PROVINCE OF BRITISH COLUMBIA

---

DEPARTMENT OF LANDS AND FORESTS

HON. R. E. SOMMERS, *Minister* DR. C. D. ORCHARD, *Deputy Minister of Forests*

# REPORT

of

# THE FOREST SERVICE

YEAR ENDED DECEMBER 31ST

1955

VICTORIA, B.C.
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1956

VICTORIA, B.C., February, 1956.

*To the Honourable* FRANK MACKENZIE ROSS, C.M.G., M.C.,
*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 Service of the Department of Lands and Forests for the calendar year 1955.

R. E. SOMMERS,
*Minister of Lands and Forests.*

*The Honourable R. E. Sommers,*
*Minister of Lands and Forests, Victoria, B.C.*

SIR,—There is submitted herewith the Annual Report on activities of the Forest Service during the calendar year 1955.

C. D. ORCHARD,
*Deputy Minister and Chief Forester.*

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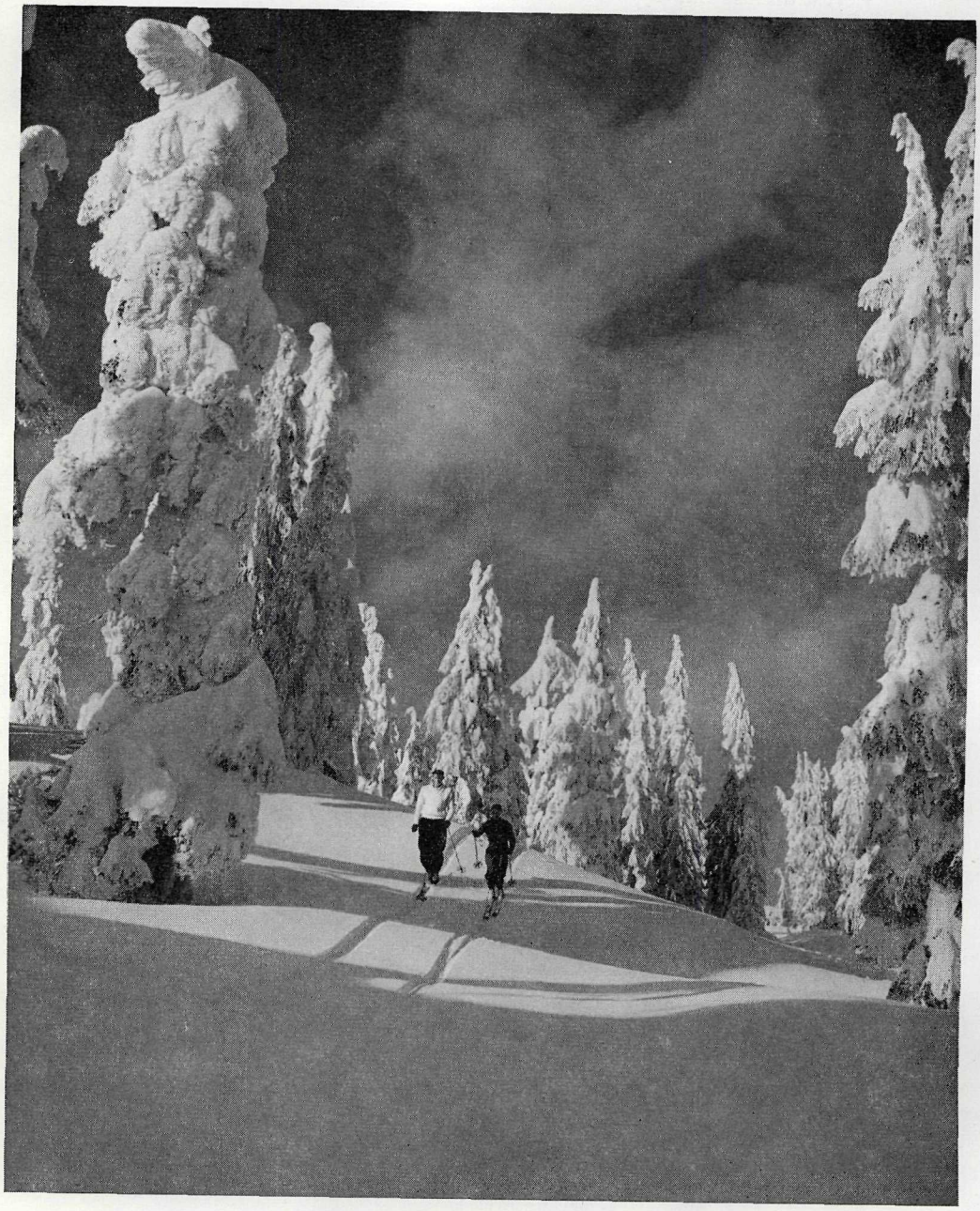


Ski-ing in Mount Seymour Provincial Park.

# REPORT OF THE FOREST SERVICE

The most casual perusal of this Report will give ample evidence of the increases in the volume and diversity of Forest Service activities during the past year. The volume of total cut, values of production, revenues, expenditures, work load, and other phases of activity all show an upward trend that, in some instances, borders on the phenomenal.

## Legislation

During the session of the Legislature early in the year the "Grazing Act," administered by the Grazing Division of the Service in respect to Crown range, was amended to permit the removal and seizure of stock in trespass on Crown range.

A number of amendments, generally minor in character, were made in the "Forest Act." In the case of Crown lands in a forest management licence held under provisions of other Acts, use and occupancy was made subject to the "Forest Act" rather than the will of the Lieutenant-Governor in Council, and such use and occupancy is to be in accordance with the principles of sustained-yield forest management. The provision for giving permission to cut timber within a forest management licence, to an established operator—other than the management licensee—who has been dependent on timber incorporated within the licence, was further controlled. Another amendment limited the area subject to enactments respecting compulsory reforestation of alienated land to that portion of the Province west of the Cascades.

A series of amendments terminated the operations of the Forest Protection Fund and made funds required for that purpose the subject of an annual vote of the Legislature and derived from the Consolidated Revenue Fund in an amount not less than $2,000,000. Tree-farms were included in the forest-land tenures subject to forest-protection taxation.

## Forest Surveys and Inventory

In the fifth year of financial contribution from the Canadian Government to carry on the forest-resources survey, a field crew of 232 covered 22,457,200 acres in the Fraser, Homathko, Dean, and other drainages. The report includes revised figures on the Kingcome region (No. 50) and divides the Bella Coola, Lower Skeena, and Nass regions (Nos. 54, 64, and 75) into Coastal and Interior areas. These are the only regions that occur in both areas.

Progress was made with the production of standard cubic-foot volume tables for twenty-two species and net-volume factors applicable to losses from decay, culling, and felling breakage.

## Forest Research

Emphasis was placed on completing compilations and reports on projects on which field-work data had accumulated.

Youth-training crews at Cowichan Lake and Aleza Lake Experiment Stations performed road development, slash-disposal, and maintenance work.

Studies comprised a reconnaissance of regeneration in the Queen Charlotte Islands; thinning in a 14-year-old plantation near Campbell River; reconnaissance at the northern limit of Douglas fir on Gardner Canal; rodent-control and direct seeding of Douglas fir; genetics in Douglas fir; the survey of cone production on Vancouver Island; the identification and distribution of spruce in the Interior; seed production and factors affecting reproduction in the spruce-balsam forest type; seed production in relation to climate; regeneration studies under different harvesting treatments in spruce-balsam in the Kamloops Forest District; a regeneration study in mature cedar-hemlock in the Nelson Forest

District; and soil fertility at Forest Service nurseries. A partial-cutting experiment in mixed wet-belt forest in the Nelson Forest District was damaged by wind. Permanent growth-and-yield plots were remeasured.

Reports were prepared on improving volume-cruise estimates on timber sales, on a simplified computing of log-scales, and on analysis of marked and diameter-limit timber sales.

Co-operation was extended to United States agencies in provenance studies on yellow pine and Coast Douglas fir, and with Norway on aspen.

Thirty-three research projects are listed as active during the year. Four research notes, two technical publications, and one technical paper were produced, and one technical publication produced in 1954 and not previously reported is listed.

## Reforestation

The extreme cold of early November did extensive damage in the three Coast nurseries. These nurseries had previously shipped 6,983,000 seedlings and the East Kootenay nursery 310,500. Seed-beds were sown to produce 6,000,000 trees on the Coast and 1,000,000 in the Interior in 1957.

Seed-collecting was fair to poor, with only 200 pounds of Douglas fir being secured on the Coast and no seed in the Interior. Competition for seed has resulted in excessive prices and unwarranted mutilation of seed-trees.

Regeneration surveys of 8,300 acres on the Coast showed acceptable stocking on most of the acreage. A further 31,000 acres in the Lower Fraser Valley was reconnoitred. In the East Kootenay a detailed examination of a further 27,423 acres was completed.

On the Coast the Service planted 3,425 acres with 2,184,600 seedlings and industry 7,076 acres with 4,623,400 seedlings. In the Interior 405 acres were planted. Reforestation crews felled 73,566 snags during the year on 6,838 acres.

Survival on 1954 plantings was 85 per cent, a slight decrease from figures of the preceding year. Survival on the 1952 spring plantations had dropped from the 74 per cent noted in 1954 to 68 per cent. Examination of fall-planted sites showed generally poorer survival than spring-planted projects.

## Parks and Recreation

Increased use and established facilities in partially improved parks are resulting in greatly increased maintenance costs in relation to development costs, thereby limiting the moneys available under the present allotments for the latter work. This resulted in the major effort during the year being concentrated on Champion Lakes Park in the Nelson Forest District.

Youth-training crews are admirably adapted to park development, and 136 boys were employed. The park acreage was reduced to less than at any previous time since 1940.

Recreational values were assessed in seven areas applied for as forest management licences, along the shore-line of four of the larger lakes, and in numerous other localities along highways and elsewhere.

Heavy use of the smaller parks has resulted in serious wear to the forest-cover, necessitating measures to curb and direct activities. General maintenance and expansion were carried out in the Vancouver Island and Mainland parks and are reported in detail for each area.

Wildlife studies included research on moose, mountain-cariboo, and grizzly bear in Wells Gray Park, mule deer in Manning Park, moose ranges in the Cariboo, and preliminary reconnaissance of wildlife in Champion Lakes, Mount Robson, and Tweedsmuir Parks.

Six Class "A" and two Class "C" parks were established, one Class "C" cancelled, four parks increased in size, and two reduced during the year.

The acreage of the seventy-five existing parks at the end of the year was 7,997,618. The additional area of land reserved for recreation at that time was 779,482 acres. Estimated park entries during the year were 1,560,000 people. Citizens of British Columbia represented from 81 to 91 per cent of the total, the majority of the remainder being from the United States, with roughly 2½ per cent from elsewhere in Canada.

## Working Plans

Early in the year the Government announced that, pending submission of a report by Chief Justice G. McG. Sloan as sole Commissioner of the Royal Commission on Forests and Forestry, issuance of further forest management licences would be held in abeyance. Prior to this decision, four new forest management licences had been awarded during the year, bringing the total to twenty-three with a productive forest area of 4,685,492 acres and an allowable annual cut of 170,530,000 cubic feet. Seventeen additional applications have been approved with 1,454,972 productive acres and 54,011,000 cubic feet capacity. One hundred and four other applications are in various stages of review. Three new public working circles—the Arrowhead, Narcosli, and Similkameen—were created, and an existing one—Cariboo—was subdivided to form the Quesnel Lake and Williams Lake Working Circles. The total thereby increased from twenty-nine to thirty-three, containing 9,328,447 productive acres with annual capacity of 189,400,000 cubic feet. Four farm wood-lot licences were awarded and three new tree-farms certified, bringing cumulative totals of these forms of sustained-yield forests to twenty-nine and fifteen respectively.

## Public Relations and Education

Radio education on forest-fire prevention was continued at the customary level and, through the co-operation and generosity of CFJC, Kamloops, a special series of programmes on resource conservation was broadcast under the title of "Conservation Council." Production of publications and other printed matter was somewhat increased. A considerable increase in photographic work was achieved, as well as some extension in library services. A theatre trailer was produced urging care with fire, and this was projected in fifty-four theatres to an estimated 300,000 people. The highway-roadway-sign project was more than doubled, and progress in production of Ranger-station and other signs maintained. The lecture service to schools reached a larger audience due to the fact that work was concentrated in the large metropolitan centres.

## Forest Management

The total cut for the year—over 6 billion feet—and the total value of production—over $630,000,000—created new records. Douglas fir was the leading species, with 39 per cent of the total cut, followed by hemlock, 20 per cent; cedar, 15 per cent; and spruce, 13 per cent. The remaining 13 per cent was derived from balsam, lodgepole pine, larch, white and yellow pine, and other species in that order. Approximately 70,000,000 cubic feet were cut on forest management licences.

The cut in all forest districts except Vancouver showed increases. Timber sales were in greater number than ever before, with an estimated value of over $45,000,000. There were 2,561 operating mills—another record. Registered timber marks totalled 4,968. Stumpage prices remained high and stable, with fir and cedar showing increase.

Forest-cover maps numbering 1,031 were revised, and 26,488 aerial photographs were added to Forest and Ranger District libraries.

## Grazing

Forest range-lands increase the Province's live-stock production and aid the ranching industry economically. They require good grazing management to obtain maximum

sustained use of the forage-crop without jeopardy to other forest uses, to attain equitable distribution of grazing privileges, and to correlate good range management with other requirements of live-stock production.

Range-administration duties increased during the year and will continue to do so as existing ranges become stocked to near full capacity. There is increasing demand of areas for other uses—logging, recreation, land settlement, wildlife, and domestic water requirements.

Fewer grazing permits were issued than in the preceding year, but the number of animals was higher and permitted range-use increased 7.8 per cent. Hay permits increased in number but tonnage was lower. Due to lower prices for live stock in 1954, grazing fees were down for cattle and horses, but remained the same for sheep.

Primary grazing surveys covered 640,410 acres during the year. Range-readiness studies were carried out to determine an average readiness date for the areas covered. Some $35,000 was disbursed by the Range Improvement Fund on a wide diversity of projects. More range-seeding was accomplished than in any previous year.

Studies of biological control of goatweed were continued in co-operation with Federal officers. Chemical control efforts were limited. Wild-horse disposal was continued. Damage from grasshoppers was light.

The weather during the year was generally inclement, with cold weather persisting later than usual in the spring and severe winter conditions developing earlier.

Cattle shipments were down, as were cattle and sheep prices, and wool prices. Losses to natural causes were again lighter, but cattle-rustling was unusually high. There were no new outbreaks of disease amongst stock.

