PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF LANDS

HON. A. W. GRAY, *Minister.*

H. CATHCART, *Deputy Minister.* P. Z. CAVERHILL, *Chief Forester.*

REPORT

OF

THE FOREST BRANCH

FOR THE

YEAR ENDED DECEMBER 31ST

1934

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VICTORIA, B.C., February 20th, 1935.

To His Honour J. W. FORDHAM JOHNSON,

Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

Herewith I beg respectfully to submit the Annual Report of the Forest Branch of the Department of Lands for the year 1934.

A. W. GRAY,
Minister of Lands.

The Hon. A. W. Gray,
Minister of Lands, Victoria, B.C.

SIR,—There is submitted herewith the Annual Report on activities of the Branch during the calendar year 1934.

P. Z. CAVERHILL,
Chief Forester.

REPORT OF THE FOREST BRANCH.

The year 1934 opened auspiciously for the lumber industry on the Coast. After a record-breaking water-borne business in January, there was a slight reduction during the succeeding months until midsummer. The third quarter showed an increase which held well through to the end of the year to make an all-time high for lumber export shipments. The Coast domestic rail trade was very slack during the first half-year, but showed considerable improvement during the third quarter, slackening off again after the temporary freight-rate concessions were removed in November.

The lumber industry in the Interior had a less encouraging year. Crop conditions prevented an active demand for lumber on the Prairies. The industry received no freight concession on shipments to Eastern Canada, similar to that given the Coast, and their former American market was still practically closed to them by the tariff. The net result was little change from the previous year in either price or volume.

Several of the larger logging camps on the Coast were closed by strikes for a period of about six weeks during March and April. These strikes did not spread to the sawmills, which were able to augment their depleted stocks in the latter part of the strike period from the smaller camps, where production was increased to an unexpected extent.

Prices in general were slightly better than last year, but log-production costs were up. A substantial improvement in lumber prices must take place before the industry can earn reasonable profits. Encouraged by the progress made in 1934, by the prospect of renewed building activities on the Prairies and in Eastern Canada, and the possibility of a tariff adjustment on lumber to the United States in the following summer, the lumber industry was feeling more optimistic at the close of 1934 than the year before.

For the first nine months of the year the shingle industry was in an unsatisfactory condition. The domestic market only absorbs a small proportion of the normal output of shingles from this Province, and during 1934 has not taken as much as usual because of the conditions on the Prairies. Due to the NRA Code quotas and the general economic situation, the demand in the United States was weak and unstable. During the late summer final arrangements were made with United States authorities for a definite allotment of 25 per cent. of the United States quota to British Columbia and, at the same time, the shingle industry was brought under the Dominion "Marketing Act," which permits the licensing of shippers under the United States quota arrangement. There has been a considerable increase in demand during the last quarter, and two additions to the United States quota have helped out the British Columbia mills.

An increase in building on the Prairies and in Eastern Canada is a reasonable expectation. Our timber-trade representatives in the United Kingdom are acquainting the public there with the merits of the British Columbia shingle. An increase in house-construction in the United States is expected. All these point to a strengthening of the shingle market in 1935.

The pulp and paper mills of the Province report increased business in 1934, but no improvement in prices. However, owing to certain adjustments within the industry and agreements reached between the various companies in Canada and the United States respecting prices, a better year is anticipated in 1935.

A distinct improvement in the tie market occurred in 1934, and a further increase in cut during 1935 is certain. The railways apparently cannot longer delay substantial replacements, and thousands of settlers scattered throughout the Province who depend on this market for winter employment will benefit.

A further reduction of pole yard stocks occurred during the year and the industry is now in a good position to swing into active production when demand arises. Extensive replacements are required, both in Canada and in the United States, and a general improvement in conditions should bring these about.

Summarizing the progress of the forest industries during the past few years, we find that the scale dropped from a peak of 3,300 million board-feet in 1929, with a total value of products of $93,000,000, to a low in 1932 of 1,600 million board-feet, with products valued at $35,000,000. This year the total scale is 2,215 million board-feet, and products are valued at $45,461,000. A large part of the credit for the marked increase in the lumber production this year is due to the active trade-extension work, to which reference will be made later in this report.

The forest industries are the largest employers of labour in the Province and over the years have far exceeded other natural resources in value of production and revenues to the Government. They should continue to be a main pillar in the financial structure of the Province.

The forests are a crop requiring management and protection if they are to be renewed. The industry is centralized on the Lower Coast and Vancouver Island, from which 80 per cent. of the annual cut is secured. It is the Douglas fir of this region that has given the Province its present position in the lumber markets of the world. There is 40 billion feet of it standing. Probably nearly half is inaccessible until there is a greater spread between logging cost and selling-price than has existed hitherto. The cut of fir in this area was 1,100 million board-feet in 1934, and may increase. It is hoped other species will eventually satisfactorily replace fir in large quantities for many purposes. Information available is not yet complete, but indications are that half of the areas now being cut over are not restocking satisfactorily. This is a very productive region, accessible for logging purposes, and irrespective of the large quantities of other species available and the great forest wealth in other parts of the Province, the growing of timber to the utmost capacity of the area is greatly to be desired.

ORGANIZATION AND PERSONNEL.

The permanent staff was further reduced by two during the year, including the Supervisor of Scalers through superannuation.

The staff handled a record load of timber-sale work and, with added responsibilities in other routine matters, has been hard pressed to keep up with its duties. Despite the load of work, the year's record of service is highly commendable. Any further increase in work will require additions to the staff, if loss in revenue and a decrease in efficiency of the organization are to be avoided. Distribution of staff for the year is shown below:—

DISTRIBUTION OF FORCE, 1934.

Forest District.	Permanent.										Temporary.				
	Chief Forester, Assistant Chie Forester, and Foresters.	District Foresters and Assistant District Foresters.	Supervisors of Scalers and Assistants.	Scalers and Assistant Scalers.	Assistant Foresters and Junior Foresters.	Inspectors, Royalty, Mechanical, and Export.	Supervisors of Rangers and Fire Inspectors.	Rangers.	Draughtsmen.	Clerks, Stenographers, and Messengers.	Assistant Rangers.	Patrolmen, Lookout-men, and Dispatchers.	Launch Crews and Repairmen.	Cruisers Compass-men, and Packers, etc.	Total.
Vancouver		2	3	23	2	1	3	15	1	17	19	30	12	....	128
Prince Rupert	....	2	....	1	...	....	1	7	...	5	8	6	2	....	32
Fort George	...	3	....	....	....	....	....	7	....	4	7	8	....	....	28
Kamloops	....	2	.	....	2	....	2	12	1	7	18	20	....	...	64
Nelson	....	2	1	....	...	....	3	10	1	6	17	21	....	....	61
Victoria	5	....	....	....	9	2	...	1	6	28	....	....	....	27	78
Totals	5	10	4	24	13	3	9	52	9	67	69	85	14	27	391

PROVINCIAL FORESTS.

Six additional areas on the Coast were reserved as Provincial Forests during the year. The *Powell Forest* covers an area of 679 square miles in the vicinity of Powell River, including the watershed of Powell Lake. The *Loughborough Forest*, 935 square miles between Knight and Bute Inlets. The *Gilford*, *Broughton*, and *Harbledown Forests* cover a group of small islands between the Loughborough Forest and Vancouver Island, 351 square miles in all. These Forests have been reported upon previously in detail. The *Seechelt Forest*, a description of which is included in this report, covers 1,210 square miles from Howe Sound to Jervis Inlet, including Seechelt Peninsula and Inlet. Agricultural and other settlement areas have been excluded from these Forests, which have been reserved for the practice of forestry and the production of commercial timber.

Three of the reserves previously administered by the Dominion Government in the Railway Belt have been cancelled, having been found to be of little value for the production of commercial timber; these were the Fraser Canyon, Hat Creek, and Arrowstone Forests, lying on the Fraser River watershed from Hope to Ashcroft.

FOREST SURVEYS.

Surveys of areas suitable for permanent timber production were continued. The urgency of this work becomes apparent when it is realized that it is merely a preliminary to the management of the forests on definite working plans providing for sustained yield, and that such plans take many years to become effective. Meanwhile, the present generation will probably see the end of our virgin Douglas fir on the Coast. The Provincial Forests already reserved could produce, on a sustained yield basis, only one-fifth of the average volume cut in the Province under normal market conditions, and even in these Forests the cut has not yet been regulated for a sustained yield.

The amount of field-work which could be undertaken was limited by reduced finances, but two parties were organized, one in the Interior surveying part of the large Kettle River watershed, already under forest reserve, and a small party on the Coast making an examination of the land adjacent to Toba Inlet, which is a forest area considered to be suitable for reserve. Forest and topographic maps and estimates of these areas are being prepared. In addition, two forest engineers made a reconnaissance of the Nimpkish and adjoining watersheds in the north part of Vancouver Island. These men, with a canoe and two months' supplies, were taken in by aeroplane, landing and making small caches on four headwaters lakes to facilitate their work on foot and by canoe. The aeroplane in this case successfully accomplished in a few hours work which would otherwise have required the services of a crew of packers and canoe-men for two weeks or more. We are able to prepare a complete forest map of this heavily timbered area, after comparatively little field-work, by plotting information from the vertical air photographs of a recent photo-topographically controlled aerial survey.

Topographic and forest maps and estimates were completed for the *Seechelt Forest*, of which a field examination was made last year. The total area, 774,400 acres, was found to include the following:—

	Acres.	Acres.
Area capable of producing Commercial Timber—		
Mature timber		107,160
Immature timber—		
1– 20 years old	10,260	
21– 40 years old	21,770	
41– 60 years old	13,720	
61– 80 years old	12,130	
81–100 years old	160	
		58,040
Logged or burned, not reforested	12,960	
Reforested with non-commercial cover	12,080	
		25,040
Total sites of productive quality		190,240
Area incapable of producing Commercial Timber—		
Barren, alpine, or scrub-covered		580,030
Swamp and water		4,150
Total non-productive sites		584,180

The timber is estimated, to a minimum 11-inch D.B.H., as follows:—

Species.	Crown.	Alienated.	Total.
	M.B.M.	M.B.M.	M.B.M.
Western red cedar	157,250	1,005,420	1,162,670
Douglas fir	206,110	789,440	995,550
Western hemlock	147,270	552,040	699,310
Silver fir	74,790	300,760	375,550
Yellow cypress	6,730	41,630	48,360
White pine	5,030	12,830	17,860
Sitka spruce	2,050	13,600	15,650
Totals	599,230	2,715,720	3,314,950

This Forest has supplied Vancouver mills since very early days, so that second growth on the earlier logged areas is well advanced, which is one reason for the better distribution of age-classes of immature timber. The Forest is producing an average cut of 29,000,000 board-feet annually and there are two and a half billion feet of accessible timber still standing. The annual yield could be increased to 41,000,000 board-feet without depleting the growing stock and regulation would later increase the capacity for sustained yield to 52,000,000 F.B.M. There is an increasing number of summer homes, fishermen's settlements, and other small holdings in the vicinity, but there is no great extent of agricultural lands; areas suitable for these purposes have been left outside the Forest boundaries.

FOREST RESOURCES INVENTORY.

Estimates of the forest resources and the forest atlas of the Fort George Forest District were completed. Private cruises were obtained wherever possible, but in this Northern District less of the timber has been cruised by private interests than in the other Forest Districts, in which utilization of the forests is further advanced. A considerable amount of exploratory work was done by the Forest Surveys Division during the summer in order to obtain information about various scattered areas which are not at present commercially accessible, but of which estimates were necessary to complete the District statistics. The most important area so covered was the Willow River watershed from its headwaters to a point about 15 miles from the Canadian National Railway; this area includes 374,000 acres of productive forest land, of which 260,000 acres is mature timber and 53,900 acres young growth. There are 269,000 acres of non-productive scrub lands.

The timber is approximately estimated, to a minimum 11-inch D.B.H., as follows:—

Species.	Crown.	Alienated.	Total.
	M.B.M.	M.B.M.	M.B.M.
Engelmann spruce	855,800	165,800	1,021,600
Silver fir	322,300	18,100	340,400
Lodgepole pine	140,700	10,700	151,400
Douglas fir	6,500	300	6,800
Cottonwood	.....	2,900	2,900
Totals	1,325,300	197,800	1,523,100

The following schedules give the classification of land in the Fort George Forest District and estimates of the standing timber, divided into the seventeen drainages shown on the accompanying index map.

The proportion of productive forest land in this District (46 per cent.) is somewhat better than in the two Southern Interior Districts (Kamloops, 43 per cent.; Nelson, 40 per cent.). A very marked difference, however, is seen in the large proportion of the productive land which is not forested with commercial species, over 35 per cent. (8,000,000 acres) as compared with less than 16 per cent. in the Kamloops District and 24 per cent. in the Nelson District. This poorly forested land is capable of producing commercial timber, although most of it is at present covered with aspen, alder, willow, and birch. These species, when mature, have only a very limited local value for fuel, small building-logs, and fence-posts. The condition of the remainder of the unstocked area is due to comparatively recent fires.

Merchantable timber, totalling 33 billions of feet board measure, covers 18.6 per cent. of the productive area and immature stands nearly 46 per cent.

The average annual cut in the Fort George District for the last ten years was 83,815 M.B.M., and the average reported loss by fires was 35,925 M.B.M. There was also an average annual loss of 20,980 acres of valuable immature timber. The maximum loss occurred in 1932, when 136,710 M.B.M. timber and 54,670 acres of young growth were burned.

Without attempting to calculate the sustained yield capacity of this District, it is obvious that the present cut is far below what the forests might provide if markets were available. The present standing mature timber contains 275 times the volume of the average annual depletion by logging and fires. Even the stands considered to be accessible under average existing conditions would support this depletion for seventy years and there are over 10,000,000 acres of immature timber. The District may be considered a valuable reserve for future pulp and paper industries; over 64 per cent. of the timber is spruce.

