

APPLICATION FOR ECOLOGICAL RESERVE

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

Shorts Creek; portions of L 4221-4 and additional unsurveyed land, Osoyoos Division of Yale Land District

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

West side of Okanagan Lake, ca. 30 km SW of Vernon; Thompson Plateau

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

IDFa

- 4. Approximate total acreage.

ca. 1,010 ha (2,500 acres)

- 5. Purpose of the reserve.

Conservation of a population of California bighorn sheep, and their habitat (including undisturbed grassland ecosystems).

(a) Primary (state acreage)

ca. 1,010 ha

(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.

Although in a T.F.L., there is very little forest whatsoever in this proposal, and certainly no commercial stands of timber.

Populus trichocarpa, *P. tremuloides* (Thuja plicata - rare)

Betula papyrifera, *B. occidentalis* (*Picea engelmannii*)

Pseudotsuga menziesii

Pinus ponderosa, *P. contorta*

Alnus tenuifolia

Signature

Gustaf Foster Jim Pojar

I.B.P. Surveyor
J.B. Foster, J. Pojar,
C. Frank, A. Stewart

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

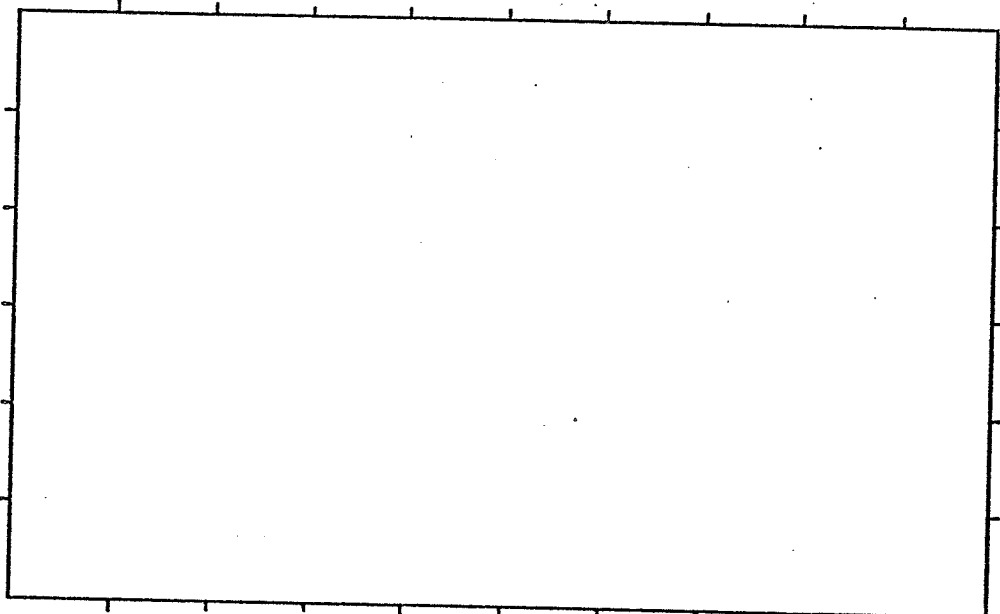
Serial Number

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For Data Centre Use only

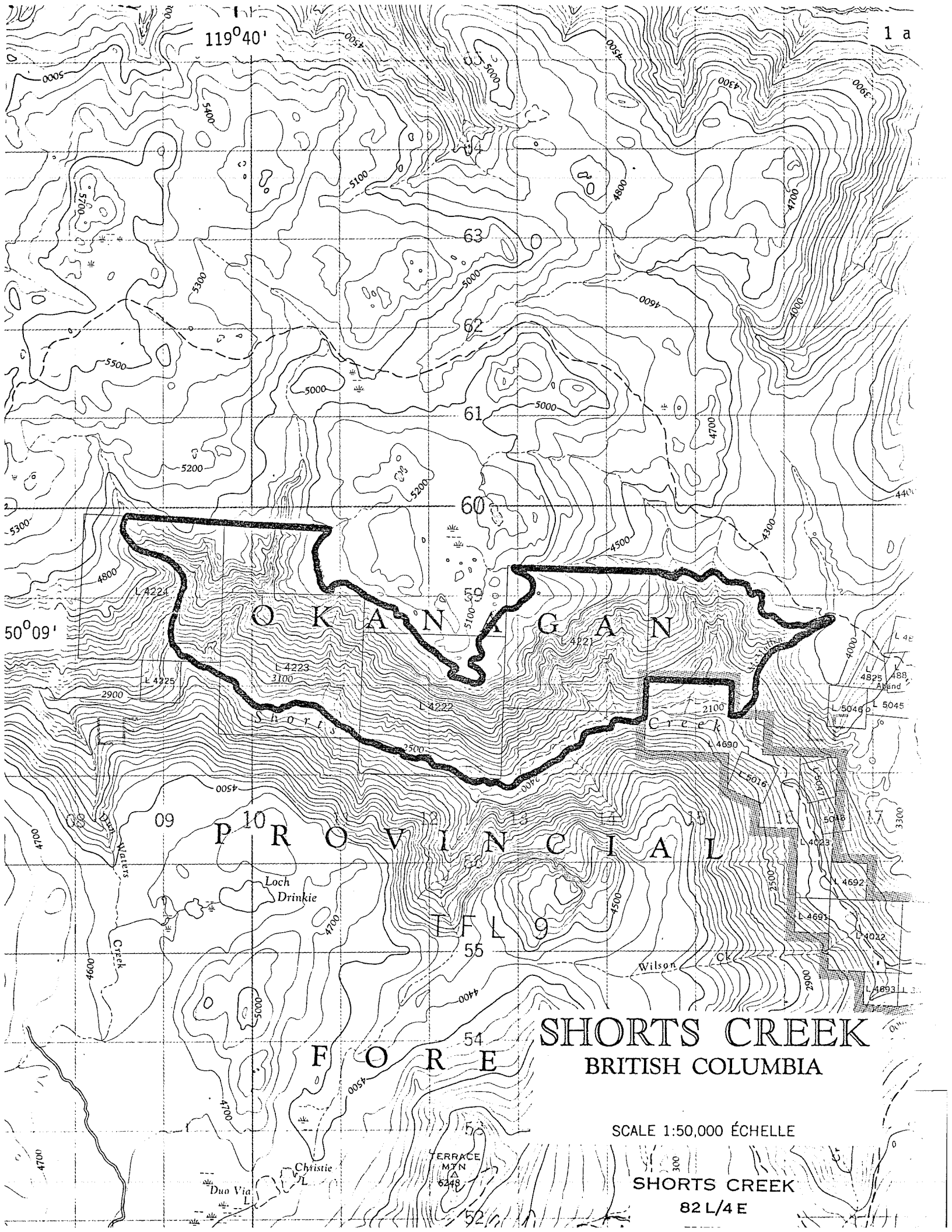
1. 1. Name of surveyor J.B. Foster, J. Pojar, G. Franko, A. Stewart
2. Address of surveyor Ecological Reserves Unit, Land Management Branch
 Ministry of the Environment, Victoria, B.C. V8V 1X5
3. Check Sheet completed (a) on site X (b) from records X
4. Date Check Sheet completed October, 1977

2. 1. Name of IBP Area Shorts Creek
2. Name of IBP Subdivision (or serial letter) IDFa
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.

119°40'



SHORTS CREEK
BRITISH COLUMBIA

SCALE 1:50,000 ÉCHELLE

SHORTS CREEK
82 L/4 E

3. Location of IBP Area*

1. Latitude 50 ° 08.3-09.7' N Longitude 119 ° 34.2-40.8' W
 Canada
 2. Country
 State or Province British Columbia County Okanagan
 (State or Province County)

4. Administration

National 1. Official category Crown Land; *Tree Farm License #9
 2. Address of administration Land Management Branch, Ministry of the Environment
 Parliament Buildings, Victoria, B.C. V8V 1X5
 *Crown Zellerbach Canada Ltd.

