

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.)

Near Caycuse, Nixon Creek valley, Cowichan Lake, Vancouver Island.

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

CWHa (or rather CWHb?)

4. Approximate total acreage.

210 acres

5. Purpose of the reserve.

A naturally established young forest (70 years old) after fire. It should be a good control area for comparison with plantations within this biogeoclimatic zone and its subzone.

- (a) Primary (state acreage)

210 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.

Acer macrophyllum, Alnus rubra, Populus trichocarpa, Pseudotsuga menziesii var. menziesii, Thuja plicata, Tsuga heterophylla.

Signature H. L. Roemer, Don McMullan,
I.B.P. Surveyor
and V.J. Krajina

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

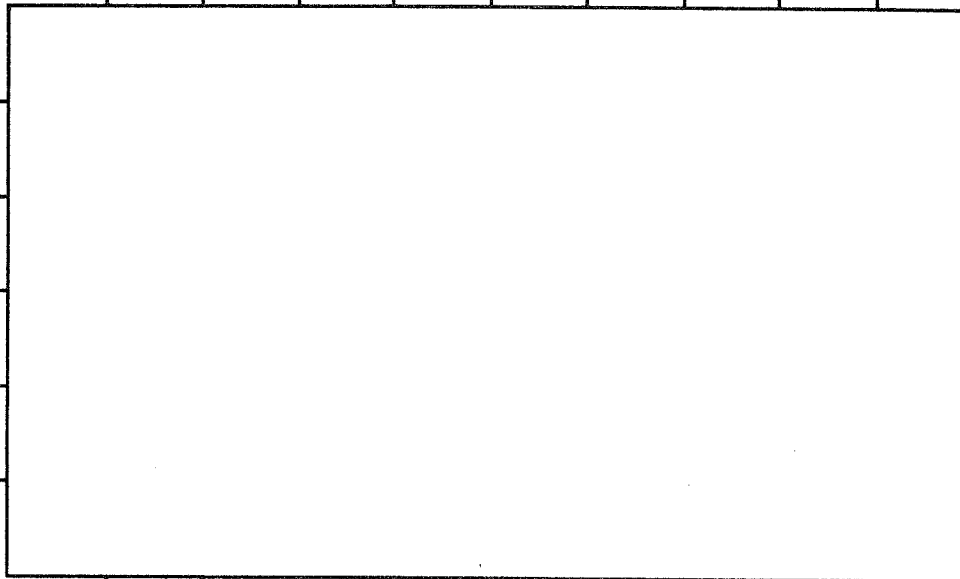
Serial Number

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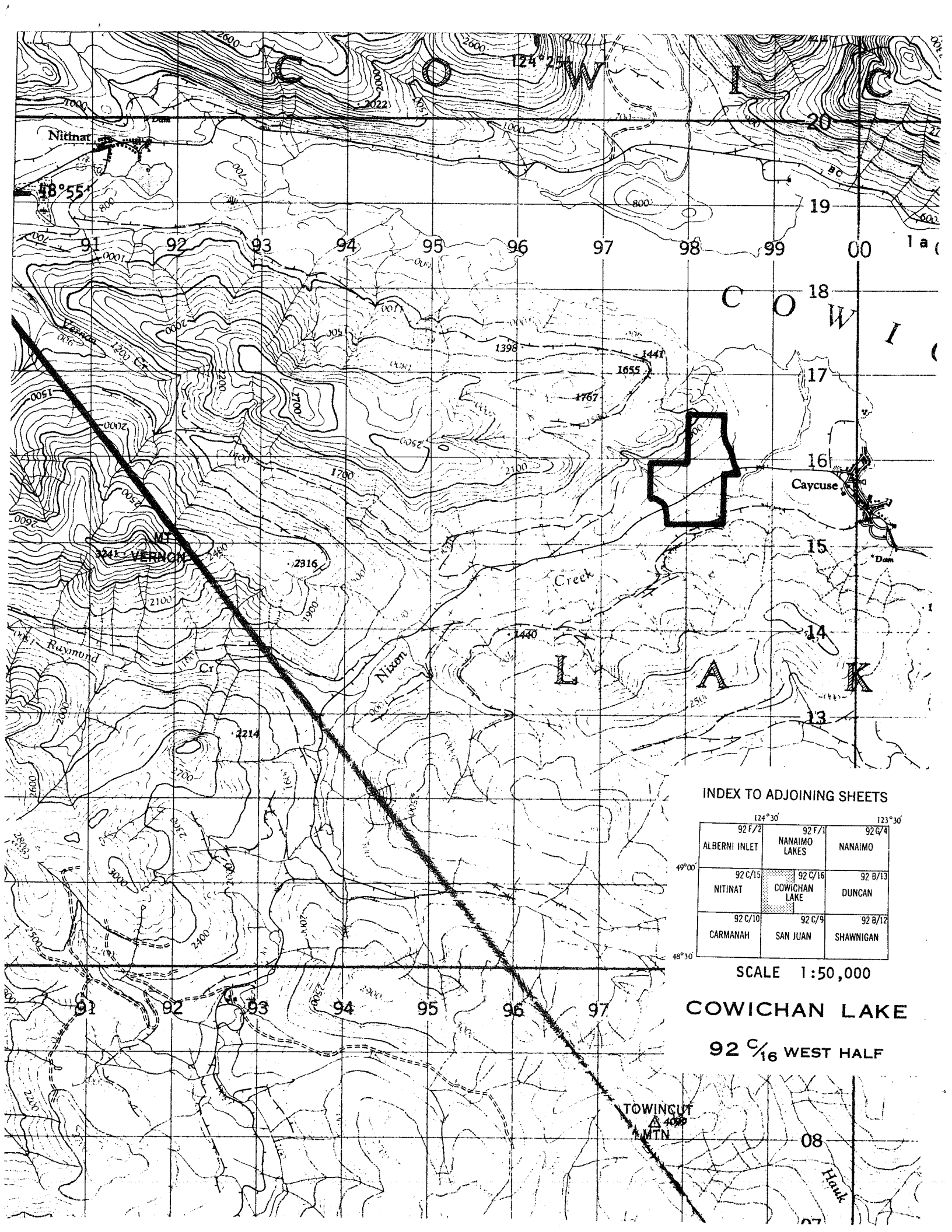
For Data Centre Use only

1. 1. Name of surveyor H.L. Roemer*, Don McMullan**, and V.J. Krajina*
 2. Address of surveyor *Department of Botany, U.B.C., Vancouver, B.C.
 **Forester
 B.C. Forest Products, Box 130, Crofton, B.C.
 3. Check Sheet completed (a) on site X (b) from records X
 4. Date Check Sheet completed : November 10, 1974

2. 1. Name of IBP Area Near Caycuse, Nixon Creek valley, Cowichan Lake
 area, Vancouver Island
 2. Name of IBP Subdivision (or serial letter) CWHa
 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.



INDEX TO ADJOINING SHEETS

| | | | |
|---------------|---------------|-----------|---------|
| 124°30' | | 123°30' | |
| 92 F/2 | 92 F/1 | 92 G/4 | |
| ALBERNI INLET | NANAIMO LAKES | NANAIMO | |
| 49°00' | 92 C/15 | 92 C/16 | 92 B/13 |
| NITINAT | COWICHAN LAKE | | DUNCAN |
| 92 C/10 | 92 C/9 | 92 B/12 | |
| CARMANAH | SAN JUAN | SHAWNIGAN | |
| 48°30' | | | |