The first phase of the Provincial Forest Inventory has now been completed and it will shortly be possible to publish complete statistics covering the Province. The forest-cover has

been mapped on a scale of 1 inch to the mile, and it is hoped to keep this valuable forest atlas reasonably up-to-date by revising the maps of each District successively, to show the results of fires, logging, and other changes which have taken place since the inventory was made. The periodic general stock-taking thus provided will continue to be of great value in connection with many problems of forest policy, protection, and management, until it is possible to replace it with the more detailed maps and working-plans prepared for the Provincial Forests.

PROVINCIAL FOREST INVENTORY.

Key to drainage-basins of the *Fort George Forest District.* Numbers refer to drainages in the accompanying schedules.

PROVINCIAL FOREST INVENTORY.

Classification of Areas (in Acres) in Fort George Forest District.

No. on Map.	Drainage-basin.	Merchantable Timber.	Immature Timber. Over 25 Feet. Fully Stocked.	Immature Timber. Over 25 Feet. Sparse.	Immature Timber. Under 25 Feet. Fully Stocked.	Immature Timber. Under 25 Feet. Sparse.	Total Immature Timber.	Not Restocking. Logged.	Not Restocking. Burned.	Not Restocking. Logged and Burned.	Not Restocking. Non-Commercial Cover.	Not Restocking. Total Not Restocking.	Total Productive Forest Land.	Non-Productive. Barren.	Non-Productive. Scrub.	Non-Productive. Swamp and Water.	Non-Productive. Total Non-productive.	Agriculture. Cultivated.	Agriculture. Open Grazing.	Total Area.
1	Fraser River Headwaters...	446,460	40,040	1,040	30,910	4,280	76,270	11,620	56,480	14,870	101,820	184,790	707,520	1,466,850	753,330	47,530	2,267,710	5,820	170	2,981,220
2	Bowron River.....	382,000	68,550	1,710	5,970	9,050	85,280	.....	24,680	110	20,090	44,880	512,160	236,920	658,800	63,640	959,360	330	.....	1,471,850
3	McGregor River.....	304,750	9,480	.....	500	.....	9,980	.....	7,410	.....	21,790	29,200	343,930	548,860	460,460	57,010	1,066,330	.....	280	1,410,540
4	Willow River.....	304,390	43,880	8,350	4,730	24,600	81,560	6,190	8,860	3,880	58,560	77,490	463,440	12,470	254,580	14,170	281,220	140	110	744,910
5	Fraser River-Soda Creek to Prince George	369,870	792,260	70,460	229,320	14,990	1,107,030	.....	69,420	6,010	424,650	500,080	1,976,980	6,600	412,970	50,830	470,400	22,620	17,390	2,487,390
6	West Road-Chilako Rivers..	69,380	1,125,360	110,640	212,890	52,900	1,501,790	.....	243,470	.....	213,240	456,710	2,027,880	63,180	855,510	102,110	1,020,800	8,420	51,690	3,108,790
7	Nechako River.....	119,580	590,280	2,190	140,170	9,480	742,120	.....	235,300	6,500	287,870	529,670	1,391,370	15,690	352,010	94,310	462,010	6,670	7,720	1,867,770
8	Salmon River	116,620	282,040	1,160	67,340	12,150	362,690	.....	128,980	1,640	211,760	342,380	821,690	.....	148,810	68,890	217,700	820	680	1,040,890
9	Stuart Lake.....	220,960	402,780	169,040	173,360	30,760	775,940	.....	112,550	500	538,190	651,240	1,648,140	16,900	291,500	209,180	517,580	800	11,640	2,178,160
10	Takla Lake	119,950	183,790	130,720	3,530	.....	318,040	.....	24,610	.....	304,380	328,990	766,980	307,710	674,880	118,530	1,101,120	.....	17,130	1,885,230
11	Parsnip River.....	587,140	958,140	113,230	176,560	300,920	1,548,850	.....	685,110	.....	69,680	754,790	2,890,780	450,090	1,254,460	241,850	1,946,400	.....	181,030	5,018,210
12	Murray River..	238,200	546,120	102,930	288,870	75,780	1,013,700	.....	69,410	.....	900,710	970,120	2,222,020	566,550	1,067,510	39,210	1,672,270	.....	216,370	4,111,660
13	Finlay Forks-Hudson Hope.	321,650	615,390	54,860	31,000	28,640	729,890	.....	174,810	.....	144,520	319,330	1,370,870	883,570	888,910	55,510	1,827,990	.....	128,420	3,327,280
14	Omineca River.....	42,430	275,300	2,210	14,800	.....	292,310	.....	30,090	.....	161,550	191,640	526,380	890,510	1,204,090	40,810	2,135,410	.....	4,010	2,665,800
15	Finlay River.....	176,540	323,830	81,620	67,540	41,620	514,610	.....	127,750	.....	245,860	373,610	1,064,760	3,618,200	2,684,120	147,300	6,449,620	.....	75,920	7,590,300
16	Halfway-Beatton River....	93,400	397,180	122,720	118,940	17,050	655,890	.....	297,250	.....	886,180	1,183,430	1,932,720	408,530	2,184,870	112,940	2,706,340	120	219,180	4,858,360
17	Peace River Block	386,100	235,740	127,330	86,440	303,010	752,520	3,850	6,500	.....	1,281,150	1,291,500	2,430,120	.....	612,390	152,820	765,210	62,290	251,420	3,509,040
	Totals.....	4,299,420	6,890,160	1,100,210	1,652,870	925,230	10,568,470	21,660	2,302,680	33,510	5,872,000	8,229,850	23,097,740	9,492,630	14,759,200	1,616,640	25,868,470	108,030	1,183,160	50,257,400
		.....	65.2%	10.4%	15.6%	8.8%	100%	0.3%	27.8%	0.5%	71.4%	100%	.....	.....	.....	.....	.....	.....	.....	.....
		18 6%	.....	.....	.....	...	45.8%	.....	.....	.....	.....	35.6%	100%	36.7%	57.1%	6.2%	100%	.....	.....	.....
		8.6%	.....	.....	.....	....	21.0%	.....	.....	.....	.....	16.4%	46.0%	18.9%	29.4%	3.2%	51.5%	0.2%	2.3%	100%

PROVINCIAL FOREST INVENTORY—*Continued.*

Accessible Merchantable Timber in Fort George Forest District.

No. on Map.	Drainage-basin.	Merchantable Acreage.	Thousand Board-feet, B.C. Log Scale.						
			F.	C.	H.	S.	B.	Pl.	Total.
1	Fraser River Headwaters	216,900	37,800	426,600	55,900	1,247,000	234,900	6,100	2,008,300
2	Bowron River	132,960	49,700	7,900	14,100	1,236,300	180,600	2,000	1,490,600
3	McGregor River	121,200	2,900	.....	.....	1,101,900	424,300	1,100	1,530,200
4	Willow River	70,610	29,800	.....	.....	386,600	59,400	49,400	525,200
5	Fraser River-Soda Creek to Prince George	167,350	333,600	.....	.....	719,800	67,500	220,500	1,341,400
6	West Road-Chilako Rivers	13,790	29,800	.....	.....	54,600	.....	22,200	106,600
7	Nechako River	80,260	77,400	.....	.....	195,500	1,300	140,400	414,600
8	Salmon River	18,340	13,900	.....	.....	60,900	4,800	21,500	101,100
9	Stuart Lake	29,730	75,700	.....	.....	68,600	15,400	48,900	208,600
10	Takla Lake	.....	.....	.....	.....	.....	.....	.....	.....
11	Parsnip River	.....	.....	.....	.....	.....	.....	.....	.....
12	Murray River	.....	.....	.....	.....	.....	.....	.....	.....
13	Finlay Forks-Hudson Hope	.....	.....	.....	.....	.....	.....	.....	.....
14	Omineca River	.....	.....	.....	.....	.....	.....	.....	.....
15	Finlay River	.....	.....	.....	.....	.....	.....	.....	.....
16	Halfway-Beatton Headwaters	.....	.....	.....	.....	.....	.....	.....	.....
17	Peace River Block	64,180	.....	.....	.....	576,800	.....	91,000	667,800
	Totals	915,320	650,600	434,500	70,000	5,648,000	988,200	603,100	8,394,400
		.....	7.7%	5.2%	0.8%	67.3%	11.8%	7.2%	100.0%
	Vacant Crown land	809,210	568,200	348,400	31,800	5,023,200	875,500	560,000	7,407,100
	Timber licences	59,760	45,000	86,100	38,200	407,000	82,100	16,600	675,000
	Crown grants	46,350	37,400	.....	.....	217,800	30,600	26,500	312,300

Abbreviations: F=Douglas fir. C=Red cedar. H=Western hemlock. S=Engelmann spruce. B=Silver fir (balsam). Pl=Lodgepole pine.

PROVINCIAL FOREST INVENTORY—*Continued.*

Total Merchantable Timber in Fort George Forest District.

No. on Map.	Drainage-basin.	Merchantable Acreage.	Thousand Board-feet, B.C. Log Scale.						
			F.	C.	H.	S.	B.	Pl.	Total.
1	Fraser River Headwaters	446,460	78,300	656,900	76,800	2,196,400	635,800	11,500	3,655,700
2	Bowron River	382,000	88,400	68,500	47,000	2,433,600	787,600	192,100	3,617,200
3	McGregor River	304,750	15,400	18,000	8,300	2,364,200	933,600	4,800	3,344,300
4	Willow River	304,390	39,400	.....	.....	1,344,800	387,000	187,300	1,958,500
5	Fraser River-Soda Creek to Prince George	369,870	652,800	.....	.....	1,210,500	191,100	466,700	2,521,100
6	West Road-Chilako Rivers	69,380	65,700	.....	.....	139,100	2,200	120,400	327,400
7	Nechako River	119,580	80,000	.....	.....	249,300	3,400	182,000	514,700
8	Salmon River	116,620	35,800	.....	.....	396,800	55,400	208,300	696,300
9	Stuart Lake	220,960	328,900	.....	.....	630,500	203,800	342,700	1,505,900
10	Takla Lake	119,950	.....	.....	.....	395,400	170,300	290,200	855,900
11	Parsnip River	587,140	108,200	.....	.....	2,874,000	941,400	399,900	4,323,500
12	Murray River	238,200	.....	.....	.....	754,500	217,900	497,100	1,469,500
13	Finlay Forks-Hudson Hope	321,650	.....	.....	.....	1,713,400	474,900	321,400	2,509,700
14	Omineca River	42,430	.....	.....	.....	95,500	69,600	43,000	208,100
15	Finlay River	176,540	.....	.....	.....	831,200	191,800	66,200	1,089,200
16	Halfway-Beatton Rivers	93,400	.....	.....	.....	402,400	11,400	47,900	461,700
17	Peace River Block	386,100	.....	.....	.....	3,170,500	.....	680,300	3,850,800
	Totals	4,299,420	1,492,900	743,400	132,100	21,202,100	5,277,200	4,061,800	32,909,500
		.....	4.6%	2.3%	0.4%	64.4%	16.0%	12.3%	100.0%
	Vacant Crown land	4,141,030	1,383,700	587,900	83,200	20,243,800	5,072,700	4,002,100	31,373,400
	Timber licences	105,810	69,900	155,500	48,900	710,700	168,100	26,900	1,180,000
	Crown grants	52,580	39,300	.....	.....	247,600	36,400	32,800	356,100

Abbreviations: F=Douglas fir. C=Red cedar. H=Western hemlock. S=Engelmann spruce. B=Silver fir (balsam). Pl=Lodgepole pine.

Included in the above figures is the equivalent board-foot measure of 28,200,000 ties cruised in various watersheds, but not scheduled as ties because other tie-timber in the district has been reported in board-feet only. Similarly, 14,400,000 lineal feet of cedar pole-timber is included in the cedar column after conversion at 3 board-feet to the lineal foot. The pole-timber is on areas tributary to the Canadian National Railway east of Prince George.

LAND CLASSIFICATION.

In conjunction with the forest survey made of the Seechelt Forest, lands adjoining the boundary were examined and classified in order that areas suitable for agricultural development might not be included within the Forest. A total of 9,875 acres was examined, of which 1,485 acres were found to be suitable for cultivation. The good land in this vicinity is usually in small bodies and the clearing is heavy. It can be developed best by subdivision into small holdings of from 10 to 20 acres for fruit, vegetables, and dairy products. A jam-factory is operating successfully and there is a local summer market in the numerous summer resorts along the coast. For subdivision in this way vacant land totalling 3,125 acres was found in the areas examined; 1,095 acres of this is first-class land. There are other suitable areas available in the vicinity of Gibsons Landing which were not examined. The proximity to Vancouver gives special value to these lands; all of them have been excluded from the Seechelt Forest, together with other areas of poorer soil, but suitable for fishing settlements and summer resorts.

AREAS EXAMINED FOR MISCELLANEOUS PURPOSES OF THE "LAND ACT," 1934.

Forest District.	Applications for Crown Grants.		Applications for Grazing and Hay Leases.		Applications for Pre-emption Records.		Applications to Purchase.		Miscellaneous.	
	No.	Acres.	No.	Acres.	No.	Acres.	No.	Acres.	No.	Acres.
Vancouver	..	.....	..	.....	34	2,711	55	6,379	30	357
Prince Rupert	..	.....	1	121	4	573	11	1,504	12	871
Fort George	..	.....	8	832	32	4,295	17	2,081	19	1,883
Kamloops	..	.....	59	14,688	72	9,000	39	4,555	54	4,298
Nelson	..	.....	1	112	3	312	51	4,381	8	877
Totals	..	.....	69	15,753	145	16,891	173	18,900	123	8,286

CLASSIFICATION OF AREAS EXAMINED IN 1934.

