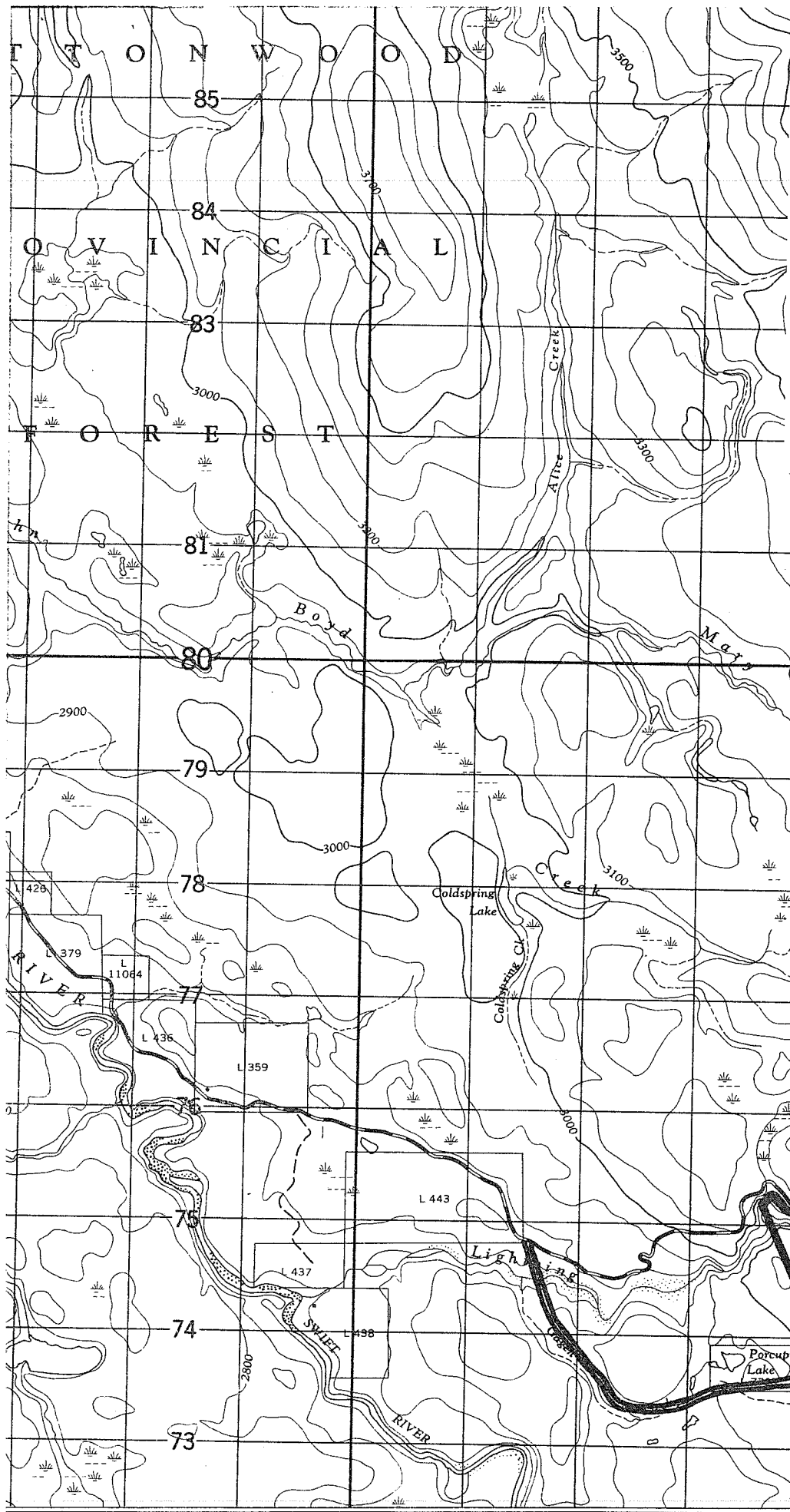


TABLEAU D'ASSEMBLAGE DU SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE

122°30'	121°45'	
53°30'	53°30'	
93 G/8W	93 G/8E	93 H/5W
93 G/1W	93 G/1E	93 H/4W
	COTTONWOOD	
93 B/16W	93 B/16E	93 A/13W
52°45'	52°45'	
122°30'	121°45'	