SCALE 1:50,000

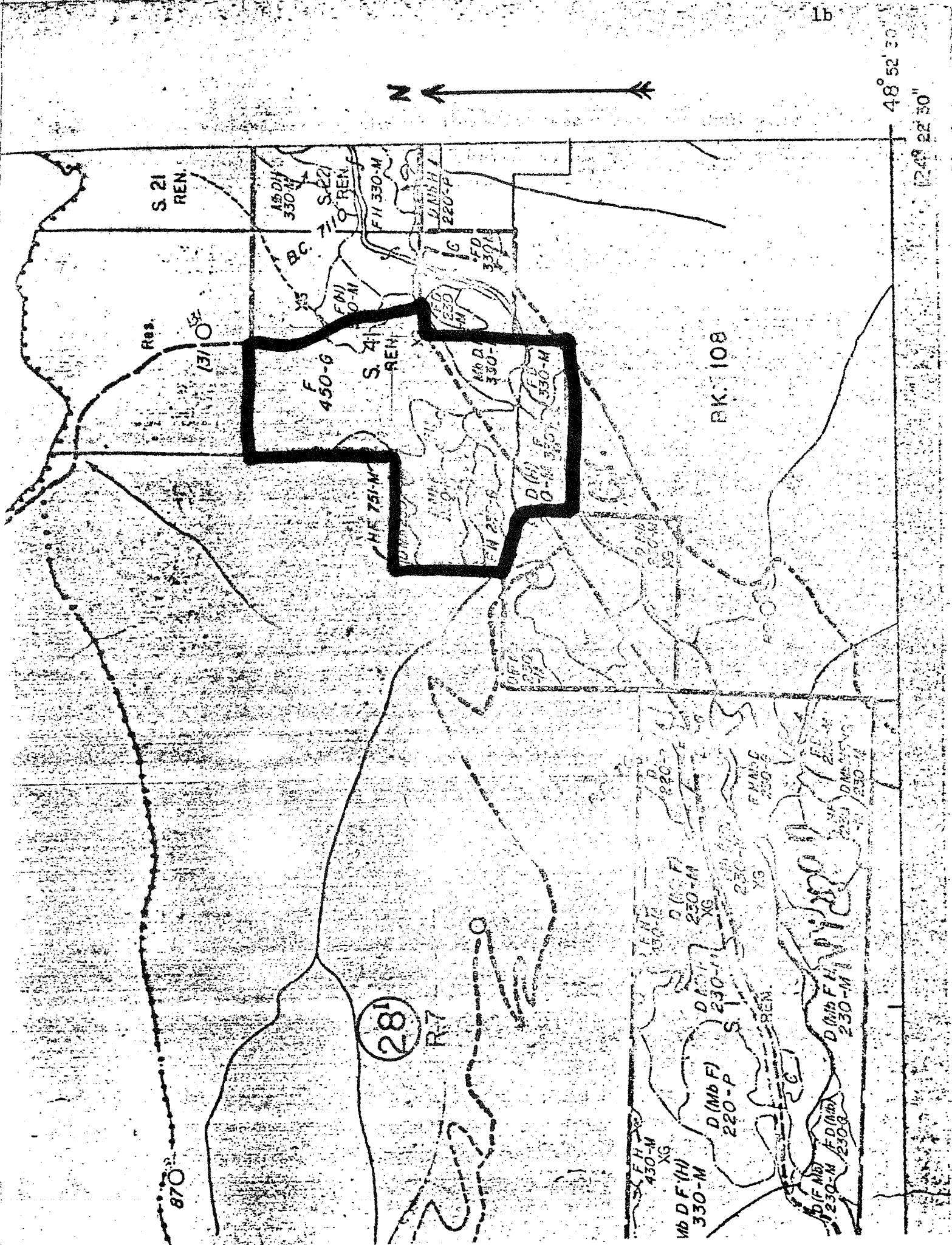
COWICHAN LAKE

92 C/16 WEST HALF

TOWINCUT
MTN

08

Flow



S 21
REN.

Mb D
330-M

S 22
REN.

FH 330-M

LAMB L

220-P

Res.