Forest District.	Total Area.	Agricultural Land.	Non-agricultural Land.	Merchantable Timber Land.	Estimate of Timber on Merchantable Timber Land.
	Acres.	Acres.	Acres.	Acres.	M.B.M.
Vancouver	9,447	2,061	7,386	489	5,445
Prince Rupert	3,069	786	2,283	.....	.....
Fort George	9,091	4,023	5,068	382	2,686
Kamloops	32,541	3,763	28,778	.....	.....
Nelson	5,682	1,942	3,740	.....	.....
Totals	59,830	12,575	47,255	871	8,131

FOREST RESEARCH.

Forestry may be defined as the business of growing forests. It is a complicated business and requires an understanding of many complex factors concerning tree-growth. The fact that we are dealing with a crop that takes a long time to mature increases our difficulties.

A great many problems await solution. Where are our best growing areas and why are they superior to adjacent lands? Why do some logged or burned areas produce fine stands of young growth almost at once while others develop into barrens? Can we plant denuded areas profitably or will planting prove to be a costly experiment? How fast do our forests grow and how much can we afford to cut without depleting our capital stock? How much will adequate forest-protection cost and how much can we afford to spend on protection and forest-management?

The first attempt at studying these problems in British Columbia took the form of spasmodic investigations by the various Forest Districts, but pressure of routine duties and lack of direction mitigated against any very tangible results. In 1920 a qualified forester attached to the Victoria office made some growth-studies and investigative and experimental work has continued since that date. In 1927 the staff employed and work in hand warranted the organization of a small Research Division. Two Experimental Stations have been established, one at Aleza Lake in the spruce-balsam type of the North-central Interior and one at Cowichan Lake

on Vancouver Island. A forest-tree nursery has been established near New Westminster. Four other areas are reserved for experiment and demonstration purposes at Green Timbers near New Westminster, at Campbell River, East Thurlow Island, and on Discovery Passage. A trained research staff has been developed and work bearing on various problems has been actively carried out both in the Interior and on the Coast.

For the past two years funds have been limited to barely sufficient to maintain field-work on projects in hand and no new work has been undertaken. The development of a competent staff, each individual of which must be carefully selected and specially trained, is of basic importance in any Research programme. One of the most unfortunate phases of the necessary economies practised during the past two years was the loss of promising junior members of the Research staff.

Activities for the year 1934 are briefly reviewed below.

Most of the studies being pursued are carried out under natural forest conditions on sample plot areas varying in size from 1/100 acre to many acres on lands reserved for the purpose. These studies and the field plots involved may be grouped roughly as follows:—

	No. of Plots.	
	1933.	1934.
Growth and yield	105	115
Experimental plantations	60	62
Varied silvicultural studies	82	82
Regeneration history studies	9	9
Involving separate plots	2,896	3,028

Ten new plots were established in connection with growth and yield studies, thirty-seven plots in connection with various studies were re-examined, and seven of the nine history map studies involving 1,570 sub-plots were re-examined.

Growth and Yield Studies.—This basically important investigation was one of the earliest to be undertaken by the Forest Branch. It involves the periodic measurement of tree-growth on selected plots, usually at intervals of five years, for long periods of years. Plots established and estimated minimum requirements in the various forest regions are:—

	No. of Plots.	
	Established.	Required.
South Coast types	61	125
Mid-Coast types	1	25
Southern Interior	17	75
Central Interior	34	55
Totals	115	280

Ten plots were established this year. In this work we are approaching the condition where re-examination will occupy the full time of the one forester employed on this study and where further expansion toward the desired minimum will have to await additional staff.

Silviculture.—The various studies under way on the Coast and in the Central Interior, centred at Cowichan Lake and Aleza Lake Experiment Stations, were maintained by re-examination of thirty-one established plots. These involve seed production, seed dissemination, seedling establishment on various types of land such as logged off and burned, the effect of ground-cover, etc.

Forest Nursery.—At the Green Timbers Nursery 100 seed-beds were put in in the early spring which have developed well. These beds will produce about 400,000 seedlings which will be ready for planting in the spring of 1936.

The Nursery provided 84,000 trees for experimental plantings in the early part of the year, and an additional 19,000 in sixty-seven shipments to various public bodies and individuals.

An accumulation of oversized stock, the result of experimentation, has been disposed of, releasing land to seedling production, for which it will be reserved in future.

The present stock consists of the 1-year-old seed-beds previously mentioned and about 40,000 trees available for planting.

Plantations.—In the spring of 1934 some 83 acres were planted at the Green Timbers Forestry Station and the Campbell River Experimental Forest. Planting records referred to in the 1933 report were completed for all plantations to date. These completed records disclose some errors in the areas reported planted, and the correct number of trees and acres planted are as shown in the following table:—

Location of Planting.	Previously Reported.		1934.		Total to Date.	
	Acres.	Trees.	Acres.	Trees.	Acres.	Trees.
Green Timbers	248	275,600	11	9,850	259	285,450
West Thurlow Island	545	234,500	.....	.....	545	234,500
Campbell River Forest	93	116,750	73	74,300	166	191,050
Miscellaneous	36	22,850	.....	.....	36	22,850
Totals	922	649,700	84	84,150	1,006	733,850

All planting to date has been on a purely experimental basis on small reserved areas. Planting must continue in the experimental stage for some years to come, but we are now in a position, from the standpoints of both nursery capacity and experience, to undertake a bigger programme than has been attempted to date whenever this may prove desirable. With this possibility in view, office records have been examined for possible favourable planting-sites and 34,000 acres of logged Crown land have been selected for examination. It is proposed to select about 10,000 acres of this by field examination, for which a complete planting-plan will be prepared in readiness for any planting programme outside our reserved experimental areas.

Publications.—Two publications have been issued during the year: "A Pocket Guide to the Trees and Shrubs of British Columbia," by B. G. Griffith, M.A., M.F.; and "Growing Coniferous Trees in British Columbia," by F. S. McKinnon, B.Sc.F., M.F.

The first mentioned provides in handy pocket form a simple key for the identification of British Columbia trees and shrubs for use of students, woodsmen, and interested persons, not previously available. An edition of 200 mimeographed copies was distributed to a selected list for use and criticism. It will be revised and printed for general distribution in due course.

"Growing Coniferous Trees in British Columbia" was prompted by a number of inquiries received for information on this subject. It describes clearly the methods that can best be used in the collection of seed, growing seedlings, and establishing plantations. It is intended primarily for the farmer who wants to grow a few thousand trees for Christmas-tree plantations, reforesting waste land, shelter-belts, or like purpose. This bulletin is available for general distribution.

Co-operation.—During the summer the Research Division co-operated with the B.C. Pulp & Paper Co. in establishing certain pruning and thinning experiments on lands logged by the company on Quatsino Sound and which are now reproducing to heavy stands of young hemlock. This is a long-term experiment in a phase of intensive forest-management which offers possibilities of profitable returns in increased growth and a more valuable product.

We continue to receive from the U.S. Forest Service, and particularly from their Experiment Stations, copies of their current publications, which are invaluable in keeping informed regarding recent developments. Certain mensuration studies are being conducted simultaneously in the Pacific North-west States and in British Columbia in connection with which data are being exchanged. One Research officer was enabled to spend three months of the winter 1933–34 in the Office of Silviculture at Washington, D.C., through the courtesy of the U.S. Forest Service.

A project for a joint programme in forest research with the Dominion Forest Service has been under review during the year without much progress being made.

The Division has co-operated in minor matters with a number of other Provincial, Dominion, and foreign agencies. Basic forest problems are of international interest. Funds and trained personnel are lacking. Close co-operation between various research organizations is of the utmost importance to forestry throughout North America.

LUMBER TRADE EXTENSION.

Special reference should be made to the splendid results of the water-borne trade-extension work carried on by the combined efforts of the lumbermen and the Provincial Government during the past five years.

Previous Annual Reports trace the history of these efforts, commencing in 1930 in Australia, extending to China, and concentrating on the United Kingdom for the last two years. The general effects of the depression on the lumber business were serious enough, but the loss to the Province of its best customer, the United States, in the summer of 1932 by way of the tariff made the situation much worse. The following record constitutes a tribute to the foresight and energy of those who realized the possibilities of increased water-borne trade, especially where assisted by Empire trade preferences:—

British Columbia's share of the total export of lumber from the Pacific Coast to the Australian market has risen from 16 per cent. in 1929 to 92 per cent. in 1934; to the United Kingdom from 20 per cent. to 83 per cent.; to China from 11 per cent. to 24 per cent.; and the total over the same period of all overseas markets has risen from 20 per cent. to 54 per cent. British Columbia has thus reached the premier position in timber exports from the Pacific Coast.

Our water-borne trade in 1934 reached an all-time record of 859 million board-feet. The maximum quantity shipped in any one year by water prior to the depression was 801 million, which, however, included 351 million feet to the United States, and, in addition, that country took by rail 300 million feet. The increase in overseas shipments does not compensate for the loss of this American market, but has been a notable achievement. The sale of 456 million board-feet of lumber to the United Kingdom in 1934 was mainly responsible for this new record, and is an increase of 68 per cent. over that of the previous year and 550 per cent. over the shipments to the United Kingdom in 1929. A large share of the improvement may be credited to the increased trade-promotion work and publicity given to our timber products in the United Kingdom. Since our sales to the United Kingdom in 1934 were only about 10 per cent. of their lumber purchases, there is room for further increases, and it is hoped our quality of product and methods of doing business will bring us a larger share of the trade in 1935.

The publicity being given to the suitability of our hemlock and cedar for many purposes is building a valuable trade in these two species, and incidentally helps bring about a desirable balance between the supply and cut of our three main Lower Coast species.

A strong delegation of lumbermen, accompanied by the Chief Forester, spent the last two months of 1934 in South Africa, familiarizing the trade there with our lumber products, and their report is awaited with anticipation.

Water-borne Lumber Trade (in F.B.M.).

Destination.	1928.	1929.	1930.	1931.	1932.	1933.	1934.
Australia	29,843,132	41,493,476	23,076,587	50,803,023	125,551,388	123,732,822	128,141,120
New Zealand	8,531,322	8,559,208	6,416,105	2,578,740	979,148	1,300,332	2,957,036
South America	10,304,032	2,449,494	1,774,697	1,354,028	140,945	3,641,569	1,619,672
China	16,902,137	43,323,398	55,224,104	53,854,005	53,341,172	130,596,268	108,127,921
Japan	219,361,557	192,411,505	150,869,880	138,851,607	60,031,785	60,657,328	80,278,627
United Kingdom and Continent	67,075,872	69,903,655	98,037,621	81,356,058	108,314,682	271,073,393	455,695,397
South Africa	13,625,781	15,889,002	17,685,896	13,120,035	5,664,646	18,213,254	25,275,805
India and Straits Settlements	411,577	243,807	241,129	369,689	544,271	916,536	430,736
United States and Atlantic Coast	384,107,908	351,526,590	259,093,570	207,586,216	79,682,896	29,528,026	28,735,159
Philippine and Hawaiian Islands	56,681	.....	122,744	.....	.....	.....	.....
West Indies and Cuba	8,356,571	14,347,317	12,781,209	7,520,512	8,239,598	11,830,457	13,466,861
South Sea Islands	5,496,319	5,508,978	3,230,759	2,527,526	2,009,102	2,476,670	4,475,125
Mexico and Central America	333,660	623,766	550,018	478,794	1,746,278	1,669,075	2,410,162
Egypt	1,149,573	4,744,180	.....	4,195,326	.....	.....	4,347,844
*Belgium	.....	.....	.....	336,428	79,474	6,140,501	2,997,165
*Denmark	.....	.....	.....	62,129	.....	.....	5,021
*France	.....	.....	.....	241,865	148,901	10,066	48,245
*Germany	.....	.....	.....	154,135	120,519	126,846	104,924
*Holland	.....	.....	.....	419,373	144,018	301,818	9,136
*Italy	.....	.....	.....	301,561	128,678	350,966	329,554
*Norway and Sweden	.....	.....	.....	18,200	.....	.....	5,165
Spain	.....	.....	.....	.....	15,955	.....	.....
Foreign, unclassified	.....	50,494,046	73,195,238	.....	6,087	33,993	4,039
Totals	765,556,122	801,518,422	712,299,557	566,129,250	446,889,543	662,599,920	859,464,714

*Previously included with United Kingdom.

THE FOREST INDUSTRIES.

The following tables give a review of the general conditions compared for several years and show the increase in production:—

Estimated Value of Production, including Loading and Freight within the Province.

Product.	1928.	1929.	1930.	1931.	1932.	1933.	1934.
Lumber	$48,346,000	$50,140,000	$32,773,000	$16,738,000	$13,349,000	$15,457,000	$20,377,000
Pulp and paper	16,755,000	14,400,000	16,520,000	13,508,000	11,156,000	10,852,000	12,373,000
Shingles	10,000,000	8,300,000	4,161,000	2,721,000	2,805,000	4,500,000	4,375,000
Boxes	2,501,000	2,437,000	2,287,000	1,315,000	1,100,000	1,313,000	1,632,000
Piles, poles, and mine-props	4,684,000	5,500,000	4,726,000	2,453,000	772,000	450,000	487,000
Cordwood, fence-posts, and mine-ties.	1,633,000	1,734,000	1,596,000	1,405,000	1,576,000	1,850,000	1,335,000
Ties, railway	1,873,000	2,116,000	1,253,000	1,044,000	502,000	250,000	485,000
Additional value contributed by the wood-using industry	2,200,000	2,100,000	2,387,000	1,350,000	1,014,000	1,200,000	1,320,000
Laths and other miscellaneous products	2,100,000	2,400,000	1,500,000	1,500,000	1,125,000	1,000,000	1,100,000
Logs exported	3,580,000	4,124,000	2,492,000	2,370,000	1,730,000	2,228,000	1,931,000
Pulp-wood exported	115,000	50,000	42,000	43,000	28,000	55,000	46,000
Totals	$93,787,000	$93,301,000	$69,737,000	$44,447,000	$35,157,000	$39,155,000	$45,461,000

Pulp (in Tons).

