QUADRA ISLAND

1948

WARDHES

QUADRA ISLAND SURVEY

by

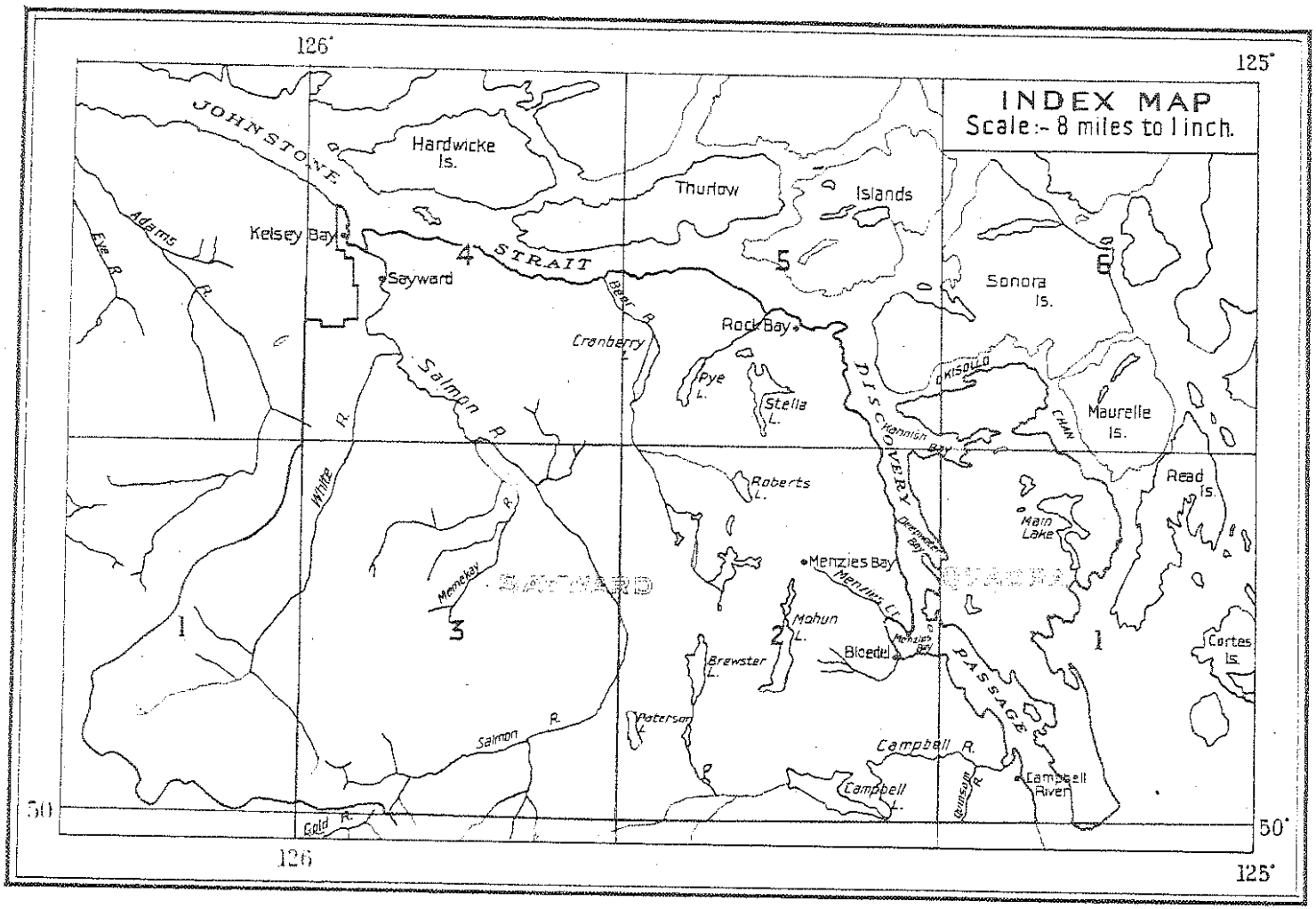
W.G. Hughes

1948

Forest Survey - R. 37
Survey File - 0105227

Accompanying this report:

1 set maps "Forest Cover Series", scale 40 chains to 1 inch.



NOTE.—Maps numbered from S.E. corner of each degree of latitude and longitude.
Copies of maps obtainable at cost on application to the Chief Forester, Victoria, B.C.

TABLE OF CONTENTS

Page No.

