ECOLOGICAL RESERVES COLLECTION
GOVERNMENT OF BRITISH COLUMBIA
VICTORIA, B.C.
V8V 1X4

TOW HILL ECOLOGICAL RESERVE (#9)

Size of Sample Plots

Beach Community Types	5 m x 5 m
Dune Forest Community Types	20 m x 20 m
Bog Forest Community Types	10 m x 10 m
Bog Community Types	5 m x 5 m

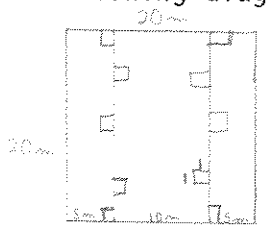
Sampling Scheme

1. All plots were subjectively located and are permanently marked by corner stakes.

2. Within plots the following procedure was used:

   (i) Dune Forest Plots

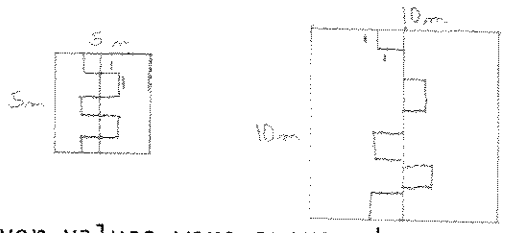
   (a) Tree data was taken on whole plot
   (b) Shrub data was taken on whole plot
   (c) Herb, Bryophyte and tree seedling data was taken from ten 1 m x 1 m sub-plots located systematically within the large plot according to the following diagram.



   The cover values were averaged to get a single value per plot.

   (ii) Bog Forest and Bog

   (a) Tree and shrub data were taken from the whole plot.
   (b) Herb, Bryophyte, and tree seedling data were taken from five 1 m x 1 m plots located as follows:



   The cover values were averaged.

   (iii) Beach Plots

   (a) Data for all layers were taken from one 5 m x 5 m plot using cover/abundance scale.

3. All cover estimates were made using the following scale. In computing the average cover the midpoint of the scale was used:

Cover Class	Range of Cover	Midpoint
1	0 - 5 %	2.5%
2	5 - 25%	15 %
3	25 - 50%	37.5%
4	50 - 75%	62.5%
5	75 - 95%	85 %
6	95 - 100%	97.5%

Legend for Fig. 1

A - *Cakile edentula-Poa macrantha* and Elymus mollis community types

B - *Picea sitchensis-Agrostis palustris* community type

C - *Picea sitchensis*-'Blow Out' community type

D - *Picea sitchensis-Stokesiella praelonga* community type

E - *Picea sitchensis-Tsuga heterophylla*-moss community type

F - *Thuja plicata-Gaultheria shallon* (Bog Forest) community type

FIG. 1

Transect across Tow Hill Ecological Reserve from beach to the edge of the raised bog.

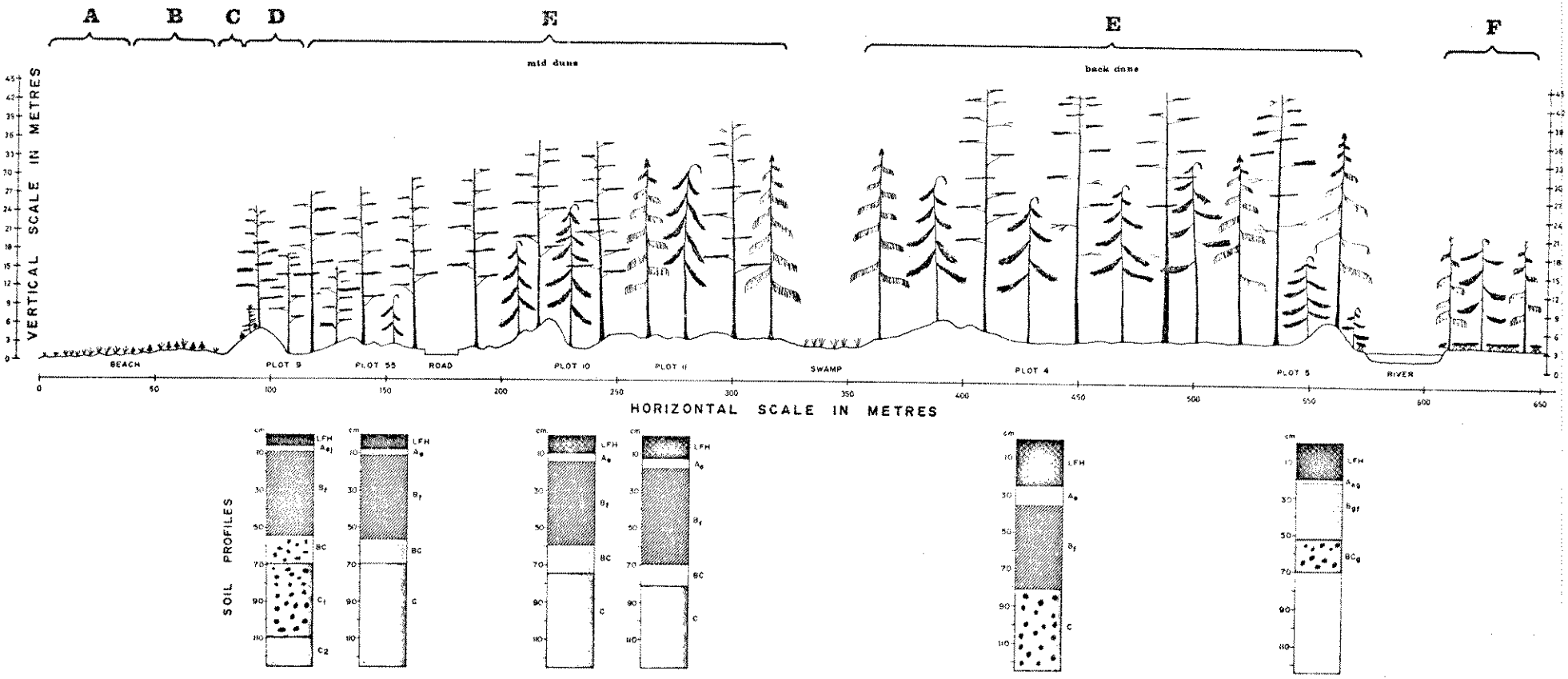
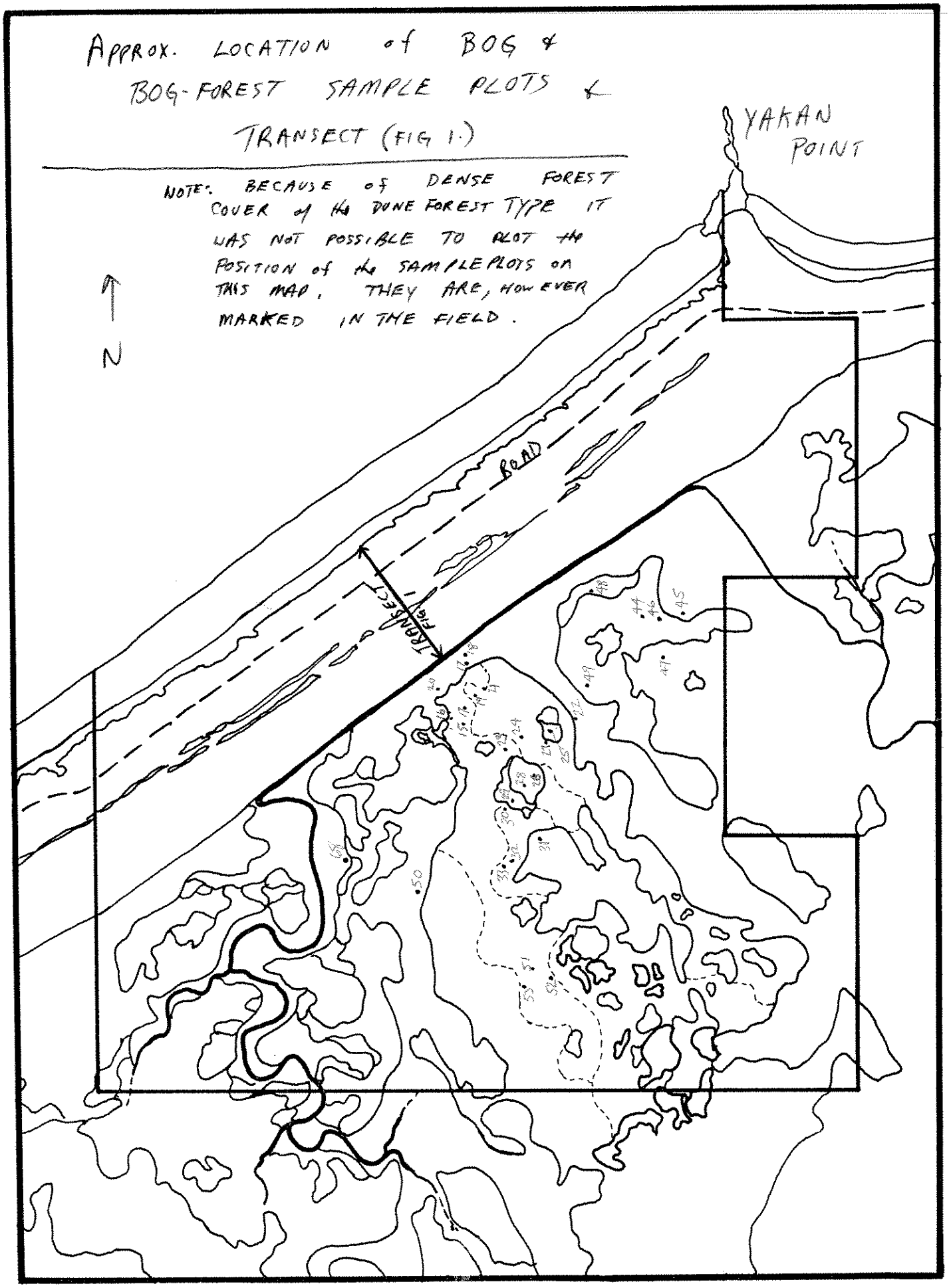
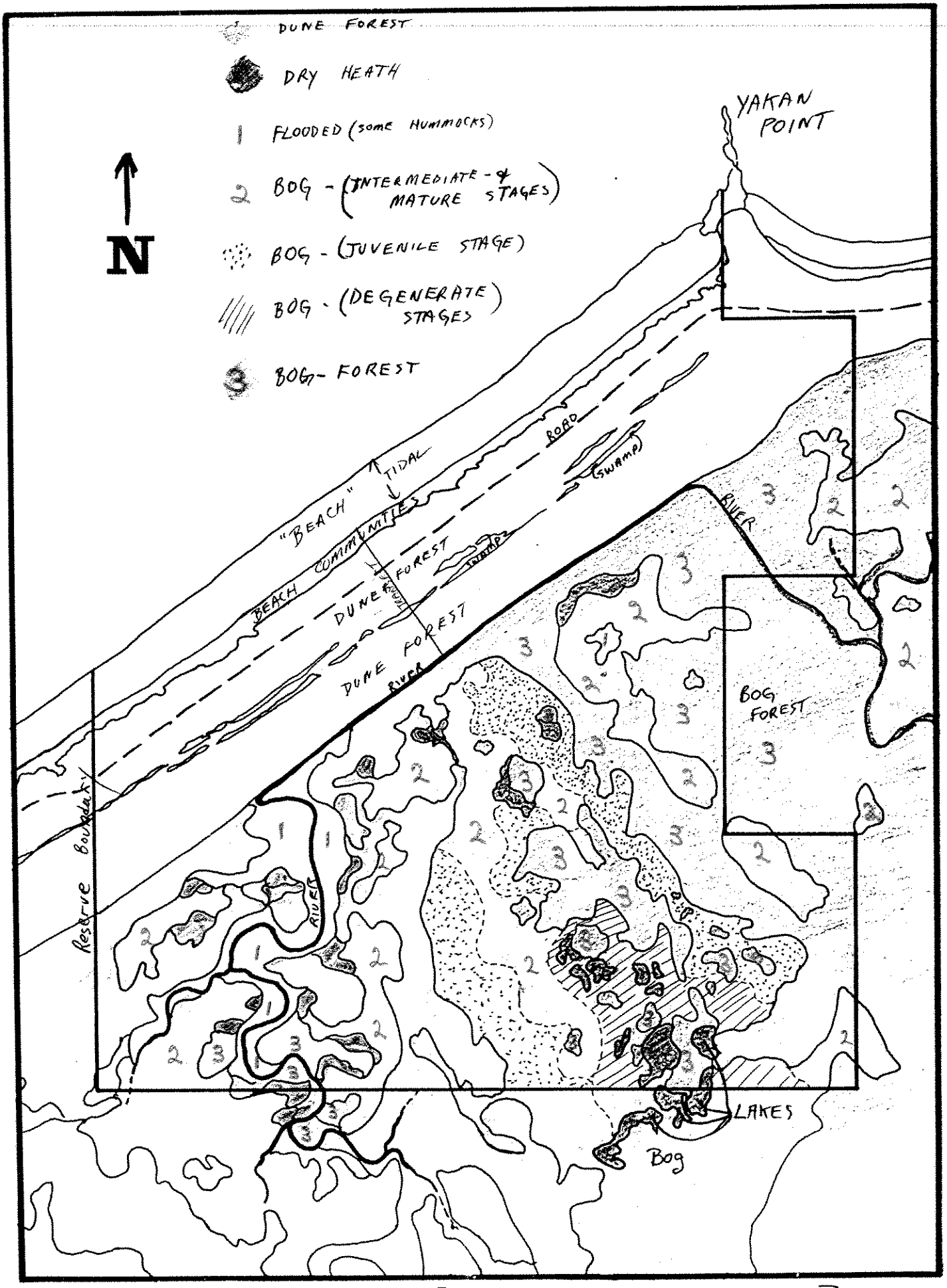


FIG 2

APPROX. LOCATION of BOG & BOG-FOREST SAMPLE PLOTS & TRANSECT (FIG 1.)

