

2075 171 245 UMR  
9 7/10 SE  
MUTUAL BC 787 CYS

Lasqueti Island

Ref. No.:

21 c.1

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

THE VERTEBRATE FAUNA OF  
FOUR ECOLOGICAL RESERVES  
ON THE GULF ISLANDS OF BRITISH COLUMBIA

Eileen South  
Department of Biology  
University of Victoria  
British Columbia, Canada.

11th February 1976

## ABSTRACT

Species lists of the vertebrate fauna for each of the ecological reserves on the Gulf Islands of British Columbia were compiled. Ecological reserves on Lasqueti (No. 4), Saltspring (Nos. 16 and 37), and Saturna (No. 15) Islands were surveyed and three species of amphibians, four of reptiles, nine of mammals, and thirty-four of birds were found.

## INTRODUCTION

British Columbia Ecological Reserves were formed by the Government of the Province of British Columbia as an outgrowth of the International Biological Programme to set aside selected ecosystems for ecological study. These reserves were set up primarily for research and educational studies of ecosystems represented in British Columbia.

This report is based on field work conducted over the summers of 1974 and 1975. During May to August 1974, a survey was conducted on three Gulf Island reserves: No. 15 - Saturna Island Reserve; No. 16 - Mount Tuam Reserve, Saltspring Island; and No. 37 - Baynes Peak Reserve, Saltspring Island (Catherine Guest, unpublished). The following summer, 1975, an additional reserve, No. 4 - Lasqueti Island Reserve, was added to the study area.

The main purpose of this report is to present a species list of vertebrates present on the reserve.

## MATERIALS AND METHODS

The primary method used to find the vertebrates on the reserves was by random search. Reptiles were found basking on sunny days on rock outcroppings, beaches, or roadways. One species of amphibian (Hyla regilla) was recognized by its call. The aquatic larva of amphibians were captured with a dip net in late May, June, and early July. Adult amphibians were occasionally found in ponds or on damp moss. Birds were observed most frequently in roadcuts or in forests early in the day on sunny days. Mammals were identified through droppings or other signs, or through actual observation. Rodents were trapped in Tomahawk live mouse traps (#101, 3" x 3" x 10", Tomahawk Live Traps, Tomahawk, Wisconsin) using peanut butter and bacon and hamburger drippings as bait. These traps were placed on the edges of clearings. Shrews were found in pit fall traps which were originally set out to catch beetles. These traps contained a mixture of 50% glycerol, 45 % water, and 5% formalin.

Species names for the vertebrates were obtained from the following:

### Amphibians

Logier and Toner, 1961

Carl, 1966

Stebbins, 1966

Ecological Reserve No. 4, Lasqueti Island

The Lasqueti Island Reserve encompasses partial section 17 and a small southeastern corner of partial section 24.

The reserve is a southwest facing slope which is covered with Arbutus menziesii and Pseudotsuga menziesii. Many rock outcroppings are present. Most of the accessible valley bottoms have been stripped of trees by logging activities carried out in the 1960's. Four permanent marshes are located in the northwestern quarter of Section 17. This reserve also has an extensive waterfront composed of sharp cliffs, rocky areas, and boulder beaches.

In addition to the native vertebrate species listed on the appended check-list, there are two other vertebrate species which inhabit the reserve, feral goats and sheep. The sheep are the more abundant of the two.

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

Reptiles

Logier and Toner, 1961

Stebbins, 1966

Carl, 1968

Birds

Peterson, 1961

Robbins, 1966

Eisenman, 1973

Mammals

Murie, 1954

Burt and Grossenheider, 1964

~~McTaggart~~ Cowan and Guiguet, 1965

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 happed 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 intermittant 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