710

F
450-G

S 24
REN.

Mb D
330-M

230-M

330-M

D (H)
O-M
350

BK 108

281

R-7

870

FH
430-M

Mb D F (H)
330-M

D (Mb F)
220-P

D (Mb)
230-M

D (Mb F)
230-M

D (Mb)
230-M

48° 52' 30"

124° 22' 30"

3. **Location of IBP Area***

- 1. Latitude 48 ° 52.95-53.75' N Longitude 124 ° 23.1-23.9' W
- 2. Country Canada
- State or Province British Columbia County Cowichan Lake
- (State or Province County)

4. **Administration**

- National** 1. Official category Crown Land (western part of S41 and adjacent areas to the west and south).....
- 2. Address of administration British Columbia Department of Lands, Forests, and Water Resources, Parliament Buildings, 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) X |

5. **Characteristics of IBP Area***

- 1. Surface area (state units of measurement) 210 acres
- 2. Altitude (state units of measurement) Maximum 1050' (320 m)
- Minimum 535' (163 m).....

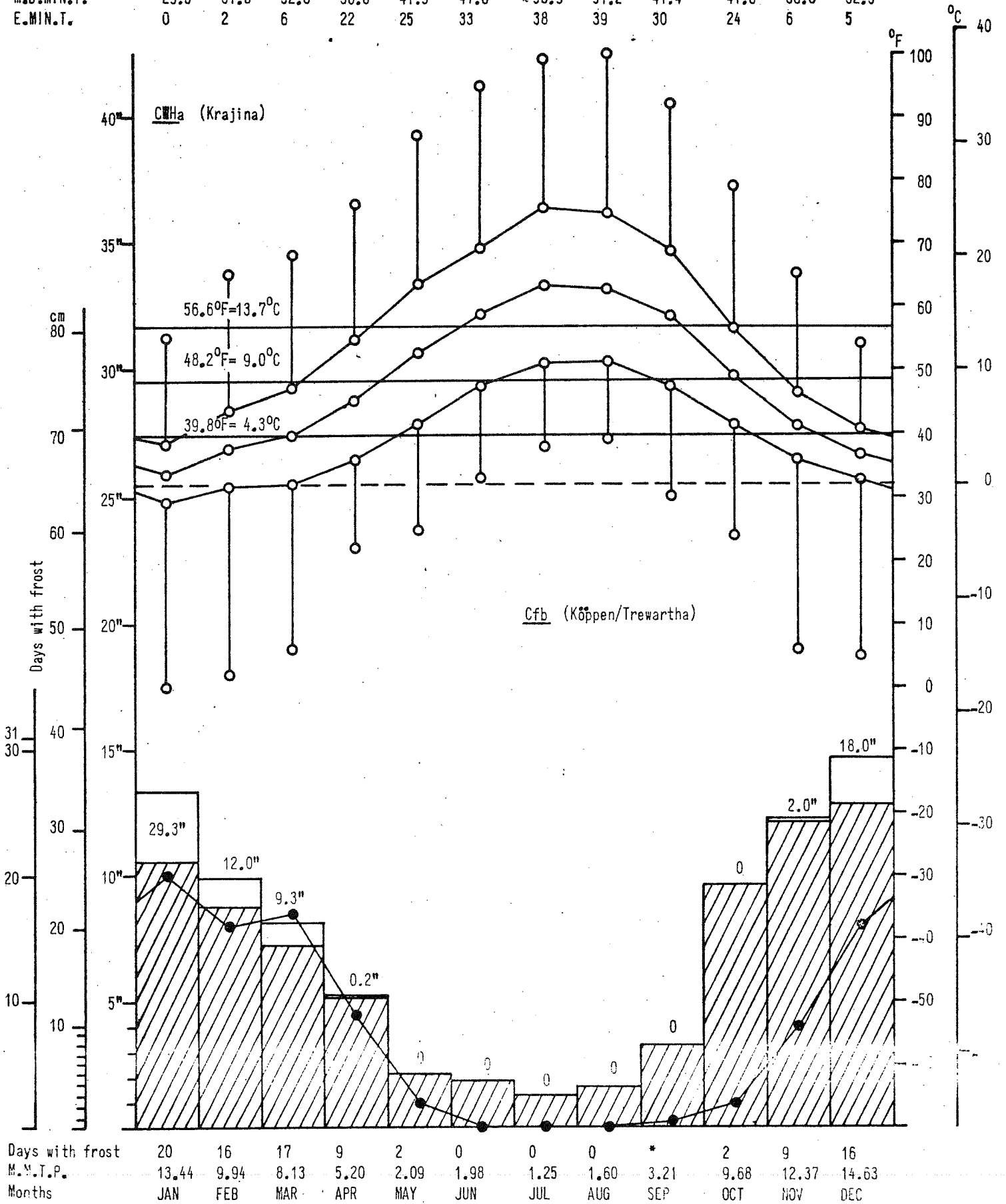
6. **Climate** Cfb (after Köppen/Trewartha)