Pulp.	1928.	1929.	1930.	1931.	1932.	1933.	1934.
Sulphite	120,413	112,925	130,462	124,521	85,419	122,265	130,176
Sulphate	15,050	15,647	13,055	11,744	10,889	15,715	15,630
Ground wood	170,005	151,066	172,539	170,432	161,502	185,451	209,359

Paper (in Tons).

Product.	1928.	1929.	1930.	1931.	1932.	1933.	1934.
Newsprint	225,477	201,009	224,928	217,562	205,050	237,107	267,406
Other papers	15,960	19,492	20,446	17,709	24,051	23,492	26,777

Total Amount of Timber scaled in British Columbia during Years 1933–34. (F.B.M.)

Forest District.	1933.	1934.	Gain.
Vancouver	1,644,652,961	1,830,963,174	186,310,213
Prince Rupert	66,460,668	152,102,206	85,641,538
Totals, Coast	1,711,113,629	1,983,065,380	271,951,751
Fort George	24,066,756	42,132,295	18,065,539
Kamloops	66,038,963	90,162,756	24,123,793
Nelson	97,361,716	99,431,438	2,069,722
Totals, Interior	187,467,435	231,726,489	44,259,054
Totals for Province	1,898,581,064	2,214,791,869	316,210,805

Species cut (in F.B.M.).

Forest District.	Fir.	Cedar.	Spruce.	Hemlock.	Balsam.	Yellow Pine.	White Pine.	Lodgepole Pine.	Larch.	Cottonwood.	Miscel.	Totals.
Vancouver	1,101,288,698	302,522,123	34,496,536	296,451,419	63,352,061	.....	9,377,355	.....	.....	3,225,223	20,249,759	1,830,963,174
Prince Rupert	3,184,710	13,687,851	63,241,918	45,189,289	13,823,373	.....	.....	11,234,007	.....	4,114	1,736,944	152,102,206
Totals, Coast	1,104,473,408	316,209,974	97,738,454	341,640,708	77,175,434	.....	9,377,355	11,234,007	.....	3,229,337	21,986,703	1,983,065,380
Fort George	5,840,726	926,650	24,010,389	.....	77,115	.....	.....	6,911,123	.....	6,983	4,359,309	42,132,295
Kamloops	27,380,788	9,782,974	4,505,148	55,523	20,401	33,053,006	559,384	223,831	107,178	315,219	14,159,304	90,162,756
Nelson	23,517,189	8,860,328	6,073,315	1,070,005	169,261	6,520,739	7,199,817	1,106,956	30,115,290	501,318	14,297,220	99,431,438
Totals, Interior	56,738,703	19,569,952	34,588,852	1,125,528	266,777	39,573,745	7,759,201	8,241,910	30,222,468	823,520	32,815,833	231,726,489
Grand totals, 1934	1,161,212,111	335,779,926	132,327,306	342,766,236	77,442,211	39,573,745	17,136,556	19,475,917	30,222,468	4,052,857	54,802,536	2,214,791,869
Grand totals, 1933	873,187,188	374,247,934	86,715,876	238,472,893	68,203,263	22,005,856	22,186,768	7,157,309	31,094,619	4,468,131	170,841,227	1,898,581,064
Grand totals, 1932	752,558,169	319,086,978	106,361,793	245,169,186	54,282,274	13,367,227	17,992,369	7,471,122	21,470,125	2,941,992	70,757,226	1,611,458,461
Grand totals, 1931	997,513,398	356,478,825	123,056,421	267,283,560	45,153,077	26,109,228	27,006,894	38,555,460	17,700,108	4,029,782	45,517,520	1,948,404,273
Grand totals, 1930	1,319,093,565	570,071,915	185,696,765	329,447,130	65,513,782	30,463,015	28,029,526	55,368,482	20,585,633	2,912,598	56,569,927	2,663,752,338
Grand totals, 1929	1,660,527,087	746,556,671	220,827,354	394,748,152	71,980,723	32,917,115	21,740,327	77,033,230	39,082,808	4,714,361	76,016,459	3,346,144,287
Grand totals, 1928	1,604,941,926	738,626,482	204,110,500	353,268,734	68,264,722	31,919,089	23,073,267	75,567,367	24,386,323	5,234,832	77,512,224	3,206,905,466

TOTAL SCALE SEGREGATED, SHOWING LAND STATUS. (IN F.B.M.)

Forest District.	Timber Licences.	Timber Leases.	Hand-loggers' Licences.	Timber-sales.	Pre-emptions, S.R., and Miscellaneous.	Crown Grants.				Dominion Lands.	Totals.
						To 1887.	1887–1906.	1906–1914.	1914 to Date.		
Vancouver	502,273,368	401,164,178	66,847	114,594,949	4,310,089	698,353,757	42,394,683	32,103,782	17,363,468	18,338,053	1,830,963,174
Prince Rupert	70,535,082	202,754	7,018,113	64,279,067	1,057,523	.....	384,745	3,598,607	4,873,967	152,348	152,102,206
Fort George	16,357,027	.....	.....	16,027,745	6,336,383	.....	316,453	1,341,959	1,752,728	.....	42,132,295
Kamloops	7,616,210	.....	.....	34,789,682	12,952,283	8,474,582	5,163,815	12,028,722	8,291,996	845,466	90,162,756
Nelson	10,466,792	.....	.....	17,910,920	4,692,962	267,200	55,152,717	5,975,685	4,965,162	.....	99,431,438
Totals, 1934	607,248,479	401,366,932	7,084,960	247,602,363	29,349,240	707,095,539	103,412,413	55,048,755	37,247,321	19,335,867	2,214,791,869
Totals, 1933	560,071,513	329,648,907	8,366,034	160,558,274	25,327,310	692,183,179	116,367,136	25,297,282	27,923,268	6,838,161	1,898,581,064
Totals, 1932	399,082,165	390,494,128	5,303,122	198,277,128	24,259,207	440,264,407	70,534,985	28,558,367	37,982,900	16,702,052	1,611,458,461
Totals, 1931	283,982,547	386,584,819	4,938,797	238,645,632	35,381,654	647,262,567	165,875,691	41,867,865	31,120,290	112,744,411	1,948,404,273
Totals, 1930	444,717,322	420,727,159	5,413,150	321,230,000	25,830,560	888,519,895	226,834,133	69,744,896	44,489,545	186,245,678	2,663,752,338
Totals, 1929	575,187,828	374,329,611	5,912,880	383,375,816	25,117,698	1,223,710,572	287,184,092	99,437,752	59,209,983	312,678,055	3,346,144,287
Totals, 1928	601,586,290	410,384,094	5,249,856	324,618,812	40,523,494	1,103,204,936	264,833,742	89,743,869	63,531,354	303,229,019	3,206,905,466

Timber from lands in the former Dominion Government Railway Belt which has passed over to the jurisdiction of this Province is included under the various land status headings shown above.

Only timber from Indian Reserves and other lands still under the jurisdiction of the Dominion Government is shown under the heading "Dominion Lands."

TIMBER SCALED IN BRITISH COLUMBIA IN 1934. (BY MONTHS AND DISTRICTS.)

Month.		Vancouver.	Prince Rupert.	Fort George.	Kamloops.	Nelson.	Total, F.B.M.	Total Lineal Feet.	Total Cords.	Total Hewn Ties.
January	F.B.M.	121,662,399	4,120,263	181,383	3,617,507	2,188,906	131,770,258	.....	.....	.....
"	lineal ft.	65,192	112,830	3,992	10,025	80,373	.....	272,412	.....	.....
"	cords	6,169	247	1,005	3,895	2,703	.....	.....	14,019	.....
"	hewn ties	.....	57	501	600	3,030	.....	.....	.....	4,188
February	F.B.M.	98,126,030	642,141	219,929	1,549,611	3,587,581	104,125,292	.....	.....	.....
"	lineal ft.	35,777	49,285	15,760	5,423	46,402	.....	152,647	.....	.....
"	cords	6,572	20	540	2,518	2,694	.....	.....	12,344	.....
"	hewn ties	3,000	4,292	1,525	3,986	17,050	.....	.....	.....	29,853
March	F.B.M.	109,109,222	193,186	716,366	5,040,082	3,130,293	118,189,149	.....	.....	.....
"	lineal ft.	53,252	20,365	13,010	7,115	72,881	.....	166,623	.....	.....
"	cords	7,106	87	430	3,534	3,332	.....	.....	14,489	.....
"	hewn ties	2,567	10,631	40,658	32,058	25,116	.....	.....	.....	111,030
April	F.B.M.	111,196,644	3,985,010	855,273	2,807,550	5,408,159	124,252,636	.....	.....	.....
"	lineal ft.	82,847	19,010	20,619	58,320	52,342	.....	233,138	.....	.....
"	cords	7,164	89	300	1,025	2,120	.....	.....	10,698	.....
"	hewn ties	4,616	29,067	34,731	22,217	18,048	.....	.....	.....	108,679
May	F.B.M.	143,619,857	12,495,183	741,532	7,723,314	6,841,674	171,421,560	.....	.....	.....
"	lineal ft.	166,219	55,536	1,340	80,394	48,295	.....	351,784	.....	.....
"	cords	8,004	312	452	1,347	1,899	.....	.....	12,014	.....
"	hewn ties	2,689	20,126	36,602	35,456	28,377	.....	.....	.....	123,250
June	F.B.M.	190,167,735	14,544,772	2,485,394	5,270,167	6,024,341	218,492,409	.....	.....	.....
"	lineal ft.	425,934	57,663	10,166	76,259	22,429	.....	592,451	.....	.....
"	cords	6,874	530	1,015	4,084	2,374	.....	.....	14,877	.....
"	hewn ties	14,650	43,763	40,216	29,066	25,338	.....	.....	.....	153,033
July	F.B.M.	185,109,819	16,465,626	7,007,545	7,099,938	7,477,565	223,160,493	.....	.....	.....
"	lineal ft.	74,391	152,077	23,075	44,516	147,375	.....	441,434	.....	.....
"	cords	7,880	557	114	1,984	1,423	.....	.....	11,958	.....
"	hewn ties	9,174	63,464	28,726	20,195	34,167	.....	.....	.....	155,726
August	F.B.M.	167,135,417	18,396,449	3,812,328	5,389,329	11,248,651	205,982,174	.....	.....	.....
"	lineal ft.	75,469	70,850	24,820	34,964	31,595	.....	237,698	.....	.....
"	cords	6,954	267	91	728	1,335	.....	.....	9,375	.....
"	hewn ties	362	54,303	40,137	34,123	31,564	.....	.....	.....	160,489
September	F.B.M.	161,812,933	21,269,393	7,842,806	5,509,568	4,245,867	200,680,567	.....	.....	.....
"	lineal ft.	276,449	67,100	5,705	201,393	99,135	.....	649,782	.....	.....
"	cords	7,148	328	73	854	1,480	.....	.....	9,883	.....
"	hewn ties	275	47,341	26,254	6,162	30,559	.....	.....	.....	110,511
October	F.B.M.	166,682,072	18,254,223	2,784,599	8,087,813	6,461,987	202,270,694	.....	.....	.....
"	lineal ft.	233,036	171,420	58,043	113,364	58,246	.....	634,109	.....	.....
"	cords	7,098	203	820	3,500	2,596	.....	.....	14,217	.....
"	hewn ties	796	19,362	11,909	5,709	19,746	.....	.....	.....	57,522
November	F.B.M.	160,136,804	21,121,766	2,242,773	3,742,952	8,114,375	195,358,670	.....	.....	.....
"	lineal ft.	163,735	85,865	9,785	80,709	69,724	.....	409,818	.....	.....
"	cords	5,752	75	385	1,717	3,306	.....	.....	11,235	.....
"	hewn ties	210	20,949	409	7,861	12,448	.....	.....	.....	41,877
December	F.B.M.	147,935,482	4,479,349	102,347	4,139,340	4,586,329	161,242,847	.....	.....	.....
"	lineal ft.	255,151	37,806	30,089	23,275	73,345	.....	419,666	.....	.....
"	cords	6,749	21	315	3,770	2,618	.....	.....	13,473	.....
"	hewn ties	.....	2,644	1,107	12,020	5,855	.....	.....	.....	21,626
Totals for year	F.B.M.	1,762,694,414	135,967,361	28,992,275	59,976,971	69,315,728	2,056,946,749	.....	.....	.....
"	lineal ft.	1,907,452	899,807	216,404	735,757	802,142	.....	4,561,562	.....	.....
"	cords	83,470	2,736	5,540	28,956	27,880	.....	.....	148,582	.....
"	hewn ties	38,339	315,999	262,775	209,453	251,298	.....	.....	.....	1,077,864

* Total scaled in F.B.M.=2,214,791,869.

Logging Inspection.

Forest District.	Operations.				No. of Inspections.
	Timber-sales.	Hand-loggers' Licences.	Leases, Licences, Crown Grants, and Pre-emptions.	Totals.	
Vancouver	402	1	635	1,038	2,965
Prince Rupert	362	86	174	622	1,960
Fort George	212	...	202	414	758
Kamloops	391	...	372	763	1,748
Nelson	236	...	163	399	2,055
Totals, 1934	1,603	87	1,546	3,236	9,486
Totals, 1933	1,237	67	1,425	2,729	8,121
Totals, 1932	1,124	37	1,316	2,477	7,273
Totals, 1931	1,562	92	1,675	3,329	8,969
Totals, 1930	1,932	100	1,862	3,894	8,859
Totals, 1929	1,907	99	2,002	4,008	9,512
Totals, 1928	1,623	50	2,023	3,696	9,596

Trespasses.