## Engineering Services

Funds allotted for forest-development roads exceeded $1,000,000 and expanded operations permitted construction of 27 miles of road, over five times the programme accomplished four years earlier in the first year of operations. A broad programme of general engineering was also completed. Road reconnaissance covered 140 miles, and road location 36.3 miles.

The fleet of vehicles was increased to new figures, and a new type of vehicle—a muskeg tractor for use particularly on bad terrain—was tried out. The number of lighting plants was increased.

The new Forest Service office building at Prince Rupert was completed, and numerous offices, warehouses, garages, and Ranger and Assistant Ranger residences designed and built, construction being by both contract and Forest Service crews. New types of trailers and launches adapted to particular needs were designed and built.

Boat maintenance is taxing the capacity of the Marine Station to the detriment of new construction, but some new building was accomplished. The woodworking shop carried out a heavy programme of production in sectional buildings, office furniture, boxes and crates for equipment, signs, exhibits, portable bunk-houses, and other items. Machine-shop production included fire-finders, epidiascopes, and office and field equipment such as radio-antenna fittings, pump adapters, hose fittings, valves, strainers, and numerous other small items.

Sixty-eight new transmitting units were added to the Service radio network, to bring the total sets to 880. The first F.M. network in the Interior was established in the Kamloops Forest District, but due to lack of power at key points and other difficulties the circuit is still primarily seasonal.

## Protection

Fire danger during the year was below normal due to low temperatures and favourable precipitation occurrence. The number of fires was below the ten-year average. Fire-

fighting costs were correspondingly low, although double that of the previous year. Major expenditures were for lightning-fires. A total of 46,694 acres were burned, 87 per cent in the Prince George District; of this latter, 80 per cent was not commercial forest.

Work was maintained on the fire atlas and fire-statistics ledger. One crew was in the field on visibility mapping and lookout photography. Twenty-seven possible lookout-sites were examined, and six primary and two secondary sites recommended. Field work in protection planning was completed in four public working circles. Fire-weather records and studies were maintained.

Sixteen suppression crews were in the field. These fought 158 fires, and held all but five to less than 5 acres in area. A total of 2,280 flying-hours were logged under the protection flying contract.

One hundred and forty miles of protection-roads and 220 miles of trail were built, to bring the total mileage of these arteries to 1,386 miles.

Spring slash-burning was limited due to wet weather, but fall burning conditions were favourable and results uniformly successful. Accidental slash-burn acreage was the lowest on record. Snag-falling by the Forest Service totalled 11,651 acres.

There were eighty-three prosecutions for infractions of fire laws. One general closure was imposed in the Vancouver District and three recreational closures in the Nelson District. Honorary Fire Wardens appointed numbered 981, and Fire Prevention Officers 1,065.

## Forest-insect Investigations

Three insects—the black-headed budworm, the spruce budworm, and the Douglas-fir beetle—were of major interest during the year. The first noted severely defoliated about one-half of 1,600 square miles known to be infested on Vancouver Island. Natural control factors seemed ineffective. The trend indicates an increase in severity and range. Improvement is expected, however, on infested areas in the Queen Charlotte Islands.

On the Lower Mainland the spruce-budworm outbreak covered some 170 square miles for the third or fourth year of defoliation. The attack is believed to be on the wane. The two-year-cycle spruce budworm also continued to decrease.

The Douglas-fir beetle caused widespread damage, notably in various parts of the Vancouver, Kamloops, and Prince George Forest Districts, and the situation is becoming critical around Lac la Hache.

Western-hemlock looper populations decreased. Bark-beetles on Engelmann spruce have practically disappeared. Studies were continued on ambrosia beetles.

## Forest-disease Investigations

Outbreaks of new diseases were not encountered, but additional damage through occurrence of known diseases was reported. The forest-disease survey disclosed an apparently new species of needle-damaging fungus, and first North American, first Western North American, and first British Columbian records respectively of three different diseases.

Infection by needle-cast diseases was generally lower than in 1954, although three different forms caused defoliation on the Lower Coast, on the Queen Charlotte Islands, and in the Interior respectively.

Damping-off losses in Forest Service nurseries were studied. Investigation of *Poria weirii* root-rot, pole-blight of western white pine, and resistance of white-pine strains to blister-rust continued. Studies of logging and post-logging damage in the Prince George Forest District and of techniques in the orderly removal of mature hemlock on Vancouver Island were commenced.

Indian-paint fungus investigations were continued. In all, twenty-three projects were under consideration, with field work for four of these being terminated.

## Forest Ranger School

The eighth class to be enrolled in the school, comprising three Forest Assistants and eighteen Assistant Rangers, commenced their studies in January. They will complete their nine-month course in April, 1956. No changes were made in the basic curriculum, but the subject material of many courses was revised. Following the spring term of the regular class, a six-day course for lookout-men in the Vancouver Forest District was given to sixteen students, who subsequently were appointed to stations for the summer fire season.

## Forest Accounts

Value and volume of business established a new record for the year, 23.8 per cent higher than the previous record of 1953. Forest revenues for the year totalled $23,127,037.10.

Centralization of divisional accounting functions in the Victoria head office was initiated in October.

The Vancouver Log Salvage District was extended early in December, with consequent increase in salvage permits to a total of 315.

## Personnel

Three new Ranger districts were created—two in the Prince Rupert and one in the Prince George District. The official scaling staff was reorganized. A survey was made of the organizational and staff efficiency of the Service. The permanent establishment was approved with 804 employees. During the year 148 new Civil Service appointments were made and 122 employees left the Service. Staff turnover increased 3.5 per cent to an average of 16.1, with an extreme turnover of 79.2 per cent in the clerical and draughting group of the Prince George District. There were numerous new classifications developed, together with salary adjustments. The Youth Training Programme employed 236 boys during July and August on road and trail maintenance; camp-site, picnic-ground, and park development; and research projects.

## Co-operation

Through the courtesy of the Forestry Zoology and Pathology Units (Victoria, B.C.), Forest Biology Division, Science Service, Canada Department of Agriculture, an account of those phases of forestry in British Columbia is included in this Report.

# FOREST SURVEYS AND INVENTORY

The Division completed the fifth year during which financial assistance from the Canadian Government has aided the forest resources survey according to the specifications of the Agreement for Inventory implemented under the Canada Forestry Act. With this help, to date, air photography, interim maps, and the required field work have been accomplished for most of the Province south of the 56th parallel. Continued assistance will extend this phase of the work to cover all the remaining accessible forest areas and provide the more intensive planning data required for the development, management, and protection of Crown forest units.

## FOREST SURVEYS

In the 1955 field season, 232 persons were employed on the work which, when compilations are completed, will provide maps and forest data of the following areas:—

| | Acres |
|---|---|
| Fraser drainage (Chilcotin, West Road River, Ootsa Lake) | 7,558,000 |
| Other coastal drainages (Homathko, Dean, North Coast) | 14,408,000 |
| Special cruises (Morice, Willow, Naver, and taxation) | 491,200 |
| Total | 22,457,200 |

## FOREST INVENTORY

With this Report are statements showing the forest resources of the Province, subdivided into the Coastal and Interior areas, and a progress change sheet showing revised totals. Similar detail for the other regions may be found by referring to the 1953 and 1954 Annual Reports.

Progress was made during 1955 with the production of standard cubic-foot total-volume tables, loss factors, and the compilation of samples. This will enable future statements to eliminate much of the aerial reconnaissance data which was used to produce the 1953 statement.

Standard volume tables have been prepared in interim form for all but two of the commercial tree species in the Province. The working plan proposed in the 1952 Annual Report was followed. Old data and data available from outside the Service were used, and many new measurements were taken by forest survey parties. The tables present cubic-foot volumes of the entire peeled stem by 2-inch d.b.h. classes and 10-foot height classes. Along with these total volumes are presented factors which, when applied, give gross merchantable volumes to three arbitrary but realistic standards of utilization. Field measurements are still being collected, and it is planned that finalized tables based on additional data and experience will be published. One of the interim tables, for Interior Douglas fir, is included with this Report to indicate the form of presentation. Interim tables in the same form are available for the following:—

Table No.

1.—Douglas Fir, Coast, Immature (*Pseudotsuga menziesii* Franco) (trees up to 140 years included in data).
2.—Douglas Fir, Coast, Mature (over 80 years).
3.—Douglas Fir, Interior (all ages).
4.—Red Cedar, Coast, Immature (*Thuja plicata* Donn.) (up to 140 years).
5.—Red Cedar, Coast, Mature (over 80 years).
6.—Red Cedar, Interior (all ages).
7.—Western Hemlock, Coast, Immature (*Tsuga heterophylla* Sarg.) (up to 140 years).
8.—Western Hemlock, Coast, Mature (over 80 years).

Table No.

9.—Western Hemlock, Interior (all ages).
10.—Balsam, Coast (*Abies amabilis* Forbes) (all ages).
11.—Balsam, Interior (*Abies lasiocarpa* Nutt.) (all ages).
12.—Sitka Spruce, Immature (*Picea sitchensis* Carr.) (up to 140 years).
13.—Sitka Spruce, Mature (over 80 years).
14.—Spruce, Interior (*Picea Engelmanni* Parry, *P. glauca* Voss, and *P. mariana* B.S.P.) (all ages).
16.—White Pine, Coast and Interior (*Pinus monticola* Dougl.) (all ages).
17.—Lodgepole Pine, Interior and Coast (*Pinus contorta* Dougl.) (all ages).
18.—Western Yellow Pine (*Pinus ponderosa* Laws.) (all ages).
19.—Western Larch (*Larix occidentalis* Nutt.) (all ages).
20.—Cottonwood, Coast and Interior (*Populus trichocarpa* Torr. & Gray) (all ages).
21.—Red Alder, Coast (*Alnus rubra* Bong.) (all ages).
23.—Birch, Coast and Interior (*Betula papyrifera* varieties) (all ages).
24.—Aspen (*Populus tremuloides* Michx.) (all ages).

Insufficient data was available to prepare Tables 15 and 22 (yellow cedar and broadleaf maple).

Additional factors to aid in applying the new volume tables have been compiled from the tree measurements obtained. They are presented in preliminary form in a table accompanying this Report, indicating, by the forest-inventory area-reference system, the average values in different zones of the Province of the further losses to be expected when mature timber is harvested. They are applicable to gross merchantable volumes of " close " utilization standards (1-foot stump height, 4-inch top diameter inside bark) and are shown in three parts successively accumulative, namely: (1) Actual volume of decayed wood; (2) waste of sound wood resulting from the arbitrary culling of logs greater than 66 per cent defective and trees greater than 50 per cent defective, based on a minimum log length of 16 feet; and (3) felling breakage. These factors have been worked up by diameter classes by species and the average shown in the table to illustrate the results. Information on total volume and the various losses present in the stand or resulting from utilization and extraction standards is essential to control the non-sampling error associated with the use of volume tables as a tool in cruising.

# FOREST RESOURCES OF BRITISH COLUMBIA, AS AT DECEMBER 31ST, 1955

(In acres and thousand cubic feet.)

## COASTAL AREA

| Region Name | Region No. | Ownership | Acres | Mature Volume F | C | H | S | B | Pw | Py | Pl | Cy | L | Cot | Other Deciduous | Total | Immature (Acreage by Age-classes) 1′–20′ | 21′–60′ | 61′+ | Total | N.S.R. Total | Total Productive |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bella Coola | 54 | Crown | 815,436 | 224,937 | 653,593 | 831,949 | 292,206 | 388,199 | | | 21,244 | 60,635 | | 13,858 | 4,640 | 2,491,261 | 24,458 | 36,399 | 22,902 | 83,759 | 8,551 | 907,746 |
| | | Crown granted | 11,284 | 6,262 | 11,290 | 9,073 | 4,224 | 3,495 | | | 279 | 1,619 | | 170 | 460 | 36,872 | 590 | 1,372 | 1,880 | 3,842 | 1,059 | 16,185 |
| | | Licences and leases | 67,649 | 26,112 | 62,482 | 72,291 | 23,654 | 26,304 | | | 1,994 | 4,552 | | 1,106 | 1,880 | 220,375 | 3,605 | 7,248 | 3,698 | 14,551 | 2,112 | 84,312 |
| | | Canada control | 3,440 | 917 | 2,753 | 3,536 | 1,942 | 1,656 | | | 32 | 412 | | 203 | 190 | 11,641 | 630 | 967 | 120 | 1,717 | | 5,157 |
| | | Totals | 897,809 | 258,228 | 730,118 | 916,849 | 322,026 | 419,654 | | | 23,549 | 67,218 | | 15,337 | 7,170 | 2,760,149 | 29,283 | 45,986 | 28,600 | 103,869 | 11,722 | 1,013,400 |
| Lower Skeena | 64 | Crown | 422,350 | | 401,470 | 1,137,290 | 375,790 | 517,240 | | | 3,690 | 82,640 | | 46,180 | 8,280 | 2,572,580 | 320 | 7,530 | 2,640 | 10,490 | 20,210 | 453,050 |
| | | Crown granted | 19,240 | | 28,980 | 47,870 | 13,120 | 16,900 | | | 140 | 6,710 | | 1,430 | 320 | 115,470 | 120 | 790 | 160 | 1,070 | 5,700 | 26,010 |
| | | Licences and leases | 10,020 | | 12,840 | 28,350 | 14,940 | 13,910 | | | 140 | 1,710 | | 14,080 | 770 | 86,740 | | 670 | 170 | 840 | 680 | 11,540 |
| | | Canada control | 25,890 | | 21,780 | 15,380 | 3,390 | 8,150 | | | 720 | 6,120 | | 70 | 10 | 55,620 | | | | | 670 | 26,560 |
| | | Totals | 477,500 | | 465,070 | 1,228,890 | 407,240 | 556,200 | | | 4,690 | 97,180 | | 61,760 | 9,380 | 2,830,410 | 440 | 8,990 | 2,970 | 12,400 | 27,260 | 517,160 |
| Nass | 75 | Crown | 344,357 | | 139,612 | 712,396 | 232,026 | 247,803 | | | 8,620 | 19,846 | | 23,940 | 5,100 | 1,389,343 | 5,163 | 16,911 | 10,892 | 32,966 | 97,827 | 475,150 |
| | | Crown granted | 1,960 | | 974 | 2,426 | 761 | 725 | | | 10 | 266 | | 46 | 10 | 5,218 | 230 | | | 230 | 545 | 2,735 |
| | | Licences and leases | 4,580 | | 1,713 | 6,735 | 12,891 | 5,910 | | | 290 | 5 | | 6,215 | 360 | 34,119 | | | | | 350 | 4,930 |
| | | Canada control | 6,267 | | 4,076 | 11,520 | 9,292 | 4,183 | | | 390 | 224 | | 7,024 | 390 | 37,099 | 160 | | 1,280 | 1,440 | 5,923 | 13,630 |
| | | Totals | 357,164 | | 146,375 | 733,077 | 254,970 | 258,621 | | | 9,310 | 20,341 | | 37,225 | 5,860 | 1,465,779 | 5,553 | 16,911 | 12,172 | 34,636 | 104,645 | 496,445 |
| B.C. Coast | — | Crown | 7,874,882 | 2,984,752 | 9,294,822 | 14,546,898 | 2,808,653 | 6,020,085 | 127,844 | | 76,266 | 1,159,835 | | 112,311 | 263,876 | 37,395,342 | 355,268 | 768,727 | 318,239 | 1,442,234 | 896,994 | 10,214,110 |
| | | Crown granted | 964,723 | 3,353,984 | 1,082,455 | 2,658,407 | 51,405 | 755,660 | 103,782 | | 13,867 | 155,787 | | 4,560 | 15,304 | 8,195,211 | 275,061 | 456,268 | 89,741 | 821,070 | 487,439 | 2,273,232 |
| | | Licences and leases | 1,527,408 | 867,434 | 2,372,600 | 3,604,924 | 551,416 | 1,447,055 | 44,884 | | 6,949 | 235,165 | | 24,951 | 64,626 | 9,220,004 | 49,940 | 93,087 | 39,800 | 182,827 | 309,290 | 2,019,525 |
| | | Canada control | 63,733 | 33,786 | 52,207 | 66,026 | 20,034 | 26,671 | 558 | | 1,207 | 9,336 | | 7,608 | 5,360 | 222,793 | 6,753 | 16,994 | 3,984 | 27,731 | 29,445 | 120,909 |
| | | Totals | 10,430,746 | 7,239,956 | 12,802,084 | 20,876,255 | 3,431,508 | 8,249,471 | 277,068 | | 98,289 | 1,560,123 | | 149,430 | 349,166 | 55,033,350 | 687,022 | 1,335,076 | 451,764 | 2,473,862 | 1,723,168 | 14,627,776 |