Gerrhonotus coeruleus principis (Baird and Girard) Northern Alligator

Lizard

Thamnophis elegans vagrans (Baird and Girard) Wandering Garter Snake

Thamnophis ordinoides (Baird and Girard) Northwestern Garter Snake

Mammals

Lutia canadensis pacifica (Rhodes) Canadian River Otter

Microtus townsendi tetramerus (Rhoads) Townsend Vole

Mustela vison evagor (Hall) Mink

Myotis lucifugus (LeConte) Little Brown Myotis

Odocoileus hemionus columbianus (Richardson) Columbian Blacktail Deer

Peromyscus maniculatus georgiensis (Hall) White-footed Mouse

Procyon lotor vancouverensis (Nelson and Goldman) Raccoon

Sorex vagrans vancouverensis (Merriam) Wandering Shrew

Birds

Bonasa umbellus Ruffed Grouse

Bubo virginianus Great Horned Owl

Carpodacus purpureus Purple Finch

Cathartes aura Turkey Vulture

Cephus columba Pigeon Guillemot

Certhia familiaris Brown Creeper

Colaptes cafer Red Shafted Flicker

Corvus caurinus Northwestern Crow

Corvus corax Common Raven  
Dendrocopos pubescens Downy Woodpecker  
Dendrocopos villosus Hairy Woodpecker  
Dendroica petechia Yellow Warbler  
Dendroica townsendi Townsend's Warbler  
Fulica americana American Coot  
Glaucidium gnoma Pygmy Owl  
Haematopus bachmani Black Oystercatcher  
Haliaeetus leucocephalus Bald Eagle  
Ixoreus naevius Varied Thrush  
Junco hyemalis oregonus Oregon Junco  
Larus argentatus Herring Gull  
Larus glaucescens Glaucous-Winged Gull  
Megaceryle alcyon Belted Kingfisher  
Melospiza melodia Song Sparrow  
Pandion haliaeetus Osprey  
Parus rufescens Chestnut-backed Chickadee  
Phalacrocorax auritus Double Crested Cormorant  
Pipilo erythrophthalmus Rufous-sided Towhee  
Selasphorus rufus Rufous Humming-bird  
Sitta canadensis Red-breasted Nuthatch  
Spinus pinus Pine Siskin  
Thryomanes bewickii Bewick's Wren  
Turdus migratorius Robin  
Zonotrichia leucophrys White-crowned Sparrow

Ecological Reserve No. 16, Mount Tuam, Saltspring Island

The Mount Tuam is situated on the southern end of Saltspring Island, one mile west of Isabella Point. It includes three quarters of section 39 and the eastern half of partial section 32. This reserve covers 627 acres and is mainly covered by Pseudotsuga menziesii and Gaultheria shallon forest with areas of rock outcroppings and Arbutus menziesii near the waterfront.

Two roads lead on to the reserve. Isabella Point Road enters the reserve at the southeastern corner of section 39. Just beyond the border of the reserve, the road becomes overgrown and travel on it is impossible. The other road, Mountain Road, crosses section 39 south from the northeastern corner and then travels west through section 32.

There is only one watercourse on the reserve which has water in it all year round. A stream crosses the reserve through section 39 from the northwestern quarter to the southeastern partial quarter. There are also several marshes and a small pond in the reserve. The marshes dry up by mid-July and the pond, although it does not dry up completely, shrinks to about one quarter of its original size by August.

Checklist of Vertebrates

Amphibians

Ambystroma gracile gracile (Baird) North-western Salamander

Hyla regilla (Baird and Girard) Pacific Tree Frog

Rana aurora aurora (Baird and Girard) Northern Red-legged Frog

Reptiles

Thamnophis elegans vagrans (Baird and Girard) Wandering Garter

Snake

Thamnophis ordinoides (Baird and Girard) Northwestern Garter Snake

Thamnophis sirtalis pickeringi (Carl) Puget Sound Red-sided Garter

Snake

Mammals

Mustela vison evagor (Hall) Mink

Myotis lucifugus (LeConte) Little Brown Myotis

Peromyscus maniculatus angustus (Hall) White-footed Mouse

Procyon lotor vancouverensis (Nelson and Goldman) Raccoon

Sorex vagrans vancouverensis (Merriam) Wandering Shrew

Tamiasciurus hudsonicus lanuginosus (Bachman) Red Squirrel

Birds

Bonasa umbellus Ruffed Grouse

Buteo jamaicensis Red-tailed Hawk

Carpodacus purpureus Purple Finch

Cathartes aura Turkey Vulture

Certhis familiaris Brown Creeper

Colaptes cafer Red-shafted Flicker

Corvus caurinus Northwestern crow

Corvus corax Common Raven  
Cyanocitta stelleri Steller's Jay  
Dendrocopus villosus Hairy Woodpecker  
Dengrapus obscurus Blue Grouse  
Dryocopus pileatus Pileated Woodpecker  
Haliaeetus leucocephalus Bald Eagle  
Ixoreus naevius Varied Thrush  
Junco hyemalis oregonus Oregon Junco  
Larus glaucoecens Glaucous-winged Gull  
Lophortyx californicus California Quail  
Parus rufescens Chestnut-backed Chickadee  
Passerella ilica Fox Sparrow  
Pipito erythrophthalmus Rufous-sided Towhee  
Selasphorus rufus Rufous Hummingbird  
Spinus tristus Pine Siskin  
Thryomanes bewickii Bewick's Wren  
Turdus migratorius Robin

Ecological Reserve No. 37, Baynes Peak, Saltspring Island

Baynes Peak Reserve is located on Mount Maxwell, Saltspring, west of Mount Maxwell Provincial Park. It contains 160 acres in the northeastern corner of section 31.