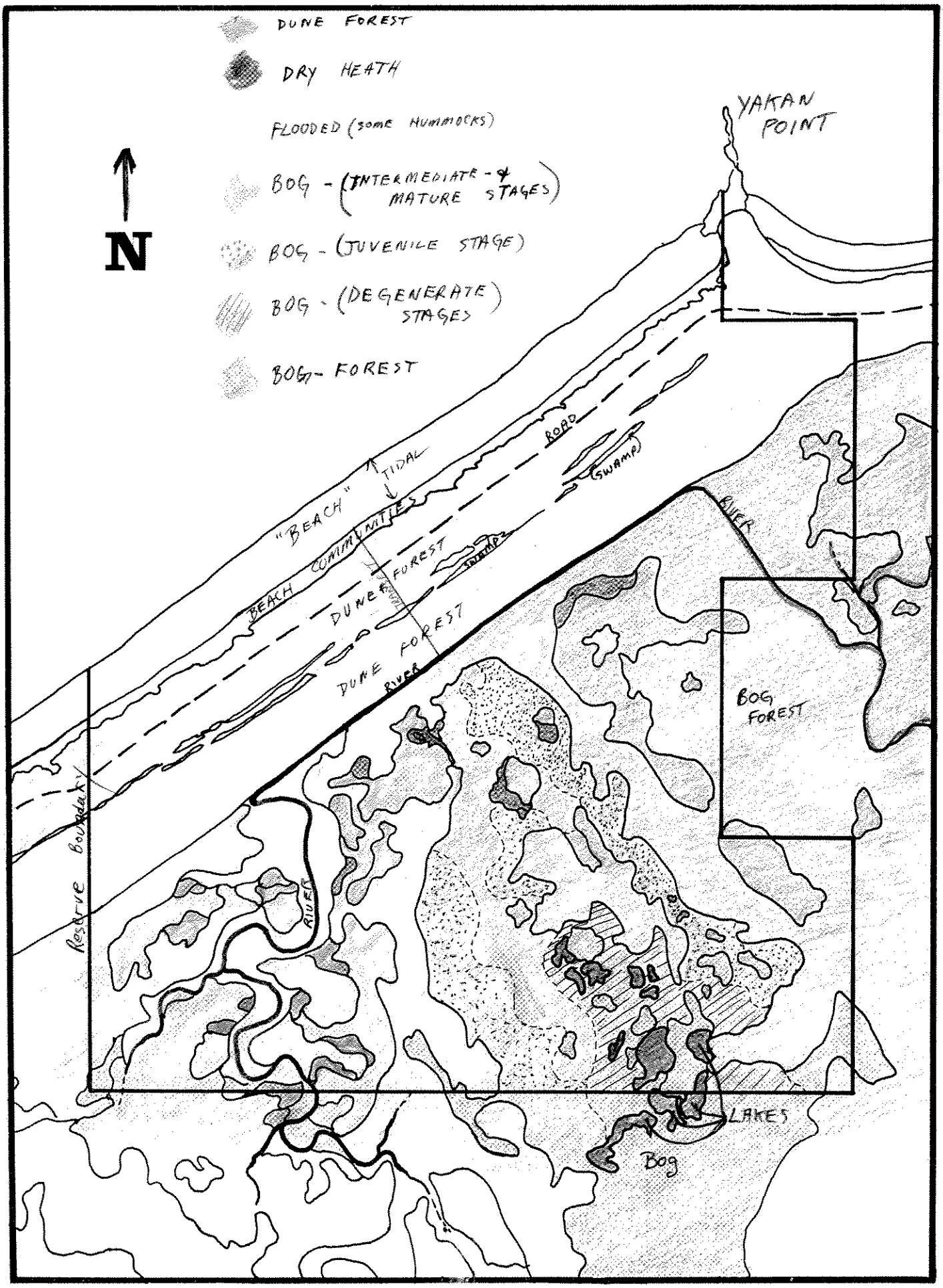
NOTE: BECAUSE of DENSE FOREST COVER of the DUNE FOREST TYPE IT WAS NOT POSSIBLE TO PLOT the POSITION of the SAMPLE PLOTS on THIS MAP. THEY ARE, HOWEVER MARKED IN THE FIELD.





SCALE - 1:15,000 (Approx.) [DRAWN FROM AIR PHOTO # BC. 4362-143]

PHYSIOGNOMIC MAP of TOW HILL RESERVE FIG 3



SCALE - 1:15,000 (APPROX.) [DRAWN FROM AIR PHOTO # RC. 4362-143]

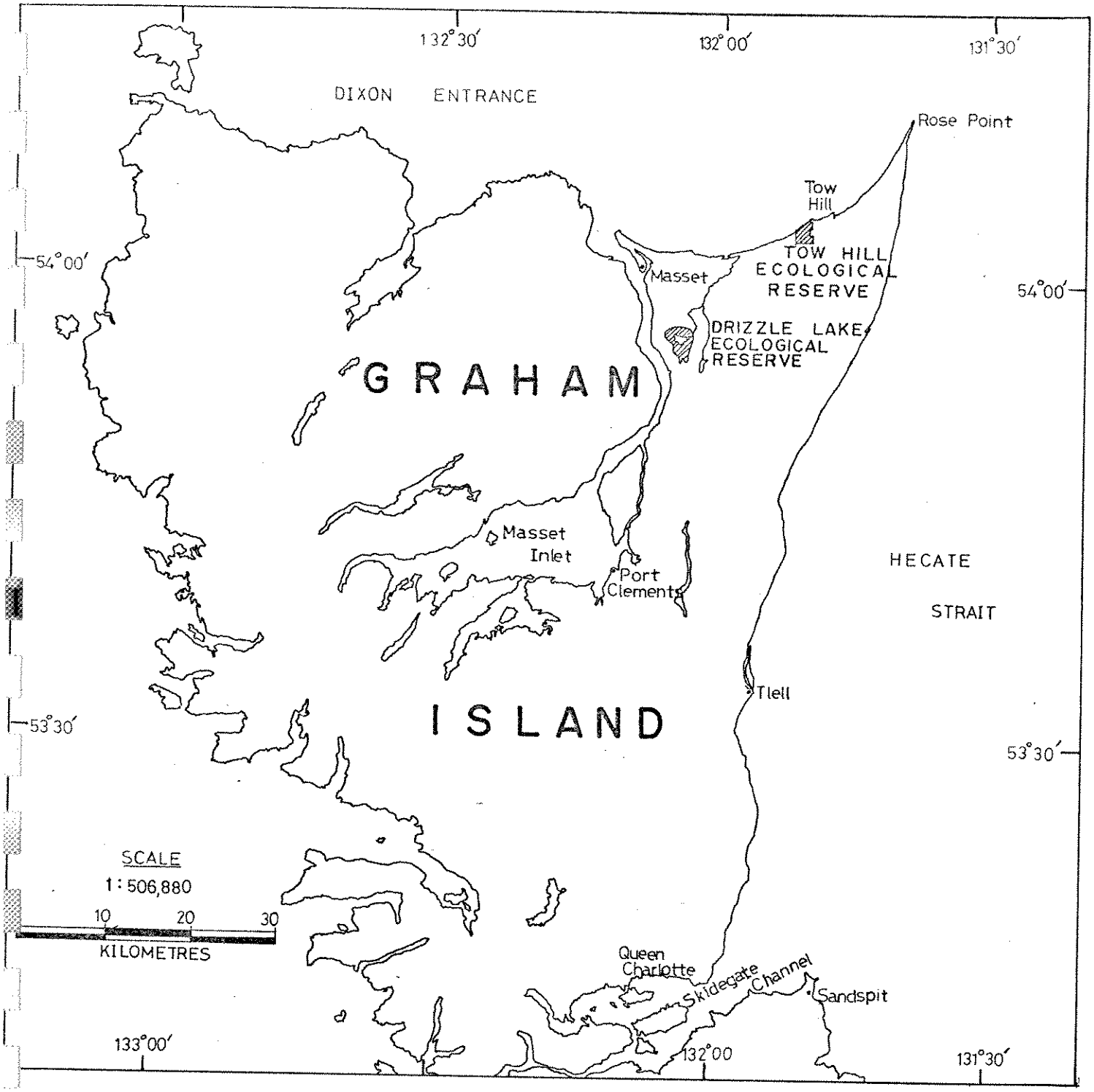


FIG 4 Location of TOWHILL ECOLOGICAL RESERVE

B A Y

PRINT 4

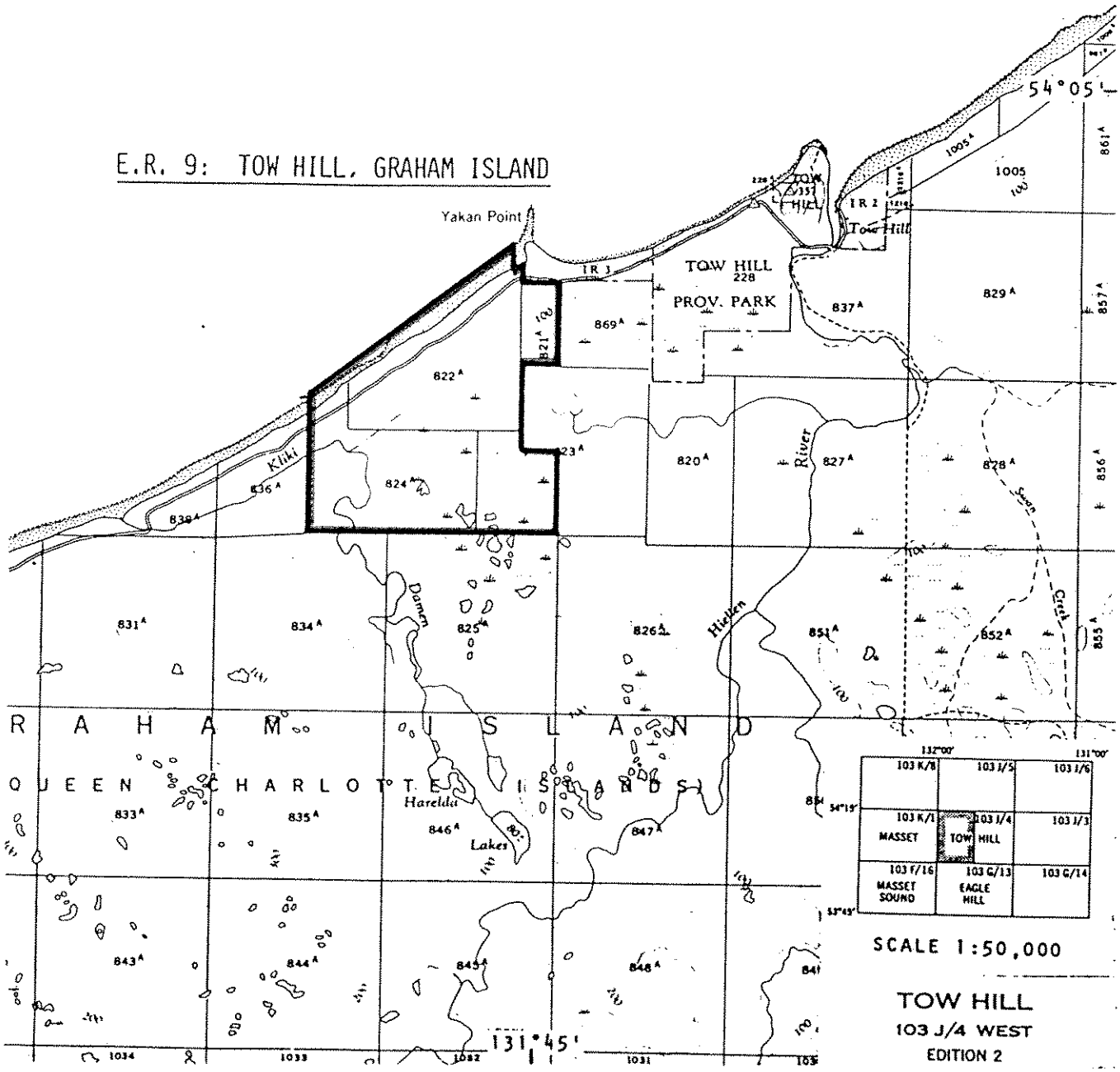

E.R. 9: TOW HILL, GRAHAM ISLAND
Yakan Point
TOW HILL
228
PROV. PARK
TOW HILL
I R 3
I R 2
Tow Hill
Kiki
River
Damen
Hiellen
Swan
Creek
Harelda
Lakes
R A H A M I S L A N D
QUEEN CHARLOTTE ISLANDS
54°05'
131°45'
132°00'
131°00'
54°15'
53°45'
103 K/8
103 J/5
103 J/6
103 K/1
MASSET
103 J/4
TOW HILL
103 J/3
103 F/16
MASSET SOUND
103 G/13
EAGLE HILL
103 G/14
SCALE 1:50,000
TOW HILL
103 J/4 WEST
EDITION 2