## INTERIOR AREA

| Region Name | Region No. | Ownership | Acres | F | C | H | S | B | Pw | Py | Pl | Cy | L | Cot | Other Deciduous | Total | 1′–20′ | 21′–60′ | 61′+ | Total | N.S.R. Total | Total Productive |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bella Coola | 54 | Crown | 136,770 | 78,457 | 78,110 | 84,905 | 57,523 | 51,491 | | | 27,423 | | | 8,823 | | 386,732 | 275,379 | 126,776 | 38,615 | 440,770 | 122,956 | 700,496 |
| | | Crown granted | 100 | | | | 100 | 60 | | | 40 | | | | | 200 | 256 | 640 | 384 | 1,280 | 100 | 1,480 |
| | | Canada control | | | | | | | | | | | | | | | 120 | 30 | | 150 | | 150 |
| | | Totals | 136,870 | 78,457 | 78,110 | 84,905 | 57,623 | 51,551 | | | 27,463 | | | 8,823 | | 386,932 | 275,755 | 127,446 | 38,999 | 442,200 | 123,056 | 702,126 |
| Lower Skeena | 64 | Crown | 226,613 | | 147,360 | 654,710 | 192,450 | 293,920 | | | 7,690 | 11,070 | | 6,190 | 3,180 | 1,316,570 | 3,990 | 3,636 | 4,220 | 11,846 | 9,780 | 248,239 |
| | | Crown granted | 5,500 | | 6,580 | 19,520 | 5,360 | 10,260 | | | 40 | 740 | | 100 | 90 | 42,690 | 770 | 1,180 | 60 | 2,010 | 2,610 | 10,120 |
| | | Licences and leases | 390 | | 150 | 1,560 | 490 | 760 | | | | 20 | | 10 | 10 | 3,000 | | | | | 10 | 400 |
| | | Canada control | 960 | | 370 | 3,840 | 1,200 | 1,880 | | | | 50 | | 20 | 20 | 7,380 | 50 | | | 50 | 10 | 1,020 |
| | | Totals | 233,463 | | 154,460 | 679,630 | 199,500 | 306,820 | | | 7,730 | 11,880 | | 6,320 | 3,300 | 1,369,640 | 4,810 | 4,816 | 4,280 | 13,906 | 12,410 | 259,779 |
| Nass | 75 | Crown | 1,554,006 | | 162,982 | 2,692,626 | 1,025,174 | 1,498,812 | | | 136,445 | | | 50,844 | 14,660 | 5,581,543 | 36,590 | 50,487 | 62,562 | 149,639 | 85,892 | 1,789,537 |
| | | Crown granted | 23,377 | | 1,560 | 49,580 | 22,870 | 19,755 | | | 4,850 | | | 2,119 | 1,810 | 102,544 | | | 1,670 | 1,670 | 2,433 | 27,480 |
| | | Canada control | 5,650 | | 614 | 5,004 | 1,611 | 1,033 | | | | | | 861 | | 9,123 | | | 410 | 410 | 160 | 6,220 |
| | | Totals | 1,583,033 | | 165,156 | 2,747,210 | 1,049,655 | 1,519,600 | | | 141,295 | | | 53,824 | 16,470 | 5,693,210 | 36,590 | 50,487 | 64,642 | 151,719 | 88,485 | 1,823,237 |
| B.C. Interior | — | Crown | 29,035,814 | 6,418,272 | 4,607,393 | 9,678,422 | 29,403,812 | 12,832,320 | 277,647 | 390,856 | 9,870,245 | 16,679 | 470,506 | 955,044 | 840,057 | 75,761,253 | 4,044,808 | 18,358,699 | 11,101,506 | 33,505,013 | 9,405,377 | 71,946,204 |
| | | Crown granted | 606,426 | 539,160 | 113,880 | 138,432 | 225,471 | 90,981 | 13,363 | 48,920 | 87,981 | 799 | 29,582 | 11,524 | 10,424 | 1,310,517 | 127,177 | 1,042,618 | 767,269 | 1,937,064 | 663,327 | 3,206,817 |
| | | Licences and leases | 238,433 | 78,260 | 183,697 | 120,089 | 234,001 | 83,845 | 14,031 | 4,180 | 17,180 | 130 | 3,273 | 2,845 | 4,434 | 745,965 | 17,198 | 59,926 | 40,626 | 117,750 | 29,963 | 386,146 |
| | | Canada control | 218,536 | 90,760 | 11,134 | 21,112 | 92,179 | 14,922 | 49 | 22,571 | 62,761 | 91 | 17,776 | 1,073 | 796 | 335,224 | 12,564 | 159,280 | 97,460 | 269,304 | 42,284 | 530,124 |
| | | Totals | 30,099,209 | 7,126,452 | 4,916,104 | 9,958,055 | 29,955,463 | 13,022,068 | 305,090 | 466,527 | 10,038,167 | 17,699 | 521,137 | 970,486 | 855,711 | 78,152,959 | 4,201,747 | 19,620,523 | 12,006,861 | 35,829,131 | 10,140,951 | 76,069,291 |

NOTE.—1. These tables incorporate a separation of total inventory of the three regions in the Province which occur in both Coastal and Interior areas. The 1953 Forest Service Annual Report contained a key-map showing the area reference system of the forest inventory by regions.

2. Other Coastal regions are as follows: 1–11, 27–32, 49–53, 61–63. These regions fall wholly within the Coastal area.

3. Other Interior regions are as follows: 12–26, 33–48, 55–60, 65–74, 76–88. These regions fall wholly within the Interior area.

# PROGRESS CHANGE TO BRITISH COLUMBIA FOREST RESOURCES AS AT DECEMBER 31ST, 1955

(Last report February 1st, 1955 (*see* 1954 Forest Service Annual Report).)

(In acres and thousand cubic feet.)

| Region Name | Region No. | Ownership | Acres | Mature Volume F | C | H | S | B | Pw | Py | Pl | Cy | L | Cot | Other Deciduous | Total | Immature (Acreage by Age-classes) 1′–20′ | 21′–60′ | 61′+ | Total | N.S.R. Total | Total Productive |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kingcome | 50 | Crown | 166,581 | 35,190 | 418,920 | 661,640 | 100,760 | 133,150 | 12,100 | | | 58,370 | | 180 | 9,280 | 1,429,590 | 6,152 | 1,529 | 16,615 | 24,296 | 77,175 | 268,052 |
| | | Crown granted | 530 | 190 | 450 | 2,500 | 140 | 130 | | | | 10 | | 10 | 10 | 3,440 | | | | | 310 | 840 |
| | | Licences and leases | 14,016 | 4,240 | 30,790 | 41,220 | 11,800 | 8,120 | | | | 1,160 | | | 480 | 97,810 | 892 | 2,299 | 715 | 3,906 | 4,787 | 22,709 |
| | | Canada control | 95 | 20 | 140 | 260 | 10 | 20 | | | | | | | | 450 | 5 | 30 | 10 | 45 | 630 | 770 |
| | | Totals | 181,222 | 39,640 | 450,300 | 705,620 | 112,710 | 141,420 | 12,100 | | | 59,540 | | 190 | 9,770 | 1,531,290 | 7,049 | 3,858 | 17,340 | 28,247 | 82,902 | 292,371 |
| Revised B.C. totals | — | Crown | 36,910,696 | 9,403,024 | 13,902,215 | 24,225,320 | 32,212,465 | 18,852,405 | 405,491 | 390,856 | 9,946,511 | 1,176,514 | 470,506 | 1,067,355 | 1,103,933 | 113,156,595 | 4,400,076 | 19,127,426 | 11,419,745 | 34,947,247 | 10,302,371 | 82,160,314 |
| | | Crown granted | 1,571,149 | 3,893,144 | 1,196,335 | 2,796,839 | 276,876 | 846,641 | 117,145 | 48,920 | 101,848 | 156,586 | 29,582 | 16,084 | 25,728 | 9,505,728 | 402,238 | 1,498,886 | 857,010 | 2,758,134 | 1,150,766 | 5,480,049 |
| | | Licences and leases | 1,765,841 | 945,694 | 2,556,297 | 3,725,013 | 785,417 | 1,530,900 | 58,915 | 4,180 | 24,129 | 235,295 | 3,273 | 27,796 | 69,060 | 9,965,969 | 67,138 | 153,013 | 80,426 | 300,577 | 339,253 | 2,405,671 |
| | | Canada control | 282,269 | 124,546 | 63,341 | 87,138 | 112,213 | 41,593 | 607 | 22,571 | 63,968 | 9,427 | 17,776 | 8,681 | 6,156 | 558,017 | 19,317 | 176,274 | 101,444 | 297,035 | 71,729 | 651,033 |
| | | Totals | 40,529,955 | 14,366,408 | 17,718,188 | 30,834,310 | 33,386,971 | 21,271,539 | 582,158 | 466,527 | 10,136,456 | 1,577,822 | 521,137 | 1,119,916 | 1,204,877 | 133,186,309 | 4,888,769 | 20,955,599 | 12,458,625 | 38,302,993 | 11,864,119 | 90,697,067 |

# INTERIM CUBIC-FOOT VOLUME TABLE FOR INTERIOR DOUGLAS FIR (ALL AGES)

(British Columbia Forest Service, 1955.)

