

Flora and Vegetation of Saturna Island

ANNOTATED SPECIES LIST OF ECOLOGICAL RESERVE #15

(Saturna Island)

by Russ George & David Clark 1975 Dept. of Biology
University of Victoria 189

POLYTRICHACEAE

Atrichum selwynii Aust.

common disturbed mineral soil, windfall tree roots, road cuts,
stream banks; sporophytes in the fall

Polytrichum juniperinum Hedw.

common; epilithic and on soil; epixylic in open areas, outcrops
and waste areas; sporophytes in spring

DITRICHACEAE

Ceratodon purpureus (Hedw.) Brid

occasional on rock, soil in seepage areas, drainages; with
Philonotis, Mimulus

DICRANACEAE

Dicranoweisia cirrhata (Hedw.) Lindb.

rare; epixylic on Pseudotsuga in dry open areas; with Dicranum
spp.

Dicranum fuscescens Turn.

occasional on tree trunks; epixylic; restricted to open and
semi open habits

Dicranum scoparium Hedw.

abundant; epixylic and on humus; outcrops; distributed
throughout the reserve except dense forest communities

Dicranum tauricum Sapehin.

frequent; epixylic in open, dry areas; with Dicranum fuscescens,
Dicranoweisia

GRIMMIACEAE

Rhacomitrium canescens (Hedw.) Brid.

occasional; epilithic on dry outcrops, bluffs; with Selaginella,
Polytrichum

BRYACEAE

Bryum capillare Hedw.

occasional; epixylic in open situations; with Dicranum,
Aulacomnium; Plot #19

MNIACEAE

Leucolepis menziesii (Hook) Steere

occasional; forming tight clumps in Pseudotsuga-Thuja drainages
on soil or well rotted logs; also in moist pockets in Pseudotsuga-
Hylocomium association

Plagiomnium insigne (Mitt.) Koponen

occasional; epixylic and on soil in dense Pseudotsuga-Thuja
drainages, slopes; more restricted in distribution than
Rhizomnium with Leucolepis, Rhizomnium

Rhizomnium glabrescens Kindb.

common; epixylic and occasionally on organic soil in dense,
moist Pseudotsuga-Thuja association; with Plagiomnium,
Leucolepis

AULACOMNIACEAE

Aulacomnium androgynum (Hedw.) Schwaegr.

frequent epixylic in open to semi-open forest types; with
Dicranum, Bryum

BARTRAMIACEAE

Philonotis fontana (Hedw.) Brid.

rare; on moist soil in seepage areas; with Ceratodon, Mimulus
etc.; Plot #17, 25

LEUCODONTACEAE

Antitrichia curtipendula (Hedw.) Brid.

common; epixylic and on humus; associated Hylocomium,
Rhytidadelphus on humus; with Dicranum, Plagiothecium and
Mnium in epixylic sites, semi-open Pseudotsuga-Tsuga
associations

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BRACHYTHECIACEAE (Brachythecaceae)

Eurhynchium oreganum (Sull.) Jaeg. & Sauerb.

abundant over a wide range of forest types; epixylic and on humus from outcrop edges to dense mesic Pseudotsuga-Thuja association

Homalothecium megaptilum (Sull.) Robins

rare; epixylic or on soil in Pseudotsuga-Hylocomium association; usually scattered individuals with a mat of Antitrichia, Hylocomium, Eurhynchium; Plot #29

Isothecium spiculiferum (Mitt.) Ren. & Card.

frequent; epiphytic on Pseudotsuga, Tsuga semi open to dense forest types; with Hypnum

PLAGIOTHECIACEAE

Plagiothecium denticulatum (Hedw.) B.S.G.

occasional; epixylic and especially on charred wood; Pseudotsuga-Thuja association; with Plagiothecium, Mnium

Plagiothecium undulatum (Hedw.) B.S.G.

occasional; epixylic on well rotted logs; epixylic on deciduous trunks, Pseudotsuga-Thuja drainages and Pseudotsuga-Polystichum slopes; with Mnium, Plagiothecium, Antitrichia

HYPNACEAE

Hypnum subimponens Lesq.

occasional; epiphytic in Pseudotsuga-Gaultheria association, semi open mesic with Isothecium

RHYTIDIACEAE

Rhytidiadelphus triquetrus (Hedw.) Warnst.

common on soil and epixylic forming extensive mats in Pseudotsuga-Hylocomium association; with Hylocomium, Antitrichia

Rhytidiopsis robusta (Hook.) Broth.

occasional; epixylic; usually scattered individuals within a mat of Antitrichia, Eurhynchium; semi-open Pseudotsuga-Tsuga association

HYLOCOMIACEAE

Hylocomium splendens (Hedw.) B.S.G.

abundant; community indicator species; forms extensive mats under Pseudotsuga-Thuja in northwest corner of the reserve; scattered throughout

LYCOPODIACEAE

Lycopodium clavatum L.

"Stag's horn moss"

rare; formed only in matured disturbed area formerly a road bed in extreme southwest portion of reserve; occurs off the reserve on semi open southeast facing slopes

SELAGINELLACEAE

Selaginella wallacèi Hieron

"Wallace's Selaginella"

occasional; dry outcrops; with Polytrichum, Rhacomitrium

EQUISETACEAE

Equisetum arvense L.

"Field horsetail"

occasional; in waste areas and Carex depressions

POLYPODIACEAE

Blechnum spicant (L.) Roth.

"Deer Fern"

rare; in waste areas and forest with high degree of herbs

Dryopteris austriaca (Jacq.) Woynar

"Spiny wood fern"

occasional in Tsuga-Thuja association; rooted in dark mucky soil; Carex margins

Polypodium glycyrrhiza D. C. Eaton

"Licorice fern"

occasional; concentrated in mature Pseudotsuga-Thuja steep hillsides in northwest section

Polypodium hesperidum Maxon

"Licorice fern"

rare; epixylic in Pseudotsuga-Thuja drainage

Polystichum munitum (Kaulf.) Presl.

"Western Sword Fern"

restricted to southeast corner of northeast quarter section; community indicator Pseudotsuga-Polystichum semi open slopes; abundant east of the reserve

Pteridium aquilinum (L.) Kuhn. "Bracken fern"

CUPRESSACEAE

Thuja plicata Donn. "Western Red Cedar"

common along drainages and with Tsuga; forms dense canopy which results in reduced herb and shrub layers

PINACEAE

Abies grandis (Dougl.) Forbes "Grand fir"

very rare; one individual 3m in height at the edge of disturbed area near Staples' cabin

Pseudotsuga menziesii (Mirbel.) Franco "Douglas fir"

dominant; excluded only from young Tsuga thickets and outcrops; size to 2.2m D.B.H.