Table 1 Beach Community Types

	Cakile edentula - Poa macrantha Community Type						*Elymus mollis* Community Type					*Picea sitchensis - Agrostis palustris* Community Type					*Picea sitchensis* - 'Blow Out' Community Type				
Plot No.	39	67	56	37	40	65	66	41	62	57	36	42	35	64	61	58	43	59	38	63	60
Stratum Coverage (%)																					
Low Shrub Stratum	--	--	--	--	--	--	--	--	--	--	2	27	45	50	62	35	--	--	--	--	--
Herb - Dwarf Shrub Stratum	20	7	7	37	35	37	42	35	75	65	45	25	25	35	35	40	20	17	30	30	15
Bryophyte - Lichen Stratum	--	--	--	--	--	--	--	--	--	--	5	25	35	35	85	22	5	2	2	2	1
Species by Stratum[a]																					
Low Shrub Stratum																					
Picea sitchensis	--	--	--	--	--	--	--	--	--	--	2	25	40	40	67.5	25	--	--	--	--	--
Tsuga heterophylla	--	--	--	--	--	--	--	--	--	--	--	2	4	4	1	--	--	--	--	--	--
Gaultheria shallon	--	--	--	--	--	--	--	--	--	--	--	--	--	7.5	--	--	--	--	--	--	--
Juniperus communis	--	--	--	--	--	--	--	--	--	--	--	--	4	--	--	--	--	--	--	--	--
Alnus rubra	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--
Vaccinium parvifolium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	.5	--	--	--	--	--	--
Herb - Dwarf Shrub Stratum																	--	--	--	--	--
Cakile edentula	15	4	4	4	--	--	.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mertensia maritima	--	--	2	.5	.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Franseria chamissonis	--	--	--	4	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 1 continued

	Cakile edentula - Poa macrantha Community Type						*Elymus mollis* Community Type					*Picea sitchensis - Agrostis palustris* Community Type					*Picea sitchensis - 'Blow Out'* Community Type				
Plot No.	39	67	56	37	40	65	66	41	62	57	36	42	35	64	61	58	43	59	38	63	60
Herb - Dwarf Shrub Stratum (cont'd)																					
Arenaria peploides	--	--	--	.5	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Amsinckia spectabilis	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lathyrus littoralis	--	--	--	.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Glehnia littoralis	--	--	--	1	.5	.5	--	.5	--	.5	--	--	--	--	--	--	--	--	--	--	--
Poa macrantha	--	1	2	25	25	25	7.5	7.5	40	25	25	--	--	--	--	--	--	--	--	--	--
Elymus mollis	4	4	2	4	4	4	25	25	40	25	25	--	--	--	--	--	--	--	--	--	--
Picea sitchensis	--	--	--	--	--	--	--	--	--	.5	2	2	2	2	2	4	4	2	4	2	--
Poa confinis	--	--	--	--	--	--	--	--	2	--	--	1	2	4	4	2	--	.5	--	4	1
Rumex acetosella	--	--	--	--	--	--	--	--	--	.5	4	1	1	2	1	.5	2	--	--	1	--
Agrostis palustris	--	--	--	--	--	--	--	--	--	--	1	2	2	1	2	1	--	.5	--	--	1
Gaultheria shallon	--	--	--	--	--	--	--	--	--	--	--	--	--	2	4	4	--	--	--	--	--
Vaccinium parvifolium	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1	4	--	--	--	--	--
Moneses uniflora	--	--	--	--	--	--	--	--	--	--	--	1	--	1	1	--	--	--	--	--	--
Poa pratensis	--	--	--	--	--	--	--	--	--	--	--	2	--	2	--	--	--	--	--	--	--
Plantago lanceolata	--	--	--	--	--	--	--	--	--	--	--	2	.5	--	--	--	--	--	--	--	--
Tanacetum huronense	--	--	--	--	--	--	--	--	--	--	--	--	--	--	.5	--	--	--	--	--	--
Alnus rubra	--	--	--	--	--	--	--	--	--	--	--	--	--	.5	--	--	--	--	--	--	--
Lycopodium clavatum	--	--	--	--	--	--	--	--	--	--	--	--	--	.5	--	--	--	--	--	--	--

Table 1 continued

	Cakile edentula - Poa macrantha Community Type						*Elymus mollis* Community Type					*Picea sitchensis - Agrostis palustris* Community Type					*Picea sitchensis - 'Blow Out'* Community Type				
Plot No.	39	67	56	37	40	65	66	41	62	57	36	42	35	64	61	58	43	59	38	63	60
Herb - Dwarf Shrub Stratum (cont'd)																					
Fragaria chiloensis	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--
Ranunculus acris	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--
Luzula multiflora	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--
Thuja plicata	--	--	--	--	--	--	--	--	--	--	--	--	1	.5	--	--	--	--	--	--	--
Trifolium repens	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--	--	--
Cerastium vulgatum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--	--	--
Lupinus littoralis	--	--	--	--	--	--	--	--	4	--	--	--	2	2	1	--	.5	--	--	--	--
Tsuga heterophylla	--	--	--	--	--	--	--	--	--	1	--	.5	--	1	--	4	--	--	.5	--	--
Hypochaeris radicata	--	--	--	--	--	--	--	--	--	--	--	--	2	2	--	--	--	.5	--	1	--
Carex macrocephala	--	--	--	--	--	--	--	--	4	4	--	--	--	--	2	--	--	--	--	--	7.5
Bryophyte - Lichen Stratum																	--	--	--	--	--
Peltigera collina	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--	--	--	--	--	--	--
Cladonia scabriuscula	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--	--	--	--	--	--	--
Leptogium palmatum	--	--	--	--	--	--	--	--	2	--	4	7.5	2	4	--	2	2	.5	1	--	--
Stokesiella praelonga	--	--	--	--	--	--	--	--	--	--	2	7.5	2	15	25	7.5	2	1	--	--	--
Rhytidiadelphus loreus	--	--	--	--	--	--	--	--	--	--	2	2	4	7.5	15	4	2	--	--	--	--
Peltigera membranacea	--	--	--	--	--	--	--	--	2	--	2	2	2	2	2	4	2	--	--	--	--
Polytrichum juniperinum	--	--	--	--	--	--	--	--	--	--	--	7.5	4	4	40	7.5	4	--	--	--	--

Table 1 continued

	Cakile edentula - Poa macrantha Community Type						*Elymus mollis* Community Type					*Picea sitchensis - Agrostis palustris* Community Type					*Picea sitchensis - 'Blow Out'* Community Type				
Plot No.	39	67	56	37	40	65	66	41	62	57	36	42	35	64	61	58	43	59	38	63	60
Bryophyte - Lichen Stratum (cont'd)																					
Cladonia chlorophaea	--	--	--	--	--	--	--	--	--	--	2	2	4	2	1	4	2	1	--	--	1
Ceratodon purpureus	--	--	--	--	--	1	--	--	--	--	2	4	15	7.5	4	2	4	1	2	2	2
Storesiella oregana	--	--	--	--	--	--	--	--	--	--	2	7.5	--	4	4	7.5	2				
Plagiothecium undulatum	--	--	--	--	--	--	--	--	--	--	1	--	2	2	2	2	--	--	--	--	--
Antitrichia curtipendula	--	--	--	--	--	--	--	--	--	--	--	--	--	4	2	4	--	1	--	--	--
Hylocomium splendens	--	--	--	--	--	--	--	--	--	--	--	--	--	2	4	2	--	--	--	--	--
Cephaloziella sp.	--	--	--	--	--	--	--	--	--	--	--	--	2	--	--	2	--	--	--	--	--
Cladonia squamosa	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	4	--	--	--	--	--
Cladonia verticillata	--	--	--	--	--	--	--	--	--	--	--	2	4	--	--	--	--	--	--	--	--
Scapania bolanderi	--	--	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--	--	--	--	--
Cladonia coniocraea	--	--	--	--	--	--	--	--	--	--	--	--	4	--	--	--	--	--	--	--	--
Dicranum howellii	--	--	--	--	--	--	--	--	--	--	2	--	2	--	1	--	--	--	--	--	--
Peltigera aphthosa	--	--	--	--	--	--	--	--	--	--	--	2	2	--	--	--	2	--	--	--	--
Dicranum fuscescens	--	--	--	--	--	--	--	--	--	--	--	2	2	--	--	--	2	--	--	--	--
Isothecium stoloniferum	--	--	--	--	--	--	--	--	--	--	2	--	7.5	--	--	--	--	--	--	--	--
Pohlia sp.	--	--	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--	1	--	--	1
Peltigera canina	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	--	--	1	--	2	2

(a) Data are percentage cover.

Table 2 Dune-Forest Community Types

	Picea sitchensis - Stokesiella praelonga Community Type (fore dune)				*Picea sitchensis - Tsuga heterophylla - Moss* Community Type (mid back & dunes)										
Plot No.	1	9	8	7	6	2	55	10	3	11	12	34	4	5	13
Approx. distance from beach (m)			40			90			160		210		360		480
Stratum Coverage (%)															
Tree Stratum	92	92	95	90	67	82	85	92	75	97	92	95	95	80	95
High Shrub - Transgressive Stratum	--	--	--	--	1	20	1	5	3	1	1	5	2	5	5
Low Shrub Stratum	--	--	--	--	85	1	10	15	25	1	1	10	10	10	8
Herb - Dwarf Shrub Stratum	2	2	1	3	5	10	12	4	5	4	4	17	5	5	4
Bryophyte - Lichen Stratum	100	98	100	98	90	87	97	100	100	98	98	98	85	95	90
Species by Stratum[a]															
Tree Stratum															
Picea sitchensis	85	85	85	85	65	67.5	85	67.5	67.5	25	67.5	25	85	25	7.5
Alnus rubra	--	7.5	--	--	--	25	--	7.5	4	--	--	--	--	--	--
Tsuga heterophylla	--	--	--	--	--	7.5	--	40	4	67.5	67.5	67.5	67.5	67.5	67.5
Thuja plicata	--	--	--	--	--	--	--	7.5	4	67.5	7.5	--	--	25	40
Pyrus fusca	--	--	--	--	--	--	--	--	--	--	4	--	--	--	--
High Shrub - Transgressive Stratum															
Tsuga heterophylla	--	--	--	--	7.5	--	7.5	--	4	--	--	4	--	4	4

Table 2 continued

	Picea sitchensis - Stokesiella praelonga Community Type (fore dune)				*Picea sitchensis - Tsuga heterophylla - Moss* Community Type (mid back & dunes)										
Plot No.	1	9	8	7	6	2	55	10	3	11	12	34	4	5	13
High Shrub - Transgressive Stratum (cont'd)															
Vaccinium parvifolium	--	--	--	--	--	--	--	--	4	--	--	--	--	--	--
Gaultheria shallon	--	--	--	--	15	--	--	--	--	--	--	--	--	4	--
Picea sitchensis	--	--	--	--	2	--	--	--	--	--	--	--	--	--	--
Pyrus fusca	--	--	--	--	--	--	--	--	--	--	2	--	--	--	--
Menziesia ferruginea	--	--	--	--	--	--	--	--	--	--	--	--	--	4	--
Low Shrub Stratum															
Vaccinium parvifolium	--	--	--	--	2	--	--	2	2	+	2	--	--	2	--
Gaultheria shallon	--	--	--	--	67.5	--	--	--	1	--	--	--	--	2	--
Picea sitchensis	--	--	--	--	--	--	+	2	--	--	--	--	--	2	--
Thuja plicata	--	--	--	--	.5	--	--	--	--	--	--	--	--	--	--
Tsuga heterophylla	--	--	--	--	3	--	7.5	7.5	--	--	2	15	4	15	7.5
Herb - Dwarf Shrub Stratum															
Poa macrantha	.2/10	P	P	.2/10	--	--	--	--	--	--	--	--	--	--	--
Elymus mollis	P	.4/10	P	P	--	--	--	--	--	--	--	--	--	--	--
Calypso bulbosa	.1/20	--	.1/10	P	P	--	--	--	--	--	--	--	--	--	--
Moneses uniflora	3.5/100	2.5/100	2/80	3.4/100	.3/30	3.5/90	6.5/100	1.4/80	.4/30	.6/30	P	.4/40	2.1/90	--	P
Picea sitchensis	3.2/80	1.9/100	1.3/100	3.2/100	.2/30	.6/40	1.6/90	1/60	.1/10	.1/10	.4/40	.9/90	.6/60	.3/30	.4/40
Maianthemum dilatatum	.7/30	P	.2/10	.8/20	1.2/70	.4/20	1.4/70	.2/10	.2/10	.6/60	.5/40	P	P	1/60	.5/40
Vaccinium parvifolium	.1/10	P	P	.6/20	.1/10	.1/10	.6/40	.9/40	.3/30	.2/20	1/70	1/80	.6/40	1.4/80	1/70