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) X

5. Characteristics of IBP Area*

1. Surface area (state units of measurement) ca. 1,010 ha (2,500 acres)
 2. Altitude (state units of measurement) Maximum ~1,520 m (5,000')
 Minimum ~ 640 m (2,100')

6. Climate

Nearest climatological station :

1. Name Okanagan Centre
 2. Climatological station on IBP Area*? Yes No X
 3. If (2) not, distance from edge of IBP Area* (state units) 15 km
 4. Direction from IBP Area* SE
 5. Additional data sheet attached? Yes X No

7. Vegetation and Soil

1

Vegetation

Community Reference Number	Vegetation Code					Plant communities (give usual name using full Latin names of a species where applicable)	Area (state units)
	Primary Structural Group	Class	Group	Formation	Sub-Formation		
1	1	A	2	1		<i>Populus (trichocarpa, tremuloides) - Betula (papyrifera, occidentalis) - Symphoricarpos albus</i>	
2	1	D	1	4	a	<i>Pinus ponderosa - Pseudotsuga menziesii - Agropyron spicatum</i>	
3	1	G	2	1		<i>Juniperus scopulorum - Ceanothus velutinus - Symphoricarpos mollis - Agropyron spicatum</i>	
	1	I	1	4			
4	2	B	2	1		<i>Amelanchier alnifolia - Penstemon fruticosus - Woodsia scopulina</i>	
5	1	A	1	7	a	<i>Pseudotsuga menziesii - Amelanchier - Calamagrostis rubescens</i>	
6	1	A	1	7	a	<i>Pinus contorta - Shepherdia canadensis - Calamagrostis rubescens</i>	
7	1	A	1	7	a	<i>Pseudotsuga - Populus tremuloides - Symphoricarpos albus - Aster conspicuus</i>	
8	2	A	1	4	a	<i>Pseudotsuga - Juniperus scopulorum - Artemisia michauxiana</i>	
9	1	A	1	7	a	<i>Pinus contorta - Pachystima myrsinites - Vaccinium scoparium - Calamagrostis rubescens</i>	
10							

Please give information about further communities on a separate sheet

SOME CHARACTERISTIC SPECIES OF THE PLANT COMMUNITIES OF E.R.P. No. 283 - SHORTS CREEK:

1. *Populus - Betula - Symphoricarpos* (riparian forest, all along the length of the creek bordering the proposal):

trees:	<i>Populus trichocarpa, P. tremuloides</i>	
	<i>Betula papyrifera, B. occidentalis</i>	(<i>Thuja plicata</i>)
	(<i>Pseudotsuga menziesii</i>)	<i>Alnus tenuifolia</i>
	(seedlings of <i>Picea engelmannii</i>	<i>Acer glabrum</i> } tall shrubs/small trees
	appear above 900 m)	
shrubs:	<i>Symphoricarpos albus</i>	<i>Spiraea betulifolia</i>
	<i>Mahonia aquifolia</i>	<i>Rosa nutkana, R. gymnocarpa</i>
	<i>Shepherdia canadensis</i>	<i>Amelanchier alnifolia</i>
	<i>Rubus parviflorus</i>	<i>Philadelphus lewisii</i>
	(<i>Ribes lacustre</i>)	(<i>Cornus stolonifera</i>)
herbs:	<i>Aster conspicuus</i>	<i>Viola canadensis, V. glabella</i>
	<i>Clematis columbiana</i>	<i>Fragaria virginiana</i>
	<i>Arnica cordifolia</i>	<i>Antennaria racemosa</i>
	<i>Glaium triflorum</i>	<i>Smilacina racemosa</i>
	<i>Disporum hookeri</i>	<i>Corallorhiza striata</i>
	<i>Aquilegia formosa</i>	<i>Cornus canadensis</i>