| D.B.H. | Total Height (Feet) 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | Basis Number of Trees | D.B.H. | Curved Average Height | Merchantable Volume Factors: Close Utilization: Stump Height (Ft.) | Close Utilization: Top D.I.B. (In.) | Close Utilization: Per Cent Merchantable: Short | Close Utilization: Per Cent Merchantable: Tall | Intermediate Utilization: Stump Height (Ft.) | Intermediate Utilization: Top D.I.B. (In.) | Intermediate Utilization: Per Cent Merchantable: Short | Intermediate Utilization: Per Cent Merchantable: Tall | Rough Utilization: Stump Height (Ft.) | Rough Utilization: Top D.I.B. (In.) | Rough Utilization: Per Cent Merchantable: Short | Rough Utilization: Per Cent Merchantable: Tall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Volume Entire Stem (Cubic Feet) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 0.1 | 0.2 | 0.3 | 0.5 | 0.6 | 0.7 | 0.8 | | | | | | | | | | | | | | 24 | 2 | 18 | 1.0 | 4.0 | ---- | ---- | 1.0 | 6.0 | ---- | ---- | 2.0 | 8.0 | ---- | ---- |
| 4 | 0.3 | 0.7 | 1.1 | 1.5 | 2.0 | 2.4 | 2.8 | 3.3 | 3.8 | | | | | | | | | | | | 44 | 4 | 32 | | | 8 | 18 | 1.0 | 6.0 | ---- | ---- | 2.0 | 8.0 | ---- | ---- |
| 6 | 0.7 | 1.4 | 2.2 | 3.0 | 4.0 | 4.9 | 5.8 | 6.8 | 7.5 | 8.7 | | | | | | | | | | | 337 | 6 | 43 | | | 65 | 69 | 1.0 | 6.0 | 4 | 7 | 2.0 | 8.0 | ---- | ---- |
| 8 | 1.1 | 2.3 | 3.7 | 5.1 | 6.7 | 8.1 | 9.6 | 11.2 | 12.8 | 14.4 | 16.0 | 17.7 | | | | | | | | | 278 | 8 | 54 | | | 85 | 87 | 1.0 | 6.0 | 46 | 52 | 2.0 | 8.0 | 1 | 5 |
| 10 | 1.6 | 3.5 | 5.5 | 7.7 | 9.8 | 11.9 | 14.2 | 16.7 | 18.9 | 21.3 | 23.7 | 26.3 | 28.8 | | | | | | | | 293 | 10 | 62 | | | 90 | 92 | 1.0 | 6.0 | 73 | 76 | 2.0 | 8.0 | 26 | 33 |
| 12 | 2.2 | 4.7 | 7.6 | 10.4 | 13.4 | 16.5 | 19.6 | 22.8 | 26.0 | 29.3 | 32.7 | 36.0 | 39.5 | 42.9 | | | | | | | 294 | 12 | 70 | | | 92 | 94 | 1.0 | 6.0 | 85 | 87 | 2.0 | 8.0 | 57 | 61 |
| 14 | 2.9 | 6.2 | 9.9 | 13.7 | 17.6 | 21.6 | 25.7 | 29.9 | 34.2 | 38.5 | 42.9 | 47.3 | 51.8 | 56.3 | 60.9 | | | | | | 317 | 14 | 76 | | | 94 | 95 | 1.0 | 6.0 | 89 | 91 | 2.0 | 8.0 | 72 | 76 |
| 16 | | 7.9 | 12.5 | 17.3 | 22.3 | 27.4 | 32.7 | 37.9 | 43.2 | 48.7 | 54.2 | 59.9 | 65.6 | 71.3 | 77.1 | 82.9 | | | | | 321 | 16 | 83 | | | 95 | | 1.0 | 6.0 | 92 | 93 | 2.0 | 8.0 | 80 | 84 |
| 18 | | 9.7 | 15.4 | 21.3 | 27.4 | 33.7 | 40.1 | 46.6 | 53.2 | 59.9 | 66.7 | 73.6 | 80.7 | 87.7 | 94.8 | 100 | | | | | 290 | 18 | 89 | | | 95 | | 1.0 | 6.0 | 93 | 94 | 2.0 | 8.0 | 84 | 87 |
| 20 | | 11.7 | 18.5 | 25.8 | 33.0 | 40.7 | 48.4 | 56.3 | 64.1 | 72.4 | 80.4 | 88.8 | 97.5 | 106 | 114 | 123 | 132 | 140 | | | 219 | 20 | 94 | | | 96 | | 1.0 | 6.0 | 94 | 95 | 2.0 | 8.0 | 86 | 90 |
| 22 | | 13.8 | 21.9 | 30.3 | 39.0 | 47.9 | 57.0 | 66.3 | 75.7 | 85.3 | 94.9 | 105 | 115 | 125 | 135 | 145 | 155 | 166 | | | 149 | 22 | 100 | | | 96 | | 1.0 | 6.0 | 94 | 96 | 2.0 | 8.8 | 86 | 90 |
| 24 | | | | 35.4 | 45.5 | 55.9 | 66.5 | 77.4 | 88.3 | 100 | 111 | 122 | 134 | 146 | 157 | 169 | 181 | 193 | 206 | | 106 | 24 | 105 | | | 96 | | 1.0 | 6.0 | 94 | 96 | 2.0 | 9.6 | 86 | 90 |
| 26 | | | | 40.8 | 52.4 | 64.4 | 76.6 | 89.2 | 102 | 115 | 128 | 141 | 154 | 168 | 181 | 195 | 209 | 223 | 237 | | 86 | 26 | 110 | | | 97 | | 1.1 | 6.0 | 95 | 96 | 2.2 | 10.4 | 88 | 90 |
| 28 | | | | 46.4 | 59.7 | 73.3 | 87.3 | 102 | 116 | 131 | 145 | 160 | 176 | 191 | 206 | 222 | 238 | 254 | 270 | | 87 | 28 | 114 | | | 97 | | 1.2 | 6.0 | 96 | | 2.3 | 11.2 | 88 | 89 |
| 30 | | | | | 67.6 | 82.8 | 98.6 | 115 | 131 | 148 | 164 | 181 | 198 | 216 | 233 | 251 | 269 | 287 | 305 | 323 | 53 | 30 | 119 | | | 97 | | 1.2 | 6.0 | 96 | | 2.5 | 12.0 | 88 | |
| 32 | | | | | 75.6 | 92.8 | 110 | 129 | 147 | 165 | 184 | 203 | 222 | 242 | 261 | 281 | 301 | 321 | 342 | 362 | 36 | 32 | 123 | | | 97 | | 1.3 | 6.4 | 95 | | 2.7 | 12.8 | 86 | |
| 34 | | | | | 84.0 | 103 | 123 | 143 | 163 | 184 | 205 | 226 | 247 | 269 | 291 | 312 | 334 | 357 | 380 | 402 | 14 | 34 | 126 | | | 97 | | 1.4 | 6.8 | 95 | | 2.8 | 13.6 | 85 | |
| 36 | | | | | 92.9 | 114 | 136 | 158 | 180 | 203 | 226 | 250 | 274 | 297 | 322 | 346 | 370 | 395 | 420 | 445 | 12 | 36 | 129 | | | 97 | | 1.5 | 7.2 | 94 | | 3.0 | 14.4 | 85 | |
| 38 | | | | | | | 150 | 174 | 199 | 224 | 249 | 275 | 302 | 328 | 354 | 381 | 408 | 435 | 463 | 491 | 7 | 38 | 131 | | | 97 | | 1.6 | 7.6 | 94 | | 3.2 | 15.2 | 85 | |
| 40 | | | | | | | 164 | 190 | 218 | 245 | 273 | 301 | 330 | 358 | 387 | 417 | 446 | 476 | 507 | 536 | 3 | 40 | 134 | | | 97 | | 1.7 | 8.0 | 94 | | 3.3 | 16.0 | 85 | |
| 42 | | | | | | | | | 237 | 267 | 297 | 328 | 359 | 390 | 422 | 454 | 486 | 518 | 552 | 584 | 1 | 42 | 135 | | | 97 | | 1.8 | 8.4 | 94 | | 3.5 | 16.8 | 85 | |
| 44 | | | | | | | | | 257 | 290 | 322 | 356 | 389 | 423 | 458 | 492 | 527 | 562 | 598 | 633 | 1 | 44 | 137 | | | 97 | | 1.8 | 8.8 | 94 | | 3.7 | 17.6 | 85 | |
| 46 | | | | | | | | | 279 | 314 | 349 | 386 | 422 | 459 | 496 | 534 | 571 | 610 | 649 | 687 | 2 | 46 | 138 | | | 97 | | 1.9 | 9.2 | 94 | | 3.8 | 18.4 | 85 | |
| 48 | | | | | | | | | 300 | 338 | 376 | 415 | 454 | 494 | 534 | 574 | 614 | 656 | 698 | 739 | ------ | 48 | 138 | | | 97 | | 2.0 | 9.6 | 94 | | 4.0 | 19.2 | 85 | |
| 50 | | | | | | | | | 322 | 364 | 404 | 446 | 489 | 531 | 574 | 618 | 661 | 705 | 751 | 795 | 1 | 50 | 139 | | | 97 | | 2.1 | 10.0 | 94 | | 4.2 | 20.0 | 84 | |
| 52 | | | | | | | | | 345 | 389 | 433 | 478 | 524 | 569 | 615 | 662 | 708 | 756 | 804 | 852 | 2 | 52 | 139 | | | 97 | | 2.2 | 10.4 | 94 | | 4.3 | 20.8 | 84 | |
| 54 | | | | | | | | | 369 | 415 | 462 | 512 | 559 | 607 | 657 | 706 | 756 | 807 | 858 | 909 | ------ | 54 | 139 | | | 97 | | 2.2 | 10.8 | 94 | | 4.5 | 21.6 | 84 | |
| 56 | | | | | | | | | 393 | 443 | 493 | 544 | 596 | 648 | 701 | 754 | 806 | 861 | 916 | 970 | ------ | 56 | 139 | | | 97 | | 2.3 | 11.2 | 94 | | 4.7 | 22.4 | 83 | |
| 58 | | | | | | | | | 418 | 471 | 524 | 579 | 634 | 689 | 745 | 801 | 857 | 915 | 973 | 1,031 | ------ | 58 | 139 | | | 97 | | 2.4 | 11.6 | 94 | | 4.8 | 23.2 | 83 | |
| 60 | | | | | | | | | 444 | 501 | 557 | 615 | 673 | 732 | 791 | 851 | 911 | 972 | 1,034 | 1,096 | ------ | 60 | 139 | 1.0 | 4.0 | 97 | | 2.5 | 12.0 | 94 | | 5.0 | 24.0 | 83 | |
| | | | | | | | | | | | | | | | | | | | | | 2,977 | | | | | | | | | | | | | | |

Basis of table: 2,977 trees; 2,227 measured by Forest Surveys Division and 750 by others. Regions sampled: Similkameen, Okanagan, Granby, Kootenay, Yahk, Elk, Windermere, Slocan, Kettle, Nicola, Shuswap, Spallumcheen, Upper Arrow, Tranquille, Cariboo, Quesnel, Nehalliston, Stuart, Parsnip.

Trees measured in one-tenth sections above breast height by Forest Surveys Division and in 16-foot logs by others.

Log volumes calculated by Smalian formula; top volumes 0.4 times basal area times length of top; 1.0-foot stump cubed as a cylinder.

Table prepared by converting d.b.h. outside bark, total height, and total volume to logarithms, and solving by least squares. Formula derived: $\text{Log } V = -2.69354 + 1.76225 \text{ Log } D + 1.12989 \text{ Log } H$.

Approximate standard error of estimated total volumes for single trees: ±15.9 per cent; table values are 1.09 per cent low.

Extent of basic data indicated by block.

$$\frac{\text{Factor} \times \text{total volume}}{100} = \text{Merchantable volume to the utilization limits shown.}$$

Merchantable volume factors obtained from freehand curves of per cent merchantable, by each standard, plotted over d.b.h. Factors for trees shorter or taller than curved average height are given separately up to the d.b.h. class where difference is less than 1 per cent, and thereafter combined.

# INTERIM NET-VOLUME FACTORS[1] APPLICABLE TO PROVINCIAL INVENTORY[2] GROSS CUBIC-FOOT VOLUME SUMMARIES COMPUTED ON THE BASIS OF CLOSE UTILIZATION STANDARDS[3] FOR THE TREE SPECIES OF BRITISH COLUMBIA

| Species[14] | Zones 1 and 2[4] | | | | | | | | | Zone 4[5] | | | | | | | | | Zone 5[6] | | | | | | | | | Zone 6[7] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Decay[8] | | | Decay and Waste[9] | | | Decay, Waste, and Breakage[10] | | | Decay | | | Decay and Waste | | | Decay, Waste, and Breakage | | | Decay | | | Decay and Waste | | | Decay, Waste, and Breakage | | | Decay | | | Decay and Waste | | | Decay, Waste, and Breakage | | |
| | Tree Class 1[11] | Tree Class 2[12] | Tree Class 0[13] | Tree Class 1 | Tree Class 2 | Tree Class 0 | Tree Class 1 | Tree Class 2 | Tree Class 0 | Tree Class 1 | Tree Class 2 | Tree Class 0 | Tree Class 1 | Tree Class 2 | Tree Class 0 | Tree Class 1 | Tree Class 2 | Tree Class 0 | Tree Class 1 | Tree Class 2 | Tree Class 0 | Tree Class 1 | Tree Class 2 | Tree Class 0 | Tree Class 1 | Tree Class 2 | Tree Class 0 | Tree Class 1 | Tree Class 2 | Tree Class 0 | Tree Class 1 | Tree Class 2 | Tree Class 0 | Tree Class 1 | Tree Class 2 | Tree Class 0 |
| Douglas fir | .98 | .89 | .93 | .92 | .74 | .82 | .87 | .69 | .77 | .98 | .89 | .93 | .92 | .74 | .82 | .89 | .71 | .79 | .98 | .93 | .96 | .92 | .82 | .88 | .89 | .79 | .85 | .99 | .95 | .97 | .94 | .86 | .90 | .91 | .83 | .87 |
| Western red cedar | .81 | .73 | .76 | .60 | .46 | .51 | .55 | .41 | .46 | .32 | .27 | .29 | .02 | .02 | .02 | .00 | .00 | .00 | .77 | .60 | .65 | .53 | .25 | .32 | .50 | .22 | .29 | .77 | .60 | .65 | .53 | .25 | .32 | .50 | .22 | .29 |
| Western hemlock | .87 | .82 | .84 | .71 | .62 | .65 | .66 | .57 | .60 | .87 | .70 | .76 | .71 | .41 | .51 | .68 | .38 | .48 | .92 | .75 | .81 | .80 | .49 | .60 | .77 | .46 | .57 | .92 | .75 | .81 | .80 | .49 | .60 | .77 | .46 | .57 |
| Balsam sp. | .96 | .88 | .93 | .88 | .73 | .82 | .83 | .68 | .77 | .79 | .76 | .77 | .56 | .41 | .53 | .53 | .38 | .50 | .84 | .74 | .78 | .65 | .47 | .54 | .62 | .44 | .51 | .84 | .74 | .78 | .65 | .47 | .54 | .62 | .44 | .51 |
| Sitka spruce | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Interior spruce sp. | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | .93 | .87 | .90 | .82 | .71 | .76 | .79 | .68 | .73 | .91 | .88 | .90 | .78 | .73 | .76 | .75 | .70 | .73 | .97 | .90 | .93 | .90 | .76 | .82 | .87 | .73 | .79 |
| Yellow cedar | .81 | .73 | .76 | .60 | .46 | .51 | .55 | .41 | .46 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| White pine | .99 | .85 | .92 | .94 | .67 | .80 | .89 | .62 | .75 | .98 | .92 | .96 | .92 | .80 | .88 | .89 | .77 | .85 | .98 | .92 | .96 | .92 | .80 | .88 | .89 | .77 | .85 | .98 | .92 | .96 | .92 | .80 | .88 | .89 | .77 | .85 |
| Lodgepole pine | .99 | .94 | .96 | .94 | .84 | .88 | .89 | .79 | .83 | .94 | .91 | .92 | .84 | .78 | .80 | .81 | .75 | .77 | .99 | .94 | .96 | .94 | .84 | .88 | .91 | .81 | .85 | .99 | .94 | .96 | .94 | .84 | .88 | .91 | .81 | .85 |
| Yellow pine | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | .99 | .94 | .96 | .94 | .84 | .88 | .91 | .81 | .85 | .97 | .97 | .97 | .90 | .90 | .90 | .87 | .87 | .87 |
| Larch | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | .98 | .87 | .92 | .92 | .71 | .80 | .89 | .68 | .77 | .98 | .87 | .92 | .92 | .71 | .80 | .89 | .68 | .77 |
| Cottonwood | .72 | .55 | .70 | .44 | .17 | .41 | .39 | .12 | .36 | .72 | .28 | .40 | .44 | .02 | .03 | .41 | .00 | .00 | .72 | .55 | .70 | .44 | .17 | .41 | .41 | .14 | .38 | .72 | .55 | .70 | .44 | .17 | .41 | .41 | .14 | .38 |
| Alder | .95 | .87 | .89 | .86 | .71 | .74 | .81 | .66 | .69 | .95 | .87 | .89 | .86 | .71 | .74 | .83 | .68 | .71 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Maple | .95 | .87 | .89 | .86 | .71 | .74 | .81 | .66 | .69 | .95 | .87 | .89 | .86 | .71 | .74 | .83 | .68 | .71 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Birch | .95 | .87 | .89 | .86 | .71 | .74 | .81 | .66 | .69 | .95 | .87 | .89 | .86 | .71 | .74 | .83 | .68 | .71 | .95 | .87 | .89 | .86 | .71 | .74 | .83 | .68 | .71 | .95 | .87 | .89 | .86 | .71 | .74 | .83 | .68 | .71 |
| Aspen | .60 | .60 | .60 | .25 | .25 | .25 | .20 | .20 | .20 | .73 | .57 | .60 | .46 | .20 | .25 | .43 | .17 | .22 | .60 | .60 | .60 | .25 | .25 | .25 | .22 | .22 | .22 | .60 | .60 | .60 | .25 | .25 | .25 | .22 | .22 | .22 |