Tsuga heterophylla "Western hemlock"

abundant; in regeneration stands forms incredibly dense thickets; mature individuals scattered throughout; occasionally a co-dominant; with Pseudotsuga; notably increasing in importance

SALICACEAE

Salix species "Willow"

rare; found in southeast quarter section; open Pseudotsuga southeast exposure slope in moist patch shaded by fallen log; no flowering material for identification

Salix species "Willow"

restricted to Pseudotsuga-Alnus association; north of road in northwest quarter section; no flowering material available for identification

BETULACEAE

Alnus rubra Bong. "Red alder"

restricted to eastern side of northeast section; a few mature individuals in extreme southwest section (formerly Staple's Meadow)

URTICACEAE (Urticaceae)

Urtica dioica L.

"Stinging nettle"

restricted on the reserve to disturbed sites; flowers in May - June

POLYGONACEAE

Rumex acetosella L.

"Sheep sorrel"

common on bluffs, outcrops, semi-open Pseudotsuga association; flowers May - June; Plot #32

PORTULACACEAE

Montia parvifolia (Moc.) Greene
var. flagellaris (Bong.) Mitchc.

"Small-leafed Miner's Lettuce"

occasional in moist Pseudotsuga-Thuja association; flowering May - June

Montia sibirica (L.) Howell

"Siberian Miner's Lettuce"

common in moist Pseudotsuga-Thuja association, roadsides, outcrops; flowers June - July

CARYOPHYLLACEAE

Sagina procumbens L.

"Procumbent Pearlwort"

restricted; forming dense mats in outcrop areas; flowers June - August

Stellaria crispa Cham. & Schlecht.

"Crisped starwort"

common in moist pockets of Pseudotsuga-Thuja association and with Alnus; flowers June - July

? Stellaria humifusa Rottb.

"Spreading starwort"

common in dry habits; open Pseudotsuga association, disturbed areas; flowers May - June

? Stellaria longipes Goldie

"Longstalk starwort"

rare; restricted to moist pocket in disturbed area 20m south of Staples' cabin; with Urtica; flowering June - July

RANUNCULACEAE

Ranunculus occidentalis Nutt.

"Western buttercup"

common; in open waste areas, outcrops and semi open forest; flowers late May through July

- Ranunculus repens L. "Creeping buttercup"
abundant in waste areas, roadsides; flowers June - July
- Ranunculus uncinatus D. Don. "Little buttercup"
occasional in dense Pseudotsuga-Tsuga moist pockets and shaded areas; flowers June - July

BERBERIDACEAE

- Achlys triphylla (Smith) D.C. "Vanilla leaf"
restricted; occurring marginally in northwest corner of the reserve; dense Pseudotsuga-Thuja association; growing more vigorously north of reserve; flowers July
- Berberis nervosa Pursh. "Cascade oregon grape"
occasional; semi open Pseudotsuga-Gaultheria association; flowers April - May

CRUCIFERAE

- Brassica sp.
occasional; on bluffs, outcrops and waste areas; flowers April - May; insufficient material for identification
- Cardamine oligosperma Nutt. "Little western bittercress"
rare; open Pseudotsuga and on bluffs, south of the reserve; flowers April - May

SAXIFRAGACEAE

- Tiarella trifoliata var. trifoliata L. "Trefoil foamflower"
common in semi open Pseudotsuga; openings and clearings; flowers June - July

GROSSULARIACEAE

- Ribes lacustre (Pers.) Poir. "Prickly currant"
occasional; Pseudotsuga-Gaultheria and clearings; flowers May; fruit until August

ROSACEAE

Fragaria vesca var. bracteata (Heller) Davis "Strawberry"

abundant in clearings, disturbed soil, open dry habits;
flowers June; fruit through August

Potentilla pacifica Howell "Pacific silverweed"

restricted to marshy depression on disturbed area near
Staples' cabin; Carex margin; common locally; with Viola spp.

Rosa gymnocarpa Nutt. "Little wild rose"

common; scattered throughout Pseudotsuga-Gaultheria
association and in clearings; flowers June

Rosa nutkana Presl. "Nootka rose"

very rare; one individual well established in large disturbed
area in northwest quarter section; open, dry situation; flowering
June - July

LEGUMINOSAE

Lotus micranthus Benth. "Small flowered deer vetch"

common on outcrops, bluffs, disturbed soil; with Trifolium,
Collinsia, Cerastium; flowers April - June

Trifolium oliganthum Steud. "Few flowered clover"

common on bluffs, outcrops and disturbed areas; flowers May -
August; Plot #25

GERANIACEAE

Geranium molle L. "Dove's foot geranium"

occasional on disturbed soil; outcrops; flowering (May) June -
September

VIOLACEAE

Viola glabella Nutt. "Stream violet"

restricted to moist Tsuga regeneration stand near Staples'
cabin; well established within a small area; flowers June -
July

Viola McCloskeyii Lloyd "Small white violet"

occurring over a larger area than that of V. glabella but
restricted to the same location; flowers June - July

ONAGRACEAE

Epilobium minutum Lindl. "Small flowered willow herb"
occasional; disturbed areas esp. the large slash area in northwest quarter section; also on outcrops; flowers April - June

ERICACEAE

Gaultheria shallon Pursh. "Salal"
very abundant; in all forest types except dense Pseudotsuga-Tsuga and Pseudotsuga-Thuja associations; scattered and small on convex surfaces and generally thicker and height to 2m+ in concave areas

Pterospora andromeda Nutt. "Pinedrops"
occasional; restricted to Pseudotsuga-Hylocomium association; flowering August (September)

Pyrola picta Smith "White vein pyrola"
frequent in Pseudotsuga-Thuja shallow drainages; under Gaultheria; flowers July; Plot #20, 27, 35, 40

PRIMULACEAE

Trientalis latifolia Hook. "Western starflower"
common; scattered throughout especially semi open Pseudotsuga-Gaultheria association; flowers May - July

BORAGINACEAE

Myosotis discolor Pers. "Yellow and blue forget-me-not"
frequent, on bluffs, outcrops; occasionally in disturbed areas; with Lotus, Veronica, Trifolium, Cerastium; flowers May - June (July)