Nearest climatological station :

- 1. Name Cowichan Lake, Provincial Forestry Station (48°49N, 124°08'W)
- 2. Climatological station on IBP Area*? Yes No ...X...
- 3. If (2) not, distance from edge of IBP Area* (state units) 12 mi.
- 4. Direction from IBP Area* ESE
- 5. Additional data sheet attached? Yes .X..... No

Cowichan Lake, Forestry Station
 The proposed area has higher annual precipitation (probably over 110").

| | | | | | | | | | | | | |
|------------|------|------|------|------|------|------|------|------|------|------|------|------|
| E.MAX.T. | 55 | 65 | 68 | 76 | 87 | 95 | 99 | 100 | 92 | 79 | 65 | 54 |
| M.D.MAX.T. | 38.4 | 43.9 | 47.1 | 54.5 | 63.7 | 69.1 | 75.7 | 74.4 | 68.7 | 56.2 | 46.2 | 40.7 |
| M.D.T. | 33.8 | 37.9 | 39.6 | 45.2 | 52.6 | 58.4 | 63.3 | 62.8 | 58.1 | 48.9 | 41.1 | 36.5 |
| M.D.MIN.T. | 29.3 | 31.8 | 32.0 | 36.0 | 41.5 | 47.6 | 50.9 | 51.2 | 47.4 | 41.6 | 36.0 | 32.3 |
| E.MIN.T. | 0 | 2 | 6 | 22 | 25 | 33 | 38 | 39 | 30 | 24 | 6 | 5 |



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 | 1 | 7 | a | Rhytidiadelpho (lorei) - Tiarello (trifoliatae) - Polysticho (muniti) - Pseudotsugo (menziesii) - Thujetum plicatae | |
| 2 | 1 | A | 1 | 7 | a | Hylocomio (splendentis) - Mahonio (nervosae) - Symphoricarpo (mollis *hesperii) - Pseudotsugetum menziesii | |
| 3 | 1 | A | 2/1 | 1/7 | -/a | Plagiomnio (insignis) - Leucolepido (menziesii) - Rubo (spectabilis) - Acero (macrophylli) - Thujetum plicatae | |
| 4 | 1 | A | 2 | 2 | | Eurhynchio (praelongi) - Rhizomnio (perssonii) - Lysichito (americani) - Alnetum rubrae | |
| 5 | | | | | | | |
| 6 | | | | | | | |
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Please give information about further communities on a separate sheet.

PART OF SECTION 41, CAYCUSE (COWICHAN LAKE) 175 acres as outlined
on sketch map; crown land.

Main features of proposal: 70 years old Douglas-fir forest established after fire, alder-maple seepage sites and maple alluvial sites.

(Visited Sept. 17 with Don McMullan.)