[1] Derived as averages for all ages (81 years and over for coniferous species, 41 years and over for deciduous species), sites and stand conditions in natural stands sampled in the zones indicated. The factors indicate the percentage of volume recoverable when allowances are made for the losses shown.
[2] Provincial inventory summaries are quoted less deductions for decay only; therefore, usable species should be further reduced for waste and breakage to obtain current sawlog recovery potential.
[3] Close utilization standards defined as the volume between a 1-foot stump and a 4-inch top diameter inside bark.
[4] Zone 1 includes Regions 61, 62, 63, 64 (Compts. 7, 9–21 excluded), 75 (Compts. 1–10, 15–17, 83–110 only); Zone 2 includes Regions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 26, 27, 28, 29, 30, 31, 32, 49 (Compts. 29–31, 34–40 excluded), 50, 51, 52, 53, 54 (Compts. 83–100 excluded).
[5] Zone 4 includes Regions 55, 56, 57 (Compts. 1, 2, 4 excluded), 58 (Compt. 1 excluded), 59, 60, 66 (Compts. 68–75, 78–82, 90 excluded), 67 (Compts. 13–16 excluded), 68, 69, 74.
[6] Zone 5 includes Regions 13, 25, 33, 34, 35, 36, 45, 46, 47, 48, 49 (Compts. 29–31, 34–40 only), 54 (Compts. 83–110 only), 58 (Compt. 1 only), 57 (Compts. 1, 2, 4 only).
[7] Zone 6 includes Regions 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 37, 38, 39, 40, 41, 42, 43, 44.
[8] "Decay" represents the actual volume of decayed wood.
[9] "Waste" represents the sound waste between a 1-foot stump and a 4-inch top diameter inside bark resulting from the arbitrary culling of logs greater than 66 per cent defective and trees greater than 50 per cent defective, based on a minimum log length of 16 feet.
[10] "Breakage" represents felling breakage only.
[11] Tree Class 1—living trees bearing no visible signs of decay.
[12] Tree Class 2—living trees bearing one or more visible signs of decay (i.e., conks, blind conks, scars, fork or crook, frost crack, mistletoe trunk infections, rotten branches, or broken top).
[13] Tree Class 0—all living trees regardless of pathological classification.
[14] Minor products excluded.

## FOREST RESEARCH

During the year, emphasis was placed on completing compilations and reports on a number of projects on which several seasons' field work had accumulated. This has resulted in a number of research notes being prepared for publication and special reports for in-service distribution. During this period, nine parties were active in the field and one man placed on a special assignment for the Management Division.

### EXPERIMENT STATIONS

At the Cowichan Lake Experiment Station, maintenance work called for slashing and scarifying the fire-line, digging out ditches, and painting of buildings. The major work project consisted in cleaning up the slash following logging on a 30-acre block, in preparation for future plantations in connection with genetic studies. The work was carried out by a crew of ten boys employed under the Youth Training Programme and Station personnel.

Further progress was made at the Aleza Lake Experiment Station in the line of road development. Considerable gravelling was done, two fills were completed, and extensive cribbing done of a hill where slides have caused much trouble. A Youth Training crew of ten boys assisted in this development work. Logging on the area was hampered by adverse weather conditions, and two active timber sales have yet to be completed.

### FIELD PROGRAMME

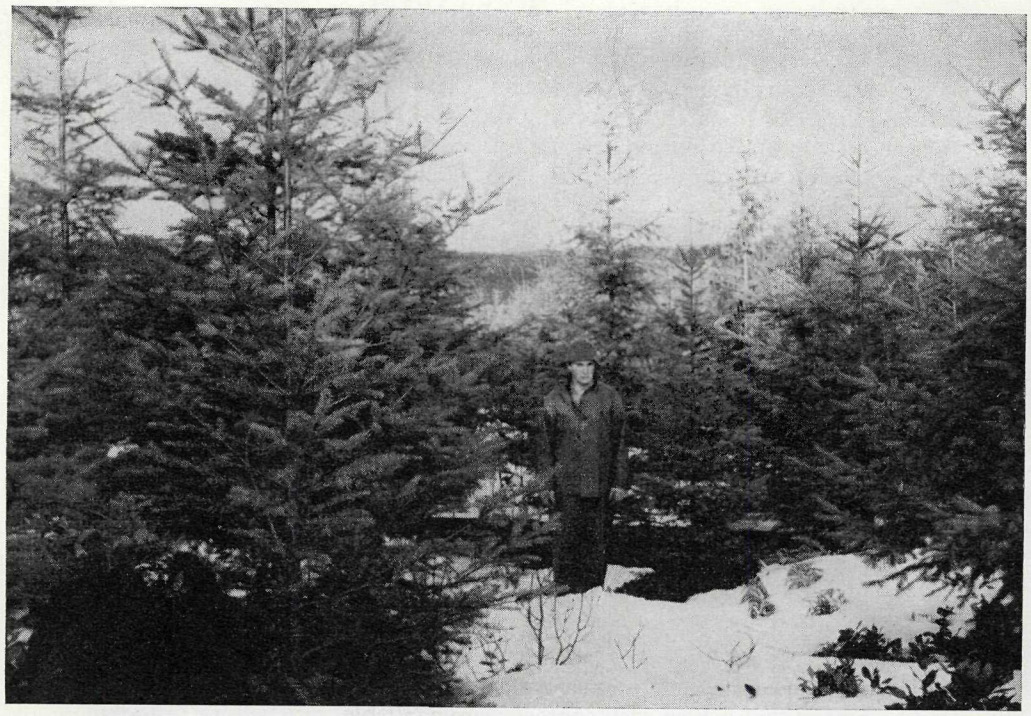
A reconnaissance of regeneration on recently logged-over land in the Queen Charlotte Islands showed that, where seed sources were available, satisfactory restocking could be expected, but a period of ten years might be required. There is a danger of dense brush and alder growth suppressing seedlings under certain conditions. A visit was made to the United States Forest Service field-research centre at Hallis, Alaska, to become familiar with their studies in the same forest type and under a similar climatic influence.

A new thinning study was initiated near Campbell River in a 14-year-old Douglas-fir plantation to test if there is a systematic relationship between growing space and increment. Sixteen sub-plots were established in a 22-acre area for this purpose. A number of other thinning experiments were re-examined and marked for further thinning. The thinning experiment in 55-year-old hemlock, started in 1953 on Thurlow Island, has now been completed. The project was supplemented by a partial logging-time study, the results of which have been published.

The ecological programme in Coast forests was limited to a reconnaissance at the northern limit of Douglas fir in the Gardner Canal area and to the establishment of plots to determine the effect of slash-burning upon forest soil productivity. The main effort was in consolidating previous studies in the form of reports and in planning for an extension of the ecological studies in the field of meteorology with the intent of determining climatic relationships to tree-species distribution.

Studies of rodent-control and direct seeding of Douglas fir continue with satisfactory progress. A new repellent is being tried against tetramine as used previously. An interim report on this subject has been published. Direct sowing of treated Douglas-fir seed has been tried, using seed-spotting implements, but up to the present these have not proved satisfactory. A new implement is being designed by the Engineering Services Division of the Forest Service in an attempt to find a more satisfactory tool. Preliminary plot studies on cone stimulation by the use of fertilizers were under observation.

Genetic studies are being continued. Following the selection of good and poor phenotypes in an open-grown Douglas-fir stand, seed was collected and planted. These seedlings will be transplanted and studied over a number of years. Ordinary 1–0 stock



Thinning in a 15-year-old plantation. Control plot (upper picture) carries 738 stems per acre. Thinned and pruned plot (lower) carries 600 stems per acre.

was potted in preparation of root-stock for grafting of scions this coming spring. Seed was also collected for a provenance trial of strains from the entire Pacific Northwest. Thus a genetic programme is gradually developing.

The annual survey of cone production on Vancouver Island was continued, and crops can be described generally as poor.

A report has been compiled summarizing field studies undertaken in 1952 and 1953 on factors affecting the production of heart-wood in second-growth Douglas fir. The study revealed that on similar sites the age of tree, crown size, and rate of growth in diameter, height, and volume are all important factors. It appears that, by appropriate silvicultural treatments, heart-wood formation may be increased or decreased according to product desired.

The study on the identification and distribution of spruce in the Interior of British Columbia is now being compiled. The results show that while *Picea glauca* and *P. Engelmanni* both occur in British Columbia, there are many variants of intermediate character that cannot be satisfactorily classified as one or the other.

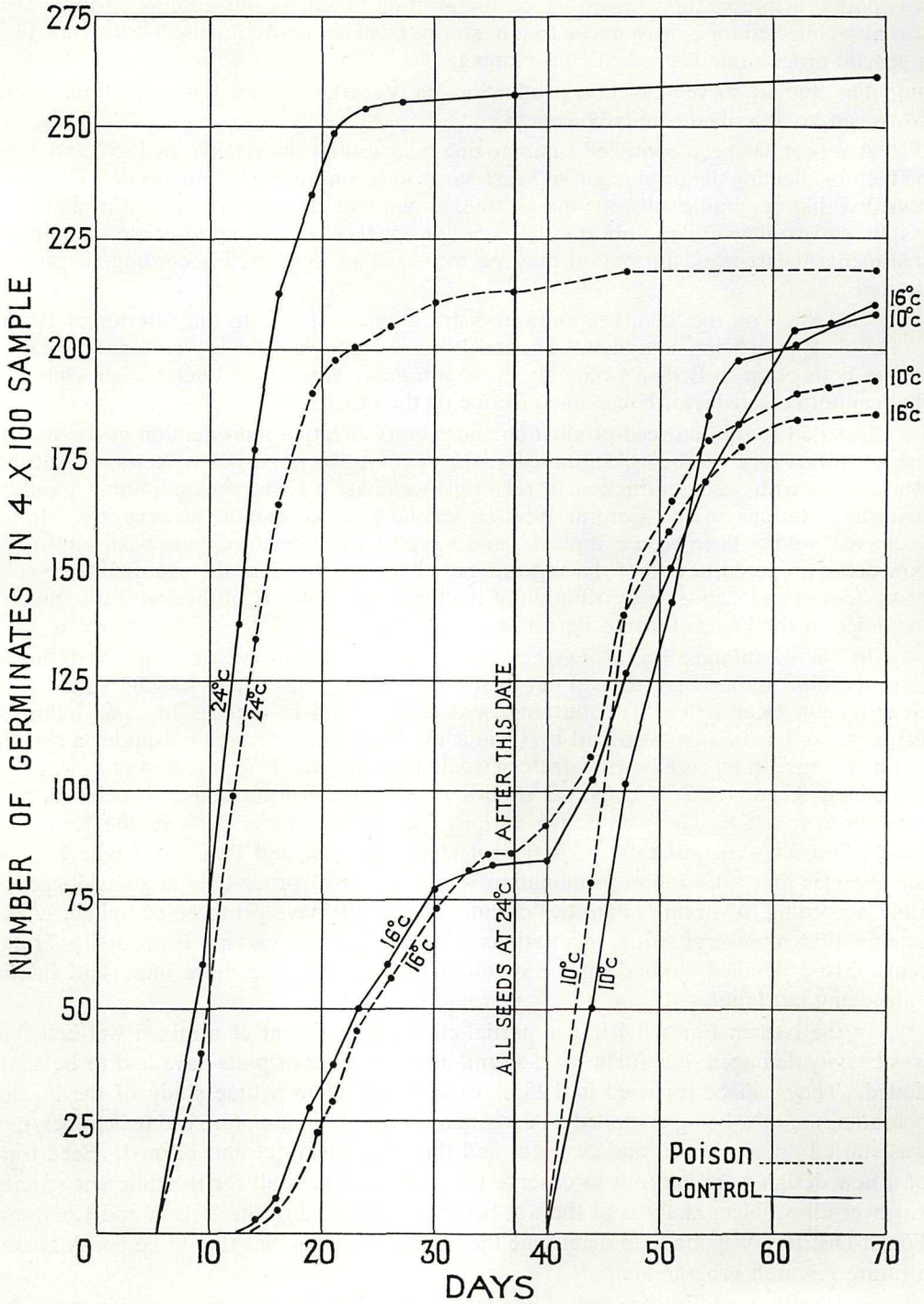
Detailed studies on seed production and factors affecting reproduction in the spruce-balsam forest type are being continued at the Aleza Lake Experiment Station. Another study deals with seed production in relation to climate. Eight sites adjoining weather-recording stations in the Central Interior are now under annual observation. Initial ecological studies have been completed, and a report on the mature spruce-balsam forests now being prepared describes the vegetational characteristics and the site quality, species composition, and stem-size distribution of the forest-cover on six of the forest associations identified in the Prince George Forest District.

In the Kamloops Forest District a number of small investigations were made. Regeneration studies were carried out in spruce-balsam areas where logging varied from clear felling, clear felling with burning, and clear felling in patches to clear felling in strips, as well as in areas scarified by various methods, and one area cut under a shelter-wood system. In no case has satisfactory stocking occurred. Logging, however, was only completed recently. Seed-dispersal studies in a spruce-balsam stand revealed a poor cone-crop in 1954. Cone-crops for various species in various parts of the Kamloops Forest District were generally poor for Engelmann spruce and Ponderosa pine but fair for Douglas fir. An interim examination was made of a spruce-balsam stand logged in 1941 according to varying intensities of cut. The results have yet to be compiled. A re-examination of several spruce plantations revealed survival varying from 30 to 71 per cent. More detailed studies will be required to determine the more important factors influencing mortality.

In the Nelson Forest District a partial-cutting experiment of a mixed wet-belt type was heavily damaged by a freak wind-storm, and a number of plots have had to be abandoned. They will be replaced in 1956. Cost figures from a time study of the logging operation are now being compiled. A regeneration study in a mature cedar-hemlock type was started on two areas, one clear-cut and the other clear-cut and burned. Seed-traps of a new design were laid out to observe the pattern of seedfall for the different species. An over-all problem analysis of the wet-belt type, as found in the Nelson and Kamloops Forest Districts, was made to determine the major problems that should be considered in a future research programme.