2. *Pinus - Pseudotsuga - Agropyron* (savanna on steep, sandy S-facing lower slopes above the creek):

trees:	<i>Pinus ponderosa</i>	(<i>Pseudotsuga engelmannii</i>)
herb layer:	<i>Agropyron spicatum</i>	<i>Poa ampla, P. sandbergii</i>
	<i>Festuca scabrella</i>	<i>Koeleria cristata</i>
	<i>Lomatium macrocarpum</i>	<i>Balsamorhiza sagittata</i>
	<i>Calochortus macrocarpus</i>	<i>Comandra umbellata</i>
	<i>Arabis holboellii</i>	<i>Eriogonum heracleoides</i>
	<i>Delphinium nuttallianum</i>	<i>Iliamna rivularis</i>
	<i>Antennaria rosea, A. dimorpha</i>	<i>Lithospermum ruderales</i>
	<i>Zygadenus venenosus</i>	<i>Collinsia parviflora</i>
	<i>Microsteris gracilis</i>	<i>Fritillaria lanceolata</i>
	<i>Crepis atrabarba</i>	<i>Astragalus miser</i>
	<i>Hieracium umbellatum</i>	

3. *Juniperus - Ceanothus - Symphoricarpos - Agropyron* (scrub/steppe; mosaic of shrub clumps and bunchgrass-land; on steep S-facing slopes from 900-1350 m; shallow chernozem-like soils on sandy parent material):

shrubs:	<i>Juniperus scopulorum</i> (small tree/tall shrub)	
	<i>Amelanchier alnifolia</i>	<i>Ceanothus velutinus, (C. sanguineus)</i>
	<i>Prunus virginiana</i>	<i>Philadelphus lewisii</i>
	<i>Symphoricarpos mollis</i>	<i>Salix scouleriana</i>
	<i>Ribes cereum</i>	<i>Mahonia aquifolia</i>
	<i>Populus tremuloides</i>	
herb layer:	<i>Agropyron spicatum</i>	<i>Poa ampla, P. scabrella</i>
	<i>Festuca scabrella</i>	<i>Koeleria cristata</i>
	(<i>Calamagrostis rubescens</i> - appears above 1200 m)	
	<i>Balsamorhiza sagittata</i>	<i>Arabis holboellii, A. drummondii</i>
	<i>Senecio integerrimus</i>	<i>Carex rossii</i>
	<i>Hieracium cynoglossoides, H. albiflorum</i>	
	<i>Tragopogon dubius</i>	<i>Phacelia heterophylla</i>
	<i>Crepis atrabarba</i>	<i>Lomatium spp.</i>
	<i>Antennaria rosea</i>	<i>Zygadenus venenosus</i>
	<i>Delphinium nuttallianum</i>	<i>Achillea millefolium</i>