Only the coniferous portion (including a small depressional part with alder) was shown to me by Don McMullan. But after examining the forest cover map I am inclined to add an equally large area to the SW which is mainly covered with deciduous trees and contains more variation. This latter portion will be additionally described after another visit.

The largest part of the proposed area is located on a gentle SE slope between 600 and 950 feet elevation. A small portion is an almost flat alluvium and another very small corner reaches up the opposite slope (NW aspect). A park reserve occupies the adjoining land to the N and an entomological reserve that to the E. All the surrounding area is second growth forest established after fire and logging.

The Douglas-fir forest in the northern portion is very homogeneous and of medium good growth (site index 140-160 according to D. McMullan). The following species combination would be average for this stand (order of dominance):

Pseudotsuga menziesii
Tsuga heterophylla (on decaying wood mainly)
(Thuja plicata)

Gaultheria shallon }
Vaccinium parvifolium } on decaying wood
Vaccinium alaskaense (!) }
(Vaccinium ovalifolium)

Pteridium aquilinum)
Achlys triphylla)
Polystichum munitum) these species are only
Festuca subuliflora) scattered due to dense
Tiarella trifoliata) salal cover
Trientalis latifolia)
Blechnum spicant)

Hylocomium splendens (!)
Rhytidiadelphus loreus (!)
Eurhynchium oreganum
Plagiothecium undulatum } mainly on decaying wood
Mnium glabrescens }

The basic species combination including Vaccinium alaskaense and Rhytidiadelphus loreus belongs to the wetter subzone (b) of the Coastal Western Hemlock Zone (Krajina 1965).

In the visited part of the proposed area only small portions differ from the above. They contain the following additional species:

- 1) Very well drained, steeper portion in extreme NW corner

Amelanchier alnifolia
Rosa gymnocarpa
Mahonia nervosa
Rubus ursinus
Symphoricarpus mollis var. hesperius
Linnaea borealis
Festuca occidentalis
Chimaphila menziesii
Scapania bolanderi (only on decaying wood)

- 2) Richer pockets within the average stands (probably finer texture)

Thuja plicata
Acer macrophyllum
Symphoricarpus albus
Rubus parviflorus
Tiarella trifoliata
Lactuca muralis
Disporum hookeri
Dryopteris austriaca (mainly decaying wood)
Galium triflorum
Leucolepis menziesii

- 3) Small depression dominated by red alder (rich, wet)

| | |
|------------------------------------|-------------------------------|
| <u>Rubus spectabilis</u> | <u>Tolmiea menziesii</u> (!) |
| <u>Lysichitum americanum</u> | <u>Cardamine occidentalis</u> |
| <u>Equisetum telmateia</u> | <u>Circaea alpina</u> |
| <u>Athyrium filix-femina</u> | <u>Adiantum pedatum</u> |
| <u>Stachys cooleyae</u> | <u>Tiarella laciniata</u> |
| <u>Glyceria elata</u> | <u>Montia sibirica</u> |
| <u>Oenanthe sarmentosa</u> | <u>Adenocaulon bicolor</u> |
| <u>Maianthemum dilatatum</u> | <u>Plagiomnium insigne</u> |
| <u>Trautvetteria caroliniensis</u> | <u>Eurhynchium praelongum</u> |
| | <u>Rhizomnium perssonii</u> |

Soils associated with the basic species combination given above are Gleyed Ferro-Humic Podzols. In the drier portion a slight tendency towards Brunisolic soils is evident, though Ah horizons are still absent (this absence may however be due to fire history).

Evaluation

As a naturally established young forest this area could be a good control area for comparison with plantations within this biogeoclimatic subzone. On the basis of the examined vegetation there are no compelling points neither against nor for its selection, as its major communities are common on Vancouver Island.

However, in that part not surveyed so far, small portions of a Douglas-fir - swordfern type may occur, especially in the contact zone between maple/alder stands and coniferous forest (see copy of forest cover map). Very few such more productive forest sites with swordfern are protected on Vancouver Island.