Table 2 continued

	Picea sitchensis - Stokesiella praelonga Community Type (fore dune)				*Picea sitchensis - Tsuga heterophylla - Moss* Community Type (mid back & dunes)										
Plot No.	1	9	8	7	6	2	55	10	3	11	12	34	4	5	13
Herb - Dwarf Shrub Stratum (cont'd)															
Tsuga heterophylla	1/70	.6/80	.3/50	1.1/50	.1/20	.6/40	3.6/90	3.2/80	.3/40	.8/50	2.3/100	6.9/100	3/90	3.7/100	2.3/100
Alnus rubra	.2/40	P	--	.1/10	.1/10	.6/40	.4/50	.1/10	.1/10	--	--	--	--	--	--
Gaultheria shallon	P	P	--	P	8.3/90	P	P	--	.1/10	--	--	--	--	--	--
Corallorhiza maculata	P	P	.1/10	--	--	P	--	P	P	--	--	--	--	--	--
Trisetum cernuum	--	--	P	P	P	7.7/40	.1/10	P	P	--	--	--	--	--	--
Calamagrostis nutkaensis	--	--	--	--	P	8.5/10	8.9/40	--	--	--	--	--	--	--	--
Tiarella trifoliata	--	--	--	--	.5/30	--	1.5/40	.8/30	2.2/70	.9/50	.4/10	--	--	--	.4/10
Streptopus sp.	--	--	P	--	P	P	.1/10	P	.2/20	P	.1/20	P	--	P	.2/20
Listera cordata	--	P	.1/10	--	.9/70	--	P	.7/40	.2/20	.6/40	.6/30	.6/60	.9/60	P	.6/30
Blechnum spicant	--	--	--	--	P	P	.1/20	P	.9/30	P	P	--	--	.1/10	P
Habenaria sp.	P	--	--	--	--	P	P	--	.1/10	.1/10	.2/30	P	P	.1/10	.2/30
Tauja plicata	--	--	--	--	--	.1/10	.1/10	--	.1/10	.3/30	1.4/90	--	--	.2/20	1.4/90
Listera caurina	--	--	--	--	--	--	--	.7/40	.9/70	.9/80	1.5/90	2/90	1.4/100	.9/50	1.5/90
Menziesia ferruginea	--	--	--	--	--	--	P	P	--	--	.3/20	--	P	1/90	.3/20
Luzula parviflora	P	--	--	--	--	P	--	--	--	--	--	--	--	--	--
Tiarella unifoliata	--	--	--	--	P	1.1/20	--	--	--	--	--	--	--	--	--
Trientalis europaea	--	--	--	--	P	--	P	--	--	--	--	--	--	--	--

Table 2 continued

	Picea sitchensis - Stokesiella praelonga Community Type (fore dune)				*Picea sitchensis - Tsuga heterophylla* - Moss Community Type (mid back & dunes)										
Plot No.	1	9	8	7	6	2	55	10	3	11	12	34	4	5	13
Herb - Dwarf Shrub Stratum (cont'd)															
Carex obnupta	--	--	--	--	--	P	--	--	--	--	--	--	--	--	--
Conioselinum pacificum	--	--	--	--	--	--	P	--	--	--	--	--	--	--	--
Rubus spectabilis	--	--	--	--	P	--	--	--	P	--	--	--	--	--	--
Lonicera involucrata	--	--	--	--	--	P	--	--	P	--	--	--	--	--	--
Tiarella laciniata	--	--	--	--	--	--	--	--	P	--	--	--	--	--	--
Agrostis aequivalvis	--	--	--	--	--	--	--	--	P	--	--	--	--	--	--
Cornus unalaschensis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rubus pedatus	--	--	--	--	--	--	--	P	--	--	--	--	--	--	P
Dryopteris austriaca	--	--	--	--	--	--	P	--	--	--	--	--	--	P	P
Bryophyte - Lichen Stratum															
Stokesiella praelonga	27.2/50	4/10	38.1/60	12.1/70	--	P	--	--	.1/10	--	--	--	--	--	--
Cladonia squamosa	P	.2/10	.4/30	.4/10	--	--	--	--	--	--	--	--	--	--	--
Blepharostoma trichomanis	P	.6/20	.2/20	--	--	--	--	--	--	--	--	--	--	--	--
Lobaria oregana	--	--	.1/20	.2/10	--	--	--	--	--	--	--	--	--	--	--
Stokesiella oregana	22.5/80	27.9/70	33/50	16/90	5.4/100	11.6/100	4.8/90	5.5/100	10.1/100	3.2/80	1/60	7.9/100	2.9/80	--	1/60
Plagiothecium undulatum	14.1/100	11.2/100	2.3/60	16.5/100	1.2/60	1.2/60	4.1/100	2.3/90	.5/30	1.1/60	2.2/100	2.6/100	3.2/100	--	2.2/100
Peltigera membranacea	13.4/100	21.5/100	4.4/100	24.6/100	.2/10	2.7/50	3.2/100	1.6/40	.4/30	P	.3/20	--	.1/10	.7/30	.3/20

Table 2 continued

	Picea sitchensis - Stokesiella praelonga Community Type (fore dune)				*Picea sitchensis - Tsuga heterophylla - Moss* Community Type (mid & back dunes)										
Plot No.	1	9	8	7	6	2	55	10	3	11	12	34	4	5	13
Bryophyte - Lichen Stratum (cont'd)															
Scapania sp.	4.4/90	2/60	1/50	5/80	.2/10	2.1/30	1/80	1.8/50	.9/60	.7/40	2.7/70	3.3/90	2.2/70	2.5/90	2.7/70
Rhytidiadelphus loreus	7.7/40	8.4/30	.6/20	1.1/30	11.4/90	43.2/100	54/100	13.2/100	16.6/100	15.5/100	14.1/90	10.3/100	3/100	26/100	14.1/90
Plagiomnium insigne	--	--	--	--	.3/20	P	.4/10	--	--	.2/10	--	--	--	--	--
Rhytidiadelphus triquetrus	--	.2/10	--	.1/10	6.8/40	1/30	1.2/60	--	.4/10	.3/20	--	--	--	--	--
Hylocomium splendens	P	P	--	--	12.9/80	27.6/90	43.3/100	50.4/100	51.5/100	20.1/70	3.8/50	3.8/50	1/30	11.5/80	20.1/70
Lophocolea sp.	1.8/60	1/50	--	--	--	--	1.2/80	1/40	1/40	.3/30	.7/40	--	--	--	--
Rhizomnium glabrescens	5.7/80	5.9/80	6.2/80	8.1/90	4/70	.6/20	11.1/100	6.9/90	27.2/100	27.5/100	75.2/100	--	47.2/100	16.7/100	34.2/100
Dicranum fuscescens	--	--	--	--	.1/10	--	.1/10	.2/20	--	P	.9/50	5/50	.1/10	.6/50	.9/50
Plagiochila asplenioides	--	--	.2/10	.4/10	--	--	1/80	2/90	.1/10	.8/30	1.9/60	4.1/100	6.9/90	.4/20	1.9/60
Lepidozia sp.	1.1/20	1.5/40	--	1/40	--	--	--	.3/40	.1/10	.1/10	1/50	--	1.1/40	.4/30	1/50
Dicranum howellii	--	--	--	--	--	P	--	P	--	.3/20	.1/10	.1/10	--	--	.1/10
Hookeria lucens	--	--	--	--	--	--	--	P	P	1/40	1.2/50	.2/20	.2/10	.6/30	1.2/50
Pellia sp.	--	--	--	--	--	--	--	--	--	.3/20	.2/10	--	--	--	.2/10
Dicranum majus	--	--	--	--	--	--	--	--	P	--	--	--	P	.4/30	--
Frullania nisqualleensis	--	.1/10	--	--	--	--	--	--	--	--	--	--	--	--	--
Cladonia bacillaris	.6/40	--	--	--	--	--	.1/10	--	--	--	--	--	--	--	--
Calypogeia trichomanis	--	.3/20	--	--	--	--	--	1.1/50	--	--	--	--	--	--	--

Table 2 continued

	Picea sitchensis - Stokesiella praelonga Community Type (fore dune)				*Picea sitchensis - Tsuga heterophylla* - Moss Community Type (mid back & dunes)										
Plot No.	1	9	8	7	6	2	55	10	3	11	12	34	4	5	13
Bryophyte - Lichen Stratum (cont'd)															
Porella sp.	--	--	.2/20	--	--	P	--	.1/10	--	--	--	--	--	--	--
Diplophyllum albicans	P	--	--	--	--	--	--	--	.5/20	--	--	--	--	--	--
Bazzania ambigua	--	--	--	--	--	--	P	--	--	--	--	--	--	--	--
Peltigera aphthosa	--	--	--	P	--	--	--	.1/10	--	--	--	--	--	--	--
Isothecium stoloniferum	--	--	P	--	--	--	--	--	--	--	--	.2/20	.5/20	--	--
Hypnum sp.	--	--	--	--	--	--	--	--	--	--	--	.1/10	--	--	--

[a] Data are: (1) Cover (%) for species listed in the tree, high shrub-transgressive and low shrub strata
(2) Cover (%)/Frequency (%) for species listed in the herb-dwarf shrub and bryophyte-lichen stratum
(3) P indicates present in the plots but not the subplots and + indicates a cover of less than .1%

Table 3 *Thuja plicata* - *Gaultheria shallon* Community Type
(Bog Forest)

Plot No.	47	31	20	17	26	22	50	28	18	45
Stratum Coverage (%)										
Tree - Sapling Stratum	80	78	70	95	85	82	90	80	72	70
High Shrub - Transgressive Stratum	10	15	15	20	40	12	20	7	25	35
Low Shrub Stratum	70	90	90	80	50	80	60	75	65	65
Herb - Dwarf Shrub Stratum	20	10	3	3	15	20	15	20	2	5
Bryophyte - Lichen Stratum	70	90	70	60	90	90	90	95	98	92
Species by Stratum[a]										
Tree - Sapling Stratum										
Thuja plicata	40	25	40	67.5	25	15	67.5	40	40	67.5
Tsuga heterophylla	25	15	40	25	40	40	67.5	40	25	15
Pinus contorta	25	25	7.5	7.5	7.5	--	--	---	--	--
Picea sitchensis	--	--	--	--	4	7.5	4	--	--	--
Alnus rubra	--	15	--	--	--	7.5	--	--	--	--
Chamaecyparis nootkatensis	--	7.5	--	--	--	--	7.5	--	--	--
Pyrus fusca	25	--	--	--	--	--	--	--	--	--
High Shrub - Transgressive Stratum										
Gaultheria shallon	15	40	7.5	15	15	4	25	7.5	25	25
Thuja plicata	7.5	7.5	15	7.5	7.5	7.5	15	4	7.5	7.5

Table 3 continued

Plot No.	47	31	20	17	26	22	50	28	18	45
High Shrub - Transgressive Stratum (cont'd)										
Tsuga heterophylla	7.5	2	7.5	+	7.5	2	--	7.5	4	4
Menziesia ferruginea	2	15	4	15	15	--	7.5	15	7.5	25
Vaccinium parvifolium	1	--	2	4	15	7.5	7.5	15	4	7.5
Picea sitchensis	--	--	--	--	--	--	--	+	2	1
Taxus brevifolia	15	--	--	--	--	--	--	--	--	--
Pyrus fusca	15	--	--	--	--	--	--	--	--	--
Low Shrub Stratum										
Gaultheria shallon	67.5	40	67.5	67.5	40	67.5	67.5	67.5	67.5	40
Vaccinium parvifolium	--	2	4	1	--	4	2	--	4	--
Ledum palustre	4	--	7.5	--	10	--	2	--	--	--
Menziesia ferruginea	--	--	--	--	--	--	1	--	--	--
Herb - Dwarf Shrub Stratum										
Gaultheria shallon	17/100	12.6/100	25.5/100	4.2/80	36/100	10.5/100	15.5/100	15.3/100	1/80	9.2/100
Vaccinium parvifolium	1.8/80	.1/20	.6/40	.4/20	.6/40	.4/20	1.6/80	2.4/80	.2/20	.4/60
Listera cordata	.1/20	2.2/100	.4/40	1.4/80	.6/40	1.6/80	2.8/100	1.6/60	.5/60	1/100
Menziesia ferruginea	.8/40	.2/40	.3/40	P	1/40	P	.4/40	1/100	P	.4/20
Tsuga heterophylla	.3/60	P	.7/80	--	.1/20	.3/40	.5/60	.5/80	P	.5/60
Maianthemum dilatatum	P	.6/100	1.8/100	.7/60	.9/100	1.7/80	.1/20	.4/60	.6/60	.6/80
Blechnum spicant	--	4.0/100	1.8/60	2.5/80	.4/60	P	.3/40	6.5/100	.6/40	P
Thuja plicata	.5/60	.2/20	.7/80	--	.1/20	.6/100	.6/80	.5/80	P	.2/40