LABITAE

Prunella vulgaris L. "Self-heal"
occasional on disturbed soil; flowering May - June (July)

SCROPHULARIACEAE

Collinsia parviflora Lindl. "Small flowered blue-eyed Mary"
common on bluffs, outcrops and disturbed areas; flowers April - June

Digitalis purpurea L. "Foxglove"
abundant in disturbed areas, roadsides, open forest types;
flowers, white, purple; flowering June - August

Mimulus alsinoides Doug. "Chickweed monkey flower"
frequent; thin soil over outcrops; bluffs especially in
seepage areas; with Ceratodon, Plectritis; flowering May
through July if rainfall suitable

Verbascum thapsus L. "Common mullein"
occasional; disturbed soil and roadsides; flowering July,
August

Veronica arvensis L. "Common speedwell"
common in open and disturbed areas; outcrops; flowering May -
July

Veronica scutellata L. "Marsh speedwell"
occasional; restricted to marshy depression in disturbed area
near Staples' cabin; with Carex, Potentilla, Viola;
flowering May - June

Veronica serpyllifolia L. "Thyme-leaved speedwell"
occasional in open disturbed areas; flowering May - June

PLANTAGINACEAE

Plantago lanceolata L. "English plantain"
common; disturbed areas; occasional on roadsides; flowering
May, June

Plantago major L. "Common plantain"
frequent; roadsides, disturbed areas; flowering June - July

RUBIACEAE

Galium aparine var. echinospermum (Wallr.) Farw. "Cleavers"
common in disturbed areas and open Pseudotsuga association;
flowering May - June

Galium boreale L. "Northern cleavers"
restricted to moist depressions in Pseudotsuga-Tsuga
association; flowers late May - June

Galium trifidum L.

"Little cleavers"

frequent in moist outcrops, semi-open Pseudotsuga associations; generally moister habit than for G. aparine; flowering June - July

CAPRIFOLIACEAE

Sambucus racemosa var. arborescens (T. & G.) Gray

"Red elderberry"

occasional along roadside; more common downslope north of the reserve; flowering June - July

CAMPANULACEAE

Campanula scouleri Hook.

"Scouler's harebell"

restricted to outcrops in northeast corner of southeast quarter section; common locally; flowering (May) June - July

COMPOSITAE

Adenocaulon bicolor Hook.

"Pathfinder"

common; open to semi open Pseudotsuga associations; flowering July - September

Anaphalis margaritacea (L.) B. & H.

"Common pearly everlasting"

common along roadsides, disturbed areas; flowering June - October

Artemesia suksdorfii Piper

"Coastal mugwort"

rare; on gravel/soil on roadside in Pseudotsuga-Gaultheria association; flowering July

Chrysanthemum leucanthemum

"Oxeye daisy"

restricted to outcrops where it is common, occasional in disturbed areas; flowering July; Plot #25

Cirsium arvense var. horridum Wimm. & Grab. "Canada thistle"

occasional on disturbed soil; flowering June - September

Cirsium edule Nutt.

"Edible thistle"

common on roadsides, disturbed soil; flowering June - August

Cirsium vulgare (Savi) Tenore

"Common thistle"

occasional on roadsides, disturbed soil; flowering June - August

- Gnaphalium purpureum L. "Purple cudweed"
occasional on poor sandy soil in disturbed areas; flowering
from June - August; Plot #32, 33
- Hieracium albiflorum Hook. "White flowered hawkweed"
abundant from semi open Pseudotsuga to disturbed areas,
roadsides, occasionally on outcrops; flowering late June - July
- Hypochaeris radicata L. "Hairy cat's ear"
common on disturbed ground, outcrops; flowering May - August
- Lactuca muralis (L.) Fresn. "Wall lettuce"
common; clearings, disturbed areas and outcrops throughout;
flowering July - September
- Madia exigua (J.E. Smith) Gray "Little tarweed"
restricted to outcrops, seepage areas; very abundant where
conditions suitable; flowers (May) June - July
- Madia sativa Mol. "Coast tarweed"
common; semi open Pseudotsuga-Gaultheria association, clearings;
flowering July - September

JUNCACEAE

- Juncus effusus L. "Common rush"
occasional in dry open disturbed areas; flowering June -
August
- Luzula campestris (L.) D.C. "Sweep's brush"
occasional; outcrops and semi open Pseudotsuga association;
flowering June (July)

CYPERACEAE

- Carex obnupta Bailey "Slough sedge"
common; moist depressions in Pseudotsuga-Tsuga association;
disturbed area near Staple's cabin
- Carex deweyana Schw. "Dewey's sedge"
occasional, drainages, moist disturbed areas
- Scirpus microcarpus Presl. "Small flowered bulrush"
rare; moist depression in dense Pseudotsuga-Gaultheria
association; with Carex, Poa trivialis; flowering June - July

GRAMINAE

Aira caryophyllea L.

"Silver hairgrass"

common on bluffs, outcrops; occasional on disturbed soil;
flowers April - May and late if rainfall permits

Aira praecox L.

"Little hairgrass"

common on bluffs, outcrops and disturbed areas; flowering same
as for A. caryophyllea

Anthoxanthum odoratum L.

"Vernalgrass"

occasional in moist open areas; disturbed sites; flowering
May - June

Bromus sterilis L.

"Brome grass"

occasional in disturbed areas; semi-open Pseudotsuga-Gaultheria
association; flowers June

Cinna latifolia (Trevir.) Griseb.

"Wood-reed grass"

restricted to wet sites; Carex depression margins; Alnus
association; flowers June - July

Dactylis glomerata L.

"Orchard grass"

common on disturbed soil, roadsides; occasional in clearings;
flowering June - July

Elymus glaucus Buckl.

"Blue wild rye"

common from open areas and outcrops through semi-open
Pseudotsuga-Gaultheria association

Festuca occidentalis Hook.

"Western fescue"

abundant; forming scattered clumps in Pseudotsuga-Gaultheria
association and in clearings; flowers late May - June

Festuca subulata Trin.

"Nodding Fescue"

occasional Pseudotsuga-Gaultheria association; clearings;
flowering June

Holcus lanatus L.