Soil-fertility studies are being continued at the various Forest Service nurseries. Particular attention is being given to the problem of maintaining organic matter. The use of sawdust, shavings, and green manure crops is being investigated.

A number of permanent growth-and-yield plots were remeasured in 1955, sixty-nine being in the lower coastal region.




Course of germination of Douglas-fir seed (poisoned and untreated) at different temperatures.

## INVESTIGATIONS AND ADVISORY SERVICE

A report was prepared for the Management Division dealing with improving volume-cruise estimates on timber sales through stricter control of both sampling and non-sampling errors. Another report, prepared for the Supervisor of Scalers, deals with a new, simplified technique of computing log-scales, which, it is believed, will result in considerable economy of time. A third study dealt with an analysis of marked and diameter-limit sales in Interior Douglas-fir types of the Kamloops Forest District, and a report was prepared for the Management Division outlining observations and conclusions.

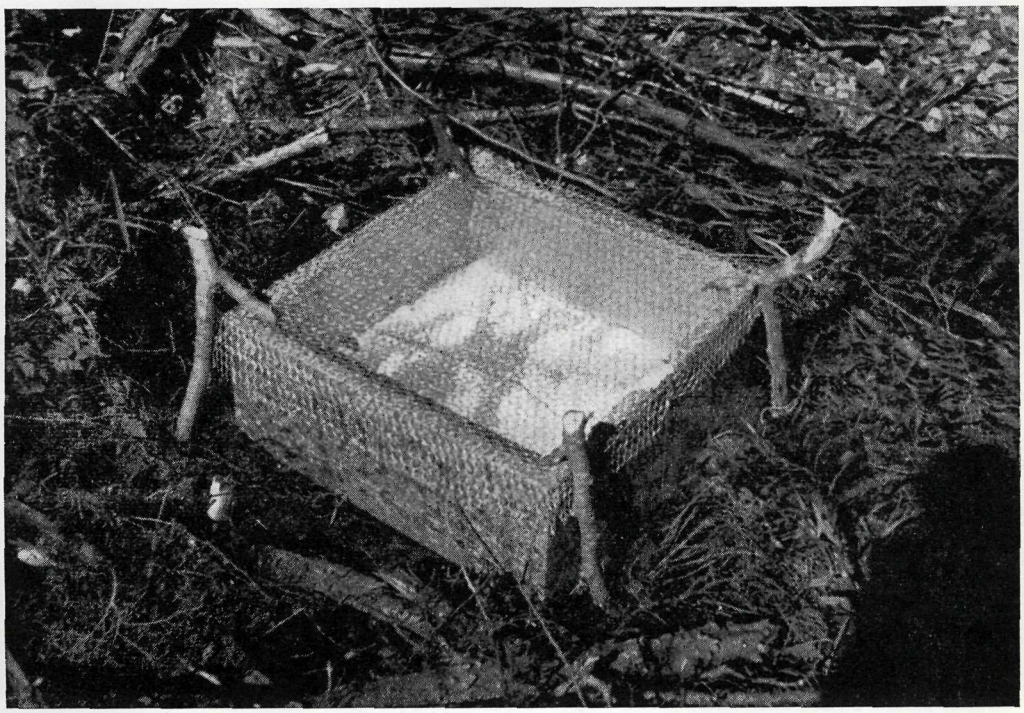
A considerable number of inquiries on statistical analysis and techniques from industrial foresters and foresters from other government services and divisions were dealt with.

Technical advice and field assistance were given to several private and industrial foresters in connection with thinning régimes. These thinnings are for demonstration rather than research purposes.

## CO-OPERATION

An effort was made to collect yellow-pine cones and vegetative material from some nine geographic regions in the Kamloops and Nelson Forest Districts for a provenance study being initiated by the California Forest and Range Experiment Station of the United States Department of Agriculture. Due to the poor seed-year only one collection was made. The Division is also co-operating with the Oregon State Board of Forestry in provenance study of Coast Douglas fir, and again only one seed collection was made. In both cases an effort will be made to complete the collections in 1956. Aspen cuttings and pollen were shipped to Professor H. H. Heiberg, Norway, for tree-breeding experiments.

A paper, entitled " Thinning of 55-year-old Hemlock for Pulpwood," was presented to the Pacific Logging Congress in Victoria.



A new type of seed-trap of pre-crimped 28-gauge galvanized iron folded to make one 24- by 24- by 10-inch frame. Top and bottom ½-inch-mesh wire netting with a layer of fibre-glass cloth resting on the bottom netting to catch the seeds. Total cost, approximately $3.30.

## TABULATION OF ACTIVE RESEARCH PROJECTS, 1955

| Experimental Plot No. | Nature of Project | Location |
|---|---|---|
| 64 | Thinning in Douglas fir | Vancouver Island. |
| 66 | Thinning in Douglas fir | Vancouver Island. |
| 204 | Thinning and pruning in Douglas fir | Vancouver Island. |
| 205 | Thinning and pruning in Douglas fir | Vancouver Island. |
| 226 | Seed production | Vancouver Island. |
| 227 | Seed production | Prince George. |
| 274 | Group seed-tree study | Vancouver Island. |
| 283 | Thinning in Douglas fir | Vancouver Island. |
| 365 | Thinning in Douglas fir | Vancouver Island. |
| 368 | The adaptability of tree species to forest sites | Vancouver Island. |
| 370 | Partial-cutting study | Slocan Lake. |
| 371 | Cutting methods in overmature spruce-balsam | Kamloops. |
| 373 | Ecological investigations in spruce-balsam forests | Prince George. |
| 378 | Ecological investigations in Coast forests | Vancouver Island. |
| 382 | Nursery fertility studies | Cranbrook. |
| 383 | Nursery fertility studies | Green Timbers. |
| 386 | Accuracy control on timber-sale cruises | Kamloops. |
| 387 | Factors affecting reproduction of northern conifers | Prince George. |
| 388 | Commercial thinning in western hemlock | Thurlow Island. |
| 390 | Direct seeding, Meade Creek | Vancouver Island. |
| 419 | Heart-wood formation in relation to silvicultural practice | Vancouver Island. |
| 423 | Direct seeding, Cowichan Lake | Vancouver Island. |
| 428 | Survival of spruce transplants | Kamloops. |
| 434 | Field survival of experimental nursery stock | Cranbrook. |
| 435 | Thinning in yellow pine | Cranbrook. |
| 436 | Cone-stimulation study | Vancouver Island. |
| 437 | Direct seeding, Nimpkish | Vancouver Island. |
| 440 | A study of the distribution of white and Engelmann spruce | Interior B.C. |
| 462 | Cedar-hemlock problem analysis | Nelson. |
| 463 | Stevens Creek regeneration study | Nelson. |
| 464 | Determination of site index by internodal growth | Vancouver Island. |
| 469 | Thinning in Douglas fir | Vancouver Island. |
| 470 | Direct seeding, Bear Creek | Vancouver Island. |

## RESEARCH PUBLICATIONS

"Estimation of Site Quality in Juvenile Douglas Fir Stands," by G. C. Warrack and A. R. Fraser. Research Note No. 28.

"Some Aspects of Red Cedar Regeneration in the Coastal Forests of British Columbia," by R. L. Schmidt. Research Note No. 29.

"Partial Time-study of a Second Growth Hemlock Thinning," by R. Borzuchowski. Research Note No. 30.

"The Use of Tetramine in the Direct Seeding of Douglas Fir in Coastal British Columbia," by J. M. Finnis. Research Note No. 31.

"Regeneration Problems and Their Silvicultural Significance in the Coastal Forests of British Columbia," by E. H. Garman. Technical Publication T. 41.

"Inbreeding Experiments with the Douglas Fir," by A. L. Orr-Ewing. Forestry Chronicle 30:7–16, 1954. Reprinted as Technical Publication T 42.

"Some Factors Affecting Reproduction of Engelmann Spruce and Alpine Fir," by J. H. G. Smith. Technical Bulletin T. 43.

"Growing Green Manure Crops," by H. Knight, in Tree Planters Notes, U.S. Forest Service, Washington.

# REFORESTATION

## FOREST NURSERIES

The annual accomplishment of any reforestation programme is subject to the whims of the weather, and any sudden influx of birds, rodents, insects, or disease. The early and extreme cold weather in November has done considerable damage to the planting stock in our Coast nurseries. An accurate estimate cannot be made until the start of the next growing season, but indications point to a minimum loss of 20 per cent and as much as 50 per cent at one nursery. Cool moist weather on the Coast early in the growing season was favourable for weed growth, and weeding costs were higher than usual.

During the year Green Timbers nursery shipped 2,263,000 trees to Forest Service projects and logging companies. Seed-beds were sown to produce 2,000,000 seedlings in 1957. No progress has been made in the eradication of creeping cress (*Raduculata sylvestris*), although some control of its spread from seed is possible by using 2-4D in stove-oil spray when flowers are in bloom. To reduce hand-weeding, numerous commercial weed-killers were applied to the seed-beds both before and after emergence of seedlings, with little or no success.

The Campbell River nursery shipped 2,272,500 trees to various projects in that area, and seed-beds were sown to produce 2,000,000 trees in 1957. Trees lifted from the new area were the best planting stock that has been produced at this nursery for a number of years.

The Duncan nursery shipped 2,447,500 trees, and seed-beds were sown to produce 2,000,000 seedlings in 1957. Increase in losses from damping-off fungus were apparent this year but are still not severe enough to warrant sterilizing the soil. A small greenhouse was added to the nursery for seed-testing and a shed constructed for storage of covering-soil.

The East Kootenay nursery shipped 310,500 trees in the spring to various projects, but no shipments were made in the fall due to weather conditions. Annual rainfall of only 7 inches was 50 per cent below the average. Seed-beds were sown for the production of 1,000,000 trees but were severely damaged by birds before effective control could be established. Another four-car garage was constructed for storing project equipment.

Experimental soil-fertility work was continued at all nurseries and is reported in detail elsewhere in this Report by the Research Division under the heading of "Nursery Fertility Studies."

## SEED COLLECTIONS

The 1955 cone-crop on the Coast was fair to poor, with patches of good crops in localized areas at the lower elevations on Vancouver Island. Approximately 100 pounds of seed was obtained by a reforestation crew at 1,500 feet in the Cowichan Valley, and an additional 100 pounds from 1,000 feet was purchased in the Cumberland area. This will make it possible to start planting some of the higher logged-and-burned areas in the spring of 1958.

In the Interior, the yellow pine and Douglas fir cone-crop was very poor and no seed was obtainable. Sufficient supplies are on hand to maintain nursery production.

The shortage of forest-tree seed with increased demand over the past few years has caused keen competition between seed-dealers, resulting in an excessive increase in prices paid to collectors and unwarranted mutilation of trees on both private and Crown lands. This will necessitate the setting-up of rigid controls for all cone-collecting which may be done in the future.

## RECONNAISSANCE AND SURVEY WORK

Detailed regeneration surveys were completed over a total of 8,300 acres on the Coast. The greater part of this acreage was on Cracroft Island, where part of the area

burned by the disastrous fire of 1951 was intensively examined. This examination revealed that only 300 of the 5,800 acres covered were not acceptably restocked. It appears that there was a good cone-crop on hemlock and cedar seed-trees in 1951 and, although most of these trees eventually died as a result of the fire, the cone-crop matured and produced sufficient seed to restock most of the area in the spring of 1952.

During the fall, 31,000 acres in the Lower Fraser Valley were reconnoitred. Two areas which require some planting were found and will be planted, at least in part, although measures will have to be taken to control deciduous brush.

Continuation of the regeneration survey of the East Kootenay District by the detailed examination of 27,423 acres has brought the area covered in this programme up to a total of 98,000 acres. Compilation of the results of this survey indicate that some 60,000 acres (62 per cent) require planting. To do this will require 39,000,000 seedlings, 76 per cent of which should be ponderosa pine.

A comparison of the costs per acre for regeneration surveys shows a cost of 14 cents per acre for the East Kootenay area and 17 cents per acre for the logged-and-burned Douglas fir types of the lower Coast.

## PLANTING

The spring planting programme started late in February, but a heavy snowfall closed all projects for ten days, and work commenced again on March 9th to continue until the middle of April, with the planting of 1,700,000 trees on 2,545 acres. In the fall an additional 880 acres was reforested with 472,000 seedlings. During the year, logging companies planted 5,270 acres with 4,000,000 trees on their own lands, of which 2,100 acres were done by the Forest Service under contract to the Elk River Timber Company.

In the East Kootenay area 270 acres were planted in the spring with 200,000 trees, but drought conditions made it impossible to do any fall planting. An additional 100 acres were planted on Forest Management Licence No. 9 in the Okanagan.

Total planting for the year in all regions was 6,910,000 trees on 10,596 acres. (*See* page 106 of Appendix for statistics of planting over past ten years.)

## PREPARATION OF PLANTING AREAS

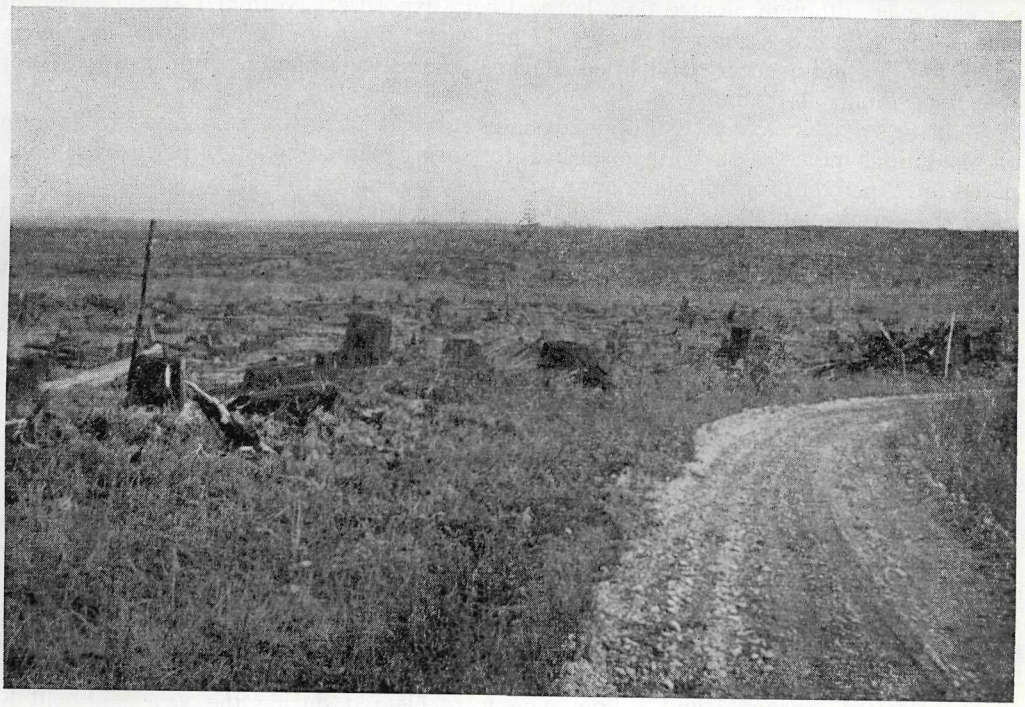
Some fifty men were employed during the summer and fall on snag-falling, construction, and road projects.