Table 3 continued

Plot No.	47	31	20	17	26	22	50	28	18	45
Herb - Dwarf Shrub Stratum (cont'd)										
Cornus unalaschensis	1.2/60	--	3.9/100	P	.2/20	2.7/80	P	--	--	P
Calamagrostis nutkaensis	.8/20	P	2.4/80	--	P	4.7/100	P	P	--	--
Picea sitchensis	P	--	.3/60	P	--	--	--	.1/20	P	.1/20
Alnus rubra	--	.1/20	--	--	--	P	P	.1/20	.2/40	--
Carex obnupta	4.5/40	--	--	--	12.6/100	--	12.2/80	32/100	--	--
Linnaea borealis	1/40	--	1.6/60	--	.1/20	.1/20	--	--	--	--
Ledum palustre	P	--	2.9/100	--	3.8/40	--	P	--	--	--
Rubus pedatus	--	P	P	--	--	P	--	--	--	P
Listera caurina	--	--	P	--	--	--	.2/20	--	.8/80	P
Empetrum nigrum	8.1/40	--	5/20	--	--	--	--	--	--	--
Pinus contorta	.1/20	--	.1/20	--	--	--	--	--	--	--
Vaccinium vitis-idaea	--	--	2/80	--	P	--	--	--	--	--
Habenaria sp.	--	--	--	P	--	--	--	--	--	--
Taxus brevifolia	--	--	--	--	--	P	--	P	--	--
Rubus chamaemorus	P	--	--	--	P	--	--	--	--	--
Pinguicula vulgaris	--	--	.1/20	--	--	--	--	--	--	--
Tofieldia glutinosa	--	--	.1/20	--	--	--	--	--	--	--
Streptopus amplexifolius	--	--	--	.1/20	--	--	--	--	--	--
Bryophyte - Lichen Stratum										
Rhytidiadelphus loreus	22.5/100	60/100	27/100	19.6/100	38/100	22/100	69/100	42.5/100	65.5/100	14.8/100

Table 3 continued

Plot No.	47	31	20	17	26	22	50	28	18	45
Bryophyte - Lichen Stratum (cont'd)										
Hylocomium splendens	8.3/100	20.5/100	22/100	4.3/100	48.5/100	60/100	10.5/100	57/100	29/100	15.3/100
Rhizomnium glabrescens	2.3/60	1/40	.6/40	.4/40	1.2/60	1.6/60	11/60	4.3/100	4.3/100	2.5/60
Stokesiella oregana	2.7/60	3/100	4.3/100	2/80	.8/40	5.4/100	2.4/60	1/60	3.6/100	7.5/100
Plagiothecium undulatum	2/100	2.4/100	1.2/100	2.4/100	1.8/100	3.2/100	2.4/100	2.4/100	1.4/80	1.6/100
Plagiochila asplenioides	1.2/80	1.2/100	.4/20	P	1/80	P	1.8/100	2.2/100	2.2/80	2.8/100
Scapania sp.	4.0/80	2.2/100	.4/40	2/60	1.6/100	1.4/80	1.2/60	.8/80	.8/80	2.7/100
Dicranum fuscescens	.6/60	.6/60	.2/20	1.6/60	1.2/100	1.4/100	.6/60	1/80	.2/20	1.8/100
Dicranum howellii	.2/20	6.5/100	3/100	2.4/60	2.3/80	2.8/80	4/80	.6/40	--	.2/20
Hookeria lucens	--	P	1/60	.4/40	--	.4/40	.8/60	--	.5/60	.4/40
Peltigera membranacea	--	.2/20	--	P	P	P	--	.4/40	--	P
Lophocolea sp.	.4/40	.6/60	--	--	--	1/100	--	--	--	--
Cladonia squamosa	P	--	.2/20	--	--	--	P	--	--	--
Lepidozia sp.	--	--	--	--	--	--	.2/20	--	.8/60	--
Peltigera aphthosa	--	--	--	--	--	--	--	.2/20	--	P
Diplophyllum albicans	P	--	--	--	--	--	--	--	.2/20	--
Cladonia subulata	--	--	.2/20	--	--	1.8/100	--	--	--	--
Pleurozium schreberi	--	--	1.2/40	--	P	--	--	--	--	--
Isothecium stoloniferum	--	.2/20	--	--	--	--	--	--	--	--
Mylia taylori	5.8/40	--	--	--	--	--	--	--	--	--
Dicranum majus	--	--	--	.4/20	--	--	--	--	--	--
Hypnum sp.	--	--	--	.4/20	--	--	--	--	--	--

Table 3 continued

Plot No.	47	31	20	17	26	22	50	28	18	45
Bryophyte - Lichen Stratum (cont'd)										
Sphagnum capillaceum	--	--	--	--	P	--	--	--	--	--
Herberta adunca	P	--	--	--	--	--	--	--	--	--
Bazzania ambigua	P	--	--	--	--	--	--	--	--	--
Cladonia cornuta	P	--	--	--	--	--	--	--	--	--
Cladonia bacillaris	P	--	--	--	--	--	--	--	--	--
Cladina arbuscula	P	--	--	--	--	--	--	--	--	--
Frullania nisqualensis	.2/20	--	--	--	--	--	--	--	--	--

[a] Data are: (1) Cover (%) for species listed in the tree, high shrub - transgressive and low shrub strata.
(2) Cover (%)/Frequency (%) for species listed in the herb-dwarf shrub and bryophyte-lichen strata.
(3) P indicates present in the plots but not in the subplots and + indicates a cover of less than .1%.

Table 4 Raised Bog Community Types

	Pinus contorta - Scirpus caespitosus - Sphagnum imbricatum Community Type																	
	Scirpus caespitosus - Sphagnum papillosum phase (juvenile stage)						*Juniperus communis - Empetrum nigrum - Sphagnum imbricatum* phase (intermediate stage)				*Pinus contorta - Thuja plicata - Vaccinium vitis-idaea* phase (mature stage)			*Pinus contorta - Empetrum nigrum* Community Type (Dry Heath)				
Plot No.	30	51	44	24	16	14	33	52	19	49	21	46	15	25	29	27	53	48
Surface Topography	flat to undulating						low hummocks				high hummocks			low hummocks				
Stratum Cover (%)																		
High Shrub Stratum	--	--	--	--	--	--	--	--	--	--	8	5	7	--	--	--	--	--
Low Shrub Stratum	--	--	--	--	--	--	10	4	4	--	35	30	20	4	5	10	5	5
Herb - Dwarf Shrub Stratum	85	75	80	80	80	65	85	95	85	80	80	60	70	95	95	95	98	100
Bryophyte - Lichen Stratum	90	85	90	95	95	90	85	85	80	95	95	90	70	65	50	70	95	65
Species by Stratum[a]																		
High Shrub Stratum																		
Pinus contorta	--	--	--	--	--	--	--	--	--	--	15	--	7.5	--	--	--	--	--
Low Shrub Stratum																		
Pinus contorta	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thuja plicata	--	--	--	--	---	--	7.5	4	--	--	15	25	7.5	4	4	7.5	4	--
Tsuga heterophylla	--	--	--	--	--	--	4	--	--	--	7.5	7.5	15	--	4	--	--	--

T4

Table 4 continued

	Pinus contorta - Scirpus caespitosus - Sphagnum imbricatum Community Type													*Pinus contorta - Empetrum nigrum* Community Typ				
	Scirpus caespitosus - Sphagnum papillosum phase (juvenile stage)						*Juniperus communis - Empetrum nigrum - Sphagnum imbricatum* phase (intermediate stage)				*Pinus contorta - Thuja plicata Vaccinium vitis-idaea* Phase (mature stage)			(Dry Heath)				
Plot No.	30	51	44	24	16	14	33	52	19	49	21	46	15	25	29	27	53	4
Low Shrub Stratum (cont'd)																		
Ledum palustre	--	--	--	--	--	--	--	--	--	--	7.5	7.5	--	--	4	--	--	--
Herb - Dwarf Shrub Stratum																		
Agrostis aequvalvis	.8/60	2/100	.8/40	19.8/100	3/100	P	1.2/60	1/100	--	2.4/80	--	.6/60	P	2.4/100	1.6/80	2.8/100	--	-
Andromeda polifolia	3.9/100	2/100	2.2/100	2/100	1.4/100	.6/60	2.4/100	2/100	1.2/80	2/100	1/60	1.4/80	.8/40	1.2/60	1.2/60	P	--	-
Apargidium boreale	1.2/40	1.6/80	2/60	2.4/100	2.4/100	P	.6/40	P	P	2/80	P	.8/40	1.6/80	2.8/80	1.2/40	3.2/100	--	4
Blechnum spicant	--	--	--	--	--	--	--	.2/40	--	--	--	--	--	--	--	--	--	-
Calamagrostis nutkaensis	.4/40	P	2.8/80	.6/60	1.4/80	1.6/60	1.2/100	1.6/80	2.8/100	1.1/100	4.4/100	1.8/80	2.7/100	1.8/80	2.6/100	2/100	2/80	
Carex obnupta	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.7
Carex pauciflora	.2/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-
Carex pleuriflora	1.6/60	P	2/100	1.4/60	P	4.3/100	1.8/100	.4/40	2/100	1.6/60	2.4/100	2.4/100	1.6/60	2.4/60	--	.8/40	P	-
Carex stylosa	--	--	--	--	--	--	--	--	--	--	--	--	--	P	2.4/100	1/100	--	-
Coptis asplenifolia	--	--	--	--	--	--	--	--	--	--	--	--	--	.6/40	1.4/80	1.4/80	--	-
Coptis trifolia	.2/20	.8/60	1.6/80	3.6/100	.6/100	P	1.4/80	--	.8/40	2/100	.2/20	.6/40	.4/20	.6/40	1.4/80	--	.4/40	-
Cornus unalaschensis	1.6/80	3.2/100	3.6/100	2/100	3.6/100	3.6/100	2/100	3.2/100	4.7/100	3.2/100	3.2/100	3.6/100	43/100	4/100	3.6/100	6.1/100	6.1/100	8.

Table 4 continued

	Pinus contorta - Scirpus caespitosus - Sphagnum imbricatum Community Type													
	Scirpus caespitosus - Sphagnum papillosum phase (juvenile stage)						*Juniperus communis - Empetrum nigrum - Sphagnum imbricatum* phase (intermediate stage)				*Pinus contorta - Thuja plicata Vaccinium vitis-idaea* Phase (mature stage)			P
Plot No.	30	51	44	24	16	14	33	52	19	49	21	46	15	2
Herb - Dwarf Shrub Stratum (cont'd)														
Dodecatheon jeffreyi	P	2.8/80	2.6/100	2.4/100	.2/20	P	.4/20	--	P	.8/40	P	--	1.6/60	2.
Drosera rotundifolia	1.8/100	2/100	1.8/100	2/100	2.4/100	2/100	2/100	1.4/100	1.8/100	1.4/100	2/100	1.8/100	2/100	-
Empetrum nigrum	6.2/100	3.6/100	11.8/100	3/100	6.9/100	11.3/100	19.5/100	26/100	17.5/100	23/100	27.5/100	42.5/100	7.5/100	32.5
Eriophorum angustifolium	24/100	19/100	6.9/100	19.8/100	14/100	2.8/100	3.5/100	2/100	4.3/100	6.1/100	1.2/60	2.8/100	9.8/100	1.
Fauria crista-galli	.5/40	4/100	3.1/60	.6/60	14/80	P	1/100	.4/20	.4/40	.9/80	--	.3/40	1.6/100	
Gaultheria shallon	--	--	--	--	--	P	.4/20	--	--	--	1.4/60	--	1.2/80	1.
Gentiana douglasiana	.6/40	1.8/100	.4/20	3.6/100	.9/100	.8/40	P	P	1.2/60	2.8/100	P	.4/40	.6/40	-
Juniperus communis	3.2/100	8.3/100	8.3/100	22/100	12.5/100	17.5/100	38.8/100	51/100	6.9/100	15.5/100	21.8/100	13.3/100	.8/40	21
Kalmia polifolia	2/80	3.2/100	2.8/100	3/100	2/100	2/100	2/100	2/100	2.4/100	2/100	1.6/80	2/100	2.2/100	
Ledum palustre	3.6/100	2.4/100	3.6/100	2/100	2.4/100	3.2/100	3.2/100	2.8/100	4/100	3.6/100	5.4/100	5.4/100	3.2/100	1.
Loiseleouria procumbens	5.4/100	5.4/100	6.9/100	5/100	5.2/100	5.7/100	4.3/100	18/100	4.7/100	12/100	3.2/80	5/100	1/60	13.3
Lycopodium annotinum	--	--	--	--	--	--	--	--	--	--	--	--	--	-
Myrica gale	1/100	.4/20	--	--	.6/100	--	--	1.2/40	--	--	--	--	--	-
Picea sitchensis	--	--	--	--	--	--	--	--	.1/20	--	--	--	.3/40	-