INDEX TO ADJOINING SHEETS OF THE NATIONAL TOPOGRAPHIC SYSTEM

SCALE 1:50,000

COTTONWOOD

93G/1E

EDITION 1

1a
85
84
83
82
05'
81
80
79
78
77
76
75
74
73
53°00'

Wells 22 m

57 58 59 60 61 05' 62 63 64 65 66 122°00'

3. Location of IBP Area*

1. Latitude 53 ° 01'-01.8" N Longitude 122 ° 00'-03.2" W
 2. Country Canada
 State or Province British Columbia County Quesnel
 (State or Province County)

4. Administration

National 1. Official category Crown Land (Cottonwood Provincial Forest)
 2. Address of administration B.C. Department of Lands, Forests, and
Water Resources
Victoria, B.C.

International Class

3. Included in U.N. List	Rejected from U.N. List	Area with formal conservation status	No formal cons. status
(A)	(B)	(C)	(D) <input checked="" type="checkbox"/>

5. Characteristics of IBP Area*

1. Surface area (state units of measurement) 717 acres
 2. Altitude (state units of measurement) Maximum 3200 ft. (975 m)
 Minimum 2900 ft. (890 m)

6. Climate

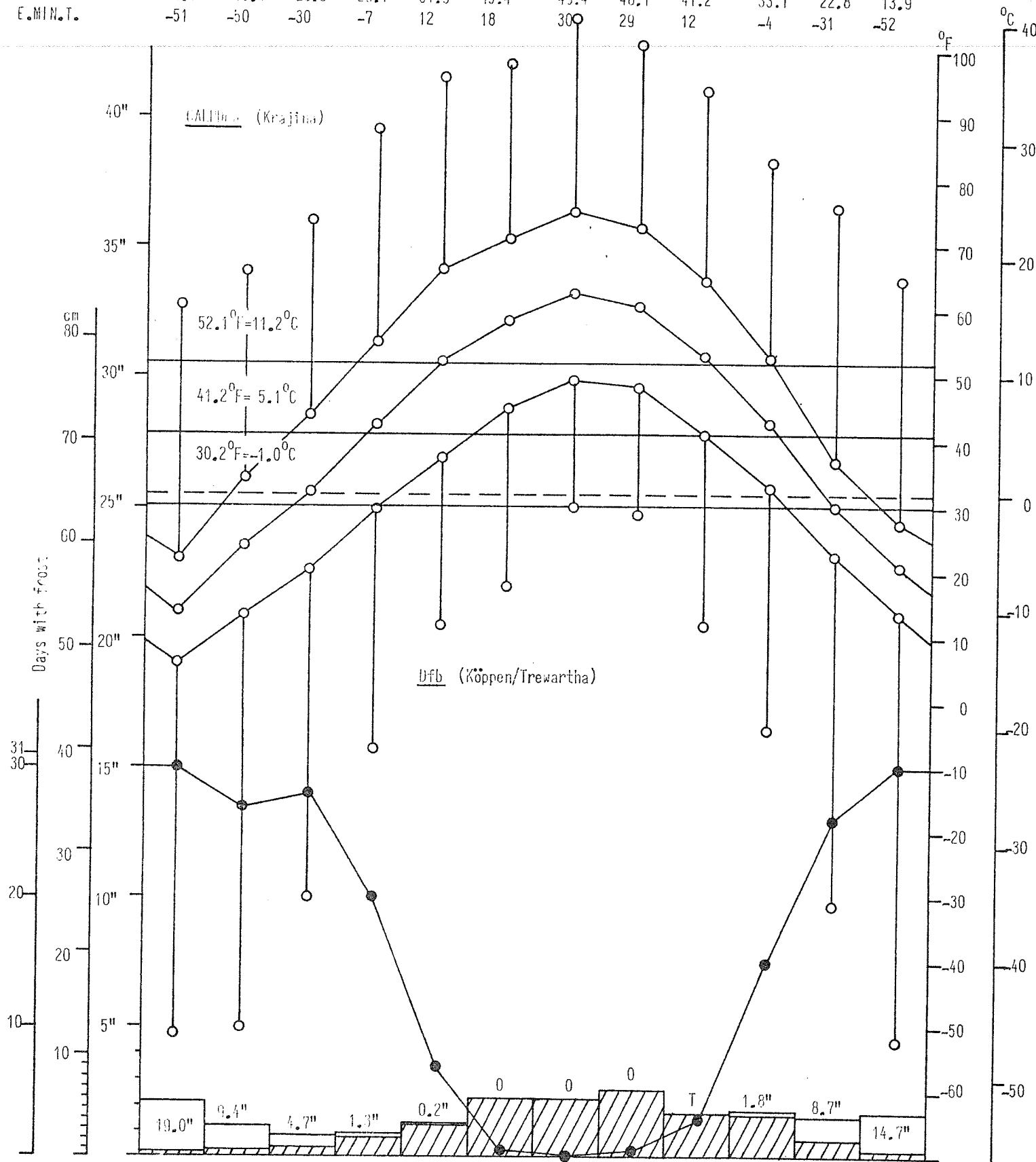
Nearest climatological station :