"Common velvet grass"

frequent on disturbed soil, roadsides; occasional in open
Pseudotsuga-Gaultheria association; flowering June - July

- Melica subulata (Griseb.) Scribn. "Alaskan onion-grass"
scattered semi-open Pseudotsuga and Pseudotsuga-Tsuga associations;
flowering (June) July
- Poa pratensis L. "Kentucky blue-grass"
occasional; clearings and scattered throughout; flowering May -
July
- Poa trivialis L. "Roughstalk bluegrass"
occasional; restricted to moist drainages; Pseudotsuga-Thuja
association; occasional on Carex margins; flowering June

ORCHIDACEAE

- Corallorhiz maculata Raf. "Pacific coralroot"
occasional in Pseudotsuga-Thuja association; with sparse
understory; flowers June, July
- Goodyera oblongifolia Raf. "Western rattlesnake
plantain"
occasional in Pseudotsuga-Hylocomium association and
Pseudotsuga-Tsuga association with sparse understory;
flowering July - October
- Listera cordata (L.) R. Br. "Heart-leafed twayblade"
rare; restricted to dense Pseudotsuga-Hylocomium association;
flowering June - July

Additions to

Annotated species list of ecological reserve #15

Adiantum pedatum L. collected by T.P. Sullivan. all collections below attributed to Sullivan are represented by vouchers at UBC.

Athyrium filix-femina (L.) Roth. Sullivan.

Arenaria macrophylla Hook. Sullivan.

Stellaria media (L.) Cyrill disturbed roadside - probably misidentified as *S. humifusa*.

Heuchera micrantha Dougl. Sullivan.

Holodiscus discolor (Pursh) Maxim. Sullivan.

Osmorhiza chilensis H. & A. Sullivan.

Hypopitys monotropa Crantz. H. Janszen. voucher at V.

Pyrola asarifolia Michx. (aphylla also) Sullivan.

Mimulus guttatus DC. Sullivan.

Madia radioides (Nutt.) Greene Sullivan.

Agrostis alba var. *palustris* (Huds.) Pers. Sullivan.

A. scabra Willd. Roadside. Janszen.

Festuca subuliflora Scribn. throughout. Janszen.

Poa howellii Vasey & Scribn. open roadside. Janszen.

Several species listed for peculiar habitats or which are beyond their normal range are probably misidentified.

Observations of vascular plant species in reserve # 15, August 4, 1982. In addition to annotated species list and additional collections of Harvey Janszen and T.P. Sullivan.

Roadside in reserve:

<u>Bromus pacificus</u> Shear	<u>Gnaphalium uliginosum</u> L.
<u>Cerastium vulgatum</u> L.	<u>Leontodon nudicaulis</u> (L.)Merot
<u>Cirsium brevistylum</u> Cronq.	<u>Medicago lupulina</u> L.
<u>Cynosurus cristatus</u> L.	<u>Navarretia squarrosa</u> (Esch.)H.&A.
<u>Deschampsia elongata</u> (Hook.)Munro	<u>Rubus leucodermis</u> Dougl.
<u>Epilobium angustifolium</u> L.	<u>Senecio jacobaea</u> L.
<u>E. paniculatum</u> Nutt.	<u>Trifolium dubium</u> Sibth.
<u>Galium triflorum</u> Michx.	<u>T. repens</u> L.
<u>Geum macrophyllum</u> Willd.	

Along water course:

<u>Agrostis exarata</u> Trin.	<u>Mimulus moschatus</u> Dougl.
<u>Deschampsia elongata</u> (Hook.)Munro	<u>Tellima grandiflorum</u> (Pursh)Dougl.
<u>Galium triflorum</u> Michx.	<u>Viola sempervirens</u> Greene

Open forest:

<u>Chimaphilla menziesii</u> (R.Br.)Spreng.	<u>Monotropa uniflora</u> L.
<u>Filago germanica</u> (L.)L.	<u>Rubus spectabilis</u> Pursh
<u>Galium triflorum</u> Michx.	<u>Trisetum cernuum</u> Trin.
<u>Geum macrophyllum</u> Willd.	

Limited to Staples cabin area outside reserve:

<u>Arctium minus</u> (Hill)Bernh.	<u>Juncus ensifolius</u> Wikst.
<u>Carex muricata</u> L.	<u>Matricaria matricarioides</u> (Less.)Porter
<u>C. rostrata</u> Stokes	<u>Myosotis laxa</u> Lehm.
<u>C. vesicaria</u> L.	<u>Ranunculus flammula</u> L.
<u>Hypericum anagalloides</u> C.&S.	<u>Taraxacum officinale</u> Weber

Species from annotated list that appear to be limited to Staples cabin area outside reserve:

<u>Galium trifidum</u> L.	<u>Verbascum thapsus</u> L.
<u>Madia sativa</u> Mol.	<u>Veronica scutellata</u> L.
<u>Potentilla pacifica</u> Howell	<u>Viola macloskeyi</u> Lloyd
<u>Stellaria calycantha</u> (Ledeb.)Bong.	
(= <u>S. longipes</u> Goldie of list)	

On annotated list:

From distribution Galium trifidum L. appears to be G. triflorum Michx. and G. boreale L. appears to be G. trifidum L.
Viola sempervirens Greene is misidentified as V. glabella Nutt.
Stellaria humifusa Rottb. does not occur in the reserve.

Harvey Janszen
Saturna Island

Summary Report on Studies Carried out
on Ecological Reserves, Summer 1975

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Six students were employed on preliminary studies in thirteen Ecological Reserves in British Columbia during the summer of 1975. Wages and expenses were paid under the Professions for Tomorrow Programme, the Ecological Reserves Programme, and personal research funds of the four supervising faculty members.

The following studies were made on Ecological Reserves 1,3, 4,7,15,16,17,18,29,33,34,37, and 51.

1. Insect Fauna of Gulf Island Ecological Reserves #4, Lasqueti Island #15, Saturna Island, and #16, Saltspring Island

The purpose of the present study was to compile a species list, make permanent insect collections, appraise the population abundance of some species, and to survey the relationships between insects and vegetational types of three Ecological Reserves (#4, #15, and #16) on the Gulf Islands. Diurnal insects were collected by general netting, sweep netting, soil sampling, or pitfall trapping. Nocturnal and crepuscular insects were collected by U-V light trapping. Most specimens were identified at least to the family level, and added to the permanent collection maintained at the University of Victoria.

Fifty-seven families of insects belonging to thirteen different orders were collected and identified during the period May-August, 1975. Species lists and notes on the relative abundance of species in the different vegetational zones of each Reserve were compiled.