Forest District.	No. of Cases.	Areas cut over (Acres).	Quantity cut.				No. of Resulting Seizures.	Amount.
			Feet B.M.	Lineal Feet.	Cords.	Ties.		
Vancouver	23	140	2,256,635	8,685	205	.....	2	$3,065 28
Prince Rupert	4	10	13,366	12,482	20	.....	..	188 64
Fort George	26	76	99,932	7,452	583	1,414	1	344 37
Kamloops	40	476	752,750	1,936	163	3,194	2	1,480 34
Nelson	8	18	147,925	.....	414	217	1	322 42
Totals, 1934	101	720	3,270,608	30,555	1,385	4,825	6	$5,401 05
Totals, 1933	70	155	1,578,108	41,689	1,413	3,807	2	$2,727 81
Totals, 1932	95	368	767,896	35,484	2,140	9,265	14	$3,490 84
Totals, 1931	84	397	1,579,465	118,704	1,048	12,425	2	$5,633 68
Totals, 1930	96	1,000	969,351	165,729	1,457	9,612	4	$7,534 01
Totals, 1929	99	370	984,309	88,997	569	5,906	9	$5,431 07
Totals, 1928	105	878	5,867,052	98,279	4,713	16,599	12	$17,787 10

Pre-emption Inspections, 1934.

Pre-emption records examined by districts are:—

Fort George	713
Kamloops	1,110
Prince Rupert	243
Vancouver	397
Nelson	129
Total	2,592

Areas cruised for Timber-sales.

Forest District.	Number cruised.	Acreage.	Saw-timber (M.B.M.).	Poles and Piles (Lineal Feet).	Shingle-bolts and Cordwood (Cords).	Railway-ties (No.).	Car Stakes & Posts (No.).
Vancouver	311	45,306	151,781	251,045	15,532	6,500	.....
Prince Rupert	304	47,189	104,074	1,533,500	2,346	456,390	5,266
Fort George	213	35,610	18,170	127,280	9,172	283,596	4,500
Kamloops	315	51,948	57,908	723,954	42,546	427,379	.....
Nelson	188	45,338	24,331	220,840	10,414	61,901	64,000
Totals, 1934	1,331	223,391	356,264	2,856,619	80,101	1,235,766	73,766
Totals, 1933	942	169,831	186,418	1,620,112	95,233	549,976	174,861
Totals, 1932	875	144,769	202,421	1,759,905	68,414	488,655	69,900
Totals, 1931	818	145,214	297,825	2,629,054	62,680	664,413	142,400
Totals, 1930	943	197,065	526,261	10,345,822	26,431	731,640	620,100
Totals, 1929	1,061	214,874	500,420	13,043,603	17,629	1,305,110	185,740
Totals, 1928	1,111	233,889	754,095	9,623,599	43,266	2,056,604	447,630

Timber Sales awarded by Districts, 1934.

Forest District.	No. of Sales.	Acreage.	Saw-timber (Ft. B.M.).	Poles and Piles (Lineal Feet).	No. of Posts.	No. of Cords.	No. of Ties.	Estimated Revenue.
Vancouver	295	46,955	122,368,000	477,104	1,500	28,228	5,760	$326,971 79
Prince Rupert	265	43,951	59,567,000	1,109,900	11,000	2,622	305,935	154,509 45
Fort George	208	34,299	12,008,000	125,475	30,400	6 ,941	243,358	44,894 98
Kamloops	338	51,994	42,605,000	795,811	171,300	23,563	263,141	137,055 82
Nelson	218	42,770	14,081,000	213,250	102,710	6,548	76,776	41,606 95
Totals, 1934	1,324	219,969	250,629,000	2,721,540	316,910	67,902	894,970	$705,038 99
Totals, 1933	948	190,794	145,696,000	2,490,244	295,905	76,777	432,513	$450,559 16
Totals, 1932	836	134,868	181,470,000	1,746,616	161,600	54,154	423,676	$450,528 10
Totals, 1931	842	148,523	217,474,000	2,272,082	173,300	41,032	606,160	$624,596 27
Totals, 1930	866	162,043	199,485,000	9,963,164	398,150	19,997	494,202	$689,481 29
Totals, 1929	974	216,222	691,973,000	9,356,837	374,065	23,197	1,505,951	$1,908,100 70
Totals, 1928	1,033	194,929	525,250,760	6,537,002	880,000	48,728	1,996,457	$1,344,273 93

Average Sale Price by Species.

Saw-timber.	Figures for 1934.		Figures for 1933.		Figures for 1932.		Figures for 1931.	
	Board-feet.	Price per M.	Board-feet.	Price per M.	Board-feet.	Price Per M.	Board-feet.	Price Per M.
Douglas fir	94,784,000	$1 26	51,374,000	$1 16	44,105,000	$1 19	48,265,000	$1 39
Cedar	22,136,000	95	20,361,000	1 17	28,217,000	1 15	17,509,000	1 50
Spruce	37,293,000	1 34	20,747,000	1 15	31,151,000	1 63	63,409,000	1 24
Hemlock	45,472,000	73	22,695,000	73	41,552,000	76	41,083,000	84
Balsam	13,846,000	74	7,742,000	73	12,498,000	77	16.038,000	89
White pine	2,973,000	1 66	4,816,000	1 94	2,565,000	1 43	4,006,000	1 78
Western soft pine	26,927,000	1 29	11,450,000	1 19	9,807,000	1 25	11,457,000	1 47
Tamarack	3,419,000	76	2,127,000	68	2,081,000	84	5,538,000	1 68
Other species	3,779,000	80	4,384,000	69	9,494,000	94	7,839,000	1 00
Totals	250,629,000	$1 11	145,696,000	$1 08	181,470,000	$1 12	215,144,000	$1 22

Note.—2,330,000 board-feet pulp saw-timber not included in 1931 total

Timber cut from Timber-sales during 1934.

Forest District.	Feet B.M.	Lineal Feet.	Cords.	Ties.	Posts.
Vancouver	101,290,587	177,086	22,453.89	5,227	.....
Prince Rupert	53,160,990	821,887	1,030.26	220,839	5,040
Prince George	9,412,331	160,585	1,434.50	133,335	.....
Kamloops	24,784,434	406,660	5,952.98	86,592	26,259
Nelson	11,247,207	128,252	5,337.61	57,273	53,013
Totals, 1934	199,895,549	1,694,470	36,209.24	503,266	84,312
Totals, 1933	122,275,912	1,337,497	35,840.62	212,824	164,586
Totals, 1932	165,666,929	1,583,955	30,646.62	258,284	79,885
Totals, 1931	177,172,765	5,697,152	15,499.20	662,120	255,545
Totals, 1930	227,019,617	11,960,055	17,176.17	1,341,426	388,749
Totals, 1929	266,016,942	7,966,223	24,663.46	1,554,870	332,038
Totals, 1928	203,208,331	7,672,294	24,389.35	1,714,709	376,253

Saw and Shingle Mills of the Province.

Forest District.	Operating.				Shut Down.			
	Sawmills.		Shingle-mills.		Sawmills.		Shingle-mills.	
	No.	Estimated Daily Capacity, M.B.M.	No.	Estimated Daily Capacity, Shingles, M.	No.	Estimated Daily Capacity, M.B.M.	No.	Estimated Daily Capacity, Shingles, M.
Vancouver	144	6,306	69	7,011	39	1,529	7	768
Prince Rupert	37	476	5	60	20	410	2	210
Fort George	31	440	..	....	16	309	..	....
Kamloops	76	887	2	100	42	241	1	50
Nelson	61	1,043	6	140	12	510	3	200
Totals, 1934	349	9,152	82	7,311	129	2,999	13	1,228
Totals, 1933	295	8,715	78	7,325	134	3,632	22	1,652
Totals, 1932	293	7,641	45	6,813	139	4,621	13	1,470
Totals, 1931	334	10,167	46	7,470	158	4,109	19	1,871
Totals, 1930	301	11,020	43	7,164	141	3,204	17	1,695
Totals, 1929	354	11,896	53	7,881	95	2,200	15	1,726
Totals, 1928	314	11,919	56	8,280	120	2,459	15	2,710

Export of Logs. (In F.B.M.)

Species.	Grade No. 1.	Grade No. 2.	Grade No. 3.	Ungraded.	Totals.
Fir	5,241,867	72,597,360	28,250,329	.....	106,089,556
Cedar	5,208,059	15,238,289	12,988,593	.....	33,434,941
Spruce	39,229	1,048,188	436,365	.....	1,523,782
Cottonwood	.....	947,899	1,740,864	.....	2,688,763
Hemlock	.....	.....	.....	23,363,093	23,363,093
Balsam	.....	.....	.....	2,467,045	2,467,045
Yellow pine	.....	.....	.....	442,382	442,382
White pine	.....	.....	.....	1,651,662	1,651,662
Miscellaneous	.....	.....	.....	1,074,527	1,074,527
Totals, 1934	10,489,155	89,831,736	43,416,151	28,998,709	172,735,751
Totals, 1933	16,941,207	119,089,573	59,215,094	13,694,960	208,940,834
Totals, 1932	18,572,020	87,223,114	44,380,166	15,589,383	165,764,683
Totals, 1931	12,886,187	106,331,594	51,909,961	49,048,420	220,176,162
Totals, 1930	11,571,481	86,502,990	40,147,841	34,696,715	172,919,027
Totals, 1929	13,015,146	133,997,595	60,002,711	29,978,125	236,993,577
Totals, 1928	20,563,249	106,084,161	47,994,423	37,305,398	211,947,231

SHIPMENTS OF POLES, PILING, MINE-PROPS, FENCE-POSTS, RAILWAY-TIES, ETC.

Forest District.	Quantity exported.	Approximate Value, F.O.B.	Where marketed.		
			United States.	Canada.	Orient.
Vancouver—					
Poles and piling.....lineal ft	1,950,892	$156,071	1,479,736	.....	471,156
Cordwood.....cords	12	48	.....	.....	12
Pulp-wood.....cords	10,154	45,694	10,154	.....	.....
Prince Rupert—					
Poles and piling.....lineal ft.	893,406	64,103	674,745	218,661	.....
Fence-posts.....No.	13,316	1,065	.....	13,316	.....
Railway-ties.....No.	246,208	103,933	.....	246,208	.....
Fort George—					
Poles and piling.....lineal ft.	97,220	7,777	26,485	70,735	.....
Mine-props.....cords	32	256	.....	32	.....
Fence-posts.....cords	100	600	.....	100	.....
Railway-ties.....No.	150,201	66,062	.....	150,201	.....
Kamloops—					
Poles and piling.....lineal ft.	386,485	46,378	346,630	39,855	.....
Mine-props.....cords	48	528	.....	48	.....
Fence-posts.....cords	114	969	.....	114	.....
Railway-ties.....No.	75,000	32,250	.....	75,000	.....
Nelson—					
Poles and piling.....lineal ft.	1,152,200	115,220	990,570	161,630	.....
Mine-props.....cords	3,084	24,672	.....	3,084	.....
Fence-posts.....cords	5,342	42,736	858	4,484	.....
Railway-ties.....No.	199,781	99,890	38,826	160,955	.....
Total value, 1934.....	.....	$808,252	.....	.....	.....
Total value, 1933.....	.....	$696,393	.....	.....	.....

TIMBER-MARKING.

TIMBER-MARKS ISSUED FOR THE YEARS 1932, 1933, AND 1934.

	1932.	1933.	1934.
Old Crown grants	303	227	238
Crown grants, 1887–1906	66	92	74
Crown grants, 1906–1914	62	76	96
Section 53A, "Forest Act"	163	206	303
Stumpage reservations	40	55	61
Pre-emptions under sections 28 and 29, "Land Act"	18	9	9
Dominion lands	1	1	1
Permit berths	7	2	.....
Timber berths	26	15	18
Indian reserves	11	5	13
Timber-sales	836	946	1,324
Hand-loggers	14	26	13
Special marks	.....	1	.....
Rights-of-way	.....	1	.....
Pulp leases	.....	.....	1
Pulp licences	2	4	3
Totals	1,549	1,666	2,154
Transfers and changes of marks	183	139	204

HAND-LOGGER LICENCES.

Number issued	81	83	52

DRAUGHTING OFFICE, FOREST BRANCH.

Month.	Number of Tracings made.					Blue-prints from Reference Maps.
	Timber-sales.	Timber-marks.	Examination Sketches.	Miscellaneous.	Totals.	
January	37	80	22	17	156	4
February	32	89	25	17	163	4
March	17	103	29	24	173	19
April	14	91	20	40	165	3
May	17	77	32	34	160	.....
June	13	79	21	24	137	.....
July	12	47	23	23	105	3
August	12	84	33	29	158	5
September	27	39	25	7	98	4
October	31	51	24	21	127	3
November	24	93	13	46	176	2
December	21	86	20	46	173	4
Totals	257	919	287	328	1,791	51

CROWN-GRANTED TIMBER LANDS.