DESCRIPTION OF AREA

(1) Boundary Description 1
(2) General Topography 1
(3) Climate 1
(4) Transportation Facilities 3
(5) Settlements 3
(6) Industries 3

DESCRIPTION OF FOREST

(1) Forest Species 4
(2) Area Classification and Timber Summary 7
(3) Reproduction and Factors Affecting It 8
(4) Infestation, Diseases, etc. 9
(5) Comparison of 1930 Survey With That For 1947 11

APPENDIX I

Compartment Descriptions 12

APPENDIX II

Volume Tables 17

APPENDIX III

Summary Sheets
(1) Classification of Areas by Compartments 18
(2) Classification of Mature Timber by Compartments 19

APPENDIX IV

(1) Method of Survey 20
(2) Base Maps 20
(3) Detailed Costs 20
(4) Labour Distribution 20
(5) Personnel 21

APPENDIX V

1947 Logging Operations - Quadra Island 22

QUADRA ISLAND

DESCRIPTION OF AREA

(1) Boundary Description

Quadra Island, which lies in the eastern half of the Sayward Land District, is separated from Vancouver Island by Discovery Passage. It is bounded on the north by Okisollo Channel, on the east by Hoskyn Inlet and Sutil Channel, and on the south by the Strait of Georgia.

(2) General Topography

That portion of the island south of Heriot Bay is a flat, glacial deposit made up of stratified layers of sand, clay, and gravel, and seldom rises more than three hundred feet above mean sea level. From Gowlland Harbour north to an east-west line through Morte Lake the country is a series of bare, rocky hills separated by narrow, wooded gullies. From Morte Lake to Kahnish Bay the land rises steeply from the west shore of the island to form a highland of broken topography, which maintains an average elevation of approximately fifteen hundred feet above sea level. From Granite Bay a broad depression extends in a south-easterly direction to Open Bay. The north and east portions of the island are of irregular topography characterized by numerous rock outcrops throughout. Numerous lakes lying in low, irregular, rocky basins include Main, Village Bay, Clear, Stramberg, Morte and Newton.

(3) Climate

Quadra Island enjoys a moderate climate, typical of the region lying between the mountains of Vancouver Island and the Mainland.

Information from weather stations located in the vicinity of the Island is given in Table I. There are no weather records available for the Island itself.

TABLE I - CLIMATE

1 9 4 7

TEMPERATURE

Station	Elevation Feet	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Average
Lazo	125	34	39	45	48	55	57	60	60	57	49	40	40	49
25-year average		36	38	41	47	53	61	62	62	56	46	41	38	48
Vananda	40	34	38	42	49	57	62	63	64	58	53	43	40	50
34-year average		36	37	41	47	54	59	63	63	56	49	42	38	49

PRECIPITATION

Station	Elevation Feet	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Average
Campbell River	50	8.47	8.70	4.86	1.20	1.44	3.04	1.49	0.28	2.80	11.42	4.28	12.72	61.70
12-year average		7.51	5.29	4.08	2.78	1.66	1.82	1.55	1.31	2.35	5.29	7.84	10.23	51.21
Savary Island	7	3.80	4.79	3.04	1.20	1.07	3.30	1.93	0.56	1.90	7.09	2.74	9.81	41.23
27-year average		4.45	3.08	2.52	2.04	1.64	1.91	1.11	1.57	2.36	4.42	5.07	6.42	36.69
Vananda	40	4.46	5.31	2.75	0.84	0.98	2.48	2.30	0.99	0.97	6.35	2.19	7.93	37.55
34-year average		4.42	3.17	2.66	2.07	1.46	1.90	1.03	1.26	2.19	4.47	4.58	5.69	34.90

(4) Transportation Facilities

The greater proportion of travel to and from the Island is by steamer and water taxi through Quathiaski Cove. The steamer also calls once weekly at Granite Bay. From Hyacinth Bay south the Island is fairly well supplied with secondary roads. Taxi service is available in this area. From Granite Bay it is possible to drive five miles southward to within a mile or so of the old Comox Logging Company railroad grade, which terminates at Open Bay. When Open Bay and Hyacinth Bay become connected by road the major portion of the Island will become easily accessible.

(5) Settlements

Granite Bay: Its Post Office and small store serves the few scattered settlers in the vicinity and the Cold Creek Logging Company operation nearby. It was originally established for logging and mining activity which took place in the valley to the south in the early 1900's.

Quathiaski Cove: The cannery originally located here was destroyed by fire and never replaced. British Columbia Packer's Limited continue to supply service to fishermen in the vicinity. Two stores, a school and a Post Office supply the needs of the settlement.

Heriot Bay: Located on the east coast of the Island, Heriot Bay is connected by road with Quathiaski Cove. Although it enjoys some popularity as a summer resort, it relies chiefly upon the fishing industry and minor lumbering and farming activity for its livelihood.

Bold Point: Important only as a Post Office centre for the few settlers in the vicinity. One large farm is located here.

(6) Industries

(a) Logging: The only operation of any size is the Cold Creek Logging Company, which is located on the south side of Kahnish Bay. This is a truck logging show with a complement of approximately twenty men. A number of small operators are logging south of Heriot Bay and in the vicinity of Gowlland Harbour. In some cases small sawmills are operated in conjunction with the logging. There is a minor amount of hand-logging done in the area.

(b) Fishing: Fishing is one of the principal sources of revenue for many of the settlers on the southern part of the Island. Important fishing grounds extend from Cape Mudge to Seymour Narrows.