From a general ecological point of view the part with alluvial broad-leaved stands would also be of interest. A very valuable botanical feature would be, if Erythronium revolutum could be found in the latter part.

Any further survey should be aimed at examination of these points.

7.
(cont.)

2

Soil

| Community Reference Number | Soil type | Other notes |
|----------------------------|--|---------------------------|
| 1 | AC/AGC I ₂ /P ₂ | Gleyed Regosol |
| 2 | ABC F ₅ | Ferro-Humic Podzol |
| 3 | AGC/ABC P ₂ /F ₅ | Gleyed Ferro-Humic Podzol |
| 4 | AGC P ₁ /P ₂ | Gleysol (with Black Muck) |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |

9. Landscape

1. General Landscape (give brief description) Bottomland of a valley behind a lake,

2. Relief Type

| | Flat | Undulating (0)-200 m. | Hilly 200-1000 m. | Mountainous > 1000 m. | % |
|-------------------|------|-----------------------|-------------------|-----------------------|------|
| Sharply dissected | | | 20 | | 20 |
| Gently dissected | | 60 | 20 | | 80 |
| Incised | | | | | |
| Skeletonised | | | | | |
| % | | 60 | 40 | | 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 | | |
| Standing | | |
| Running | X | |

2. Standing Water

| | Permanent | Intermittent | Unproductive | Productive |
|--------|-----------|--------------|--------------|------------|
| Swamps | X | | | |
| Ponds | | | | |
| Lakes | | | | |

3. Running Water

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

Nixon Creek

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 River Stream

Cowichan Lake

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 | X | | |
| Reptilia | | X | | | | | | | | | | |
| Amphibia | | X | | | | | | | | | | |
| Pisces | | ? | | | | | | | | | | |
| Insecta | X | X | | | | | | X | | X | | |
| | | | | | | | | | | | | |
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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 : | | | | | | | | | | | |
| trees | X | X | | | | | | | | | |
| shrubs | X | X | | | X | X | | | | | |
| herbs | X | X | | | X | X | | | | | |
| grass | | X | | | | | | | | | |
| Gymnospermae | X | X | | | X | | | | | | |
| Pteridophyta | X | X | | | X | X | | | | | |
| Bryophyta | X | X | | | X | | | | | | |
| Lichens and Algae | X | X | | | X | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

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

.....

15. Exceptional Interest of IBP Area*

..... It has a great potential for better understanding of synecological and silvicultural problems of B.C. coastal forests.

.....

16. Significant Human Impact

1. General : None in entire IBP Area*
 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 | | | | | ? | |
| Other soil disturbance | | | | | ? | |
| Grazing | | | | | X | |
| Selective flora disturbance | | | | | X | |
| Logging | | | | | X | |
| Plantation | | | | | X | |
| Hunting | | | X | | | |
| Removal of predators | | | | | ? | |
| Pesticides | | | | | X | |
| Introductions — plants | | | X | | | |
| Introductions — animals | | | | | X | |
| Fire | X | | | | | |
| Permanent habitation | | | | | X | |
| Recreation and tourism | | | | | X | |
| Research | | | X | | | |
| | | | | | | |
| | | | | | | |

about 70
years ago

3. Additional details on each type of impact attached?

X
 Yes No

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

2. List main maps available for the IBP Area.

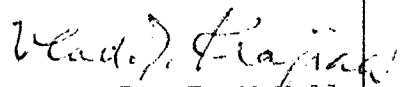
List attached? Yes No 92 C/16 West Half (Cowichan Lake)

3. Aerial photographs for the IBP Area available?

For whole areaX..... For part of area None
BC 7110 Nos. 130-132

19. Other Relevant Information

is included by Hans Roemer


 Signed H.L. Roemer, Don E. McMullan,
 (Surveyor)
 and V.J. Krajina