	Area of Private Timber Lands (Acres).	Average Value per Acre.
1919	883,491	9.48
1920	867,921	11.62
1921	845,111	10.33
1922	887,980	11.99
1923	883,344	11.62
1924	654,668	15.22
1925	654,016	40.61
1926	688,372	39.77
1927	690,438	39.01
1928	671,131	38.62
1929	644,011	38.41
1930	629,156	44.74
1931	602,086	43.77
1934	557,481	37.25

The extent and value of timber land in the various assessment districts are shown by the following table:—

Asssessment District.	Acreage, 1934.	Increase or Decrease in Acreage over 1931.	Average Value per Acre.	Change in Value per Acre since 1931.
Alberni	76,644	— 9,836	63.59	— 4.14
Comox	105,719	—14,389	42.56	—11.27
Cowichan	65,768	— 3,550	66.25	—11.77
Fort Steele	34,375	— 2,235	9.41	— 0.61
Galiano Island	328	*	14.99	*
Golden	27,190	— 6,178	7.91	— 1.65
Kettle River	9,239	— 434	5.84	— 1.62
Nanaimo	75,796	— 3,442	49.95	— 7.27
Nelson	6,271	— 1,178	8.05	— 1.44
Prince George	12,166	— 1,294	19.80	+ 0.16
Prince Rupert	19,731	— 110	17.93	— 4.03
Revelstoke	37,345	+ 144	14.03	— 1.21
Slocan	58,944	— 1,501	8.34	— 2.48
Vancouver	1,492	— 389	102.74	+ 7.52
Victoria	26,473	— 213	36.52	— 5.88
Totals	557,481	—44,605	37.25	— 6.52

* No change.

FOREST FINANCE.

The increase in forest revenue over that of the previous year amounted to nearly half a million dollars. The reinstatement of licences due to the expiry of the moratorium was responsible for nearly half of this increase. At the same time, the number reinstated was below expectations. There were approximately 3,100 timber licences in good standing at the end of 1934, as compared with about 2,400 a year previous. It may be presumed that some licence-holders expected further relief in the matter of payments; others either were unable to pay or had become dissatisfied with their investment. The elimination of the 25-per-cent. reduction in rentals on April 1st, 1934, effective for the preceding year, was also partly responsible for this improvement in rental payments.

The table below shows a decided improvement in royalty and stumpage payments. The elimination of the 15-per-cent. reduction in royalty on April 1st, 1934, and the 17-per-cent. increase in timber scaled during the year were the two factors responsible for this improvement.

FOREST REVENUE.

	12 Months to Dec. 31st, 1934.	12 Months to Dec. 31st, 1933.	12 Months to Dec. 31st, 1932.	12 Months to Dec. 31st, 1931.	12 Months to Dec. 31st, 1930.	12 Months to Dec. 31st, 1929.
Timber-licence rentals	$548,816 73	$331,948 95	$478,458 93	$721,931 98	$854,560 87	$931,545 72
Timber-licence transfer fees	1,645 00	480 00	930 00	1,330 00	2,180 00	1,775 00
Timber-licence penalty fees	69,302 21	16,004 43	11,687 62	20,632 72	27,861 53	23,245 73
Hand-loggers' licence fees	1,300 00	1,975 00	2,000 00	950 00	1,575 00	1,300 00
Timber-lease rentals	63,212 79	57,859 54	70,025 38	78,202 93	72,117 52	79,873 89
Timber-lease penalty fees	1,565 97	1,265 18	848 88	944 24	607 44	901 43
Timber-sale rentals	21,281 83	14,061 93	12,009 29	11,675 17	35,035 94	30,162 64
Timber-sale stumpage	289,709 62	244,225 17	279,034 76	454,391 36	518,309 48	634,048 95
Timber-sale cruising	5,706 12	3,650 69	3,359 20	5,722 83	7,565 12	12,844 92
Timber-sale advertising	771 30	561 25	569 30	771 55	1,256 69	1,951 28
Timber royalty and tax	1,155,862 37	963,511 71	1,046,070 65	1,218,363 02	1,456,330 42	1,688,803 67
Scaling fees (not Scaling Fund)	334 71	225 73	374 42	911 07	1,204 07	1,407 92
Scaling expenses (not Scaling Fund)	116 05	28 80	20 30	24 94	150 01	191 74
Trespass penalties	5,924 39	3,399 67	2,535 16	3,686 89	5,825 68	9,161 16
Scalers' examination fees	25 00	20 00	40 00	175 00	105 00	320 00
Exchange	123 80	350 47	305 02	171 23	591 70	1,711 29
Seizure expenses	260 50	1,299 13	1,057 39	1,367 72	1,406 64	3,152 88
General miscellaneous	2,745 57	3,051 42	4,265 74	4,495 07	4,137 56	2,754 36
Timber-berth rentals and bonus	31,631 46	30,281 53	33,601 49	33,295 42	.....	.....
Interest on timber-berth rentals and bonus	1,065 42	576 41	597 54	688 97	.....	.....
Transfer fees	199 40	28 37	270 00	63 84	.....	.....
Royalty interest	45 06	49 90	489 34	1,136 04	.....	.....
	$2,201,645 30	$1,674,855 28	$1,948,550 41	$2,560,931 99	$2,990,820 67	$3,425,152 58
Grazing fees and interest	11,411 56	11,759 13	13,409 37	15,411 46	12,251 88	10,918 49
Taxation, Crown-grant timber lands	308,283 15	320,150 96	368,699 00	397,523 73	422,274 04	375,923 32
Total revenue from forest sources	$2,521,340 01	$2,006,765 37	$2,330,658 78	$2,973,867 18	$3,425,346 59	$3,811,994 39

REVENUE FROM LOGGING OPERATIONS, 1934.

(Amounts charged.)

Forest District.	Royalty and Tax.	Penalty.	Seizure Expenses.	Government Scale.		Scaling Fund.		Stumpage.	Total.
				Scaling Expenses.	Scaling Fees.	Scaling Expenses.	Scaling Fees.		
Vancouver	$983,917 09	$2,514 09	$141 00	$36 85	$154 72	$17,015 62	$91,959 95	$131,463 45	$1,227,202 77
Prince Rupert	110,115 87	202 14	12 00	.....	28 42	420 95	7,603 71	105,834 93	224,218 02
Fort George	34,982 20	350 82	46 10	3 00	.....	.....	.....	25,782 04	61,164 16
Kamloops	51,494 27	2,562 64	24 60	55 96	.....	.....	.....	42,283 88	96,421 35
Nelson	57,459 27	1,752 69	28 00	10 55	75	.....	.....	18,752 12	78,003 38
Totals	$1,237,963 70	$7,382 38	$251 70	$106 36	$183 89	$17,436 57	$99,563 66	$324,116 42	$1,687,009 68
Totals, 1933	$918,663 03	$2,866 76	$197 93	$112 94	$200 66	$13,570 34	$82,212 92	$219,497 38	$1,237,321 96
Totals, 1932	$1,046,588 92	$3,983 03	$368 73	$56 66	$225 73	$13,368 44	$71,596 21	$307,371 82	$1,443,559 54
Totals, 1931	$1,140,282 78	$4,950 55	$994 87	$42 20	$1,092 07	$16,444 18	$82,078 03	$425,978 06	$1,672,862 74
Totals, 1930	$1,460,367 16	$6,799 66	$1,601 76	$140 57	$1,265 33	$21,644 46	$106,553 34	$638,023 79	$2,236,396 07
Totals, 1929	$1,851,535 62	$4,191 84	$1,555 56	$175 83	$1,215 22	$22,127 43	$118,481 18	$711,213 82	$2,710,496 50
Totals, 1928	$1,794,819 93	$20,867 17	$2,103 57	$156 58	$1,194 89	$20,277 64	$123,169 81	$635,292 44	$2,597,882 03

FOREST EXPENDITURES, FISCAL YEAR 1933–34.

Forest District.	Salaries.	Temporary Assistance.	Expenses.	Total.
Vancouver	$68,123 13	.....	$29,811 25	$97,934 38
Prince Rupert	24,371 40	.....	9,657 70	34,029 10
Fort George	21,682 25	.....	6,625 02	28,307 27
Kamloops	46,027 32	.....	12,714 53	58,741 85
Nelson	39,599 26	$187 20	11,628 39	51,414 85
Victoria	76,704 25	.....	8,474 08	85,178 33
Totals	$276,507 61	$187 20	$78,910 97	$355,605 78

Lumber-trade extension	19,000 00
Canadian Forestry Association	2,000 00
Incidentals and contingencies	558 16
Grazing range improvements	5,004 43
Grand total	$382,168 37

SCALING FUND.

Balance, April 1st, 1933 (deficit)	$46,634.23
Expenditure, fiscal year 1933–34	92,428.15
	$139,062.38
Charges, fiscal year 1933–34	105,682.61
Balance, March 31st, 1934 (deficit)	$33,379.77
Balance, April 1st, 1934 (deficit)	$33,379.77
Expenditure, 9 months, April–December, 1934	75,778.53
	$109,158.30
Charges, 9 months, April–December, 1934	97,118.37
Balance, December 31st, 1934 (deficit)	$12,039.93

FOREST RESERVE ACCOUNT.

Balance brought forward, April 1st, 1933	$31,448.66
Amount received from Treasury, April 1st, 1933 (under subsection (2), section 30A)	38,142.50
Moneys received under subsection (4), section 30A	118.14
	$69,709.30
Expenditure, fiscal year 1933–34	25,755.28
Balance (credit), March 31st, 1934	$43,954.02
Balance brought forward, April 1st, 1934	$43,954.02
Amount received from Treasury, April 1st, 1934 (under subsection (2), section 30A)	.....
Moneys received under subsection (4), section 30A	.....
	$43,954.02
Expenditure, 9 months to December 31st, 1934	28,656.75
Balance (credit), December 31st, 1934	$15,297.27

FOREST PROTECTION FUND.

The following statement shows the standing of the Forest Protection Fund as at December 31st, 1934:—

Balance (deficit), April 1st, 1933		$345,813.82
Expenditure, fiscal year 1933–34		*Nil*
		$345,813.82
Collections, fiscal year 1933–34	$5,594.98	
Less refunded	75.48	
	$5,519.50	
Special levy	718.53	
Refunds of expenditure	2,579.60	
		8,817.63
Balance (deficit), March 31st, 1934		$336,996.19
Balance (deficit), April 1st, 1934		$336,996.19
Expenditure, 9 months, April–December, 1934	$269,986.72	
Less refunded	6,005.63	
		263,981.09
		$600,977.28
Collections, 9 months, April–December, 1934	$87,865.25	
Less refunded	69.18	
	$87,796.07	
Special levy	815.27	
Government contribution	225,000.00	
		313,611.34
Balance (deficit), December 31st, 1934		$287,365.94

ESTIMATED AND KNOWN COSTS OF FOREST PROTECTION TO OTHER AGENCIES, 1934.

Forest District.	Expenditures for.				
	Tools and Equipment.	Improvements.	Patrol.	Fire-fighting.	Total.
Vancouver	$24,609.00	.....	$37,074.00	$18,212.00	$78,895.00
Prince Rupert	1,040.00	.....	813.00	381.00	2,234.00
Fort George	.....	.....	.....	136.00	136.00
Kamloops	2,525.00	.....	700.00	5,028.00	8,253.00
Nelson	1,400.00	$255.00	625.00	40,280.00	42,560.00
Totals	$29,574.00	$255.00	$39,212.00	$64,037.00	$133,078.00

"BRITISH COLUMBIA LOAN ACT, 1932."

(SECTION 6A—UNEMPLOYMENT RELIEF.) EXPENDITURE FOR FIRE-FIGHTING, FISCAL YEAR 1933–34.

Forest District.	Patrols and Fire Prevention.	Tools and Equipment.	Fires.	Improvements.	Total.
Vancouver	$6,872.06	$1,305.69	$8,276.48	$432.27	$16,886.50
Prince Rupert	3,151.44	10.82	103.00	13.48	3,278.74
Fort George	3,570.40	137.90	3,648.09	130.41	7,486.80
Kamloops	8,245.52	55.85	5,322.07	96.89	13,720.53
Nelson	8,947.97	242.15	21,902.77	.....	31,092.89
Victoria	122.84	.....	.....	.....	122.84
Totals	$30,910.23	$1,752.41	$39,252.41	$673.05	$72,588.10

Patrols, etc.	$30,910.23
Tools and equipment	1,752.41
Fires	39,252.41
Improvements	673.05
Total	$72,588.10

FINAL STATEMENT.

"BRITISH COLUMBIA LOAN ACT, 1932."

(Section 6A—Unemployment Relief.)

Amount allotted to Forest Branch		$100,000.00
Expenditure, 1932	$17,028.73	
Expenditure, 1933	72,588.10	
Expenditure, 1934	10,383.08	
	$99,999.91	
Credit balance	.09	
	$100,000.00	$100,000.00

FOREST PROTECTION.

Since the organization of the Forest Branch in 1912 the cost of forest protection in British Columbia has been defrayed from the Forest Protection Fund, which is made up in part by the proceeds of a Forest Protection Tax on certain privately controlled timber lands and in part by a contribution from the Government. When a deficit has developed, the overexpenditure has been taken care of by a special levy on both timber-holders and the Government.

The rates at which the payments to the Fund have been made are outlined in the following table:—

Year.	Tax per Acre. Cents.	Government Contribution.
1912	1	Equal sum
1913–19	1½	Equal sum
1920	2	Equal sum
1921–29	2½	$300,000
1922	* S.L. 3½	S.L. 338,000
1925	S.L. 2½	S.L. 300,000
1926	S.L. 2¼	S.L. 275,000
1929	S.L. 3	S.L. 360,000
1930	4	480,000
1932	*Nil*	100,000
1933	*Nil*	*Nil*
1934	2½	$300,000

* Special levy.

A large portion of the timber land in British Columbia has been alienated under a form of licence to cut. These areas revert to the Crown after being cut or burned. Many others have reverted, either through the inability of the licensees to pay the annual carrying charges or through their dissatisfaction with their investment. The Forest Protection Tax is consequently a declining source of income, as is shown below.

Year.	No. of Timber Licences in Good Standing.	Acres of other Land paying Forest Protection Tax.
1913	14,202	Record not available.
1926	8,242	Record not available.
1927	7,924	Record not available.
1928	7,749	Record not available.
1929	7,144	Record not available.
1930	6,277	Record not available.
1931	4,897	1,748,591
1932	3,616	No tax levied.
1933	2,413	No tax levied.
1934	3,117*	2,364,148

* Includes licences being reinstated under the funding arrangement, but on which payments have not yet been completed.