03 T4

Table 4 continued

	Pinus contorta - Scirpus caespitosus - Sphagnum imbricatum Community Type													*Pinus contorta - Empetrum nigrum* Community Type (Dry Heath)				
	Scirpus caespitosus - Sphagnum papillosum phase (juvenile stage)						*Juniperus communis - Empetrum nigrum Sphagnum imbricatum* phase (intermediate stage)				*Pinus contorta - Thuja plicata - Vaccinium vitis-idaea* phase (mature stage)							
Plot No.	30	51	44	24	16	14	33	52	19	49	21	46	15	25	29	27	53	48
Herb - Dwarf Shrub Stratum (cont'd)																		
Pinguicula vulgaris	1.2/40	--	1.2/40	--	--	.3/40	1.2/60	3.2/100	1.4/60	.6/40	--	P	P	--	--	--	P	--
Pinus contorta	P	P	1.5/20	1.6/40	1.8/100	1.6/40	2.5/60	2.4/60	1.5/20	3.4/80	8/20	19.8/100	--	2.3/40	.2/20	1.2/40	--	1.5/2
Rubus chamaemorus	.4/20	--	2.8/100	--	--	.3/40	--	P	1.2/60	.7/60	1.8/80	2.4/100	.1/20	--	--	--	1.4/80	--
Sanguisorba officinalis	3.9/100	4/100	1.4/80	2.8/100	1.8/100	2/100	2/100	2/100	1.4/100	2.2/100	.6/40	.3/40	1.2/80	4/100	3.2/100	2.4/100	1/60	1.2/8
Scirpus caespitosus	32/100	39.5/100	27.5/100	25.5/100	42.5/100	19.2/80	18.3/100	11.4/100	6.5/40	7.6/100	1.5/20	1.2/40	11.5/100	P	1.2/40	--	P	--
Selaginella selaginoides	--	.4/40	--	1/80	--	--	.2/20	--	--	.4/40	--	.2/20	--	--	--	P	--	--
Thuja plicata	P	--	--	--	--	.5/40	.4/40	P	1.5/20	--	9.6/60	.8/60	3.2/80	--	.1/20	--	--	--
Tofieldia glutinosa	1.4/80	1.6/80	2.4/100	1.6/100	1.2/100	1.8/100	2/100	1.8/100	2.4/100	1.8/100	.2/20	1.4/100	1/60	.6/40	.6/40	.8/60	.2/20	--
Trientalis europa	1.6/100	1.6/80	1.4/100	2/100	1.8/100	--	1.4/100	2/100	1.5/100	2/100	--	.6/60	--	1.4/80	2/100	2/100	2/100	P
Tsuga heterophylla	--	--	.2/40	--	.1/20	.4/60	--	--	.1/20	--	.8/20	1.1/60	P	--	--	--	--	--
Vaccinium caespitosum	.8/40	P	P	P	--	--	.4/40	.4/20	--	.8/20	.4/20	1.4/80	2.8/100	3.6/100	3.6/100	5/100	.8/40	.4/4
Vaccinium oxycoccus	2.4/40	2.4/100	1.8/80	1.2/80	1.1/80	.6/60	.6/40	.6/60	--	.8/80	.8/60	.4/40	1.2/60	--	--	--	--	--
Vaccinium uliginosum	.4/20	.4/20	3.3/100	--	.6/40	.2/20	2.4/80	P	2.2/80	--	.4/20	P	P	.8/20	1.6/80	1.2/40	--	--
Vaccinium vitis-idaea	--	--	--	--	--	--	--	--	--	--	2.8/100	.6/40	1.8/100	3.2/100	2.8/100	8/100	2.8/80	4.7/10

Table 4 continued

	Pinus contorta - Scirpus caespitosus - Sphagnum imbricatum Community Type													*Pinus contorta - Empetrum nigrum* Community Ty			
	Scirpus caespitosus - Sphagnum papillosum phase (juvenile stage)						*Juniperus communis - Empetrum nigrum Sphagnum imbricatum* phase (intermediate stage)				*Pinus contorta - Thuja plicata - Vaccinium vitis-idaea* phase (mature stage)			(Dry Heath)			
Plot No.	30	51	44	24	16	14	33	52	19	49	21	46	15	25	29	27	53
Bryophyte - Lichen Stratum																	
Antitrichia curtipendula	--	--	--	--	--	--	--	--	--	--	--	P	--	--	--	--	--
Aulacomnium palustre	1.2/40	--	--	--	--	--	--	.6/40	--	.4/20	--	--	--	--	--	--	1/60
Bazzania trichrenata	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	.8/40
Cephaloziella sp.	--	--	--	--	--	--	.4/20	--	--	--	.8/40	--	P	--	--	--	--
Cladina arbuscula	3.8/60	.8/20	9.8/100	5/100	2.5/100	1.8/80	2.8/80	6.8/100	5.4/100	3.1/60	10.5/100	12.9/100	5/100	13.5/100	14/100	15.5/100	3.2/100
Cladina impexa	4.2/80	5.4/100	3.4/100	3/100	3.5/100	3.5/100	--	--	--	3.2/100	--	3.5/80	--	4.7/100	3.6/100	1.6/100	--
Cladina rangiferina	2/80	--	--	2.7/80	--	--	2.8/100	3.1/80	--	4.3/100	.2/20	1/60	--	--	--	3.9/100	--
Cladonia carneola	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cladonia cornuta	--	--	--	.4/20	--	--	--	.2/20	--	.6/60	--	.6/40	--	--	--	.8/40	--
Cladonia furcata	--	--	.4/20	P	--	--	--	--	--	--	--	--	--	--	--	.8/40	--
Cladonia gracilis	--	--	--	--	--	--	--	--	.8/20	--	--	--	--	--	--	--	.8/40
Cladonia uncialis	3.1/100	1.6/60	5.4/100	.8/20	--	--	--	.4/20	4/100	2.4/80	--	--	--	3.1/80	.8/60	1.6/80	--
Dicranum elongatum	--	--	--	--	--	--	--	--	--	--	--	--	--	P	--	--	--
Dicranum fuscescens	--	6.4/80	--	--	--	--	--	--	--	--	--	--	--	--	3.2/100	--	--

Table 4 continued

	Pinus contorta - Scirpus caespitosus - Sphagnum imbricatum Community Type																	
	Scirpus caespitosus - Sphagnum papillosum phase (juvenile stage)						*Juniperus communis - Empetrum nigrum Sphagnum imbricatum* phase (intermediate stage)				*Pinus contorta - Thuja plicata - Vaccinium vitis-idaea* phase (mature stage)			*Pinus contorta - Empetrum nigrum* Community Type (Dry Heath)				
Plot No.	30	51	44	24	16	14	33	52	19	49	21	46	15	25	29	27	53	48
Bryophyte - Lichen Stratum (cont'd)																		
Polytrichum strictum	--	--	2.8/100	1.6/100	1/80	.9/80	1/60	1/80	--	1/60	.2/20	1/60	--	--	--	--	--	--
Rhacomitrium lanuginosum	1.4/60	6.1/100	6.1/100	10.7/100	1.2/40	8.1/100	18.3/100	15.3/100	10.3/100	29/100	6/40	9.8/100	1.2/40	19/100	9.1/100	29/100	3.8/60	10.2/100
Rhytidiadelphus loreus	2/80	--	.8/20	.6/60	P	.9/80	3/100	5/100	--	.6/60	2.2/80	5.4/100	2.8/80	6.9/60	11.8/100	3.2/100	11.1/100	7.6/100
Riccardia sp.	1.5/20	--	--	--	--	--	.4/20	1/80	--	--	.8/40	--	--	--	--	--	.8/40	--
Scapania bolanderi	--	--	1.6/80	--	--	--	.2/20	--	--	--	P	P	.4/20	1.6/40	--	.6/40	6.5/100	7.9/80
Sphagnum capillaceum	18.6/100	4.7/100	1.4/60	3.2/100	3.9/100	--	3.8/60	4.6/80	--	.2/20	--	--	14.1/100	--	--	--	P	--
Sphagnum fuscum	.2/20	--	--	1.4/60	.8/40	--	--	2.3/60	--	--	--	--	13.8/60	--	--	--	--	--
Sphagnum imbricatum	37.3/100	27.5/100	37.5/100	62/100	69/100	71/100	37.3/100	21.2/100	26/100	28/100	48/100	43/100	18.4/100	--	--	--	--	--
Sphagnum lindbergii	--	.8/40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sphagnum papillosum	1.6/40	.6/40	P	.2/20	2.1/60	--	3/40	--	--	--	--	--	--	--	--	--	--	--
Sphagnum recurvum	--	1.6/60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sphagnum tenellum	--	.8/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Stokesiella oregana	--	--	--	--	--	--	--	--	--	--	--	.5/40	.2/20	.4/20	1.8/100	.2/20	3.1/80	P

(a) Data are: Cover (%) for the high shrub and low shrub strata; cover (%)/frequency (%) for the herb-dwarf shrub and bryophyte-lichen strata. P indicates present in the plot but not the sub-plots and + indicates a cover of less than .1%.

Table 4 continued

	Pinus contorta - Scirpus caespitosus - Sphagnum imbricatum Community Type																	
	Scirpus caespitosus - Sphagnum papillosum phase (juvenile stage)						*Juniperus communis - Empetrum nigrum* (intermediate stage)				*Pinus contorta - Thuja plicata - Vaccinium vitis-idaea* phase (mature stage)			*Pinus contorta - Empetrum nigrum* Community Type (Dry Heath)				
Plot No.	30	51	44	24	16	14	33	52	19	49	21	46	15	25	29	27	53	48
Bryophyte - Lichen Stratum (cont'd)																		
Dicranum howellii	--	--	--	--	--	1.4/80	--	1.8/80	--	2/80	--	1.6/40	2.2/100	2.4/80	3.2/100	.4/20	3.4/100	5.4/100
Dicranum leioneuron	1.4/60	1.6/40	2.8/100	2.2/100	1.4/60	.6/40	--	--	.4/20	2.4/80	--	--	--	2.4/60	.4/20	1.4/60	--	--
Dicranum scoparium	.4/20	--	--	--	--	--	1.4/60	--	--	--	--	--	--	--	--	--	--	.8/40
Dicranum undulatum	--	--	2/100	--	--	--	.4/20	--	--	--	--	--	--	.8/40	--	--	--	--
Diplophyllum albicans	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Frullania nisquallensis	P	--	2.7/60	--	--	--	.8/20	--	--	--	--	P	--	4.3/100	1.6/60	2.4/100	12/100	3.2/80
Herberta adunca	--	2.4/100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	P
Hylocomium splendens	--	--	--	--	--	--	--	--	--	--	P	--	2.3/40	--	--	--	2.4/60	1.2/60
Isothecium stoloniferum	--	--	--	--	--	--	--	--	--	--	P	--	--	--	--	--	--	--
Microlepidozia sp.	--	--	--	--	--	--	.4/20	1/80	--	--	.8/40	--	--	--	--	--	--	--
Mylia taylori	--	--	1.2/60	P	--	--	.4/20	1.6/20	--	--	--	P	--	--	--	.2/20	1.6/60	.4/20
Peltigera membranacea	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	.2/20
Plagiothecium undulatum	--	.4/20	--	.2/20	--	--	.4/20	1/100	--	--	.4/40	.8/20	1.2/60	.8/40	.2/20	.2/20	--	2.7/80
Pleurozia purpurea	9.4/100	16.3/100	4.2/80	2.8/80	.4/40	--	--	.2/20	--	--	--	--	1.9/40	3.8/60	--	.4/20	1.9/40	--
Pleurozium schreberi	2/100	1.4/60	2.2/80	.6/60	--	.3/40	1.8/80	5.4/100	--	2/100	7.2/80	17.6/100	1.6/80	6.1/60	4.7/100	3.5/100	1.9/40	11.3/100

Table 5 Mensuration data for the tree species by community type[a]

Community type and species	Max. dbh[b] (cm.)	Avg. dbh (cm.)	Max. Height (m.)	Basal Area (m^2/ha)	Density (stems/ha)	Max. Age[c] (yrs.)
Picea sitchensis - Stokesiella praelonga (Fore dune)						
Picea sitchensis	80.0	28.72/10.61	27.4	74.5/8.0	988/712	113
Alnus rubra	22.3	22.35/0	22.2	2./0	6/0	---
Picea sitchensis - Tsuga heterophylla - Moss (Mid dune)						
Picea sitchensis	91.1	44.19/24.84	30.5	55.4/9.4	291/141	226
Tsuga heterophylla	65.0	26.26/6.48	33.2	13.3/.03	158/8	128
Thuja plicata	88.9	34.49/18.46	30.2	19.7/.9	71/25	149
Alnus rubra	44.2	37.59/11.94	21.3	1.4/.04	12/4	---
Picea sitchensis - Tsuga heterophylla Moss (Back dune)						
Tsuga heterophylla	68.1	29.38/14.76	35.0	37.0/1.7	419/56	179
Picea sitchensis	108.4	63.84/41.30	41.8	67.4/28.5	188/138	310
Thuja plicata	78.0	39.17/121.7	30.0	16.3/7.2	106/60	156

Table 5 continued

Community type and species	Max. dbh[b] (cm.)	Avg. dbh (cm.)	Max. Height (m.)	Basal Area (m^2/ha)	Density (stems/ha)	Max. Age[c] (yrs.)
Thuja plicata - Gaultheria shallon						
Thuja plicata	74.9	18.54/17.41	13.1	57.02/21.01	1330/550	280
Tsuga heterophylla	40.1	13.57/16.44	11.3	18.19/5.77	910/170	360
Pinus contorta	27.9	21.72/0	10.4	5.92/0	150/0	303
Picea sitchensis	43.2	22.69/0	15.2	1.71/0	30/0	270
Chamaecyparis nootkatensis	25.6	13.97/0	----	.32/0	20/0	186
Alnus rubra	---	16.00/0	---	.20/0	20/0	---

[a] Data for average dbh, basal area and density are given as living tree/dead tree.