1. Name Quesnel (Airport)
 2. Climatological station on IBP Area*? Yes No
 3. If (2) not, distance from edge of IBP Area* (state units) 20 miles
 4. Direction from IBP Area* W
 5. Additional data sheet attached? Yes No
Quesnel

CULSHILL: 57°59'N, 122°23'W, 1600' A.L. Record: 71-76 years.

Months above 50°F: 5, below 32°F: 4, A.M.T.P.: 20.24", A.M.S.F.: 59.8", snow % A.M.T.P.: 29.55, days with frost, yearly: 186.

E. MAX. T.	61	66	74	98	96	98	105	101	94	83	76	65
M.D. MAX. F	22.2	34.7	44.1	55.6	66.4	71.2	75.6	72.9	64.9	52.7	37.1	27.9
M.D. T.	14.2	24.3	32.5	42.7	52.2	58.3	62.5	60.6	53.1	42.9	30.0	21.0
M.D. MIN. F.	6.1	13.9	20.8	29.7	37.9	45.4	49.4	48.1	41.2	33.1	22.8	13.9
E. MIN. T.	-51	-50	-30	-7	12	18	30	29	12	-4	-31	-52



Days with frost	30	27	28	20	7	*	0	*	3	15	26	30
M.M.T.P.	2.07	1.17	0.86	0.91	1.38	2.24	2.25	2.55	1.70	1.79	1.57	1.75
Months	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Lightning Creek - partial species list

- trees: *Abies lasiocarpa*
Betula papyrifera
Picea engelmannii
P. glauca
Pinus contorta
Populus tremuloides
P. trichocarpa
Pseudotsuga menziesii
- shrubs: *Acer glabrum*
Alnus sinuata
A. tenuifolia
Amelanchier alnifolia
Cornus stolonifera
Lonicera involucrata
Mahonia aquifolium
Oplopanax horridus
Pachystima myrsinites
Prunus virginiana
Ribes glandulosum
R. lacustre
R. triste (?)
Rosa acicularis
Rubus parviflorus
R. strigosus
Salix lasiandra
S. sitchensis
S. scouleriana
Sambucus racemosa
Shepherdia canadensis
Sorbus scopulina
Spiraea betulifolia
Vaccinium membranaceum
V. myrtilloides
Viburnum edule
- herbs: *Actaea rubra*
Aquilegia formosa
Aralia nudicaulis
Arnica cordifolia
Aruncus sylvester
Aster ciliolatus
A. conspicuus
Athyrium filix-femina
Calamagrostis canadensis
C. rubescens
Chimaphila umbellata
Chrysosplenium tetrandrum
Cinna latifolia
Circaea alpina
Clintonia uniflora
Corallorhiza maculata
Cornus canadensis
Disporum trachycarpum