The increase in licences in 1934 is the result of relief legislation permitting the reinstatement of expired licences up to June 30th, 1934, and the increase under "other lands" is the result of the inclusion for the first time of tax lands in the Railway Belt. These increases are a temporary check on the downward tendency.

The average annual income of the Protection Fund for the ten years 1922 to 1931, inclusive, to the nearest thousand dollars was:—

From Tax	$260,000
From Government	475,000
Total	$735,000

During 1932 and 1933 the Fund was suspended and $100,000 of relief funds was made available for protection purposes.

The years 1932 and 1933 were, fortunately, the most favourable from a protection standpoint that have been experienced since the organization of the Forest Service in 1912, but the losses were out of proportion, due to lack of control measures. This was discussed briefly in the Annual Report of 1933.

Success in forest protection depends to a material extent on adequate organization, stocks of tools and equipment, and on improvements.

In 1931 the temporary staff had been developed to a high standard of efficiency, and privately controlled protection resources, such as equipment, transportation, and man-power, had been effectively organized to supplement the Forest Service. Much of the efficiency of the temporary staff has been lost through reduction of and turnover in personnel, and we have largely lost the extra-Forest-Service organization. This efficiency and co-operation can be regained only by a slow process of rebuilding. At the same time tools, equipment, and improvements have deteriorated badly.

In 1934 the Protection Fund was renewed. The sums accruing to the Fund were:—

From the Tax about	$100,000
From the Government	300,000
Approximate total	$400,000

This sum did not permit any programme of renewing improvements except to open about half the lookouts. The summer staff numbered 154, as against 259 in 1931. A limited sum was spent on tools and equipment, renewing the most urgently required items. Rigid economy was practised in fire-fighting. Total costs for the season, including purchases of equipment which were postponed until after the fire season and paid for from savings, were confined to a sum less than the total income for the year.

The season started hot and dry but without any unusual fire occurrence. Really dangerous conditions developed only in the Nelson District, where the situation was acute from late July to September 10th. The Kamloops District experienced moderately severe conditions from late August to September 7th. The season was more than usually favourable on the Coast and in the Central and Northern Interior. As a whole, it was perhaps twice as bad as in 1932 and 1933, and half as severe as 1931.

The notable features of the protection-year were the renewal of the Protection Fund and the policy of strict economy in fire-fighting, and the factor of protection of private property, which comes more and more to the fore as available funds shrink.

The history of the Fund has been outlined briefly. For adequate protection its present proportions must be largely increased. How the money is to be raised, and from what sources and in what proportions, are questions of immediately pressing importance.

Our policy of extreme economy in fire-fighting was dictated by circumstances and was the cause of much criticism. The public got the impression that fieldmen were not permitted to attack any fire without permission from a senior officer, which was not correct. The essence of good fire-fighting is quick action when a fire is small, and all fieldmen were required to attack all fires at once if found when small, without referring to any other officer, and were subject to reprimand if they did not do so. Larger fires involving heavy expense to fight were considered carefully before expenditures were made. Most of these could be fought only at strategic points to protect specific values. Losses for the year were consequently high and, in common with the past two years, though to a lesser extent, out of proportion with the severity of the season.

It has always been necessary to spend considerable sums for the protection of private property. The equity of doing so from a fund established specifically for forest protection and contributed in part by the timber-owners is questionable. Such expenditures become a more important consideration as the Fund shrinks. There is a real protection service rendered to all kinds of property, part of it a direct service where no forest values are involved. The time has come when some provision should be made for the cost incurred on this score.

There is a widespread impression that fires of incendiary origin are a large factor in the forest-protection problem and that the payment of wages for fire-fighting accomplishes little more than to incite additional incendiarism. This opinion is not borne out by the facts as disclosed by records over a period of years. Incendiary fires do occur, but not in sufficient numbers to make them of serious importance or to greatly affect general fire-fighting policy. Over a period of ten years ending 1934, 7 per cent. of our fires have been ascribed to incendiarism. Many of these definitely were not incendiary. Recently the class of fires tabulated under this heading has been more exactly defined, and the percentage will be less and more accurately indicate the menace of incendiarism. There were more incendiary fires in 1932 and 1933, when there was practically no fire-fighting done, than in 1934 when fires were again actively fought. The comparative figures are:—

Year.	Total Fire Occurrence.	No. of Incendiary Fires.	Per Cent. of Total.
1932	1,266	127	10
1933	1,082	65	6
1934	1,590	65	4

The usual detailed statistics of the fire season are given in the tables on the following pages.

Fire Occurrences by Months, 1934.

Forest District.	April.	May.	June.	July.	August.	September.	October.	Total.
Vancouver	14	14	72	63	106	52	....	321
Prince Rupert	23	14	16	44	28	14	....	139
Fort George	11	10	7	12	18	7	....	65
Kamloops	22	22	57	125	204	46	....	476
Nelson	25	46	85	193	187	40	13	589
Totals	95	106	237	437	543	159	13	1,590
Per cent	5.98	6.67	14.90	27.48	34.15	10.00	0.82	100.00

Number and Causes of Fires in Province, 1934.

Forest District.	Lightning.	Campers.	Railways Operating.	Railways under Construction.	Smokers.	Brush-burning (not Railway-clearing).	Road, Power and Telephone-line Construction.	Industrial Operations.	Incendiarism.	Miscellaneous (Known Causes).	Unknown Causes.	Total.	Per Cent. of Total Fires in Province.
Vancouver	7	57	10	....	125	15	2	37	27	30	11	321	20.19
Prince Rupert	45	35	2	....	18	31	....	3	....	4	1	139	8.74
Fort George	7	28	1	....	2	19	1	....	4	....	3	65	4.09
Kamloops	91	81	36	....	106	28	4	1	12	113	4	476	29.94
Nelson	170	111	54	....	164	24	3	....	22	41	....	589	37.04
Totals	320	312	103	....	415	117	10	41	65	188	19	1,590	100.00
Per cent	20.13	19.62	6.48	....	26.10	7.36	0.62	2.58	4.09	11.83	1.19	100 00	....

FIRES, CLASSIFIED BY PLACE OF ORIGIN AND COST OF FIRE-FIGHTING, 1934.

Forest District.	Total Fires.	Originated on Vacant Crown Land and Lands paying F.P. Tax.	Originated on Lands not paying F.P. Tax.	Extinguished without Cost.			Cost Money to extinguish.								Total Forest Service Costs in fighting Fire.		Average Cost per Fire.
				No.	Per Cent. of Total Fires in District.	Per Cent. of Total Fires in Province.	No.	Per Cent. of Total Fires in District.	Per Cent. of Total Fires in Province.	Cost less than $100.	Cost $100 to $1,000.	Cost $1,000 to $5,000.	Cost $5,000 to $10,000.	Cost over $10,000.	Dollars.	Per Cent. of Total spent in fighting Fires in Province.	Dollars.
Vancouver	321	63	258	147	45.79	9.24	174	54.21	10.94	123	44	7	....	....	8,932.35	6.17	27.82
Prince Rupert	139	56	83	102	73.38	6.42	37	26.62	2.33	35	2	....	....	....	667.18	0.46	4.80
Fort George	65	38	27	50	76.92	3.14	15	23.08	0.94	14	1	....	....	....	298.10	0.20	4.58
Kamloops	476	266	210	239	50.21	15.03	237	49.79	14.91	198	34	5	....	....	20,315.13	14.05	42.68
Nelson	589	522	67	303	51.45	19.06	286	48.55	17.99	210	58	10	6	2	114,446.22	79.12	194.30
Totals	1,590	945	645	841	....	52.89	749	....	47.11	580	139	22	6	2	144,658.98 *	100.00	90.98
Per cent	100.00	59.43	40.57	52.89	....	...	47.11	....	....	36.48	8.75	1.38	0.37	0.13	.....	....	.....
Totals, 1933	1,082	633	449	752	....	69.50	330	....	30.50	263	55	12	....	....	39,252.41 †	100.00	36.27
Per cent	100.00	58.50	41.50	69.50	....	....	30.50	....	....	24.31	5.08	1.11	....	....	.....	....	.....
Totals, 1932	1,266	668	598	1,077	....	85.07	189	....	14.93	167	21	1	....	....	9,534.31	100.00	7.53
Per cent	100.00	52.77	47.23	85.07	....	....	14.93	....	....	13.19	1.66	0.08	....	....	.....	....	.....

Cost to other parties (276 cost fires), $64,037; cost to Forest Branch (749 cost fires), $144,658.98.

* Cost correct to date. Subject to later revision.

† Corrected final total cost. These totals for previous years do not necessarily agree with total fire-fighting costs published in reports for the years involved as under * above. Detailed final costs are published one year in arrears in the table of "Expenditure by Districts" in each annual report.

FIRES, 1934, CLASSIFIED BY SIZE AND DAMAGE.

Forest District.	Total Fires.		Under ¼ Acre.			¼ Acre to 10 Acres.			Over 10 Acres in Extent.			Damage.		
	No.	Per Cent. of Total Fires in Province.	No.	Per Cent. of Total Fires in District.	Per Cent. of Total Fires in this Class.	No.	Per Cent. of Total Fires in District.	Per Cent. of Total Fires in this Class.	No.	Per Cent. of Total Fires in District.	Per Cent. of Total Fires in this Class.	Under $100.	Between $100 and $1,000.	Over $1,000.
Vancouver	321	20.19	148	46.10	22.26	116	36.14	20.53	57	17.76	15.84	303	7	11
Prince Rupert	139	8.74	66	47.48	9.92	51	36.69	9.03	22	15.83	6.11	133	5	1
Fort George	65	4.08	29	44.61	4.36	22	33.85	3.89	14	21.54	3.88	62	3	....
Kamloops	476	29.94	119	25.00	17.90	202	42.44	35.75	155	32.56	43.06	414	46	16
Nelson	589	37.05	303	51.44	45.56	174	29.54	30.80	112	19.02	31.11	530	27	32
Totals	1,590	100.00	665	....	100.00	565	....	100.00	360	....	100.00	1,442	88	60
Per cent.	100.0	....	41.82	....	....	35.54	....	....	22.64	....	....	....	....	....
Totals, 1933	1,082	100.00	410	....	100.00	414	....	100.00	258	....	100.00	957	77	48
Per cent.	100.0	....	37.89	....	...	38.26	....	....	23.85	....	....	88.46	7.11	4.43
Totals, 1932	1,266	100.00	506	....	100.00	436	....	100.00	324	....	100.00	1,123	91	52
Per cent.	100.0	....	39.97	....	....	34.44	....	....	25.59	....	....	88.70	7.19	4.11

DAMAGE TO PROPERTY OTHER THAN FORESTS, 1934.

Forest District.	Forest Products in Process of Manufacture.	Buildings.	Railway and Logging Equipment.	Miscellaneous.	Total.	Per Cent. of Total.
Vancouver	$34,529	$2,435	$28,700	$490	$66,154	63.08
Prince Rupert	20	1,400	.....	798	2,218	2.11
Fort George	.....	100	.....	.....	100	0.09
Kamloops	162	45	.....	3,703	3,910	3.73
Nelson	3,443	19,700	5,250	4,102	32,495	30.99
Totals	$38,154	$23,680	$33,950	$9,093	$104,877	100.00

Damage caused by Forest Fires, 1934.

Forest District.	Merchantable Timber destroyed or damaged.				Valuable Reproduction.		Cut-over Land, Unmerchantable Timber, Old Burn, not restocking.		Grazing Range.		Area of Slash burned.	Grand Totals.					
	Area.	Quantity killed.	Quantity salvable.	Net Stumpage Loss.	Area.	Estimated Present Damage.	Area.	Estimated Damage.	Area.	Damage.	Area burned.	Area.		Quantity.		Damage.	
	Acres.	M. Ft. B.M.	M. Ft. B.M.	$	Acres.	$	Acres.	$	Acres.	$	Acres.	Acres.	Per Cent.	M. Feet B.M.	Per Cent.	$	Per Cent.
Vancouver	566	1,700	660	2,147	1,706	8,288	2,996	501	870	43	4,927	11,065	1.74	1,700	0.21	10,979	1.30
Prince Rupert	113	301	.....	301	900	1,042	4,455	527	537	12	343	6,348	0.99	301	0.03	1,882	0.21
Fort George	35	280	.....	280	14	17	2,645	318	525	26	998	4,217	0.66	280	0.03	641	0.00
Kamloops	14,944	118,644	61,213	30,888	17,981	37,181	93,673	17,642	5,376	149	6,123	138,097	21.62	118,644	14.52	85,860	9.66
Nelson	108,656	696,200	117,485	424,885	117,325	343,509	246,023	20,624	3,516	227	3,443	478,963	74.99	696,200	85.21	789,245	88.83
Totals	124,314	817,125	179,358	458,501	137,926	390,037	349,792	39,612	10,824	457	15,834	638,690	100.00	817,125	100.00	888,607	100.00
Per cent	19.47	100.00	21.95	51.60	21.59	43.89	54.77	4.46	1.69	0.05	2.48	100.00	.....	100.00	.....	.....	.....
Totals, 1933	35,253	123,815	21,926	125,276	55,876	135,099	192,677	48,412	4,426	177	13,254	301,486	100.00	123,815	100.00	308,964	100.00
Per cent	11.69	100.0	17.71	40.55	18.54	43.73	63.91	15.67	1.46	0.05	4.40	100.00	.....	100.00	.....	100.00	.....
Totals, 1932	41,388	269,317	15,057	233,314	80,729	225,049	253,258	55,172	19,597	1,129	26,325	421,297	100.00	269,317	100.00	514,664	100.00
Per cent	9.82	100.00	5.59	45.34	19.16	43.72	60.12	10.73	4.65	0.21	6.25	100.00	.....	100.00	.....	100.00	.....