3. herb layer - cont.):
- | | |
|---|--------------------------------|
| <i>Microsteris gracilis</i> | <i>Collinsia parviflora</i> |
| <i>Artemisia michauxiana</i> | <i>Epilobium angustifolium</i> |
| <i>Verbascum thapsus</i> | <i>Cirsium hookerianum</i> |
| <i>Eriogonum ovalifolium</i> , <i>E. heracleoides</i> | <i>Chaenactis alpina</i> |
-
4. *Amelanchier* - *Penstemon* - *Woodsia* (coarse talus and rocky ridge community):
- | | | |
|-------------|------------------------------|--|
| shrubs: | <i>Amelanchier alnifolia</i> | <i>Acer glabrum</i> |
| | <i>Prunus virginiana</i> | <i>Ribes cereum</i> |
| | <i>Philadelphus lewisii</i> | <i>Mahonia aquifolia</i> |
| | <i>Sambucus caerulea</i> | <i>Juniperus scopulorum</i> , <i>J. communis</i> |
| herb layer: | <i>Heuchera cylindrica</i> | <i>Penstemon fruticosus</i> |
| | <i>Woodsia scopulina</i> | <i>Cystopteris fragilis</i> |
| | <i>Selaginella densa</i> | <i>Apocynum androsaemifolium</i> |
| | <i>Phacelia heterophylla</i> | <i>Sedum stenopetalum</i> |
| | <i>Comandra umbellata</i> | <i>Artemisia michauxiana</i> |
| | <i>Erigeron compositus</i> | <i>Iliamna rivularis</i> |
5. *Pseudotsuga* - *Amelanchier* - *Calamagrostis* (Douglas-fir - pinegrass community type):
- | | | |
|-------------|--------------------------------|---|
| trees: | <i>Pseudotsuga menziesii</i> | (<i>Populus tremuloides</i>) |
| shrubs: | <i>Amelanchier alnifolia</i> | <i>Prunus virginiana</i> , (<i>P. pensylvanica</i>) |
| | <i>Mahonia aquifolium</i> | <i>Ceanothus sanguineus</i> , <i>C. velutinus</i> |
| | <i>Rosa gymnocarpa</i> | |
| herb layer: | <i>Calamagrostis rubescens</i> | <i>Antennaria racemosa</i> |
| | <i>Hieracium albiflorum</i> | <i>Anemone multifida</i> |
| | <i>Aster conspicuus</i> | <i>Chimaphila umbellata</i> |
| | (<i>Linnaea borealis</i>) | (<i>Habenaria unalaschcensis</i>) |
| | <i>Castilleja hispida</i> | <i>Fragaria virginiana</i> , <i>F. vesca</i> |
6. *Pinus* - *Shepherdia* - *Calamagrostis* (lodgepole pine - pinegrass community, on coarser-textured soils than /5/):
- | | | |
|-------------|--------------------------------|--------------------------------|
| trees: | <i>Pinus contorta</i> | |
| shrubs: | <i>Salix scouleriana</i> | <i>Acer glabrum</i> |
| | <i>Amelanchier alnifolia</i> | <i>Spiraea betulifolia</i> |
| | <i>Pachystima myrsinites</i> | |
| herb layer: | <i>Calamagrostis rubescens</i> | <i>Antennaria racemosa</i> |
| | <i>Vaccinium caespitosum</i> | <i>Arctostaphylos uva-ursi</i> |
| | <i>Arnica cordifolia</i> | <i>Fragaria virginiana</i> |
| | <i>Pterospora andromeda</i> | |
| moss layer: | <i>Brachythelium</i> sp. | <i>Peltigera canina</i> |
7. *Pseudotsuga* - *Populus* - *Symphoricarpos* - *Aster* (on moist alluvial terraces, in ravines, gullies, etc.):
- | | | |
|-------------|--|--------------------------------|
| trees: | <i>Pseudotsuga menziesii</i> | <i>Populus tremuloides</i> |
| shrubs: | <i>Rosa gymnocarpa</i> | <i>Symphoricarpos albus</i> |
| | <i>Lonicera utahensis</i> | |
| herb layer: | <i>Aster conspicuus</i> | <i>Calamagrostis rubescens</i> |
| | <i>Arnica cordifolia</i> | <i>Galium triflorum</i> |
| | <i>Fragaria virginiana</i> , <i>F. vesca</i> | <i>Aralia nudicaulis</i> |
| | <i>Lilium columbianum</i> | <i>Smilacina racemosa</i> |
| | <i>Linnaea borealis</i> | <i>Chimaphila umbellata</i> |
| | <i>Cornus canadensis</i> | <i>Clematis columbiana</i> |

(E.R.P. No. 283 - Shorts Creek):

8. *Pseudotsuga* - *Juniperus* - *Artemisia* (at the bottom and top of rimrock cliffs; on ridges and the tops of talus cones; much bare, broken rock; little ground cover; alt. 1400-1500 m):

trees (scattered):	<i>Pseudotsuga menziesii</i>	<i>Juniperus scopulorum</i>
shrubs:	<i>Taxus brevifolia</i> (!)	
herb layer:	<i>Artemisia michauxiana</i>	<i>Chaenactis alpina</i>
	<i>Senecio canus</i>	<i>Sedum stenopetalum</i>
	<i>Talinum okanaganense</i>	<i>Eriogonum ovalifolium</i> , <i>E. umbellat</i>
	<i>Geum triflorum</i>	<i>Ranunculus glaberrimus</i>
	<i>Arabis lyallii</i>	<i>Saxifraga bronchialis</i>
	<i>Claytonia lanceolata</i>	<i>Poa scabrella</i>
	<i>Festuca saximontana</i>	<i>Erigeron compositus</i>
moss layer:	<i>Grimmia pulvinata</i>	<i>Tortula ruralis</i> , <i>T. princeps</i>
	<i>Ceratodon purpureus</i>	<i>Rhytidium rugosum</i>
	<i>Rhacomitrium</i> sp.	