herbs *Dryopteris austriaca*
 (cont.): *Elymus glaucus*
 Epilobium adenocaulon
 E. glandulosum
 Equisetum arvense
 E. pratense
 E. sylvaticum
 Festuca occidentalis
 Galium triflorum
 Gaultheria hispidula
 Glyceria elata
 Goodyera oblongifolia
 G. repens
 Gymnocarpium dryopteris
 Habenaria orbiculata
 Hieracium albiflorum
 Impatiens noli-tangere
 Lathyrus ochroleucus
 Lilium columbianum
 Linnaea borealis
 Listera cordata
 Lycopodium annotinum
 L. complanatum
 L. obscurum
 Lysichitum americanum
 Melampyrum lineare
 Mimulus guttatus
 Mitella nuda
 Moneses uniflora
 Oryzopsis asperifolia
 Osmorhiza chilensis
 Petasites palmatus
 Prenanthes alata
 Pyrola asarifolia
 P. secunda
 P. virens
 Rubus pedatus
 R. pubescens
 Smilacina racemosa
 S. stellata
 Streptopus amplexifolius
 S. roseus
 Tellima grandiflora
 Thalictrum occidentale
 Tiarella trifoliata
 T. unifoliata
 Urtica dioica
 Vaccinium caespitosum
 Veratrum viride
 Viola glabella

bryo- *Dicranum fuscescens*
phytes: *D. polysetum*
 Hylocomium splendens
 Mnium spp.
 Pleurozium schreberi
 Polytrichum juniperinum
 Ptilium crista-castrensis
 Rhytidiadelphus triquetrus

lichens: *Alectoria americana*
 A. sarmentosa
 Cladina mitis
 C. rangiferina
 Cladonia coccifera
 C. gracilis
 Hypogymnia physodes
 Lobaria pulmonaria
 Nephroma helveticum
 Parmelia sulcata
 Peltigera aphthosa
 P. canina
 P. malacea
 P. polydactyla
 Platismatia glauca

7.
(cont.)

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Soil

Community Reference Number	Soil type	Other notes
1	ABC F ₅	Dystric Brunisol
2	ABC F ₅	Dystric Brunisol
3	ABC F ₅	Brunisol
4	ABC F ₅	Brunisol
5	ABC F ₅	Brunisol (-Luvisol ?)
6	ABC/AGC F ₅ /P ₂	Gleyed Brunisol
7	A(G)C I ₂ /P ₂	Gleyed Regosol
8	AC I ₂	Regosol
9	ABC F ₅	(? Luvisol) - Eutric Brunisol
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

9. Landscape

1. General Landscape (give brief description) Steep-sided stream valleys, flat alluvial terraces, and low hills.

2. Relief Type

	Flat	Undulating (0)-200 m.	Hilly 200-1000 m.	Mountainous > 1000 m.	%
Sharply dissected			60		60
Gently dissected			40		40
Incised					
Skeletonised					
%			100		100%

3. Special landscape features (list)

10. Coastline of IBP Area* NONE

1. Protected bays and/or inlets Many Few None

2. Substratum. % of coast

Rock	Boulder Beach	Shingle Beach	Sand Beach	Shell Beach	Mud	Coral	Ice
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Physiography. % of coast

Cliffed	Sloping	Flat
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Special Coastal Features (list)

5. Tide. Maximum range (state units of measurement)

6. Total length of coastline :

Less than 1 km. 1-10 km. Above 10 km.