There is only one road which leads to the reserve. The road to the provincial park touches the northeast corner of the reserve.

Most of this reserve is a steep slope consisting of Quercus garianus forest with grass ground cover, Pseudotsuga menziesii and Gaultheria shallon, and rock outcroppings. It has a southwest exposure and dries out very early in the summer. Because of this lack of moisture, the reserve is not suitable for most vertebrates especially amphibians. It is suitable, however, for reptiles.

Checklist of Vertebrates

Amphibians

Hyla regilla (Baird and Girard) Pacific Tree Frog

Reptiles

Gerrhonotus coeruleus principis (Baird and Girard) Northern

Alligator Lizard

Thamnophis ordinoides (Baird and Girard) Northwestern Garter Snake

Thamnophis sirtalis pickeringi (Carl) Puget Sound Red-sided Garter  
Snake

Mammals

Microtus townsendi tetramerus (Rhoads) Townsend Vole

Mustela vison evagor (Hall) Mink

Odocoileus hemionus columbianus (Richardson) Columbian Black-tail

Deer

Peromyscus maniculatus augustus (Hall) White-footed Mouse

Procyon lotor vancouverensis (Nelson and Goldman) Raccoon

Tamiasciurus hudsonicus lanuginosus (Bachman) Red Squirrel

Birds

Bonasa umbellus Ruffed Grouse

Cathartes aura Turkey Vulture

Colaptes cafer Red-shafted Flicker

Corvus caurinus Northwestern Crow

Corvus corax Common Raven

Cyanocitta stelleri Steller's Jay

Haliaeetus leucocephalus Bald Eagle

Ixoreus naevius Varied Thrush

Junco hyemalis oregonus Oregon Junco

Pandion haliaeetus Osprey

Parus rufescens Chestnut-backed Chickadee

Selasphorus rufus Rufous Hummingbird

Spinus pinus Pine Siskin

Spinus tristis American Goldfinch

Thryomanes bewickii Bewick's Wren

Turdus migratorius Robin



## Suggestions for further study on ecological reserves

A great majority of the work done on the ecological reserves has been vegetative studies. An inventory of insects was made by James McBean in 1974 and by Gwen Shrimpton and Marilyn Ratcliffe in 1975. Besides this vertebrate inventory only one other has been made on the Gulf Island reserves. This was carried out by Catherine Guest in 1974.

More information is needed on most reserves in British Columbia on the animal species present. Surveys should also be carried out during the spring and autumn months when migration and mating behaviour peaks. This would result in more accurate species lists.

Data of this type should also be collected for proposed ecological reserves so vertebrate habitats and ranges would have an influence on the establishment of reserve boundaries.

## REFERENCES

- Burt, H.B. and R.P. Grossenheider. (1964). A field guide to the mammals. Houghton Mifflin Co., Boston, Mass.
- Carl, G. Clifford. (1966). The amphibians of British Columbia. British Columbia Provincial Handbook No. 2, Victoria, B.C., Canada.
- Carl, G. Clifford. (1968). The reptiles of British Columbia. British Columbia Provincial Handbook No. 3, Victoria, B.C., Canada.
- Cowan, I. McT., and C.J. Guiguet. (1965). The mammals of British Columbia. British Columbia Provincial Handbook No. 11, Victoria, B.C., Canada.
- Ecological Reserves in British Columbia, (4th ed.). (1975). Province of British Columbia, Department of Lands, Forests, and Water Resources, Victoria, B.C., Canada.
- Eisenman, E. (1973). Thirty-second supplement to the American Ornithologist's Union check-list of North American birds. Aut., 90: 411-419.
- Logier, E.B.S., and G.C. Toner. (1961). Check-list of amphibians and reptiles of Canada and Alaska.
- Murie, Olaus. (1954). A field guide to animal tracks. Houghton Mifflin Co., Boston, Mass.
- Peterson, Roger Tory. (1961). A field guide to the western birds. Houghton Mifflin Co., Boston, Mass.
- Robbins, Chandler S. et al. (1966). Birds of North America. Western Publishing Co. Inc., Racine, Wisconsin.

Stebbins, Robert C. (1966). A field guide to the western reptiles and  
amphibians. Houghton Mifflin Co., Boston, Mass.