(c) Mining: Mining activity on the Island is now at a standstill. Fairly extensive development took place in the early 1900's on a dozen or more claims located in the lime belt running from Kahnish Bay to Open Bay. Traces of gold and copper were found but not in commercial quantities. Vanadium-bearing ore has been found just north of Gowlland Harbour but concentrations are not considered to be of economic importance.

(d) Agriculture: With the exception of a few scattered farms south of Granite Bay, and one at Bold Point, the major agricultural development has taken place between Heriot Bay and Cape Mudge. This general area was originally excluded from the Quadra Forest due to its agricultural possibilities. Farm produce which is not consumed locally finds a ready outlet through Campbell River.

DESCRIPTION OF FOREST

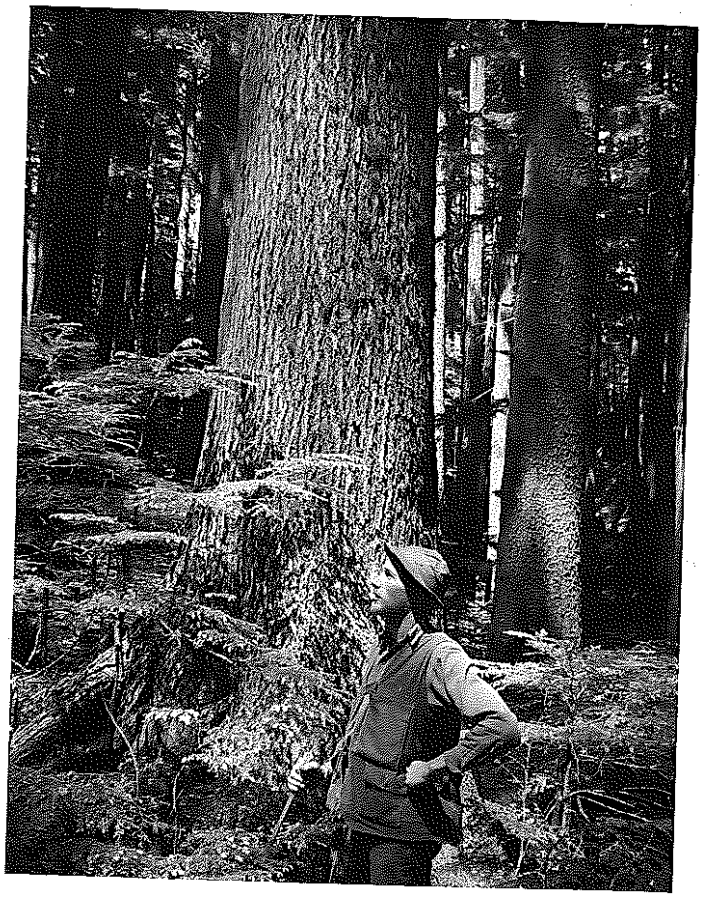
(1) Forest Species

The following species, found on Quadra Island, are listed in order of importance according to volume.

Common Name	Abbreviation	Botanical Name
Douglas Fir	F	Pseudotsuga taxifolia
Western Hemlock	H	Tsuga heterophylla
Western Red Cedar	C	Thuja plicata
Sitka Spruce	S	Picea sitchensis
Balsam (Silver Fir)	B	Abies grandis - A. amabilis
Western White Pine	Pw	Pinus monticola
Red Alder	D	Alnus rubra
Broadleaf Maple	Mb	Acer macrophyllum

Douglas Fir: The species constitutes the major portion of the remaining timber on Quadra Island. Since the more-accessible, better-site, timber has been removed, the remaining Douglas fir is to be found in the less-accessible poorer-site areas. These areas have an average site-index of 100.

Western Hemlock: Next to Douglas fir, Western hemlock constitutes the largest volume of commercial timber. Although the average site-index for hemlock on the Island is low (average 80), there are scattered pockets of fine sawlog timber.



Mature hemlock and Sitka spruce with suppressed hemlock understory. Strip No. 47 Compartment No. 4.

Western Red Cedar: The remaining volume of this species consists mainly of low-site-quality trees, which are suitable for sawlogs and shingle bolts.

Sitka Spruce: The limited volumes of this species appear to be free of any serious defect. Some trees are inclined to have a large number of limbs.

Balsam: Minor quantities of the true firs (lowland white fir and silver fir) are found throughout the area. Silver fir of the higher elevations is of better form and has fewer limbs than the white fir found near sea level. No serious defect was observed.

Western White Pine: The prevalence of white pine blister rust makes the value of this species negligible.

Red Alder: Extensive areas on Quadra Island which have been burned or logged-and-burned are now growing large volumes of healthy, clear-boled alder. Although the present market for alder is limited to minor quantities for fuelwood and lumber, a more extensive market will eventually develop for this short-rotation species.