6. Flora and Vegetation of Saturna Island Ecological Reserve #15

Six-vegetation types were tentatively described and a vegetation map compiled following a summer survey including 40 reléves. Communities are dominated essentially by varying combinations of Pseudotsuga menziesii and Tsuga heterophylla with understory species Gaultheria shallon and several bryophytes. Community pattern appears most strongly influenced by variation in history of land management (fires, logging, settlement), position on slope, and moisture regimes.

A list of approximately 200 vascular plants, bryophytes, and lichens was compiled and annotated for abundance, habitat preference and phenology of flowering and fruiting

Russ George and David Clark

Supervisor: Marcus Bell

7. Flora and Vegetation of Canoe Islets Ecological Reserve #17

During a brief survey in late May crustose lichens were found to dominate this tide washed reserve. No vascular plants were found. Four or five empty nests of double-crested cormorants were observed.

Russ George, David Clark

Supervisor: Marcus Bell

8. Flora and Vegetation of Rose Islet Ecological Reserve #18

A list of approximately 40 vascular plants, bryophytes, and lichens was compiled after a brief visit in May. Of the five small islets in this group, three with significant vegetation are dominated by herbs, grasses, and a few shrubs. Vegetation pattern appears influenced by soil depth, exposure, and possibly by the cormorant

Sith, E. M. 32, 1976

Ecological Reserve No. 15, Saturna Island

The reserve on Saturna is located in the middle portion of the island. It contains the southeastern of section 9 and the northwestern quarter of section 3.

Almost all of the reserve is covered with Pseudotsuga menziesii and a dense understory of Gaultheria shallon. This makes off-road travel through the reserve difficult without trampling a large amount of vegetation. Small portions of the reserve contain rock outcroppings covered with Hylocolium splendens and G. shallon. The majority of the vertebrates were either [?]happened or sighted here.

The reserve has two roads leading to it. Trucks or four-wheel vehicles are required to traverse these. The road to Mount Warburton Pike crosses section 9. Section 3 can be reached by a series of logging roads which enter the section on the eastern boundary.

There were no watercourses found on the reserve which did not dry up by the middle of July. One intermittent stream, which runs from the northern boundary of section 3 to Lyall Creek, and a few marshy areas in each section were the only aquatic habitats found.

Checklist of Vertebrates

Amphibians

Hyla regilla (Baird and Girard) Pacific Tree Frog

Reptiles

Thamnophis ordinoides (Baird and Girard) Northwestern Garter Snake

Mammals

Odocoileus hemionus columbianus (Richardson) Columbian Blacktail

Deer

Peromyscus maniculatus saturatus (Bangs) White-footed Mouse

Procyon lotor vancouverensis (Nelson and Goldman) Raccoon

Sorex vagrans vancouverensis (Merriam) Wandering Shrew

Tamiasciurus hedsonicus lanuginosus (Bachman) Red Squirrel

Birds

Bonasa umbellus Ruffed Grouse

Cathartes aura Turkey Vulture

Certhia familiaris Brown Creeper

Chordeiles minor Common Nighthawk

Colaptes cafer Red-shafted Flicker

Corvus caurinus Northwestern Crow

Corvus corax Common Raven

Dendragapus obscurus Blue Grouse

Haliaeetus leucocephalus Bald Eagle







Ixoreus naevius Varied Thrush

Junco hyemalis oregonus Oregon Junco

Otus asio Screech Owl

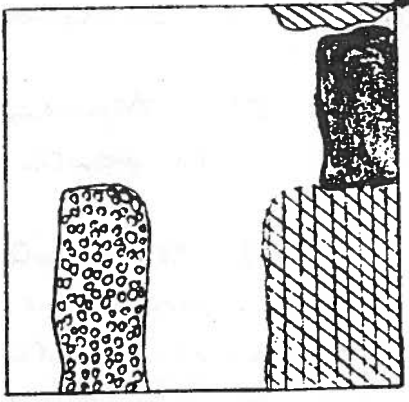
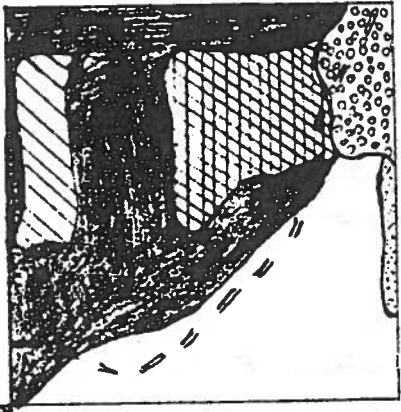
Parus rufescens Chestnut-backed Chickadee

KEY VEGETATION AREAS

	Doug. Fir, Salal
	Doug-Fir, Mossy Carpets
	Open, logged Area
	Young Hemlock
	Doug-Fir, Cedar, Hemlock
	Alder

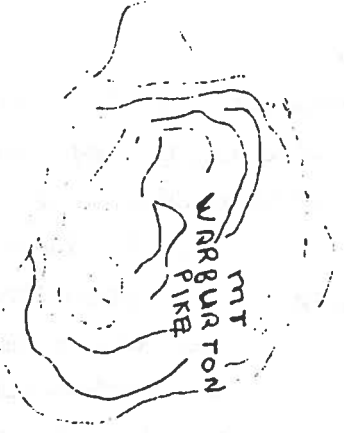
SATURNA

Road



ISLAND

ECOLOGICAL RESERVE



A). Saturnia

1). Open logged areas.

The insects were most abundant in these areas and the largest variety of species were found in them. Species present were

a). Hymenoptera

1. Cimbicidae F, *trianotum* sp.
2. Formicidae F
3. Ichneumonidae F
4. Opidae F, *lembus* sp.
5. Halictidae F
6. Megachilidae F
7. Vespidae F

B). Diptera

1. Syrphidae F
2. Bombyliidae F, *hemipenthes* sp.
3. Muscidae F
4. Tabanidae F
5. Asilidae F
6. Tachinidae F
7. Cecropiidae F
8. Lipulidae F
9. Calliphoridae F
10. Bibionidae F
11. miscellaneous small diptera

C). Coleoptera

1. Carabidae F, *pedalium*
2. Elateridae F
3. Cecinellidae F
4. Lycidae F
5. Lupulidae F

d). Orthoptera

1. Acrididae F

E). Odonata

1. Aeshnidae F

F). Lepidoptera

1. Papilionidae

G). Hemiptera

1. Miridae
2. Ricadellidae
3. Coreidae

H). Ephemeroptera

I). Neuroptera

1. *Hemerobidae* F

Observations of vascular plant species in reserve # 15, August 4, 1982. In addition to annotated species list and additional collections of Harvey Janszen and T.P. Sullivan.