[b] dbh = diameter at breast height (approx. 1.3 m above ground).

[c] Max. age = age of oldest tree cored

Table 6 The numbers of living and dead seedlings, transgressives and trees by 10 centimeter diameter classes together with total density of trees for community types studied. The data are expressed as the number of stems per hectare. In each data pair the figure to the left of the slash is living density; the figure to the right is dead density.

Community type and species	Seedlings	Trans-gressives	Trees										Total Density of Trees
			0-10 cm	11-20 cm	21-30 cm	31-40 cm	41-50 cm	51-60 cm	61-70 cm	71-80 cm	81-90 cm	90+ cm	
Picea sitchensis - Stokesiella praelonga (Fore dune)													
Picea sitchensis	155,375	6/0	12/312	206/350	375/44	262/0	94/0	19/0	6/0	12/0	--	--	988/712
Alnus rubra	2,438	--	--	--	--	--	--	--	--	--	--	--	6/0
Tsuga heterophylla	28,375	--	--	--	--	--	--	--	--	--	--	--	--
Thuja plicata	813	--	--	--	--	--	--	--	--	--	--	--	--
Picea sitchensis - Tsuga heterophylla - Moss (Mid dune)													
Picea sitchensis	77,000	21/0	25/42	12/25	25/42	46/12	67/8	50/12	37/4	12/0	12/0	4/0	291/141
Tsuga heterophylla	122,333	1633/250	62/8	25/0	17/0	33/0	4/0	17/0	12/0	--	--	--	158/8
Thuja plicata	9,000	--	4/8	4/4	0/8	17/4	--	8/0	8/0	25/0	4/0	--	71/25
Alnus rubra	5,250	--	--	0/4	4/0	--	8/0	--	--	--	--	--	12/4
Picea sitchensis - Tsuga heterophylla - Moss (Back dune)													
Tsuga heterophylla	502,250	2644/62	50/31	81/19	119/0	50/0	75/6	31/0	19/0	--	--	--	419/56
Picea sitchensis	29,437	12/0	0/19	0/12	6/19	12/25	44/12	25/19	31/6	31/6	19/0	19/12	188/138
Thuja plicata	39,750	--	6/0	19/0	6/0	19/0	31/0	6/0	6/0	12/0	--	0/6	106/6
Alnus rubra	63	--	--	--	--	--	--	--	--	--	--	--	--

Table 6 continued

Community type and species	Seedlings	Trans-gressives	Trees										Total Density of Trees
			0-10 cm	11-20 cm	21-30 cm	31-40 cm	41-50 cm	51-60 cm	61-70 cm	71-80 cm	81-90 cm	90+ cm	
Thuja plicata - Gaultheria shallon													
Thuja plicata	6,700	760/0	390/130	390/310	400/70	130/40	10/0	10/10	--	20/0	0/10	10/0	0/550
Tsuga heterophylla	5,100	550/0	360/80	350/60	100/10	40/10	20/20	--	--	--	--	--	910/170
Pinus contorta	10	--	--	60/0	90/0	--	--	--	--	---	--	--	150/0
Picea sitchensis	80	70/0	--	20/0	--	--	10/0	--	--	--	--	--	30/0
Alnus rubra	90	--	--	20/0	--	--	--	--	--	--	--	--	20/0
Chamaecyparis nootkatensis	--	--	--	20/0	--	--	--	--	--	--	--	--	20/0

Table 7 Age, height and diameter data for tree species by community type

Community type	*Picea sitchensis*			*Tsuga heterophylla*			*Thuja plicata*			*Pinus contorta*		
	Age (yrs.)	Ht. (m.)	dbh (cm.)	Age (yrs.)	Ht. (m.)	dbh (cm.)	Age (yrs.)	Ht. (m.)	dbh (cm.)	Age (yrs.)	Ht. (m.)	dbh (cm.)
Picea sitchensis - Stokesiella praelonga (Fore dune)	60	--	25.9	--	--	--	--	--	--	--	--	--
	70	21.0	27.2	--	--	--	--	--	--	--	--	--
	71	25.0	35.6	--	--	--	--	--	--	--	--	--
	73	23.8	27.2	--	--	--	--	--	--	--	--	--
	74	27.1	36.3	--	--	--	--	--	--	--	--	--
	75	16.2	25.6	--	--	--	--	--	--	--	--	--
	77	21.3	24.6	--	--	--	--	--	--	--	--	--
	78	25.9	47.5	--	--	--	--	--	--	--	--	--
	79	15.8	24.4	--	--	--	--	--	--	--	--	--
	79	23.5	50.5	--	--	--	--	--	--	--	--	--
	80	23.2	47.5	--	--	--	--	--	--	--	--	--
	87	16.8	37.1	--	--	--	--	--	--	--	--	--
	96	24.4	70.1	--	--	--	--	--	--	--	--	--
	113	22.2	35.3	--	--	--	--	--	--	--	--	--
	113	--	71.4	--	--	--	--	--	--	--	--	--

Table 7 continued

Community type	*Picea sitchensis*			*Tsuga heterophylla*			*Thuja plicata*			*Pinus contorta*		
	Age (yrs.)	Ht. (m.)	dbh (cm.)	Age (yrs.)	Ht. (m.)	dbh (cm.)	Age (yrs.)	Ht. (m.)	dbh (cm.)	Age (yrs.)	Ht. (m.)	dbh (cm.)
Picea sitchensis - Tsuga heterophylla - Moss (Mid dune)	88	25.6	42.2	68	--	18.8	67	--	35.6	--	--	--
	103	--	27.9	76	15.2	17.3	71	5.5	12.4	--	--	--
	103	26.5	61.0	85	30.8	34.5	110	26.2	34.5	--	--	--
	105	23.2	37.8	117	27.7	37.3	149	--	88.9	--	--	--
	116	30.2	60.2	122	--	46.0	--	--	--	--	--	--
	124	27.7	65.8	127	27.4	53.8	--	--	--	--	--	--
	130	27.1	81.8	128	--	30.7	--	--	--	--	--	--
	131	--	34.8	--	--	--	--	--	--	--	--	--
	184	28.6	61.0	--	--	--	--	--	--	--	--	--
	195	28.3	68.6	--	--	--	--	--	--	--	--	--
	205	--	35.0	--	--	--	--	--	--	--	--	--
	226	--	86.6	--	--	--	--	--	--	--	--	--
Picea sitchensis - Tsuga heterophylla - (Back dune)	232	40.2	126.0	122	25.3	27.9	138	20.7	36.3	--	--	--
	250	39.3	73.0	125	27.7	64.0	141	29.9	63.0	--	--	--
	274	38.7	100.3	126	--	31.5	156	--	78.0	--	--	--
	286	--	46.5	155	23.5	21.1	--	--	--	--	--	--
	296	37.5	84.6	156	--	24.6	--	--	--	--	--	--

Table 7 continued

Community type	*Picea sitchensis*			*Tsuga heterophylla*			*Thuja plicata*			*Pinus contorta*		
	Age (yrs.)	Ht. (m.)	dbh (cm.)	Age (yrs.)	Ht. (m.)	dbh (cm.)	Age (yrs.)	Ht. (m.)	dbh (cm.)	Age (yrs.)	Ht. (m.)	dbh (cm.)
	310	--	56.6	176	32.3	59.9	--	--	--	--	--	--
	310	40.5	108.4	186	--	63.2	--	--	--	--	--	--
Thuja plicata - Gaultheria shallon	208	4.9	11.2	170	11.3	29.7	99	11.0	19.6	106	8.8	22.1
	254	15.2	43.2	214	--	18.8	109	11.6	32.5	195	--	33.5
	--	--	--	226	11.0	24.6	170	6.7	25.4	255	10.4	27.9
	--	--	--	226	--	31.2	176	9.8	24.4	273	8.8	24.1
	--	--	--	240	8.2	30.7	185	--	18.8	305	8.2	25.9
	--	--	--	244	--	26.2	242	--	26.7	--	--	--
	--	--	--	265	4.6	16.0	242	--	35.0	--	--	--
	--	--	--	283	--	21.1	245	--	23.9	--	--	--
	--	--	--	365	--	32.0	255	--	29.5	--	--	--
	--	--	--	--	--	--	268	--	22.6	--	--	--

Table 8 Chemical properties of soils from dune-forest community types.

Community Type	Plot No.	Horizon	Horizon Depth (cm)	pH	Organic Matter (%)	Exchangeable Cations (meq/100g)				Cation Exchange Capacity (meq/100g)	Base Saturation (%)
						Na	Ca	Mg	K		
	1	LFH	17-00	4.4	--	3.13	15.4	9.25	1.79	--	--
		A_{ej}	0-20	4.9	--	.265	1.08	.987	.038	8.50	27.8
		B_f	2-25	5.3	--	.132	.811	.380	.033	5.50	24.7
		C	25-60	5.7	--	.243	.596	.242	.055	4.50	25.2
	9	LFH	6-00	4.3	--	2.66	14.8	8.59	.809	--	--
		A_{ej}	0-30	4.5	--	.472	1.12	1.15	.115	10.0	28.6
		B_f	3-48	5.5	.6	.125	.627	.263	.048	4.50	23.6
		BC	48-63	6.9	--	.136	2.44	.226	.045	4.50	63.3
		C_1	63-103	5.8	.4	.118	.614	.242	.061	3.75	27.6
		C_2	103-124+	7.1	.7	.216	3.12	.275	.059	4.50	81.6
	55	LFH	8-0	3.9	--	2.74	17.1	14.6	17.6	--	--
		A_{ej}	0-3	4.5	--	.180	1.03	.814	.052	7.50	27.7
		B_f	3-48	5.1	--	.174	.761	.358	.034	5.75	23.1
		BC	48-61	5.3	--	.082	.620	.208	.034	5.00	18.9
		C	61-95+	5.2	--	.273	.525	.185	.153	6.75	16.8

Table 7 continued

Community Type	Plot No.	Horizon	Horizon Depth (cm)	pH	Organic Matter (%)	Exchangeable Cations (meq/100g)				Cation Exchange Capacity (meq/100g)	Base Saturation (%)
						Na	Ca	Mg	K		
	3	LFH	10-0	3.9	--	3.12	17.8	12.6	1.07	--	--
		A_e	0-3	4.4	--	.187	.817	.352	.061	6.25	22.7
		B_f	3-21	4.7	--	.183	.574	.251	.028	6.75	15.3
		C	21-46+	5.5	--	.083	.641	.240	.038	5.75	17.4
	10	LFH	11-0	3.7	--	2.72	18.8	10.3	1.93	--	--
		A_e	0-4	4.4	--	.163	.846	.325	.070	5.75	24.4
		B_f	4-49	4.8	1.0	.147	.936	.374	.063	7.25	21.0
		BC	49-64	5.6	--	.099	.536	.224	.054	3.25	17.4
		C	64-105+	5.7	.2	.076	.618	.263	.051	3.75	26.9
	11	LFH	12-0	3.9	--	2.50	36.2	9.93	1.40	--	--
		A_e	0-5	4.5	--	.160	.936	.413	.061	6.00	26.2
		B_f	5-56	4.8	1.2	.161	.953	.382	.029	6.25	24.4
		BC	56-68	5.2	--	.104	.777	.210	.052	4.25	26.9
		C	68-98+	5.4	.4	.083	.589	.136	.026	4.25	19.6

Table 8 continued

Community Type	Plot No.	Horizon	Horizon Depth (cm)	pH	Organic Matter (%)	Exchangeable Cations (meq/100g)				Cation Exchange Capacity (meq/100g)	Base Saturation (%)
						Na	Ca	Mg	K		
	4	LFH	25-0	4.0	--	3.54	38.0	14.6	1.20	--	--
		A_e	0-10	4.5	--	.118	.916	.352	.148	6.75	22.7
		B_f	10-45	5.1	--	.178	1.85	.678	.059	7.25	38.1
		C	45-90+	5.8	--	.200	.972	.335	.067	4.25	37.0
	34	LFH	17-0	3.8	--	2.15	21.5	14.0	.662	--	--
		A_e	0-5	4.6	--	.124	.911	.278	.052	4.75	28.7
		B_f	5-58	5.3	--	.096	.786	.236	.035	4.50	25.6
		C	58-99+	5.4	--	.138	.753	.216	.042	4.25	27.0
	13	LFH	31-0	4.1	--	3.11	32.2	12.1	1.57	--	--
		A_{eg}	0-14	4.9	2.6	.208	1.08	.611	.061	7.25	27.0
		B_{gf}	14-72	5.2	3.8	.175	1.25	.218	.064	8.25	20.7
		BC_g	72-103+	5.5	4.8	.176	1.13	.401	.064	7.75	22.8
	5	LFH	20-0	4.1	--	2.00	13.5	12.8	1.00	--	--
		A_{eg}	0-2	4.9	4.6	.152	1.79	.796	.038	10.8	25.9
		B_{gf}	2-32	5.3	4.0	.170	1.77	.543	.067	10.2	25.0
		BC_g	32-70+	5.5	9.7	.283	2.44	1.16	.075	18.0	22.0

Table 7 Chemical Properties of soils from bog and bog forest community types.