Broadleaf Maple: This species is confined to the area between Heriot Bay and Cape Mudge and is usually found associated with the fir-hemlock-spruce type. Small volumes and the lack of a suitable market make this species one of minor importance.

(a) Area Classification and Timber Summary

TABLE II - CLASSIFICATION OF AREA BY OWNERSHIP AND FOREST COVER

(In Acres)

Classification	Crown Granted (Acres)	Timber Leases and Licenses (Acres)	Crown Land (Acres)	Totals (Acres)
Productive Forest Area				
Mature Timber				
Accessible	860	1,460	7,080	9,400
Inaccessible	—	—	—	—
Totals	860	1,460	7,080	9,400
Immature Timber				
1- 5 years	90	200	1,390	1,680
6-10 years	30		200	230
11-20 years	3,370	3,270	13,500	20,140
21-40 years	3,710	40	6,140	9,890
41-60 years	470	10	350	830
61-80 years	20		100	120
Totals	7,690	3,520	21,680	32,890
Not Satisfactorily Stocked				
Logged	1,200	110	640	1,950
Logged and burned	270	520	1,720	2,510
Burned	270	150	1,440	1,860
N.C.C. Deciduous			10	10
N.C.C. Coniferous	60		160	220
Totals	1,800	780	3,970	6,550
Total Productive Forest Area	10,350	5,760	32,730	48,840
Non-Productive Forest Area				
Cultivated				830
Barren and scrub				15,470
Swamp and water				3,050
Total Non-Productive Forest Area				19,350
GRAND TOTAL				68,190

Note: - N.C.C. means Non-Commercial Cover

(3) Reproduction and Factors Affecting It

Table II (section 2) showed the proportionate areas of immature timber by ownership and age classes and also (section 3) the ownership and condition of that portion of the island that was not satisfactorily restocking. The following tables show the causes of establishment of the 32,890 acres of immature timber (Table III); the present condition of the 27,030 acres of cut-over land (Table IV); and the origin of all young stands and areas not satisfactorily restocking (Table V). Regeneration on the island is exceptionally good with eighty-four per cent of the cut-over land satisfactorily stocked. Twelve per cent will probably restock naturally and four per cent, representing recent logging, will require future examination.

TABLE III - IMMATURE TIMBER BY CAUSE OF ESTABLISHMENT

(In Acres)

Logging	6,550
Logging and burning	16,020
Burning	10,320
Total	32,890

TABLE IV - CONDITION OF CUT-OVER LAND

Condition	Logged		Logged & Burned		Total	
	Acres	%	Acres	%	Acres	%
Satisfactorily stocked	6,550	77	16,020	87	22,570	84
Areas that will probably restock naturally	1,150	13	2,040	11	3,190	12
Areas not recommended for planting due to dense debris, etc.			40		40	
Recent logging or logging and burning, areas for future examination	650	8	430	2	1,080	4
Areas recommended for planting	150	2	--		150	
Totals	8,500	100%	18,530	100%	27,030	100%

TABLE V - ORIGIN OF ALL YOUNG STANDS AND AREAS N.S.R. *

(By Age Classes)

Age	Cause and Classification							
	Logging		Logged and Burned		Burning		Miscellaneous	
	Stocked	N.S.R.	Stocked	N.S.R.	Stocked	N.S.R.	Stocked	N.S.R.
1- 5	130	560	1,490	820	60	250		
6-10	200	360	30	120				
11-20	700	820	10,460	700	8,980	1,180		
21-40	5,510	210	3,190	870	1,190	430		
41-60	10		760		60			
61-80	--		90		30			
t Stated								230
Totals	6,550	1,950	16,020	2,510	10,320	1,860		230

* N.S.R. - Not Satisfactorily Restocking.

Areas classed as not satisfactorily stocked may be due to an insufficient seed source following burning or an unsuitable seed-bed, resulting from heavy debris, following logging. The present forest cover will eventually supply sufficient seed to satisfactorily stock such areas.

A number of factors are responsible for the healthy regeneration picture on Quadra Island. In spite of the intensive burns which have covered a major portion of the island, the seed source on such areas has not been wholly destroyed. Scattered, thick-barked Douglas fir seem to have survived in even the more intensively burned areas. Much of the logging has been in scattered patches especially in the southern part of the island, enabling satisfactory stocking to take place, Good seed years occuring soon after fires also must have influenced the present condition.

(4) Infestation, Diseases, etc.

The forests of Quadra Island may be regarded as reasonably free from infestation and disease. Douglas fir is subject to normal attacks of brown cubical rot (Polyporous Schweinitzii), and red ring-rot (Fomes (Trametes) Pini). Brown cubical rot (Polyporous Schweinitzii), red ring-rot (Fomes (Trametes) Pini), and mistletoe all appear on hemlock, the mistletoe being more prevalent in decadent stands. Butt-rot is common in cedar. Cat-face and spike-top defects are also present. White pine blister-rust is prevalent on the island with the result that white pine seldom reaches maturity.