Snag-falling was carried on in the Campbell River area and at Great Central Lake. Reforestation crews felled 73,566 snags over an area of 6,838 acres.

Two garages were constructed for the purpose of truck storage during winter months. At Cowichan Lake a three-car garage was built, using cedar logs and shakes. A four-car asbestos-siding garage was constructed at the Campbell River nursery.

Due to the increase in population in the Campbell River area, travel on Forest Service roads within the Sayward Forest has increased greatly. These roads provide the only access to popular fishing-spots and hunting-grounds. Originally these roads were planned primarily for planting purposes but, due to the amount of use they now receive, it is necessary to improve and maintain them with a view to more permanency.

During the year 15 miles of old railroad grades were converted to truck-road and approximately 1 mile of new road was constructed. Maintenance was done on some 130 miles of existing road. This maintenance included chemical spraying of brush on 57 miles of road in the Sayward Forest at a total cost of $30 per mile. It was found that alder on untravelled forest roads had reached such a size in five to seven years that it prevented the passage of a 3-ton truck carrying the spray equipment.



Thirteen-year-old plantation from 2–0 seedlings grown at Quinsam Nursery (Campbell River). Car is stationed at point where lower picture was taken in 1943, one year after seedlings were set out.

## PLANTATIONS

Re-examination of survival plots established in the 1954 spring plantations on Vancouver Island disclosed an average survival after one year of 85 per cent. This percentage represents an average of 675 trees per acre which, with approximately 330 naturally established seedlings, makes up a total stand of 1,005 trees per acre. The 85-per-cent average survival represents a slight decrease from the 89-per-cent average of the previous year.

The re-examination of the 1952 spring plantations revealed that the survival had decreased from 74 per cent in 1953 to 68 per cent in 1955. This 6-per-cent reduction in the number of living planted trees, although disappointing, was to be expected. The 1953 examination classified 5 per cent of the living trees as " poor " or " alive but not likely to survive."

Final examination of three 1951 fall plantations revealed an average survival of 46 per cent, only 1 per cent lower than the survival after one season. This poorer survival is typical of plantations established in the fall. Normally, only those areas at high elevation or on exposures covered by snow until late in the spring are planted during this season.

The 1953 fall plantations showed a survival of 82 per cent on a favourable site and 47 per cent on a poor site. A survival of 82 per cent is gratifying when compared with the spring planting survival of 85 per cent for the same growing season. In addition, 900 plots were established in the current year's plantations for subsequent examination.

Examination of a comparison test of various classes of 2–0 Douglas fir begun in 1954 has produced some results, although these are still inconclusive. Indications are that in a favourable year all classes of stock survived very well, with an average of 97 per cent even although planted on a hot southern exposure. Normal 1–0 stock planted on the same site had a survival of only 77 per cent. By way of comparison, it is interesting to note that average survival on a near-by large-scale planting project was 87 per cent for ordinary 2–0 stock.

In the East Kootenay District, analysis of survival information collected to date on all plantations indicates an average survival for spring plantations of 54 per cent as compared to 19 per cent for fall plantations. An average survival of 72 per cent secured on the 1954 spring plantations is the best yet recorded, and is evidently a direct reflection of the cool, moist weather during most of the growing season.

Fencing a portion of the 1954 seedlings has revealed that part of the mortality is due to grazing animals. After two growing seasons, seedlings on fenced plots are significantly better than on unfenced plots, with survival rates of 57 and 42 per cent respectively.

## PLANTATION IMPROVEMENT

A small crew was employed between the spring and fall planting periods to do further rehabilitation work on the Campbell River Experimental Forest. Three miles of old railway grade, which had been previously slashed, were reconverted to truck-road and one-quarter mile of new road was constructed to join up these grades. The whole forest was examined intensively in order to assess the older plantations and draw a plan for the unplanted portions.

At Green Timbers nursery two new exotic plantations were established on an area previously cleared of a Sitka spruce trial, which failed due to repeated attacks of the spruce weevil. Redwood and Scots pine are the new species being tried. Two plantations of failed lodgepole and yellow pine were cleared during the year and will be replanted with Scots and red pine. Drainage in the plantations is being improved by cleaning ditches and replacing culverts along the old grades.

## PARKS AND RECREATION

The partially improved parks, such as Mount Seymour, Manning, and Wells Gray, now require costly projects in their next stage of development. Undertaking any one of these under the present allotment would have brought improvement work elsewhere almost to a standstill. Because these parks in their present state are fulfilling an important part in the recreational needs of their respective areas, the main effort of the year centred in the hitherto undeveloped Kootenay region. Champion Lakes Park, some 20 miles from Trail, is situated at 3,500 feet elevation in the Bonnington Range. To reach it by way of a modern highway, constructed across a heavily forested mountain-side with numerous rock outcrops, was a major undertaking. The slashing was completed, and approximately 80 per cent of the necessary 6-mile-long road was constructed by early winter.

Each year sees steadily increasing use of the expanding park facilities. The effect of this is apparent each succeeding year, as the ratio of maintenance expenditures to development costs swings more and more heavily to maintenance.

The serious lack of park facilities in the popular Okanagan Valley was alleviated by the purchase of 198 acres of lakeside land between Summerland and Peachland.

For the first time since the inauguration of the Youth Training programme, there was no increase in the number of youths employed from the previous year. A drop from 148 in 1954 to 136 this year resulted from facing increased operating costs on a fixed budget. It has been found that camps of up to twenty-four youths operate successfully and economically. Maintenance work in the more heavily used parks appears to offer an ideal summer programme.

One significant point is that the total park acreage for 1955 is less than at any time since 1940. This has resulted in part from the elimination of the flood area in Tweedsmuir Park and through other park-boundary adjustments.

### ADMINISTRATION

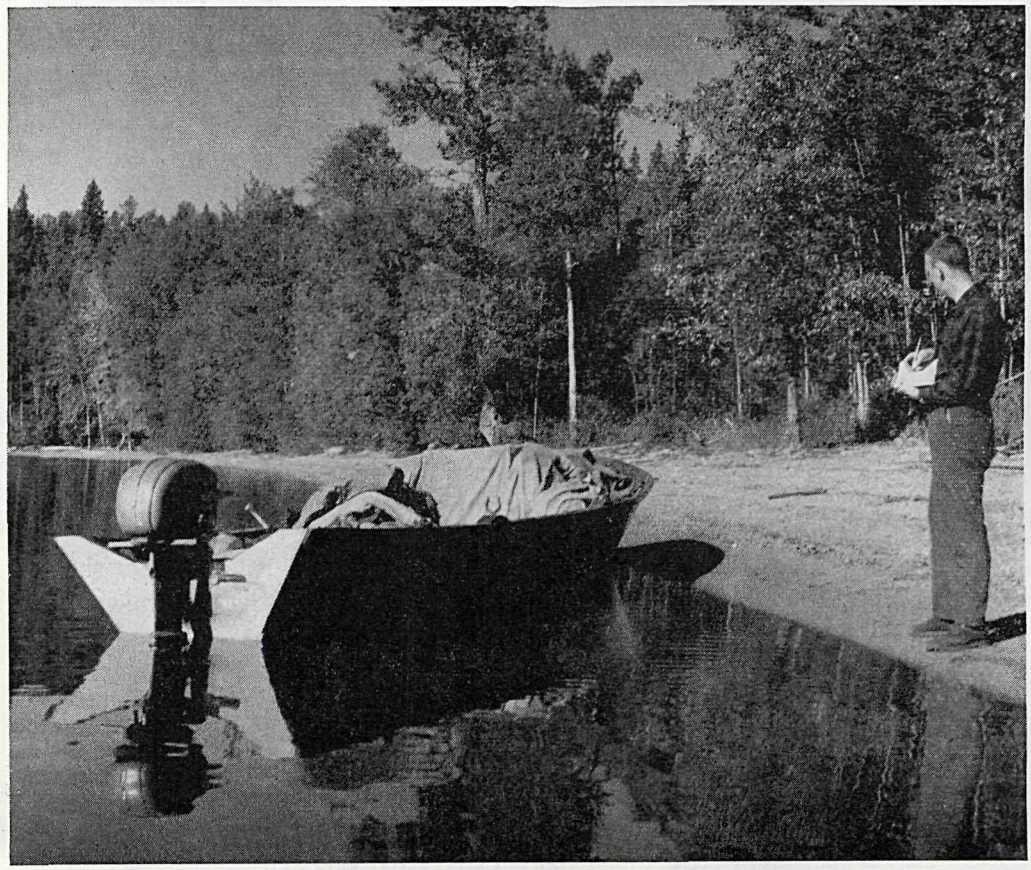
Headquarters personnel were increased by one graduate geographer, who is presently working on research projects. Mount Robson Park was given closer administration through the appointment of a park supervisor, and the important Vancouver Island parks now are being staffed for the whole year.

### RECONNAISSANCE AND INVENTORY

Recreational values of lakes and streams were assessed within seven units under application for forest management licences. Shore-line reconnaissance undertaken included Harrison, Adams, Barriere, and Babine Lakes. Possibilities for roadside parks were explored on new highway locations between Christina Lake and Kinnaird, Williams Lake and Macalister, and along Howe Sound. The south-east coast of Vancouver Island, the Okanagan Valley, and Christina Lake are areas requiring recreational outlets. They have been reconnoitred and found lacking in suitable Crown land. These districts were studied again and, irrespective of status, all land suitable for park needs was tallied.

On Quesnel Lake a small park-site near the end of the main road-access was selected to serve as a base for use of smaller lake-front reserves set aside three years ago. Both established reserves and potential recreational sites between Burns Lake and Prince Rupert were examined and necessary boundary adjustments and new areas established. Park boundaries were finalized in the field for three multi-use park-sites now reserved in the lower Coastal area. An additional sixteen areas scattered throughout the Province required study and reporting. Most are sites suggested by various agencies or members of the public as being desirable for park status.

Park-visitor studies, based on a representative sample of interviews, were conducted in Miracle Beach Park and Little Qualicum Falls Park to learn some specific details about park-users. Information thus derived will indicate the suitability and adequacy of existing facilities and help direct planning for meeting requirements of land and facilities. Two geographers are continuing research on the demands and needs of the public.



Shore-line reconnaissance on Babine Lake.

## PLANNING AND DEVELOPMENT

Planning activities centred in the southern extension of Garibaldi Park, Champion Lakes Park, and, finally, at the new acquisition on Okanagan Lake. Two planning crews operated during the summer. The landscape crew spent the bulk of the season making the small parks along Okanagan Lake ready for use.

## VANCOUVER ISLAND PARKS

Continuing heavy use of these attractive parks has resulted in serious wear to the forest-cover. To check this, a seven-man crew worked until April on a concentrated effort to curb and direct visitor activity through the placement of barriers. At the same time all park facilities requiring renovating were given attention. The park supervisors continued this work through the summer season, and will remain in their parks throughout the winter, to meet the increased maintenance required.

*Englishman River Falls Park.*—The parking-lot was improved by the addition of fill and grading. Two key view points, guard-rails, and a stair system were reconstructed in stone masonry.

*Ivy Green Park.*—A complete new plan was carried out in a ten-week period by a development crew. This included a road and trail system with parking for 105 cars, a picnic area with 34 tables, and a camp-ground of 11 sites. The result of this development was a large and immediate increase in park use.

A group-picnic site in Ivy Green Park.

*Little Qualicum Falls Park.*—A hazardous view point, near the upper falls, was reconstructed in masonry and pipe railing.

*Miracle Beach Park.*—The beach reclamation project continued, with the collecting of survey data on the sand encroachment. A Youth Crew of twelve boys materially assisted the park staff in maintenance, trail construction, and the completion of the camp-site area which now totals 160 units.

*Stamp Falls Park.*—The Canada Department of Fisheries completed the Stamp Falls fishway.

*Roadside Picnic-sites.*—The eleven small roadside picnic-sites constructed last year were used for the first time. Two additional employees were secured for part-time supervision and maintenance of two of these sites and the remaining sites delegated to the permanent staff in adjacent parks.

*Langford Workshop.*—The workshop output, being directly related to park development, was reduced by 30 per cent compared with the previous year. Among the major standard items manufactured were 253 tables, 146 fireplaces, and 12 entrance signs. The close of the year saw an additional 96 tables under construction. Many lesser items filled

out the programme for the six-man staff. Among these were garbage-cans, toilets, incinerators, notice-boards, signs, and wood carvings depicting forest and wildlife scenes.

## MAINLAND PARKS

*Champion Lakes Park.*—Of the 6 miles of new road undertaken from Provincial Highway 3A to the park boundary, 80 per cent has been completed. This involved the excavation of 118,000 cubic yards of material, the placing of 2,032 lineal feet of culvert, and the construction of a 57-foot trestle bridge across Beaver Creek, for which 400 feet of creek relocation was necessary. Within the park, clearing and grubbing were completed for a 160-car parking-lot. Two Youth Crews, located in the park, engaged in trail work, slash-disposal, and beach-clearing. An over-all development plan was drawn up for the entire park. The preliminary survey for the water system was completed.

*Chasm Park.*—The necessary field work was completed for a development plan.

*Cultus Lake Park.*—Services at the Maple Bay area were extended by additional tables and fireplaces. Field surveys were completed toward the extension of two existing water systems.

*Garibaldi Park.*—Through arrangement with the Attorney-General's Department, convict labour was engaged in clearing 3 miles of 100-foot-wide right-of-way for a new road to Alouette Lake. They also constructed a thirty-man camp in this area for use by the development crew. Key areas adjacent to the lake were mapped as a basis for development planning. Access to the Black Tusk area was improved by reconstruction work on the trail system and by the addition of standard signs. The possibility of a road to this exceptionally fine alpine area was further investigated and found feasible on an 11-mile route with a maximum grade of 8 per cent.