Inside in reserve:

Bromus pacificus Shear
Cerastium vulgatum L.
Cirsium brevistylum Cronq.
Cynosurus cristatus L.
Deschampsia elongata (Hook.) Munro
Epilobium angustifolium L.
E. paniculatum Nutt.
Galium triflorum Michx.
Geum macrophyllum Willd.

Gnaphalium uliginosum L.
Leontodon nudicaulis (L.) Merot
Medicago lupulina L.
Navarretia squarrosa (Esch.) H. & A.
Rubus leucodermis Dougl.
Senecio jacobaea L.
Trifolium dubium Sibth.
T. repens L.

Along water course:

Agrostis exarata Trin.
Deschampsia elongata (Hook.) Munro
Galium triflorum Michx.

Mimulus moschatus Dougl.
Tellima grandiflorum (Pursh) Dougl.
Viola sempervirens Greene

Open forest:

Chimaphilla menziesii (R.Br.) Spreng.
Filago germanica (L.) L.
Galium triflorum Michx.
Geum macrophyllum Willd.

Monotropa uniflora L.
Rubus spectabilis Pursh
Trisetum cernuum Trin.

Limited to Staples cabin area outside reserve:

Arctium minus (Mill) Bernh.
Carex muricata L.
C. rostrata Stokes
C. vesicaria L.
Hypericum anagalloides C. & S.

Juncus ensifolius Wikst.
Matricaria matricarioides (Less.) Porter
Myosotis laxa Lehm.
Ranunculus flammula L.
Taraxacum officinale Weber

Species from annotated list that appear to be limited to Staples cabin area outside reserve:

Galium trifidum L.
Madia sativa Mol.
Potentilla pacifica Howell
Stelleria calycantha (Ledeb.) Bong.
(= S. longipes Goldie of list)

Verbascum thapsus L.
Veronica scutellata L.
Viola macloskeyi Lloyd

On annotated list:

From distribution Galium trifidum L. appears to be G. triflorum Michx. and G. boreale L. appears to be G. trifidum L.
Viola sempervirens Greene is misidentified as V. glabella Nutt.
Stellaria humifusa Rottb. does not occur in the reserve.

Harvey Janszen
Saturna Island

Annotated species list of ecological reserve #15

- Adiantum pedatum* L. collected by T.P. Sullivan. all collections below attributed to Sullivan are represented by vouchers at UBC.
- Athyrium filix-femina* (L.) Roth. Sullivan.
- Arenaria macrophylla* Hook. Sullivan.
- Stellaria media* (L.) Cyrill disturbed roadside - probably misidentified as *S. humifusa*.
- Heuchera micrantha* Dougl. Sullivan.
- Holodiscus discolor* (Pursh) Maxim. Sullivan.
- Osmorhiza chilensis* H. & A. Sullivan.
- Hypopitys monotropa* Crantz. H. Janszen. voucher at V.
- Pyrola asarifolia* Michx. (aphylla also) Sullivan.
- Mimulus guttatus* DC. Sullivan.
- Madia madioides* (Nutt.) Greene Sullivan.
- Agrostis alba* var. *palustris* (Huds.) Pers. Sullivan.
- A. scabra* Willd. Roadside. Janszen.
- Festuca subuliflora* Scribn. throughout. Janszen.
- Poa howellii* Vasey & Scribn. open roadside. Janszen.

Several species listed for peculiar habitats or which are beyond their normal range are probably misidentified.

from Annotated Species List of Ecological Reserve #15 Saturna Island

(see Research file for original annotated list)

Atrichum selwynii	Brassica sp.
Polytrichum juniperinum	Cardamine oligosperma
Ceratodon purpureus	Tiarella trifoliata var trifoliata
Dicranowesia cirrhata	Ribes lacustre
Dicranum fuscescens	Fragaria vesca var. bracteata
Dicranum scoparium	Potentilla pacifica
Dicranum tauricum	Rosa gymnocarpa
Rhacomitrium canescens	Rosa nutkana
Bryum capillare	Lotus micranthus
Leucolepis menziesii	Trifolium oliganthum
Plagiomnium insigne	Geranium molle
Rhizomnium glabrescens	Viola glabella
Aulacomnium androgynum	Viola mccloskeyi
Philonotis fontana	Epilobium minutum
Antitrichia curtispindula	Gaultheria shallon
Eurhynchium oreganum	Pterospora andromeda
Homalothecium megaptilum	Pyrola picta
Isothecium spiculiferum	Trientalis latifolia
Plagiothecium denticulatum	Myosotis discolor
Plagiothecium undulatum	Prunella vulgaris
Hypnum subimponens	Collinsia parviflora
Rhytidiadelphus triquetrus	Digitalis purpurea
Rhytidiopsis robusta	Mimulus alsinoides
Hylocomium splendens	Verbascum thapsus
Lycopodium clavatum	Veronica arvensis
Selaginella wallacei	Veronica scutellata
Equisetum arvense	Veronica serpyllifolia
Blechnum spicant	Plantago lanceolata
Dryopteris austriaca	Plantago major
Polypodium glycyrrhiza	Galium aparine var. echinospermum
Polypodium hesperium	Galium boreale
Polystichum munitum	Galium trifidum
Pteridium aquilinum	Sambucus racemosa var. arborescens
Thuja plicata	Campanula scouleri
Abies grandis	Adenocaulon bicolor
Pseudotsuga menziesii	Anaphalis margaritacea
Tsuga heterophylla	Artemisia suksdorfii
Salix spp.	Chrysanthemum leucanthemum
Alnus rubra	Cirsium arvense var. horridum
Urtica dioica	Cirsium edule
Rumex acetosella	Cirsium vulgare
Montia parvifolia var. flagellaris	Gnaphalium purpureum
Montia sibirica	Hieracium albiflorum
Sagina procumbens	Hypochaeris radicata
Stellaria crispa	Lactuca muralis
Stellaria ?humifusa	Madia exigua
Stellaria ?longipes	Madia sativa
Ranunculus occidentalis	Juncus effusus
Ranunculus repens	Luzula campestris
Ranunculus uncinatus	Carex obnupta
Achlys triphylla	Carex deweyana
Berberis nervosa	Scirpus microcarpus