Suppressed 14-year-old hemlock reproduction on an area which has been logged and burned. Over-stocking is the reason for suppression.

Old logging trestle, two miles east of Deepwater Bay almost hidden by fir-hemlock stands, established in 1915, following 1911 logging. Hemlock in foreground is the result of more recent logging and burning.

Note rock outcrops and general barren appearance of surface resulting from 1945 logging, followed by burning.

Comparison of 1930 Survey with that of 1947

Little new development has taken place on Quadra Island since 1930. However, the general forest picture shows considerable improvement. Although the 1930 survey did not include that portion of the island south of Heriot Bay, it reported 15,670 acres as under-stocked and recommended artificial restocking on a large proportion of the area. The results of the 1947 survey, covering the whole of the island, show only 6,550 acres as not satisfactorily stocked and indicate that most of the area will probably restock naturally.

APPENDIX I

Compartment Descriptions

Compartment 1

(1) Fir-Alder - 1927 — 1,590 acres

630 stems per acre. Fir 52%, alder 46%, and minor amounts of hemlock and balsam. Fir average d.b.h. 4.0 inches, height 36 feet. Alder average d.b.h. 4.4. inches, height 41 feet. Area logged and burned. Of the total type, 70% occurs on area burned in 1919, and 30% on area logged prior to 1919 and burned in 1919. Site is good, this type occurring in an area well suited to agriculture. Potential utilization will probably be sawlogs, but this may depend on the continued use of alder for manufacturing purposes. Area is readily accessible, being adjacent to existing roads.

(2) Fir - 1923 — 700 acres

1,240 stems per acre. Fir 80%, hemlock 17% and minor amounts of alder, spruce and balsam. Fir average d.b.h. 2.7 inches, height 22 feet. Area logged and burned. Of the total type, 51% occurs on area logged prior to 1919 and burned in 1919, and 49% on area burned in 1919. Site is good, this type occurring in an area well suited to agriculture. Potential utilization will be sawlogs. Area is readily accessible, being adjacent to existing roads.

(3) Fir - 1907 — 630 acres

360 stems per acre. Fir 79%, alder 13%, hemlock 4%, balsam 3% and minor amounts of cedar and spruce. Fir average d.b.h. 7.9 inches, height 89 feet. Area covered by this type was logged and burned probably about 1900. Site is good, this type also occurring in an agricultural area. Potential utilization will be sawlogs. Area is readily accessible, being adjacent to existing roads.

(4) Fir-Hemlock - 1903 — 500 acres

740 stems per acre. Fir 70%, hemlock 23%, alder 5% and minor amounts of balsam, cedar and spruce. Fir average d.b.h. 6.4 inches, height 66 feet. Area logged and burned, probably about 1900. Site generally good, but slightly swampy in places. Potential utilization will probably be sawlogs and pulp. Area readily accessible.

(5) Alder - 1928 — 450 acres

See compartment 2.

(6) Hemlock - 1919 — 400 acres

1,310 stems per acre. Hemlock 89%, fir 8% and minor amounts of balsam and alder. Hemlock average d.b.h. 4.1 inches, height 42 feet. Area logged and burned. Of the total type, 70% occurs on area burned in 1919 and 25% on area logged prior to 1919. Site fair to poor - a considerable portion of this type occurs on rocky areas. Potential utilization will be for pulp. Area is accessible, being adjacent to existing roads and to tide water.

(7) Fir-Alder - 1923 290 acres

580 stems per acre. Fir 43%, alder 37%, hemlock 17% and minor amounts of spruce, balsam and white pine. Fir average d.b.h. 4.0 inches, height 39 feet. Alder average d.b.h. 3.8 inches, height 45 feet. Area burned over in 1919. Site is good. Potential utilization will be sawlogs. Area accessible, being adjacent to existing roads.

(8) Fir-Hemlock-Spruce - 19M 590 acres

Total volume 11,320 M.B.M., fir 37%, hemlock 28%, spruce 21% and balsam 11%. Fir site index 100. Hemlock varies from site index 60 to 100 and averages 80. Spruce varies from short to medium and averages medium. Fir average d.b.h. 34 inches. Hemlock average d.b.h. 20 inches. Spruce average d.b.h. 22 inches. Some butt-rot and conk present on hemlock. Site is good. Utilization value sawlogs and pulp. This type is well suited to the use of cats as the topography is flat and the timber is scattered in small patches.

(9) Fir - 15M 260 acres

Total volume 3,800 M.B.M. Fir 85%, balsam 9%, hemlock 3%. Fir varies from site index 60 to 100 and averages 80. Fir average 16 inches in d.b.h. Site is good. Utilization value sawlogs. Logging method see previous type.

(10) Logged - 1922 790 acres

This area is understocked with 370 trees per acre 20-year-olds. Of this number, 140 trees per acre are coniferous and 230 deciduous. The ground cover is light and the site fair, so that this area may become fully stocked when the present crop trees produce seed.