Causes, Cost, and Damage, 1934.

Causes.	Number.	Per Cent.	Cost.	Per Cent.	Damage.	Per Cent.
Lightning	320	20.13	$51,049	35.29	$429,444	43.23
Campers	312	19.62	26,706	18.46	234,992	23.66
Railways operating	103	6.48	3,021	2.09	10,578	1.07
Smokers	415	26.10	28,033	19.38	150,428	15.14
Brush-burning (not railway-clearing)	117	7 36	1,968	1.36	7,274	0.74
Road, power, telephone, and telegraph	10	0.62	9	.....	367	.....
Industrial operations	41	2.58	1,573	1.09	48,300	4.86
Incendiarism	65	4.09	9,011	6.23	64,765	6.53
Miscellaneous (known causes)	188	11.83	21,620	14.95	41,355	4.16
Unknown causes	19	1.19	1,669	1.15	5,981	0.61
Totals	1,590	100.00	$144,659	100.00	$993,484	100.00

Number and Causes of Forest Fires for Last Ten Years.

Causes.	1934.	1933.	1932.	1931.	1930.	1929.	1928.	1927.	1926.	1925.
Lightning	320	285	336	475	892	638	322	512	557	632
Campers	312	234	230	470	344	358	274	182	351	426
Railways operating	103	77	156	295	149	267	282	185	376	337
Railways under construction	....	....	....	....	....	9	....	....	....	....
Smokers	415	197	197	435	294	387	294	163	238	286
Brush-burning (not railway-clearing)	117	77	108	243	171	167	149	78	157	202
Road, power, telephone, and telegraph	10	7	18	44	29	22	13	7	14	14
Industrial operations	41	32	17	57	39	65	80	50	104	137
Incendiarism	65	65	127	355	262	139	103	36	68	103
Miscellaneous (known causes)	188	90	64	96	68	100	84	52	126	150
Unknown causes	19	18	13	48	23	36	41	19	156	234
Totals	1,590	1,082	1,266	2,518	2,271	2,188	1,642	1,284	2,147	2,521

Comparison of Damage caused by Forest Fires in the Last Ten Years.

	1934.	1933.	1932.	1931.	1930.	1929.	1928.	1927.	1926.	1925.
Total number of fires	1,590	1,082	1,266	2,518	2,271	2,188	1,642	1,284	2,147	2,521
Area burned (acres)	638,690	301,486	421,297	994,979	602,675	909,620	106,977	101,944	659,871	1,023,789
Standing timber destroyed or damaged (M. ft. B.M.)	817,125	123,815	269,317	210,173	390,978	272,024	24,069	86,176	398,694	1,024,508
Amount salvable (M. ft. B.M.)	179,358	21,926	15,057	41,808	25,216	107,049	9,060	44,834	109,385	350,770
Damage to forests	$888,607	$308,964	$514,664	$1,477,181	$1,408,183	$941,738	$103,001	$141,102	$930,373	$2,121,672
Damage to other forms of property	$104,877	$146,758	$57,030	$326,305	$337,909	$226,919	$95,534	$74,606	$749,891	$625,518
Total damage	$993,484	$455,722	$571,694	$1,803,486	$1,746,092	$1,168,657	$198,535	$215,708	$1,680,264	$2,747,190

Prosecutions for Fire Trespass, 1934.

Forest District.	Information laid.	Contravention of Section 95 of "Forest Act."	Contravention of Section 114 of "Forest Act."	Burning without a Permit.	Failure to report Fire.	Refusing to fight Fire.	Stealing Supplies from Fire-line.	Fines.		Served Sentence in Gaol.	Suspended Sentence.	Cases dismissed.	Cases pending.	Cases withdrawn.
								No.	Amount.					
Vancouver	2	1	1	..	..	..	..	2	$75 00	..	..	..	..	..
Prince Rupert	..	..	..	..	..	..	..	..	.....	..	..	..	..	..
Fort George	..	..	..	..	..	..	..	..	.....	..	..	..	..	..
Kamloops	4	1	..	3	..	..	..	2	50 00	1	..	1	..	..
Nelson	15	8	1	..	..	5	1	4	180 00	2	4	5	..	..
Totals	21	10	2	3	..	5	1	8	$305 00	3	4	6	..	..
Totals, 1933	3	2	..	..	..	1	..	1	$25 00	1	..	1	..	..

Burning Permits, 1934.

Forest District.	Clearing Agricultural Land.				Clearing Logging-slash.				Clearing Railway Right-of-way.				Clearing Public Roads.				Grand Totals.			
	Permits issued.	Area burned over.	Fires escaped Control.	Fires set without Permit.	Permits issued.	Area burned over.	Fires escaped Control.	Fires set without Permit.	Permits issued.	Area burned over.	Fires escaped Control.	Fires set without Permit.	Permits issued.	Area burned over.	Fires escaped Control.	Fires set without Permit.	Permits issued.	Area burned over.	Fires escaped Control.	Fires set without Permit.
	No.	Acres.	No.	No.	No.	Acres.	No.	No.	No.	Acres.	No.	No.	No.	Acres.	No.	No.	No.	Acres.	No.	No.
Vancouver	3,637	4,903	4	7	21	2,541	3	....	16	5,759	....	1	82	285	....	....	3,756	13,488	7	8
Prince Rupert	931	1,880	2	....	15	21	....	....	18	50	1	....	14	39	....	....	978	1,990	3	....
Fort George	1,883	3,897	1	9	33	45	....	....	18	5	....	....	46	105	1	....	1,980	4,052	2	9
Kamloops	911	2,387	19	9	7	64	1	....	14	52	3	....	21	1,560	4	....	953	4,063	27	9
Nelson	1,458	2,438	2	18	2	31	1	2	23	106	2	2	13	67	....	3	1,496	2,642	5	25
Totals	8,820	15,505	28	43	78	2,702	5	2	89	5,972	6	3	176	2,056	5	3	9,163	26,235	44	51
Per cent	96.26	59.26	63.64	84.32	0.85	10.40	11.36	3.92	0.97	22.61	13.64	5.88	1.92	7.73	11.36	5.88	100.00	100.00	100.00	100.00
Totals, 1933	11,507	23,405	45	9	109	1,218	2	....	93	967	7	....	212	943	5	....	11,921	26,533	59	9
Per cent	96.51	88.21	76.27	100.00	0.92	4.59	3.39	....	0.79	3.64	11.86	....	1.78	3.56	8.48	....	100.00	100.00	100.00	100.00

EQUIPMENT, IMPROVEMENTS, AND MAINTENANCE.

VANCOUVER.

Equipment—	
Two Chevrolet cars	$1,779.00
Two Dodge cars	1,940.00
Three Ford cars	2,540.00
One marine engine	1,673.00
One dinghy	75.00
Miscellaneous tools	44.00
	$8,051.00
Improvement Maintenance—	
Campbell River Ranger Station	$558.00
Nanaimo Ranger Station	172.00
Squamish Ranger Station	185.00
Nodales Ranger Station	61.00
Little Mountain Lookout	285.00
Pocahontas Lookout	38.00
Mount Benson Lookout	94.00
Mount Bruce Lookout	44.00
Campbell Lake Lookout	54.00
Cowichan Lake Lookout	49.00
Comox Lookout	22.00
Bainbridge Lookout	78.00
Miscellaneous	36.00
	$1,676.00

PRINCE RUPERT.

Equipment—	
Miscellaneous tools, etc.	$96.00
Improvement Maintenance—	
Babine Telephone-line	$26.00
Thornhill Mountain Lookout	92.00
Miscellaneous	8.00
	$126.00

FORT GEORGE.

Equipment—	
One Ford car	$785.00
One Chevrolet car	761.00
Miscellaneous tools	12.00
	$1,558.00
Improvements—	
Churchill Lookout	$591.00
Improvement Maintenance—	
Fort St. James Ranger Station, etc.	$265.00
Red Mountain Ranger Station	35.00
Tsinkut Mountain Lookout	31.00
Fort Fraser Garage, etc.	22.00
Fort Fraser Lookout Telephone-line	39.00
Tsinkut Mountain Lookout Telephone-line	146.00
Pilot Mountain Lookout Telephone-line	183.00
Carried forward	$721.00

FORT GEORGE—*Continued.*

Brought forward	$721.00
Improvement Maintenance—*Continued.*	
Longworth Mountain Lookout Telephone-line	41.00
Fort Fraser Ranger Station	66.00
Bowron Lake Boat-house	64.00
Miscellaneous	78.00
	$970.00

KAMLOOPS.

Equipment—	
Five Chevrolet cars	$3,252.00
One Ford car	732.00
One Plymouth car	848.00
Miscellaneous tools, etc.	280.00
	$5,112.00
Improvement Maintenance—	
B.X. Mountain Telephone-line	$159.00
Little White Mountain Telephone-line	69.00
Sugar Mountain Lookout	25.00
Sugar Mountain Trails	339.00
Snow Mountain Telephone-line	20.00
Sugar Mountain Telephone-line	326.00
Williams Lake House	26.00
Alexis Creek Ranger Station	122.00
Miscellaneous	134.00
	$1,220.00

NELSON.

Equipment—	
One Plymouth car	$944.00
Seven Ford cars	5,632.00
One boat	155.00
Fire-fighting hose, etc.	527.00
Miscellaneous tools, etc.	217.00
	$7,475.00
Improvement Maintenance—	
Miscellaneous Trails	$389.00
Swansea Mountain Telephone-line	38.00
Swansea Mountain Lookout	25.00
Casey Mountain Telephone-line	42.00
Gold Creek Telephone-line	44.00
Elk Valley Telephone-line	137.00
Flathead Telephone-line	103.00
Moyie Mountain Telephone-line	30.00
Duncan River Telephone-line	237.00
Duncan River Cable Crossing	62.00
Johnson's Landing–Lardeau Telephone-line	73.00
Beaver Mountain Telephone-line	97.00
Elise Mountain Telephone-line	72.00
Saddle Mountain Telephone-line	87.00
Whatshan Lake Telephone-line	30.00
Miscellaneous	41.00
	$1,508.00

GRAZING.

An improvement was noted this year both in the condition of the range lands and in the prices obtained by the rancher for his beef, lambs, and wool. The grades of cattle shipped for slaughter likewise improved.

During the year a notable step has been taken toward a proper organization of research-work. As a result of a meeting held in Kamloops in 1933, the Dominion Range Experiment Station at Manyberries, Alberta, undertook certain research projects on the range near Kamloops, which it is hoped will lead to a permanent research station in this locality. Forage-plants collected by departmental officers in 1933 and forwarded to Ottawa through the Dominion Range Experiment Station were analysed and results of same received. A further determination of forage values will be made by analysis; these, in conjunction with other studies, will help promote proper range-management.

The occurrence of foot-rot in many bands of sheep has made it necessary to adopt control methods. In all cases the co-operation of the Veterinary Inspector of the Department of Agriculture has been secured. On his advice permits have been refused until the disease was cleaned up and, in the case of the Hunter's Range, actual closure for two years has been in force.

The work of examining and reporting on the extent and condition of Crown ranges in the various parts of the Interior was continued and, although the heavy fire season and shortage of staff interrupted the programme as originally planned, 157,000 acres were mapped.

Problems constantly arise requiring a close knowledge of range-types, capacities, conditions, and control of live stock, and it is the intention of the Department to continue the reconnaissance programme until all important range areas are covered. Many ranchers have not yet sufficient knowledge of the above-mentioned subjects.

A forward step in the development of wild-hay lands into grain-bearing areas is now being undertaken by a private company in the reclamation of the Creston Flats. During the last fifteen years the Government sold approximately 20,000 tons of wild hay from this area.

Range and Market Conditions.

Early snow that ran into the ground before freeze-up and plentiful rain in the fall of 1933, coupled with well-distributed rains during the early part of 1934, resulted in excellent conditions on all the lower ranges. The growth of forage was early and good, while water-holes on all parts of the range were filled. Conditions in the Kootenays were an exception to the foregoing on account of the lack of rainfall in the last half of the grazing season and the resultant drying-out of the ranges. On many of the high sheep-ranges conditions were not satisfactory. The spring opened very early and was followed by late heavy frosts and cold weather. On the high, open alpine meadows the vegetation was frozen back and growth seriously retarded. This condition held through the season and resulted in shortage of summer sheep-range.

The improvement in the price received for all products by the stockmen, combined with a pick-up in general business conditions, warrants a more cheerful outlook on the future by the industry.

Early in the season the top prices for beef were around 4½ cents per pound, and, while as customary the prices received in the autumn were lower, the average for the season, compared with 1933, was probably ½ cent per pound higher. Lamb prices ranged from an average of possibly 6½ cents early in the season to 4½ cents in the autumn. Wool prices ranged from over 16 cents to 6 or 7 cents per pound. The trend of prices indicated the advantage to the stockman of getting his products on the market early in the season.

Meetings were again held by departmental officials with stockmen throughout the Province to discuss various range problems with them and to promote co-operation with the Department.

Live Stock on Crown Ranges.

The number of live stock grazing under permit on Crown range in 1934, as compared with 1933, was as follows:—

	Cattle and Horses.	Sheep.
1933	58,770	34,329
1934	69,960	36,569

Range Improvement and Wild Horses.

Expenditures from the Range Improvement Fund during the present fiscal year to the end of December, 1934, amounted to $1,017.27. Further disbursements will be made as inspection reports are received for work already done. The construction and maintenance of these improvements this year cover seven mud-holes, six stock-trails, nine drift-fences, five water-developments, two holding-grounds, and five bridges.

The work of clearing the ranges of wild horses is being continued with beneficial results. Shooting is now taking place on the northern areas, and different live-stock associations in the Southern Interior are freeing their range units of scattered, small bands of wild horses by "round-up."

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