*NOTE: in rocky seepage areas at the base of the rimrock there are:

<i>Mimulus guttatus</i>	<i>Suksdorfia ranunculifolia</i>
<i>Viola adunca</i>	<i>Cratoneuron filicinum</i>
<i>Dichodontium flavescens</i>	

9. *Pinus* - *Pachystima* - *Vaccinium* - *Calamagrostis* (typical lodgepole pine grouseberry - pinegrass forest type; at ca 1350-1550 m on top of the basaltic plateau):

trees:	<i>Pinus contorta</i>	
	<i>Pseudotsuga menziesii</i> (saplings and seedlings)	
	(<i>Picea engelmannii</i> - seedlings)	
shrubs:	<i>Pachystima myrsinites</i>	<i>Vaccinium scoparium</i>
	(<i>Alnus sinuata</i>)	
herb layer:	<i>Juniperus communis</i>	<i>Arctostaphylos uva-ursi</i>
	<i>Calamagrostis rubescens</i>	<i>Linnaea borealis</i>
	<i>Pyrola secunda</i>	<i>Lupinus latifolius</i>
	<i>Antennaria neglecta</i>	<i>Goodyera oblongifolia</i>
	<i>Chimaphila umbellata</i>	

7.
(cont.)

2

Soil

Community Reference Number	Soil type	Other notes
1	I ₂ /P ₂	gleyed alluvial regosol
2	AC F ₁	shallow chernozemic soils
3	AC F ₁	shallow chernozemic soils
4	P ₂	colluvial regosol (coarse talus)
5	A(B)C F ₄	brunisol
6	A(B)C F ₄	brunisol
7	A(B)C F ₄	(gleyed) brunisolic luvisol
8	P ₂	colluvial regosol (cliffs, talus)
9	F ₄	grey luvisols
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

9. Landscape

1. General Landscape (give brief description)
steep S-facing colluvial slopes, cliffs, and basaltic rimrock
.....
raising to montane plateau
.....
.....

2. Relief Type

	Flat	Undulating (0)-200 m.	Hilly 200-1000 m.	Mountainous > 1000 m.	%
Sharply dissected			45	37	82
Gently dissected				8	8
Incised				10	10
Skeletonised					
%			45	55	100%

3. Special landscape features (list)
.....cliffs, small canyons, columnar basalt and basaltic rimrock
.....
.....

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		
Standing		
Running		X

2. Standing Water

	Permanent	Intermittent	Unproductive	Productive
Swamps				
Ponds				
Lakes				

3. Running Water

	Permanent	Intermittent
Springs, cold		
Springs, hot		
Streams		X
Rivers		

4. Special freshwater features waterfall

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 River Stream
 Shorts Creek

2. Salt and Brackish

Estuary	Salt lake	Salt pool	Lagoon	Ocean		

4. Flora

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

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

Talinum okanaganense (very rare in B.C.)

Iliamna rivularis

Chaenactis alpina (first finding in B.C.)

15. Exceptional Interest of IBP Area*

California bighorn sheep and part of their range.

Dry forest types and native bunchgrass-land ungrazed by livestock.

Mule deer abundant.

Interesting geology.

16. Significant Human Impact

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

2. Particular

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

- nearby

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	X	
Fauna			X	X				?	X	X	X	
Non-living			X	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^X 82 L/4E (Shorts Creek)(1:50,000)

3. Aerial photographs for the IBP Area available? B.C. 7593:225-8; 285-290

For whole area^X For part of area None

19. Other Relevant Information

B.C. Fish & Wildlife Branch has in the past few years been conducting a research in this area, and have constructed a research cabin located within the proposal. If the area becomes an ecological reserve, there should be full co-operation with the Branch in planning and execution of scientific research.

Signed


(Surveyor)
 J.B. Foster, J. Pojar,
 G. Franko, A. Stewart