Compartment 2

(1) Hemlock-Fir - 1928 1,640 acres

See main type, compartment 3. This is an extension of the same type.

(2) Alder - 1928 910 acres

Density 400 stems per acre, alder 90%, fir 5% remainder minor amounts of hemlock, spruce, balsam, etc. The alder averages 5.5 inches in d.b.h., height 60 feet. Eighty-two per cent of the stand occurs on ground logged and burned in 1925 and the remainder mainly on areas burned about the same time or a few years sooner. The type is a pure deciduous variation of the first type.

(3) Alder-Fir - 1928 630 acres

(4) Logged and Burned - 1925 - Burned 1924 and Burned 1922 1,140 acres

(5) Hemlock - 1906 - 11M — 90 acres

Old logging and burning restocked with 220 stems per acre, 82% hemlock averaging 10 inches in d.b.h. and 90 feet in height. The type is considered to contain 970 M.B.M., thinnings available, 62% hemlock, and the remainder about equally divided between fir, balsam and alder.

(6) Hemlock-Fir - 30M — 2,010 acres

See main type compartment 4.

(7) Fir - 40M — 570 acres

See 1,020 acre area of same type in compartment 3.

Compartment 3

(1) Hemlock-Fir - 1928 — 6,400 acres

Density 2,870 stems per acre, 76% hemlock, 23% fir with minor amounts of white pine, alder and cedar. The hemlock average 1.8 inches in d.b.h., and 16 feet in height. The fir average 2.1 inches d.b.h. and 16 feet in height. An extensive type following old burns and loggings which have been burned. Of the total type 53% occurs on area logged 1925, burned 1925, 42% on area burned 1925 and the remainder on miscellaneous history such as old logging not burned and old burn which has subsequently been recently logged over for residual volumes.

(2) Alder - 1928 — 1,140 acres

Area of same type in compartment 2 (See 910 acre).

(3) Alder-Fir - 1928 — 2,780 acres

Density 430 stems per acre, 65% alder, 26% fir, 6% hemlock, 2% balsam and some scattered spruce and white pine. The alder averages 5.7 inches in d.b.h. and 60 feet in height, the fir 4.5 inches in d.b.h. and 40 feet in height. Sixty-five per cent of the type occurs on area logged and burned in 1925 and 33% of area burned about the same time or a few years sooner. The type is a mixed deciduous-coniferous variation of the first type.

(4) Hemlock - 1915 — 700 acres

See 650 acre area same type in compartment 4.

(5) Fir - 1915 — 710 acres

Density 750 stems per acre, 91% fir average d.b.h. 5.5 inches and 55 feet in height. Type occurs on old logging and burning.

(6) Alder - 1915 220 acres

Density 350 stems per acre. Seventy-one per cent alder averaging 7.5 inches in d.b.h., and 80 feet in height. Area logged and burned.

(7) Logged and Burned - 1925 and Burned 1925 1,720 acres

(8) Fir - 40M 1,020 acres

Total 40,380 M.B.M. Ninety-nine per cent fir averaging 36 inches in d.b.h. Site variable as stand is patchy being residual areas surviving the logging and burning some on rocky ground damaged by fires. Site index average 100. Cull 8 to 20%. Grades up to 15% - No. 1, in better areas. In some places ground fires have brought in heavy hemlock reproduction.

(9) Hemlock - 1942 630 acres

Compartment 4

(1) Hemlock-Fir - 1928 2,270 acres

See main type, compartment 3. This is an extension of the same type.

(2) Hemlock - 1915 700 acres

Density 960 stems per acre. Eighty-nine per cent hemlock remainder mainly fir with scattered cedar, spruce, white pine and alder in places. The hemlock averages 4 inches in d.b.h. and 40 feet in height. Type occurs on old logging not subsequently burned over by the later fire.

(3) Hemlock-Fir - 30M 2,210 acres

Total 66,640 M.B.M. Hemlock 46%, fir 43%, cedar 9½%, White pine 1½%, and scattered balsam. Hemlock average d.b.h. 22 inches range 18 - 26 inches. Site is fair. Index averages 100, there are concentrations of numerous small diametered trees in places, grades mainly poor, but up to 40% - No. 2 and 10 to 15% - No. 1 in places. Cull 10 to 15%, defects butt-rot and dead-tops. Fir averages d.b.h. 26 inches, range 18 to 40 inches, site index 100, grades up to 5 to 10% - No. 1; 20 to 40% - No. 2. Culls 10 to 15%. Cedar average d.b.h., 26 inches range 16 to 40 inches, site index 100, culls 15 to 20% for catface, butt-rot up to 25%.

This is a residual stand now being partially logged and has been of marginal merchantability until recently. It is mainly small timber, but some peeler fir was observed, in one area considered to run 30% - No. 1 fir, averaging 32 inches d.b.h., site index 120.

(4) Hemlock - 1936 1,090 acres

(5) Hemlock - 1942 640 acres

Compartment 5

(1) Hemlock - 1916 — 1,820 acres

2,560 stems per acre, hemlock 88%, remainder mostly fir. Hemlock average d.b.h. 2.5 inches, height 30 feet. Area logged about 1915, and is readily accessible and a fair to good site. Hemlock and fir seed trees are scattered throughout with some large clumps.

(2) Hemlock - 1922 — 1,190 acres

1,540 stems per acre, hemlock 85%, remainder fir. Hemlock average d.b.h. 4.0 inches, height 21 feet. Potential use mostly pulp with some sawlogs. Area logged about 1919, most of it has been burned. Fair site and accessible.

(3) Hemlock-Fir - 1923 — 1,130 acres

660 stems per acre, hemlock 65%, fir 31%, cedar 4%. Hemlock average d.b.h. 2.9 inches, height 22 feet. Fir average d.b.h. 5.8 inches, height 30 feet. Area logged about 1918. Site is fair, readily accessible.

(4) Logged and Burned — 810 acres

Fifty-nine per cent of the area was logged and burned from 1941 to 1943, the remainder being burned in 1942. The area is close to being stocked in some parts with three-year-old seedlings and will possibly be completely restocked in the next five years.

(5) Fir-Hemlock - 29M — 530 acres

Fir 45%, hemlock 41%, cedar 10%, white pine 3%, and spruce 1%. Area is accessible and will provide sawlogs, pulp and some bolts. Average d.b.h. is 28 inches, maximum d.b.h. is 40 inches. Medium site class.

(6) Hemlock - 1911 — 280 acres

Average d.b.h. 1.6 inches, 26 feet in height. Density 3,110 stems per acre, 89% hemlock.

(7) Hemlock - 1934 — 290 acres

Average d.b.h. 0.5 inches, density 3,960 stems per acre. 91% hemlock.

(8) Hemlock - 1911 - 15M — 370 acres

Thinnings 12 to 30 inches d.b.h.

APPENDIX II

Volume Tables

Volume Tables

Preliminary site class tables were used for Douglas fir and Western hemlock.

Volumes for balsam and spruce were determined from net volume tables.

Red alder volumes were obtained from the Forest Surveys Manual of 1947. Survey Manual tall tables for Interior White pine were used for White pine.

Broadleaf maple was cruised by logs and the board foot volumes obtained using the British Columbia Log Scale Tables.

APPENDIX III

Summary Sheets

(1) Classification of areas by compartments.
(2) Classification of mature timber by compartments.

100-949-3836

CLASSIFICATION OF AREAS
(In Acres)

QUADRA ISI

Comp. No.	Mature.			Immature.								Total Immature.	Not satisfactorily stocked.						T N.
	Accessible.	Inaccessible.	Thinnings, etc., otherwise classified.	1 to 5 Yrs.	6 to 10 Yrs.	11 to 20 Yrs.	21 to 40 Yrs.	41 to 60 Yrs.	61 to 80 Yrs.	81 to 100 Yrs.	100 to Yrs.		Logged.	Logged and burned.	Burned.	Non-commercial Cover. Deciduous.	Coniferous.	Mixed.	
1	1,020				20	2,190	2,240	500				4,950	1,250	240	180		80		1,
2	2,580			220	10	3,460		210	90			3,990	140	860	370		40		1,
3	1,380			630		10,670	1,630	10	30			12,970	320	700	1,070		10		2,
4	2,690			760	200	3,360	970					5,290	140	130					
5	1,730			70		460	5,050	110				5,690	100	580	240	10	90		1,
	9,400			1,680	230	20,140	9,890	830	120			32,890	1,950	2,510	1,860	10	220		6,

QUADRA ISLAND

Date, 19 48. Sheet No.

Not satisfactorily stocked.					Total N.S.R.	Not Suitable for Forests.					Non-productive Areas.						Total.	Comp. No.
Logged and burned.	Burned.	Non-commercial Cover.				Cultivated.	Cities, Towns, Urban, Roads, etc.	Wild-hay Meadows.	Lowland Range.	Alpine Pastures.	Barren.	Alpine Scrub.	Lowland Scrub No. 1.	Lowland Scrub No. 2.	Water.	Swamp.		
		Deciduous.	Coniferous.	Mixed.														
240	180		80		1,750	660					550		150	130		200	9,410	1
860	370		40		1,410	20					3,850		1,300	60	260	40	13,510	2
700	1,070		10		2,100	100		10			5,120		2,000	360	1,740	300	26,080	3
130					270	30					220		900		180	30	9,610	4
580	240	10	90		1,020	10					420		410		190	110	9,580	5
2,510	1,860	10	220		6,550	820		10			10,160		4,760	550	2,370	680	68,190	

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QUADRA

MATURE TIMBER in Mfbm 11" dbh and over

Date, 1948.

Sheet No.

Comp. No.	Acres.	Ownership.	Fir.	Cedar.	Hemlock.	Spruce.	Balsam.	White Pine.	Yellow Pine.	Lodgepole Pine.	Yellow Cedar.	Larch.	Cotton-wood.	Maple.	Aspen.	Alder.	Birch.	Total.	Comp. No.
1	800	Crown Grant	5,790	30	3,630	2,820	1,330	80						300		840		14,820	1
		Alien. TL's																	
	220	Crown Land	2,070		590	410	390	10						40		150		3,660	
	1,020	Total	7,860	30	4,220	3,230	1,720	90						340		990		18,480	
2		Crown Grant																	2
	290	Alien. TL's	6,730	740	2,360	10	30	70										9,940	
	2,290	Crown Land	39,620	6,230	26,070	50	450	820										73,240	
	2,580	Total	46,350	6,970	28,430	60	480	890										83,180	
3	20	Crown Grant	260	60	280			10										610	3
	230	Alien. TL's	8,280	500	280	10												9,070	
	1,130	Crown Land	32,900	2,710	5,680	50	80	150										41,570	
	1,380	Total	41,440	3,270	6,240	60	80	160										51,250	
4		Crown Grant																	4
	790	Alien. TL's	10,130	2,250	10,890	10	190	350										23,820	
	1,900	Crown Land	22,420	4,280	23,800	550	340	630										52,020	
	2,690	Total	32,550	6,530	34,690	560	530	980										75,840	
5	40	Crown Grant	30		10													40	5
	150	Alien. TL's	1,840	440	1,650	40		80										4,050	
	1,540	Crown Land	8,420	4,770	12,880	340		290										26,700	
	1,730	Total	10,290	5,210	14,540	380		370										30,790	
TOTAL	860	Crown Grant	6,080	90	3,920	2,820	1,330	90						300		840		15,470	
	1,460	Alien. TL's	26,980	3,930	15,180	70	220	500										46,880	
	7,080	Crown Land	105,430	17,990	69,020	1,400	1,260	1,900						40		150		197,190	
	9,400	Total	138,490	22,010	88,120	4,290	2,810	2,490						340		990		259,540	

APPENDIX IV

Method of Survey
Base Maps
Field Survey Costs
Labour Distribution
Personnel

(1) Method of Survey

Field methods of the survey were based on instructions outlined in the "Forest Surveys Manual" issued in 1947. In general a one and one-quarter per cent strip examination was made of all productive sites. The field examination was made in 1947 by one party based on the launch "Forest Surveyor".

(2) Base Maps

Base maps on a scale of forty chains to one inch were made up from air photographs by the base maps section of the Forest Service.

Vertical air photographs which covered the whole region, were taken by the Royal Canadian Air Force in 1945.

(3) Detailed Costs

Supplies	$ 548.74
Car	12.26
Wages	1,598.00
Cost of Living Bonus	323.00
Travelling Expenses	200.00
Miscellaneous	100.00
Total	$2,782.00

Total area surveyed	68,190 acres
Cost per acre	4.08¢
Productive forest area surveyed	42,290 acres
Cost per acre	6.58¢

(4) Labour Distribution

Cruising	27.8
Compiling	2.6
Mapping	4.0
Checking	0.7
Cooking	14.0
Sundays - Sickness and Holidays	18.4
Party Chief	5.6
Reconnaissance	1.6
Plotting air photographs	6.4
Launch Engineer	11.6
Volume Tables	1.1
Travelling	2.5
Miscellaneous	3.7
Total	100%

(5) Personnel

Party Chief	W.G. Hughes
Assistant Party Chief	G.W. Allison
Cruiser	H.C. Sweatman
Cruiser	E.H. Lyons
Compassman	R.W. Huestis
Compassman	R.B. Fisher
Compassman	B. Ford
Launch Skipper-Engineer	W.F. Pomeroy
Cook	W.G. Cook

APPENDIX V

1947 Logging Operations -- Quadra Island

Operator	Location	Daily Capacity	Crew	Remarks
Cold Creek Logging Co.	Granite Bay	30M	20	Continuous
H. O'Neill	Deepwater Bay	5M	4	Intermittent
Drew Harbour Woodworkers	Drew Harbour	3M	3	Intermittent
Tor Gjolme	Quathiaski Cove	3M	3	Intermittent
Hall Brothers	Gowlland Harbour	3M	3	Intermittent
E. Johnston and Son	Quathiaski Cove	2M	3	Intermittent
Eli Anderson	Drew Harbour	5M	5	Continuous
F. Benson	Deepwater Bay	3M	3	Intermittent hand-logger

1947 Sawmill Summary ---- Quadra Island

Operator	Location	Daily Capacity	Crew	Remarks
Hoolley and McCall	Drew Harbour	3M	3	Intermittent
E. Johnston and Son	Quathiaski Cove	3M	3	Intermittent
M.G.T. Mill Company	Quathiaski Cove	5M	5	Closed Out
Granite Bay Logging Co.	Granite Bay	2M	3	Intermittent