Aira caryophyllea
Aira praecox
Anthoxanthum odoratum
Bromus ~~erilis~~
Cinna latifolia
Dactylis glomerata
Elymus glaucus
Festuca occidentalis
Festuca subulata
Holcus lanatus
Melica subulata
Poa pratensis
Poa trivialis
Corallorhiza maculata
Goodyera oblongifolia
Listera cordata

Report 7

INTERNATIONAL BIOLOGICAL PROGRAMME

SECTION C1: 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

ER #15

Serial Number

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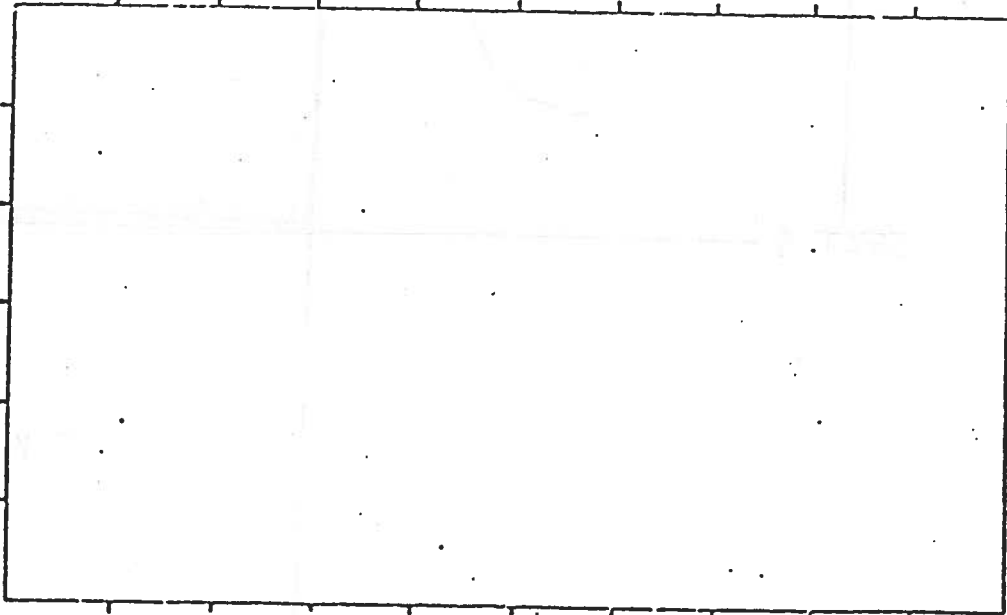
For Data Centre Use only

1.

1. Name of surveyor T. M. C. Taylor & T. C. Brayshaw
2. Address of surveyor Provincial Museum
..... Victoria, British Columbia, Canada
3. Check Sheet completed (a) on site x (b) from records
4. Date Check Sheet completed 23/Aug./-63

2.

1. Name of IBP Area Saturna Island: (NW $\frac{1}{4}$ of Section 3 + SE $\frac{1}{4}$ of Sect. 9)
2. Name of IBP Sub-division (or serial letter)
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 when applicable

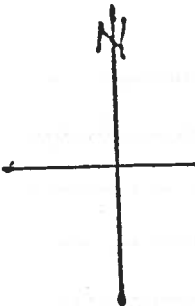


* For "IBP Area", read IBP Area and/or IBP Sub-division.

SATURNIA ISLAND

SECT. 7

SECT. 10



Scale: 1/12,000
1000 feet: 1 inch

Tsuga-moss ass'n

SE

Pseudotsuga

Gaultheria ass'n

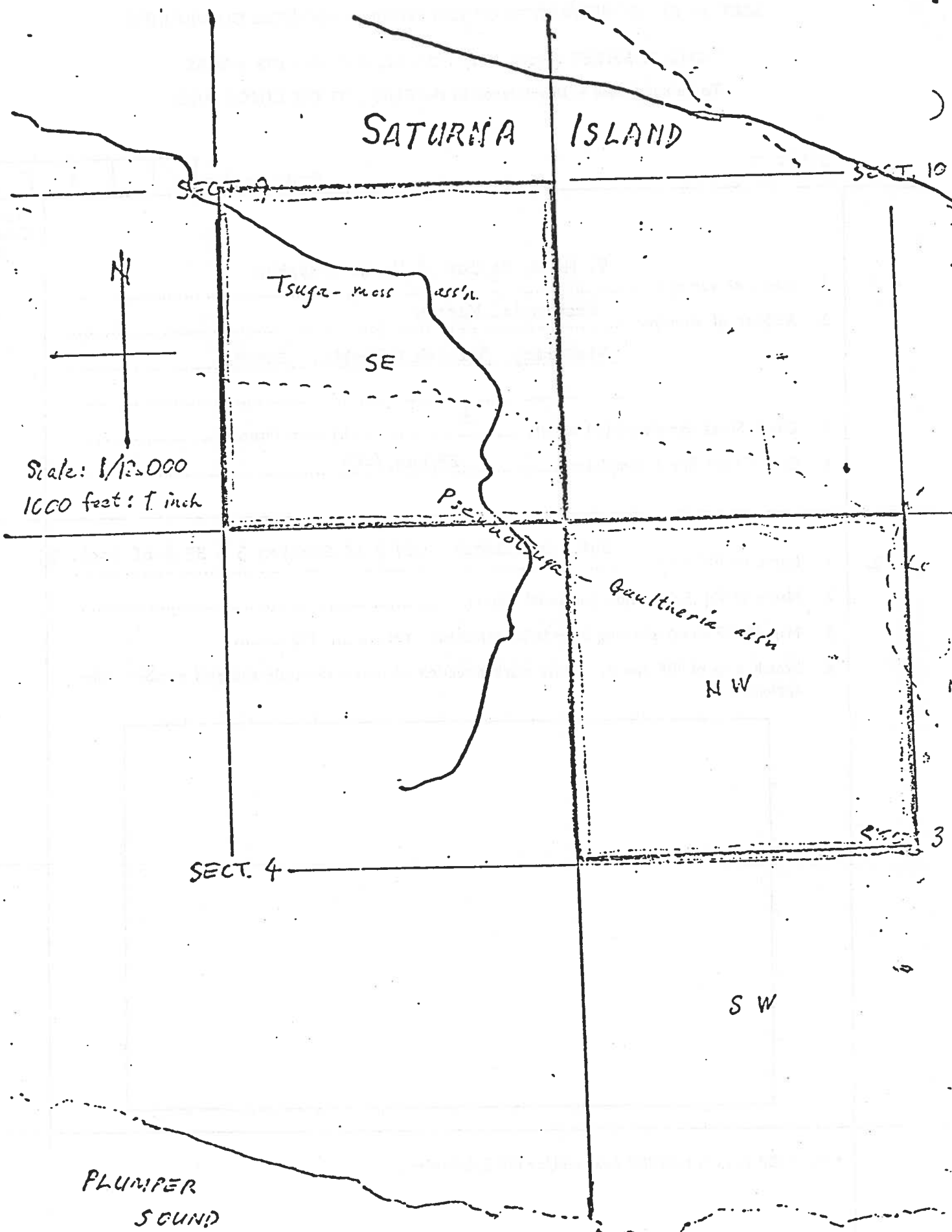
NW

SECT. 4

SECT. 3

SW

PLUMPER
SOUND



3. Location of IBP Area*

1. Latitude.....48°.....° 46' N..... N/S Longitude.....123°.....° ...09' W..... E/W
 Canada

2. Country

State or Province British Columbia..... County

(State or Province County)

4. Administration

National 1. Official category Crown Land

2. Address of administration

.....

.....

.....

International Class

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

5. Characteristics of IBP Area*

1. Surface area (state units of measurement) 320 Acres (2 129 hectares)

2. Altitude (state units of measurement) Maximum 1000 feet (305 metres)

Minimum 500 " (152 m.)

6. Climate

Nearest climatological station :

1. Name Galiano Island

2. Climatological station on IBP Area*? Yes No
11 miles (18 Km.)

3. If (2) not, distance from edge of IBP Area* (state units)

4. Direction from IBP Area* NW

5. Additional data sheet attached? Yes 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) Acres
	Primary Structural Group	Class	Group	Formation	Sub-Formation		
1	1	A	1	7	a	<i>Pseudotsuga nanziesii</i> - <i>Gaultheria shallon</i>	200
2	1	A	1	7	a	<i>Tsuga heterophylla</i> - <i>rossae</i>	120
3							
4							
5							
6							
7							
8							
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10							
11							
12							
13							
14							
15							
16							
17							
18							
19							

7.
(cont.)

2

Soil

Community Reference Number	Soil type	Other notes
1	F ₅	Sandy-gravelly loam over sandstone rock (locally shallow) on gently NE slope
2	F ₅	Sandy-gravelly loam over sandstone rock, apparently deeper, on steeper lower NE slopes.
3		
4		
5		
6		
7		
8		
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10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

9. Landscape

1. General Landscape (give brief description) ... Upper slopes gentle to NE (undulating - lying rock strata dipping similarly) at 800 - 1000 foot altitude, & gently undulating. Lower slopes steeper, to NNE, at ~~from~~ 500 - 1000 foot altitude, undulating.

2. Relief Type

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

3. Special landscape features (list) ... Probably the most striking feature is the uniformity of the terrain: it is almost featureless.

10. Coastline of IEP 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 IEP Area*

1.

	Permanent	Intermittent
General		
Standing		
Running		x

2. Standing Water

	Permanent	Intermittent	Unproductive	Productive
Swamps				
Ponds				
Lakes				

3. Running Water

	Permanent	Intermittent
Springs, cold		
Springs, hot		
Streams		x
Rivers		

4. Special freshwater features

.....

12. Salt and Brackish Water within IEP Area*

Salt Lake:	<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 IEP Area*)

1. Fresh Lake River Stream

2. Salt and Brackish

Estuary	Salt lake	Salt pool	Lagoon	Ocean	fjord	
					x	

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											
grass											
Gymnospermae											
Pteridophyta											
Bryophyta											
Lichens and Algae											

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

.....

15.

Exceptional Interest of IBP Area NW $\frac{1}{4}$ of Section 3: gently undulating uniform stand of *Pseudotsuga* - *Gaultheria* association; not logged, around 50 years old since fire. SE $\frac{1}{4}$ of Section 9: same of above ass'n, but on lower, steeper slopes changing to an older stand of *Tsuga* - moss assoc'n. In the latter stand, the oldest trees are *Pseudotsuga*, younger of *Thuja plicata*, and youngest of *Tsuga heterophylla*.

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						
Drainage						
Other soil disturbance						
Grazing		x				
Selective flora disturbance						
Logging	x			x		
Plantation						
Hunting						
Removal of predators	x					
Pesticides						
Introductions — plants						
Introductions — animals	?					
Fire	x					
Permanent habitation						
Recreation and tourism						
Research						

on eastern edge
of M/ 4 Sect. 3
only

3. Additional details on each type of impact attached!

17. Conservation Status

	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					
Fauna		X		X								
Non-living												

18. References

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

Sheet attached? Yes No

2. List main maps available for the ISP Area.

List attached? Yes ...X..... No

3. Aerial photographs for the ISP Area available?

For whole area^X For part of area None

19. Other Relevant Information Dense population of coast deer (*Odocoileus hemionus columbianus*) on island. Some browsing of young seedlings of *Thuja plicata* & *Abies grandis* noted in adjacent areas. Domestic goats have been introduced onto this island: their impact on forest vegetation not measured.

Signed C. Breckler
 (Surveyor)

18. 2. Maps available: from Dept. Lands, Forests & Water Resources (British Columbia)

Topographical: Sheet "92 B/M & B/SI (parts of)" (available as a single sheet) Scale: 1/126,720 (2 miles : 1 inch)

Status: Saturna Island: Scale 1 inch : 1000 feet (1/12000)

ERIS

For Data Center Use only

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) Acres
	Primary Structural Group	Class	Group	Formation	Sub-Formation		
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17							
18							
19							

ER#15

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												
grass												
Gymnospermae												
Pteridophyta												
Bryophyta												
Lichens and Algae												

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

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15.

Exceptional Interest of IBP Area NW 1/4 of Section 3: gently undulating uniform stand of *Pseudotsuga* - *Gaultheria* association; not logged, around 50 years old since fire. SE 1/4 of Section 9: same of above ass'n, but on lower, steeper slopes changing to an older stand of *Tsuga* - moss assoc'n. In the latter stand, the oldest trees are *Pseudotsuga*; younger of *Thuja plicata*, and youngest of *Tsuga heterophylla*.

ER #15

17. Conservation Status

	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					
Fauna		X		X								
Non-living												

18. References

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

Sheet attached? Yes No

2. List main maps available for the ISP Area.

List attached? Yes ...X..... No

3. Aerial photographs for the ISP Area available?

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

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Signed C. Brezina
(Surveyor)