*Kelowna Park.*—A survey and development plan was made in the early spring and followed by a soil-treatment programme requiring the mulching of 800 cubic yards of sawdust with the topsoil. Further landscaping improvement was made by planting 460 trees. American linden, green ash, and Siberian elm were the main species used.

*Kokanee Creek Park.*—A Youth Crew was engaged on park maintenance, while the remainder of the work was restricted to a preliminary survey for a water system.

*Manning Park.*—The Pinewoods concession remained open throughout the year, with winter interest centred on the new ski tow, sleigh-riding, and ice-skating. Development was confined to completing the Coldspring camp-site of forty-three units and beginning construction on park entrance portals. The Coldspring development brings the number of camping areas within the park to five, providing a total of approximately ninety units. Maintenance, beyond the routine programme, included redecking the Cambie Bridge and providing two metal porches at the entrances to Pinewoods Lodge to reduce the ice hazard.

No fires occurred in the park due to the favourable weather, and it was only necessary to open Windy Joe Lookout for approximately four weeks. Four Youth Crews in two groups were employed on camp-site maintenance, reconstruction of the Lightning Lakes Trail, and assisted the park staff in completing the Coldspring development. Canam Mines, on the west boundary of the park, reopened operations with road, tunnel, and building construction.

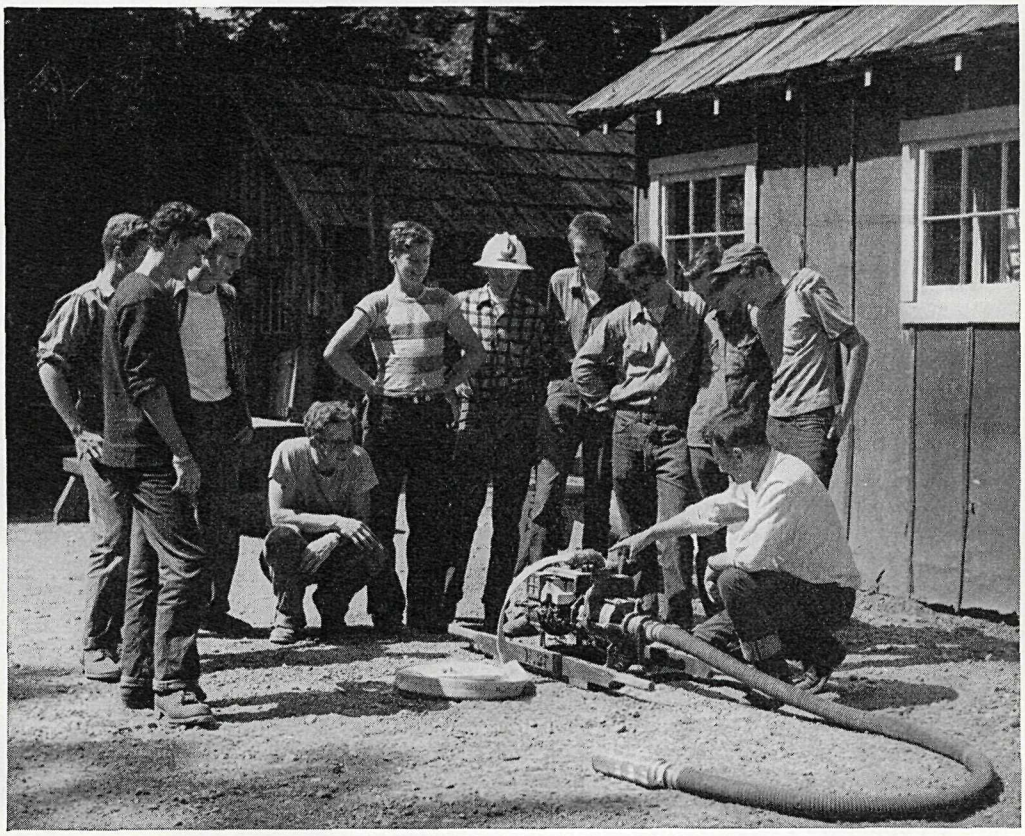
*Mount Robson Park.*—The park headquarters was moved from its former site on the western boundary to a more central location at Red Pass Junction, where it was reorganized as a combined office and residence in an existing building. A Youth Crew, centred at Robson River, engaged in improvements to the Berg Lake Trail, clean-up of Red Pass Townsite, and the completion of the Mount Robson camp-site.

Investigations were carried out by the Engineering and Wildlife Sections—the former with regard to the water-supply potential for Red Pass, and the latter with regard to the wildlife potential. An effort was made to record the game-kill, and the results showed

a moderate take of moose, goats, elk, deer, bear, ducks, and geese. Fishing was reported as fair in the rivers.

Five large mountaineering parties totalling 200 individuals headquartered at Berg Lake. Approximately twenty cars a day were noted on the road system within the park.

*Mount Seymour Park.*—Winter maintenance was successful in keeping the 8 miles of highway open. The third and final asphalt treatment was applied during the summer. Construction was begun on a 20-yard sand-hopper, which was 80 per cent completed. A Youth Crew located at the upper level engaged in picnic-site and trail renovation. In addition, they assisted the park staff in the maintenance of the road ditches and culverts. A preliminary survey toward a sewage-disposal system was completed in the



Members of a youth crew receive instruction in the operation of a fire-pump.

spring. A detailed site-plan was made for a proposed lodge. The four ski tows were operated by a concessionaire during the season without major breakdown or serious accident, and were used extensively.

*Peace Arch Park.*—The normal blooming periods were much later than usual because of the unusually cold spring. However, the eventual display was very pleasing, with flowering shrubs, trees, and masses of annual flowers thriving to near perfection.

A soil analysis was made for the lawns, which resulted in changes in the fertilizing programme. The Canadian Customs at Douglas report that north-bound traffic through the park was 1,276,387 persons, while south-bound traffic was 1,303,557 persons.

*Roberts Creek Park.*—This beach development and camp-site area brought much favourable comment during its first season of use. The present preponderance of local

visitors will drop as the park becomes better known to the touring public. A temporary water system at the camp-site is expected to be replaced following a more detailed survey.

*Wells Gray Park.*—During the greater part of the year the British Columbia Power Commission was engaged in drilling operations and in constructing a " cat " trail to Helmcken Falls in their continuing power-site investigations. Fire occurrence was up from the previous year, with nine fires reported, and suppression measures taken on four of these. Total acreage damage was slight, due to prompt and efficient spotting, coupled with favourable weather. The Azure Lookout was manned for a two-month season, and proved very effective in spotting fires in the Clearwater Lake area. Further engineering studies were carried out on the proposed bridge over the Clearwater River. Maintenance of trails, roads, and service buildings was assisted by a Youth Crew, which also aided in the suppression work. Work done on the Upper Clearwater road by the Department of Highways has resulted in noticeably increased park use.

*Penticton Highway Picnic-sites.*—The three picnic-sites were 90 per cent completed by a combined group made up of one Landscape Crew and one Youth Crew. Ninety tables were installed, along with barrier posts, toilets, and trails. In addition, a tree-planting and irrigation programme was carried out. The areas again were closed to the public to protect the landscaping.

*Roadside Development.*—Youth Crews under headquarters jurisdiction were employed on maintenance or development work in the major parks.

## WILDLIFE MANAGEMENT

The aims of all wildlife-section activities are to devise management procedures for use in parks in particular, and elsewhere in general, where the wildlife resource contributes to recreation.

Continuing research in Wells Gray Park on moose, mountain-caribou, and grizzly bear provided more information on how to manage these formerly little-understood species. Research on mule deer in Manning Park is seeking basic information relative to the successful management of both deer and forests in mountainous terrain. Preliminary wildlife reconnaissances were conducted in Champion Lakes Park and parts of Mount Robson and Tweedsmuir Parks. A tour of moose ranges in the Cariboo region with a biologist from the Game Department has resulted in a new method for taking inventory of such ranges.

## CHANGES IN PARK LIST, 1955

### Additions

Champion Lakes Park established as Class "A" park, 3,520 acres. Order in Council No. 581, approved March 12th, 1955.

Kokanee Creek Park established as Class "A" park, 14 acres. Order in Council No. 796, approved April 5th, 1955.

Little Qualicum Falls Park enlarged by the addition of 42.6 acres, now 249.5 acres. Order in Council No. 1072, approved May 6th, 1955.

Ivy Green Park increased by addition of 1.26 acres, now 52.1 acres. Order in Council No. 1115, approved May 13th, 1955.

Kelowna Park established as Class "A" park, 2.74 acres. Order in Council No. 1355, approved June 4th, 1955.

Wells Gray Park increased by 135,529 acres through redefinition of boundaries, now 1,300,854 acres.

Wasa Park established as Class "A" park, 86.6 acres. Order in Council No. 2391, approved October 4th, 1955.

McBride Community Park established as Class " C " park, 70.8 acres. Order in Council No. 2384, approved October 4th, 1955.

Mount Assiniboine Park increased by addition of 50 acres, now 12,850 acres. Order in Council No. 2784, approved December 5th, 1955.

Colleymount Community Park established as Class "C" park, 26 acres. Order in Council No. 2812, approved December 6th, 1955.

Antlers Beach Park established as Class "A" park, 2.5 acres. Order in Council No. 2996, approved December 29th, 1955.

Okanagan Lake Park established as Class "A" park, 197.67 acres. Order in Council No. 3006, approved December 29th, 1955.

### Deletions

Mount Bruce Park (Class "C") cancelled. Order in Council No. 795, approved April 5th, 1955.

Keremeos Park (Class "A") reduced in area by 670 acres, total area now 50 acres. Order in Council No. 1458, approved June 10th, 1955.

Tweedsmuir Park (Class "B") reduced in area by 1,156,500 acres, now 2,299,500 acres. Order in Council No. 1538, approved June 18th, 1955.

### PARK LIST, DECEMBER 31st, 1955

| | Number | Acreage |
|---|---|---|
| Class "A" | 38 | 1,429,352.55 |
| Class "B" | 5 | 6,034,240.00 |
| Class "C" | 31 | 4,105.95 |
| Special Act | 1 | 529,920.00 |
| Totals | 75 | 7,997,618.50 |

### RECREATION LAND RESERVES, DECEMBER 31st, 1955

| | 1955 | Total |
|---|---|---|
| Areas reserved under the "Land Act" | 40 | 351 |
| Departmental (map reserves) | 130 | 451 |
| Designated recreational areas within forest reserves | 17 | 115 |
| Reservations for potential Class "A" parks[1] | 7 | 7 |
| Totals | 194 | 924 |

[1] The greater portion of the reserve acreage occurs in this category, namely, 358,483 acres.

The total area placed under reservation in 1955 was 364,255 acres. This brings the grand total of recreation land reserves to 779,482 acres.

## PARK ATTENDANCE, 1955

| | | |
|---|---|---|
| Vancouver Island parks— | | |
| Miracle Beach | 115,587 | |
| Little Qualicum Falls | 68,482 | |
| Ivy Green | 65,426 | |
| Elk Falls | 62,634 | |
| MacMillan | 48,760 | |
| Stamp Falls | 46,081 | |
| Englishman River Falls | 35,491 | |
| John Dean | 34,400 | |
| MacDonald | 3,881 | |
| | | 480,472 |
| Lower Mainland parks— | | |
| Cultus Lake | 105,027 | |
| Mount Seymour | 240,376 | |
| Peace Arch | 108,000 | |
| Sechelt and Roberts Creek | 4,095 | |
| | | 457,508 |
| Other parks— | | |
| Interior parks | 26,200 | |
| Prince George District (two sites) | 11,800 | |
| Nelson District (four sites) | 23,500 | |
| Kamloops District (twenty sites) | 65,987 | |
| | | 137,487 |
| Estimated attendance at sites where no count was kept, and additional allowance for correction in some counts | | 494,533 |
| Estimated total park attendance | | 1,560,000 |

Attendance at Provincial parks registered a great increase over 1954. Total visitors at Vancouver Island parks increased by 59 per cent, while the number of campers showed a gain of 73 per cent. All parks shared in the increased attendance, and where new facilities were provided the increase was phenomenal.

A continued trend toward increased park use is shown by the fact that at Little Qualicum Falls and Miracle Beach Park 60 per cent of all campers were in the park for the first time, and in the case of day visitors first-time persons made up 42.9 per cent and 34.2 per cent respectively of this group. Estimates from the district offices indicate that the increase recorded on Vancouver Island was general throughout the Province.

Surveys of park use indicate that Provincial parks are visited predominantly by residents of British Columbia.

## PER CENT OF VISITORS AT PROVINCIAL PARKS, BY PLACE OF RESIDENCE

| | British Columbia | Other Canadian Provinces | United States |
|---|---|---|---|
| Little Qualicum— | | | |
| Campers | 81.0 | 2.0 | 17.0 |
| Day visitors | 81.8 | 7.3 | 10.9 |
| Miracle Beach— | | | |
| Campers | 86.7 | 2.6 | 10.7 |
| Day visitors | 91.1 | 2.2 | 6.7 |

Where Provincial parks have been established, they become an important element in the general tourist attractions of an area. On Vancouver Island, tourists accounted for between 33⅓ and 45 per cent of day visitors at the parks.

# WORKING PLANS

Some phases of this Division's work were necessarily curtailed because of the Royal Commission on Forests and Forestry.

Following the award of four forest management licences during the early part of the year, bringing the total to twenty-three, the Government established the policy of holding all forest management licence applications in abeyance, pending the submission of the Commissioner's (Chief Justice Gordon McG. Sloan) report.

At the year's end there were thirty-three public working circles under regulation, as compared with twenty-nine at the end of 1954. Newly created sustained-yield units were the Arrowhead Working Circle in the Nelson Forest District, the Narcosli Working Circle in the Prince George Forest District, and the Similkameen, Quesnel Lake, and Williams Lake Working Circles in the Kamloops Forest District. These last two were formed by the division of the former Cariboo Working Circle, a step considered desirable for administrative reasons.

Forest management licences awarded and in operation now comprise 4,685,492 acres of productive forest land with an annual allowable cut of 170,530,000 cubic feet. The total area of public working circles in operation is 9,328,447 acres, with an annual allowable cut of 189,400,000 cubic feet. The total area under the two forms of management is 14,013,939 acres with a combined annual allowable cut of 359,930,000 cubic feet.

Consideration of farm wood-lot licences was somewhat limited because of the higher priority assigned to other Divisional activities. Only four such licences were awarded during the year. