

APPLICATION FOR ECOLOGICAL RESERVE

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

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

6 km N.E. of Port Renfrew.

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

CWHb

4. Approximate total acreage.

75 ha

5. Purpose of the reserve.

- 1) To conserve a representative sample of the lower alluvial forest communities on the San Juan River floodplain
 - 2) To ensure permanent protection for Mimulus dentatus which is not known from any other place in Canada.
- (a) Primary (state acreage)

75 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.

(H. Roemer, J. Pinder-Moss)

Signature

I.B.P. Surveyor

Boundary Description of San Juan Delta Ecological Reserve Proposal #361

The San Juan Delta Ecological Reserve Proposal includes two adjacent parcels of land in section 8, Township 10 in the Renfrew Land District described as follows:

1) the fractional SW quarter of section 8 lying both north and south of the San Juan River as well as

2) a parcel described as all the land within the following points and distances:

commencing at the NW corner of the SE quarter Sec 8, Tp10 thence due west to the west boundary of sec. 8, thence north 290 m, thence due east to the intersection with the extended west boundary of the south-east quarter, sec. 8 Tp 10: thence due south 290 m to the point of commencement.

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

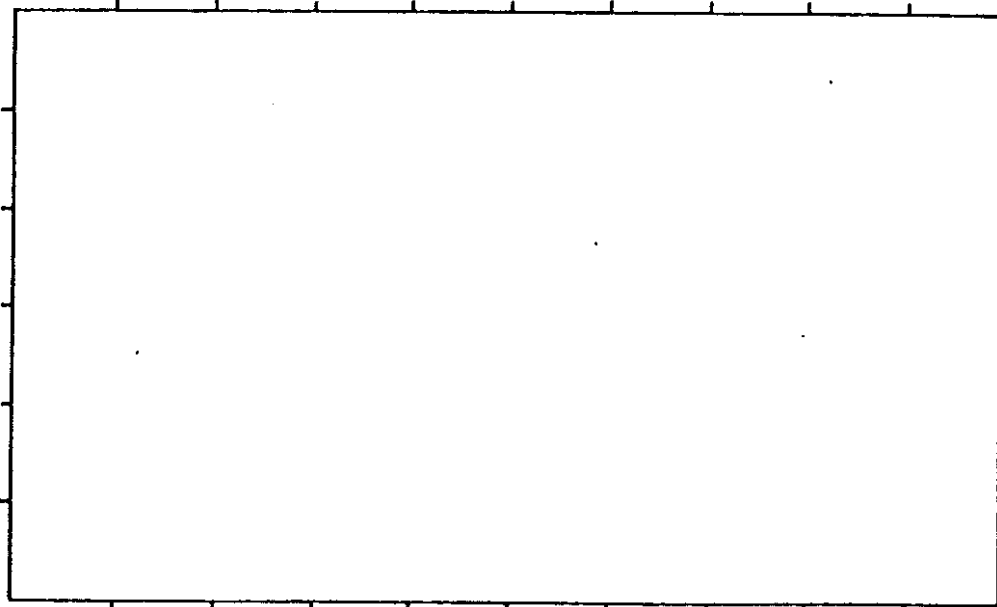
Serial Number

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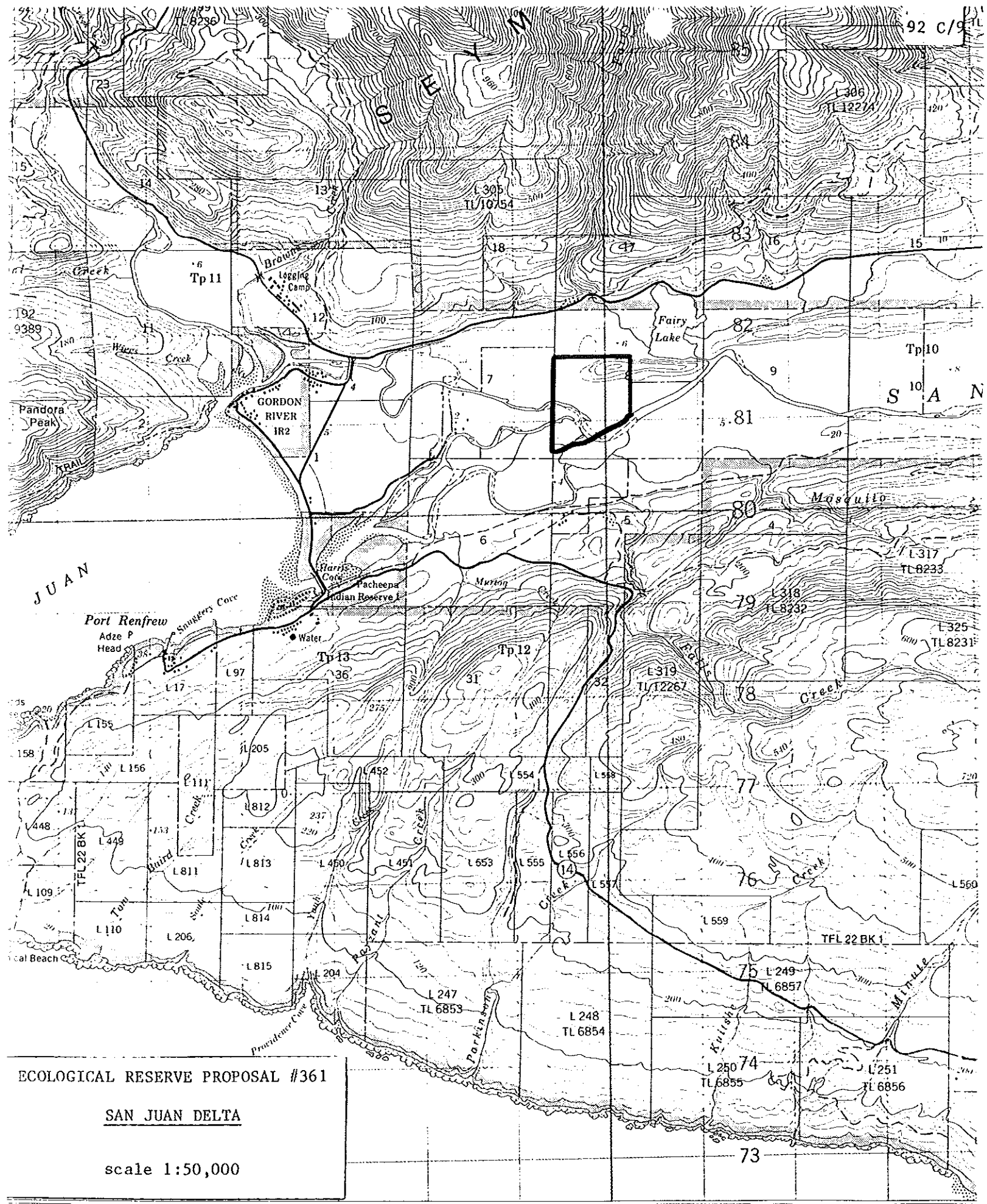
For Data
Centre Use
only

1. 1. Name of surveyor H. Roember and J. Pinder-Moss
2. Address of surveyor Ecological Reserves Unit
- PARLIAMENT BUILDINGS
- Victoria, B. C. V8V 1X4
3. Check Sheet completed (a) on site (b) from records
4. Date Check Sheet completed January, 1983.

2. 1. Name of IBP Area SAN JUAN DELTA
2. Name of IBP Subdivision (or serial letter) CWHb
3. Map of IBP Area* showing boundaries attached? Yes 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.



ECOLOGICAL RESERVE PROPOSAL #361

SAN JUAN DELTA

scale 1:50,000

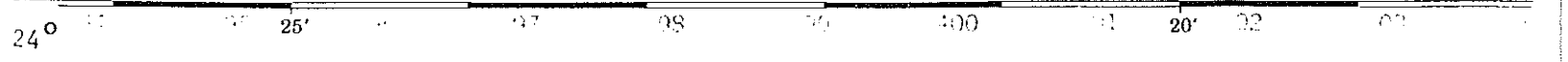


TABLE 1
MONTHLY TEMPERATURE SUMMARY
(Degrees Celsius)

92C/NE SAN JUAN 101405

Y. Mo	Mean Maximum	Mean Minimum	Monthly Mean	Extreme		Missing		Days Minimum Below					Degree Days		Effective Above 5
				Max	Min.	Max.	Min.	0	-5	-10	-20	-30	Above 5	Below 18	
78 01	7	2	4	11.4	-6.6	0	0	8	1	0	0	0	22	429	3
78 02	7	1	4	12.5	-4.3	0	0	12	0	0	0	0	21	390	3
78 03	11	1	6	17.2	-4.7	0	0	13	0	0	0	0	57	370	9
78 04	13	3	8	19.3*	-2.1*	2	2	6*	0*	0*	0*	0*	72*	292*	11*
78 05	18*	M	M	29.0*	-3*	6	23	M	M	M	M	M	M	M	M
78 06	22	8	15	31.7	3.8	0	0	0	0	0	0	0	292	105	127
78 07	23	10	16	32.8	5.5	0	0	0	0	0	0	0	345	69	171
78 08	20	10	15	33.8	5.2	0	0	0	0	0	0	0	319	90	152
78 09	16	8	12	21.2	.5	0	0	0	0	0	0	0	202	188	70
78 10	14	5	9	20.6	-1.3	0	0	5	0	0	0	0	138	271	37
78 11	4	0	2	13.4	-7.5	0	0	16	4	0	0	0	9	480	2
78 12	M	M	M	8.6*	-6.1*	15	15	M	M	M	M	M	M	M	M
Annual	13*	M	M	33.8*	-7.5*	23	40	M	M	M	M	M	M	M	M

Longest 1977 period with minimum above 0 144 DAYS MAY 30 — OCT 20
 -2 M DAYS
 -4 252 DAYS MAR 04 — NOV 10

Period between first and last occurrences of five consecutive days all with mean temperatures above 5°C in 1978: 280 DAYS JAN 13 — OCT 20

Degree days above 5°C for same period: M

92C/SE FEIN CK 101402

Y. Mo	Mean Maximum	Mean Minimum	Monthly Mean	Extreme		Missing		Days Minimum Below					Degree Days		Effective Above 5
				Max	Min.	Max.	Min.	0	-5	-10	-20	-30	Above 5	Below 18	
78 01	6	2	4	10.7	-1.7	0	0	8	0	0	0	0	18	424	2
78 02	7	2	4	12.4	-3.3	0	0	8	0	0	0	0	21	384	3
78 03	9	2	5	13.1	-3.4	0	0	10	0	0	0	0	35	390	4
78 04	11	2	7	15.6	-9	0	0	6	0	0	0	0	56	337	9
78 05	14	4	9	25.6	-9	0	0	2	0	0	0	0	133	270	33
78 06	20	9	14	30.0	4.6	0	0	0	0	0	0	0	282	127	133
78 07	21	10	15	31.1	4.6	0	0	0	0	0	0	0	318	102	158
78 08	19	9	14	31.9	5.0	0	0	0	0	0	0	0	283	131	127
78 09	15	8	12	20.9	1.8	0	0	0	0	0	0	0	201	189	67
78 10	14	6	10	21.5	.1	0	0	0	0	0	0	0	157	246	48
78 11	5	0	3	14.7	-5.4	0	0	19	1	0	0	0	10	464	1
78 12	2	-3	-1	7.4	-12.6	0	0	26	5	3	0	0	0	586	0
Annual	12	4	8	31.9	-12.6	0	0	79	6	3	0	0	1514	3650	585

Longest 1977 period with minimum above 0 182 DAYS MAY 06 — NOV 03
 -2 241 DAYS MAR 15 — NOV 10
 -4 315 DAYS JAN 01* — NOV 11

Period between first and last occurrences of five consecutive days all with mean temperatures above 5°C in 1978: 291 DAYS JAN 12 — OCT 30

Degree days above 5°C for same period: 1498

92E/NE CONUMA RIVER 103419

Y. Mo	Mean Maximum	Mean Minimum	Monthly Mean	Extreme		Missing		Days Minimum Below					Degree Days		Effective Above 5
				Max.	Min.	Max.	Min.	0	-5	-10	-20	-30	Above 5	Below 18	
78 01	7	2	4	13.3	-5.2	0	0	10	1	0	0	0	32	419	5
78 02	9	2	6	14.3	-2.7	0	0	8	0	0	0	0	36	345	6
78 03	10	2	6	17.8	-2.9	0	0	6	0	0	0	0	50	362	7
78 04	13	4	8	19.1	-3	0	0	1	0	0	0	0	95	295	18
78 05	16	6	11	31.3	1.5	0	0	0	0	0	0	0	185	220	59
78 06	23	11	17	33.6	6.1	0	0	0	0	0	0	0	367	62	217
78 07	25	12	19	35.1	9.1	0	0	0	0	0	0	0	429	21	272
78 08	21	11	16	35.3	8.3	0	0	0	0	0	0	0	351	73	189
78 09	16	9	12	23.1	3.7	0	0	0	0	0	0	0	215	175	74
78 10	14	6	10	22.5	-1.2	0	0	2	0	0	0	0	154	254	49
78 11	6	1	4	11.9	-5.2	0	0	9	2	0	0	0	15	430	3
78 12	1	-2	0	8.6	-9.4	0	0	25	4	0	0	0	2	565	0
Annual	14	5	9	35.3	-9.4	0	0	61	7	0	0	0	1931	3221	899

Longest 1977 period with minimum above 0 200 DAYS APR 13 — OCT 29
 -2 250 DAYS MAR 05 — NOV 09
 -4 321 DAYS JAN 03 — NOV 19

Period between first and last occurrences of five consecutive days all with mean temperatures above 5°C in 1978: 288 DAYS JAN 12 — OCT 27

Degree days above 5°C for same period: 1910

3. Location of IBP Area*

1. Latitude $48^{\circ}35'21''$ to $52''$ N Longitude $124^{\circ}22'17''$ to $50''$ W
2. Country Canada
 State or Province British Columbia County
 (State or Province County)

4. Administration

1. Official category Crown Land - Tree Farm Licence 22
2. Address of administration Ministry of Forests
 PARLIAMENT BUILDINGS
 Victoria, British Columbia V8V 1X4

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) 75 ha
2. Altitude (state units of measurement) Maximum 80 m
 Minimum 5 m

6. Climate

Nearest climatological station :

1. Name San Juan (short-term), Pachena Point
2. Climatological station on IBP Area*? Yes No^x
3. If (2) not, distance from edge of IBP Area* (state units) 20 km (San Juan), 60 km (Padena)
4. Direction from IBP Area* East (San Juan), WNW (Pachena Point)
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		*Populus trichocarpa/Alnus rubra -Rubus spectabilis-Tolmiea menziesii	
2	1	A	2	1		*Alnus rubra-Ribes bracteosum/ Rubus spectabilis - Athyrium filix-femina	
3	1	A	1/2			Picea sitchensis/Alnus rubra - Polystichum munitum	
4	1	A	1	7	a	Tsuga heterophylla-Blechnum spicant-Plagiothecium undulatum	
5						flood channels and sloughs	
6							
7						*Note: Due to continued strong flooding communities 1 and 2 tend toward mature ecosystems in which <u>Populus trichocarpa</u> and <u>Alnus rubra</u> will continue to play a major role, although <u>Picea sitchensis</u> will eventually be present as well.	
8							
9							
10							

Ecological Reserve Proposal #361, San Juan River

List of Plant Communities and Species

1. Populus trichocarpa/Alnus rubra - Rubus spectabilis - Tolmiea menziesii community.
On young alluvial sand and silt deposits, subject to frequent flooding

Populus trichocarpa	Lysichiton americanum	
Alnus rubra	Erythronium revolutum	
Acer macrophyllum	Pleuropogon refractus	
	Aruncus sylvester	
Rubus spectabilis	Viola glabella	
Cornus stolonifera	Mitella ovalis	
Ribes bracteosa	Cinna latifolia	
Sambucus racemosa	Mimulus dentatus	
Lonicera involucrata	Montia sibirica	
	Osmorhiza chilensis	
Maianthemum dilatata	Petasites frigidus	
Heracleum lanatum	Adiantum pedatum	
Tolmiea menziesii		
Dicentra formosa	Plagiomnium insigne) moss layer frequently absent
Stachys cooleyae	Stokesiella praelonga	
Athyrium filix-femina	Rhytidiadelphus squarrosus	

2. Alnus rubra - Ribes bracteosum/Rubus spectabilis - Athyrium filix-femina community.
On alluvial sand and silt deposits subject to flooding.

Alnus rubra	Disporum hookeri
(Acer macrophyllum)	Viola glabella
Picea sitchensis (scattered, small)	Stachys cooleyae
	Montia sibirica
Ribes bracteosum	Boykinia elata
Rubus spectabilis	Festuca subulata
Sambucus racemosa	Galium triflorum
Ribes laxiflorum (old stumps only)	
	Plagiomnium insigne
Athyrium filix-femina	Stokesiella praelonga
Trautvetteria caroliniensis	Conocephalum conicum
Polystichum munitum	Leucolepis menziesii
Maianthemum dilatatum	Pellia meesiana
Disporum smithii	Plagiochila asplenioides

3. Picea sitchensis/Alnus rubra - Polystichum munitum community. Small area only on older alluvial sand and gravel deposits, rarely flooded.

Picea sitchensis	Galium triflorum
Alnus rubra	Tiarella trifoliata
Tsuga heterophylla (generally poor quality)	Montia sibirica
	Carex deweyana
Vaccinium parvifolium	Luzula parviflora
Rubus spectabilis	
Ribes laxiflorum (old stumps only)	Plagiomnium insigne
	Stokesiella oregana
Polystichum munitum	Stokesiella praelonga
Trautvetteria caroliniensis	Hylocomium splendens
Athyrium filix-femina	Pellia meesiana
Dryopteris assimilis	Pogonatum alpinum
Maianthemum dilatatum	Conocephalum conicum
Disporum hookeri	Hookeria lucens
Trillium ovatum	Calypogeia muelleriana
	Cephalozia sp.

4. Tsuga heterophylla - Blechnum spicant - Plagiothecium undulatum community. On shallow till and colluvium over schist bedrock (steep terrain).

Tsuga heterophylla	Plagiothecium undulatum
(Thuja plicata - stumps from former stand)	Scapania bolanderi
Menziesia ferruginea)	Stokesiella oregana
Vaccinium alaskaense) very sparse shrub	Rhizomnium glabrescens
Vaccinium parvifolium) layer	Diplophyllum albicans
	Isopterygium elegans
Blechnum spicant)	Lepidozia reptans
Polystichum munitum) discontinuous	Calypogeia sp.
Maianthemum dilatatum) herb layer	Cephalozia spp.
Streptopus amplexifolius)	Lophocolea sp.

5. Species combination of flood channels and sloughs (very variable)

Pyrus fusca	Oenanthe sarmentosa
Cornus stolonifera	Scirpus microcarpus
	Glyceria pauciflora
Carex obnupta) often the only	Equisetum arvense
Lysichiton americanum) species	Cinna latifolia
	Equisetum hiemale

Additional species observed in the proposed area

Acer circinatum	Prenanthes alata
Acer glabrum	Prunella vulgaris
Angelica genuflexa	Ranunculus uncinatus
Bromus cf. pacificus	Rubus parviflorus
Cardamine pulcherrima var. tenella	Rumex sp.
Carex hendersonii	Salix lasiandra
Epilobium cf. paniculatum	Salix scouleriana
Equisetum telmateia	Stellaria crispa
Melica subulata	Tellima grandiflora

7.
(cont.)

2

Soil

Community Reference Number	Soil type	Other notes
1	AC I2	Orthic to Cumulic Regosol
2	AC I2	Cumulic Regosol
3	AC I2	Cumulic Regosol
4	ABC F5	Orthic Humo-Ferric Podzol
5	AC I2	Regosol
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

9. Landscape

1. General Landscape (give brief description) Alluvial floodplain with
..... elongated rocky ridge rising to 80 m a.s.l.
.....
.....

2. Relief Type

	Flat	Undulating (0)-200 m.	Hilly 200-1000 m.	Mountainous > 1000 m.	%
Sharply dissected					
Gently dissected	x	x			100
Incised					
Skeletonised					
%	85	15			100%

3. Special landscape features (list) floodplain, sloughs
.....
.....

10. Coastline of IBP Area*

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		x
Running	x	

2. Standing Water

	Permanent	Intermittent	Unproductive	Productive
Swamps	x			x
Ponds	x	x		x
Lakes				

3. Running Water

	Permanent	Intermittent
Springs, cold		
Springs, hot		
Streams		
Rivers	x	

4. Special freshwater features San Juan River bisects proposal area
is annually flooded.....

12. Salt and Brackish Water within IBP Area*

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

2. Salt and Brackish

Estuary	Salt lake	Salt pool	Lagoon	Ocean		
				x		

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												
Aves												
Reptilia												
Amphibia												
Pisces												
Insecta												

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

..... present (not threatened at this time) black bear.

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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 :											
trees											
shrubs											
herbs	x		x		x						
grass											
Gymnospermae											
Pteridophyta											
Bryophyta											
Lichens and Algae											

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

.....Mimulus dentatus - only occurrence in Canada.....
Erythronium revolutum (R 3 classification).....

15. Exceptional Interest of IBP Area*

.....Very rich soils support great species diversity.....
Long-term observations on alluvial succession possible.....

16. Significant Human Impact

1. General : None in entire IBP Area*
 None in part of IBP Area* X (Northern part of area selectively logged ± 70 years ago).
 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	X					
Plantation						
Hunting						
Removal of predators						
Pesticides						
Introductions — plants						
Introductions — animals						
Fire						
Permanent habitation						
Recreation and tourism						
Research						

3. Additional details on each type of impact attached?

Yes No X

17. Conservation Status RECOMMENDED

	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. N.T.S. 92 C/9 1:50,000

List attached? Yes No^x.....

3. Aerial photographs for the IBP Area available? BC 80083 177, 178

For whole area^x..... For part of area None

19. Other Relevant Information

Signed
(Surveyor)

(H. Roemer, J. Pinder-Moss)

ERRATA FOR E.R.P. #361 SAN JUAN DELTA

ELEMENT and STATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	YEAR	Type of Normal
000 PACHENA POINT														
LATITUDE 48 43 N LONGITUDE 125 06 W ELEVATION 150 FT ASL														
TEMP. MOYENNE QUOTIDIENNE (DEG F)	39.4	41.2	41.7	44.9	49.7	53.3	55.9	56.0	54.1	49.5	44.5	41.4	47.6	1
TEMPERATURE MAX. QUOTIDIENNE MOYENNE	44.0	46.7	47.7	51.3	56.2	59.2	61.7	61.7	60.5	55.2	49.4	46.0	53.3	1
TEMPERATURE MIN. QUOTIDIENNE MOYENNE	34.7	35.7	35.5	38.6	43.1	47.4	49.9	50.2	47.7	43.9	39.5	36.7	41.9	1
TEMPERATURE MAXIMALE	58	61	68	73	77	89	89	83	81	72	66	59	89	1
NOMBRE D'ANNEES EN RECORD	46	46	44	44	44	45	45	45	45	45	47	47	4	1
TEMPERATURE MINIMALE	4	14	20	26	29	34	39	40	30	23	15	14	14	1
NOMBRE D'ANNEES EN RECORD	46	46	44	44	44	45	46	46	46	46	47	47	47	1
NOMBRE DE JOURS DE GEL	11	10	10	4	*	0	0	0	0	1	5	9	50	1
HAUTEUR DE PLUIE MOYENNE (POUCES)	15.01	13.38	11.43	8.32	4.19	3.37	3.10	3.57	6.34	14.00	16.22	17.22	116.15	1
CHUTE DE NEIGE MOYENNE	7.0	1.8	2.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.9	14.8	1
PRECIPITATION TOTALE MOYENNE	15.71	13.56	11.67	8.34	4.19	3.37	3.10	3.57	6.34	14.00	16.27	17.51	117.63	1
PLUIE MAXIMUM EN 24 HEURES	5.65	5.50	4.51	3.85	3.25	4.55	5.24	4.75	4.13	5.72	5.86	4.88	5.86	1
NOMBRE D'ANNEES EN RECORD	45	46	44	45	45	45	45	45	45	46	47	47	14.5	1
CHUTE DE NEIGE MAXIMUM EN 24 HEURES	11.0	10.1	14.5	6.5	0.0	0.0	0.0	0.0	0.0	0.0	6.5	8.5	46	1
NOMBRE D'ANNEES EN RECORD	45	45	44	45	45	45	46	46	46	46	46	46	46	1
PRECIPITATION MAXIMUM EN 24 HEURES	5.65	5.50	4.51	3.85	3.25	4.55	5.24	4.75	4.13	5.72	5.86	4.88	5.86	1
NOMBRE D'ANNEES EN RECORD	45	46	44	45	45	45	45	45	45	46	47	47	47	1
NOMBRE DE JOURS AVEC PLUIE MESURABLE	20	18	19	17	13	12	10	11	11	18	21	23	193	1
NOMBRE DE JOURS AVEC NEIGE MESURABLE	3	1	1	*	0	0	0	0	0	0	*	1	6	1
NBRE DE JRS AVEC PRECIPITATION MBL.	22	18	20	17	13	12	10	11	11	18	21	23	196	1