11. **Freshwater within IBP Area***

1.

	Permanent	Intermittent
General	X	X
Standing		
Running	X	X

2. Standing Water

	Permanent	Intermittent	Unproductive	Productive
Swamps				
Ponds				
Lakes				

3. Running Water

	Permanent	Intermittent
Springs, cold		
Springs, hot		
Streams	X	X
Rivers		

4. Special freshwater features

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12. **Salt and Brackish Water within IBP Area* NONE**

Salt Lakes	<input type="checkbox"/>	Lagoon	<input type="checkbox"/>	<input type="checkbox"/>
Estuaries	<input type="checkbox"/>	Salt pools	<input type="checkbox"/>	<input type="checkbox"/>

13. **Adjacent Water Bodies (not within IBP Area*)**

1. Fresh Lake **Yeates Lake** River **Swift River** Stream

2. Salt and Brackish **NONE**

Estuary	Salt lake	Salt pool	Lagoon	Ocean		

14. Outstanding Floral and Faunal Features

1. None

2. Fauna

	Species diversity	Abundance of individuals	Superabundance of individuals	Rare species	Threatened/Relict species	Spp. of biogeographical interest	Exceptional Associations	Breeding or Nesting Populations	Migrating Populations	Wintering Populations		
Mammalia		X						X	X	X		
Aves		X						X	X	X		
Reptilia		?										
Amphibia		X						X				
Pisces		X						X				
Insecta		X						X	X			

3. Names of main threatened, endemic, relict and rare species

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4. Flora

	Species diversity	Abundance of particular species	Rare species	Threatened/relict species	Spp. of biogeographical interest	Exceptional associations	Outstanding specimens				
Angiospermae :		X									
trees		X									
shrubs		X			X		X				
herbs		X			X		X				
grass		X					X				
Gymnospermae		X			X		X				
Pteridophyta		X					X				
Bryophyta		X			X		X				
Lichens and Algae		X			X		X				

5. Names of main threatened, endemic, relict and rare species

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15. Exceptional Interest of IBP Area*

The area contains a variety of sub-boreal associations (with some affinities to CALPDF), and provides instructive examples of the control of vegetation by soil texture, which is very variable within the proposal.

16. Significant Human Impact

- 1. General : None in entire IBP Area* X
- None in part of IBP Area* X
- Impact on entire IBP Area*

2. Particular

	Past impact	Present impact	Trend			
			Increasing	Decreasing	No change	No information
Cultivation					X	
Drainage					X	
Other soil disturbance	X					
Grazing					?	
Selective flora disturbance					X	
Logging			X		X	
Plantation					X	
Hunting		X	X			
Removal of predators	X				X	
Pesticides					X	
Introductions — plants					X	
Introductions — animals					X	
Fire	X					
Permanent habitation					X	
Recreation and tourism			X			
Research					X	

- placer mining in past

3. Additional details on each type of impact attached?

Yes No X

17. Conservation Status (required)

	Protection			Utilisation			Conservation Management			Permitted Research		
	none	partial	total	none	controlled	uncontrolled	none	to alter status	to maintain status	experimental	observational	prohibited
Flora			X	X						X	X	
Fauna			X	X						X	X	
Non-living			X	X						X	X	

18. References

1. List major biological/geographical references for the IBP Area.

Sheet attached? Yes No^X

2. List main maps available for the IBP Area.

List attached? Yes No 93 G/1 East Half

3. Aerial photographs for the IBP Area available?

For whole area^X For part of area None

19. Other Relevant Information

This is the last pristine forest remaining in this region which was mostly exploited by logging operations. It has some transitional characteristics between the SBS and the CALPDF zones.

Jim Pojar

Signed Jim Pojar, R.G. McMinn,

(Surveyor)

V.J. Krajina, C. Parsons

V.J. Krajina