Community Type	Plot No.	Horizon	Horizon Depth (cm)	pH	Organic Matter (%)	Exchangeable Cations (meq/100g)				Cation Exchange Capacity (meq/100g)	Base Saturation (%)
						Ca	Mg	K	Na		
	16	O_f	0-10	4.1	--	16.8	15.5	.790	1.69	--	--
		O_f	10-20	4.0	--	14.5	14.1	.307	1.75	254	12.1
		O_h	20-55	3.8	--	8.30	7.65	.198	1.73	145	12.3
		O_h	55-80	4.0	--	5.37	6.48	.131	2.39	131	11.0
		O_h	80-100+	3.8	--	8.77	8.70	.080	1.27	140	13.4
	14	O_f	0-25	4.1	--	19.2	16.8	.783	1.63	--	--
		O_f	25-45	4.2	--	18.4	17.0	.531	1.70	210	17.9
		O_h	45-80	3.9	--	19.5	15.5	.224	1.43	194	18.9
		O_h	80-100	3.9	--	15.1	11.8	.115	1.55	175	16.3
		O_h	100-120	4.0	--	12.9	14.1	.185	2.26	154	19.1
	21	O_f	0-13	4.0	--	18.4	15.7	1.14	1.78	194	19.1
		O_f	13-38	4.0	--	14.9	15.3	.173	1.61	211	15.2
		O_h	38-73	4.0	--	11.3	9.25	.210	1.43	154	14.4
		O_h	73-90+	4.0	--	13.7	13.0	.111	1.59	149	19.1

Table 9 continued

Plot No.	Horizon	Horizon Depth (cm)	pH	Organic Matter (%)	Exchangeable Cations (meq/100g)				Cation Exchange Capacity (meq/100g)	Base Saturation (%)
					Ca	Mg	K	Na		
25	LFH	0-8	3.9	--	14.2	13.6	1.28	1.53	172	17.8
	O_h	8-18	4.1	--	8.24	9.95	.543	1.23	124	16.1
	B_{hfg}	18-23	4.5	15.9	.294	.127	.048	.136	36.8	1.6
	B_{fc}	23-28	5.1	--	.450	.027	.038	.076	10.0	5.9
	C_g	28-32+	4.9	1.6	.483	.072	.042	.071	7.50	8.9
29	LFH	0-14	4.0	--	9.83	15.0	.719	1.52	172	15.7
	O_h	14-23	3.9	--	8.74	11.8	.384	1.27	138	16.1
	B_{hfg}	23-43	4.5	27.9	.781	.368	.054	.176	44.8	3.1
	B_{fc}	43-48	5.0	--	.237	.023	.027	.085	15.2	2.4
	C_g	48-64+	5.1	3.1	.369	.027	.037	.111	10.8	5.0
68	O_m	0-10	3.8	--	4.68	13.3	.633	.344	150	12.6
	O_h	10-40	3.8	--	2.40	4.81	.105	1.11	129	6.5
	O_h	40-52	3.8	64.7	3.04	2.87	.173	1.16	139	5.2
	A_h	62-94+	4.2	24.0	.212	.148	.054	.167	49.2	1.2

Table 9 continued

Community Type	Plot No.	Horizon	Horizon Depth (cm)	pH	Organic Matter (%)	Exchangeable Cations (meq/100g)				Cation Exchange Capacity (meq/100g)	Base Saturation (%)
						Ca	Mg	K	Na		
	20	LFH	0-10	3.6	--	9.93	13.3	.815	1.58	--	--
		O_m	10-35	3.8	--	15.1	13.4	.384	1.83	170	18.1
		O_h	35-50	4.0	--	11.8	8.45	.259	1.20	134	16.2
		O_h	50-70	3.5	--	13.7	10.5	.169	3.09	156	17.6
		O_h	70-100	3.8	--	11.2	8.45	.137	1.53	151	14.1
	31	LFH	0-30	3.7	--	14.2	16.3	1.14	1.72	--	--
		O_h	30-45	--	--	10.4	10.0	.304	1.41	130	17.0
		A_h	45-80	4.1	26.6	.771	.580	.023	.206	23.8	6.6
		B_g	80-100	4.8	8.5	.190	.056	.029	.078	19.8	1.8
		BC_g	100- +	5.0	4.3	.370	.041	.038	.137	13.5	4.3

Table 10

Textural analysis of soils from dune-forest community types

Community Type	Plot No.	Horizon	Horizon Depth	Coarse Fragments	Texture: Sand %	Texture: Silt %	Texture: Clay %	Textural Class
Picea sitchensis - Stokesiella praelonga	1	LFH	7-0	--	--	--	--	--
		A_{ej}	0-2	--	93.0	5.0	2.0	Sand
		B_f	2-25	--	95.6	2.2	2.2	Sand
		C	25-60+	--	97.8	1.4	.8	Sand
Picea sitchensis - Stokesiella praelonga	9	LFH	6-0	--	--	--	--	--
		A_{ej}	0-3	--	96.0	2.8	1.2	Sand
		B_f	3-48	--	96.0	2.8	1.2	Sand
		BC	48-63	Gravels & Cobbles	96.6	2.4	1.2	Sand
		C_1	63-103	Gravels & Cobbles	97.0	2.2	.8	Sand
		C_2	103-124+	--	97.4	1.0	1.6	Sand

Table 10 continued

Textural analysis of soils from dune-forest community types

Community Type	Plot No.	Horizon	Horizon Depth	Coarse Fragments	Texture			Textural Class
					Sand %	Silt %	Clay %	
Picea sitchensis - Tsuga heterophylla - Moss	55	LFH	8-0	--	--	--	--	--
		A_e	0-3	--	93.6	4.4	2.0	Sand
		B_f	3-48	--	95.2	3.2	1.6	Sand
		BC	48-61	--	97.6	1.2	1.2	Sand
		C	61-95+	--	97.8	1.2	1.0	Sand
Picea sitchensis - Tsuga heterophylla - Moss	3	LFH	10-0	--	--	--	--	--
		A_e	0-3	--	95.0	2.6	2.4	Sand
		B_f	3-21	--	92.8	5.8	1.4	Sand
		C	21-46+	--	97.6	1.6	.8	Sand

Table [illegible] continued

Textural analysis of soils from dune-forest community types

Community Type	Plot No.	Horizon	Horizon Depth	Coarse Fragments	Texture: Sand %	Texture: Silt %	Texture: Clay %	Textural Class
Picea sitchensis - Tsuga heterophylla - Moss	4	LFH	25-0	--	--		--	--
		A_e	0-10	--	94.8	3.6	1.6	Sand
		B_f	10-45	Gravels	96.0	2.6	1.4	Sand
		C	45-90+	Stones & Cobbles	Insufficient Sample			--
Picea sitchensis - Tsuga heterophylla - Moss	34	LFH	17-0	--	--	--	--	--
		A_e	0-5	--	92.2	6.8	1.0	Sand
		B_f	5-58	--	95.4	2.6	2.0	Sand
		C	58-99+	--	95.8	2.6	1.6	Sand

Table 10 continued

Textural analysis of soils from dune-forest community types

Community Type	Plot No.	Horizon	Horizon Depth	Course Fragments	Texture: Sand %	Texture: Silt %	Texture: Clay %	Textural Class
Picea sitchensis - Tsuga heterophylla - Moss	10	LFH	11-0	--	--	--	--	--
		A_e	0-4	Gravels	94.0	4.8	1.2	Sand
		B_f	4-49	Gravels	94.0	4.8	1.2	Sand
		BC	49-64	Gravels	97.2	1.2	1.6	Sand
		C	64-105+	Gravels	98.0	.8	1.2	Sand
Picea sitchensis - Tsuga heterophylla - Moss	11	LFH	12-0	--	--	--	--	--
		A_e	0-5	--	94.0	4.2	1.8	Sand
		B_f	5-56	--	96.2	2.2	1.6	Sand
		BC	56-68	--	98.4	1.0	.6	Sand
		C	68-98+	--	94.0	4.4	1.6	Sand

Table continued Textural analysis of soils from dune-forest community types

Community Type	Plot No.	Horizon	Horizon Depth	Coarse Fragments	Texture: Sand %	Texture: Silt %	Texture: Clay %	Textural Class
Picea sitchensis - *Tsuga heterophylla* - Moss	13	LFH	31-0	--	--	--	--	--
		A_{eg}	0-14	Gravels	94.0	4.4	1.6	Sand
		B_{gf}	14-72	Cobbles	94.4	4.4	1.2	Sand
		BC_g	72-103+	Gravels	95.8	2.4	1.8	Sand
Picea sitchensis - *Tsuga heterophylla* - Moss	5	LFH	20-0	--	--	--	--	--
		A_{eg}	0-2	--	93.6	4.2	2.2	Sand
		B_{gf}	2-32	--	94.0	4.8	1.2	Sand
		BC_g	32-70+	Cobbles	89.6	9.4	1.0	Sand

Table 11 Textural analysis of soils from bog and bog forest community types

Community Type	Plot No.	Horizon symbol	Horizon Depth (cm)	Texture			Textural Class
				Sand %	Silt %	Clay %	
Pinus contorta - Empetrum nigrum	25	LFH	8-0				
		O_h	0-10				
		B_{hfg}	10-33	52.0	42.6	5.4	Sandy Loam
		B_{fc}	33-38				
		C_g	38-42+	52.0	37.4	10.6	Loam
Pinus contorta - Empetrum nigrum	29	LFH	0-14				
		O_h	14-23				
		B_{hfg}	23-43	68.0	29.4	2.6	Sandy Loam
		B_{fg}	43-48				
		C_g	48-64	51.4	40.0	8.6	Loam

Table 11 continued Textural analysis of soils from bog and bog forest community types

Community Type	Plot No.	Horizon symbol	Horizon Depth (cm)	Texture Sand %	Texture Silt %	Texture Clay %	Textural Class
Ledum palustre - Empetrum nigrum	68	O_m	0-10				
		O_h	10-40				
		O_h	40-62				
		A_h	62-94+	33.8	51.4	14.8	Silt Loam
Thuja plicata - Gaultheria shallon	31	LFH	0-30				
		O_h	30-45				
		A_h	45-80	49.6	44.8	5.6	Sandy Loam
		B_g	80-100	48.0	46.6	5.4	Sandy Loam
		BC_g	100-+	39.4	54.0	6.6	Silt Loam

COMMUNICATIONS SHOULD BE ADDRESSED TO
DIRECTOR OF LANDS
PARLIAMENT BUILDINGS
VICTORIA, BRITISH COLUMBIA

ATTENTION:
FILE No.: Ref. no. 9-1

THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA

LANDS BRANCH
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES
VICTORIA, BRITISH COLUMBIA

V8V 1X5

17 February, 1976

ECOLOGICAL RESERVES UNIT
1019 BROAD ST.
VICTORIA B.C. V8V 2Y9

Dr. C. E. Beil
Western Botanical Services
c/o Botanical Garden
University of British Columbia
Vancouver, B. C. V6T 1W5

ECOLOGICAL RESERVES COLLECTION
GOVERNMENT OF BRITISH COLUMBIA
VICTORIA, B.C.
V8V 1X4

Dear Chuck,

Several students have approached us with proposals for summer research in ecological reserves. Some of these proposals would involve studies on the Tow Hill (#9), Skagit Valley rhododendron (#21), Bowen Island (#48), and Drizzle Lake (#52) reserves. All these reserves have been subjects of base-line studies under your direction. Any information about them that you can pass on to us will help us evaluate these proposals and determine the feasibility, desirability, and direction of the research.

Also, we are trying to evaluate and summarize research to date in ERs. How well we are able to do this will to some extent determine the future of similar research.

Furthermore, we need better knowledge of the vegetation resources of the existing reserves so as to assess the needs of the reserve system and chart the course of future action.

Thus, we need your data to deal properly with these matters. Any information, raw or otherwise, would be appreciated. This includes qualitative description, species inventories, quantitative sampling (plot or relevé data), ecosystem classification, maps, photographs, etc. As this is a matter of some urgency, do not hesitate to send partially consolidated information.

Thank you for passing on the Tranquille and Summerland reports. They have proven useful already.

Yours sincerely,

Dr. J. Pojar
Ecological Reserves Program

JP/ldc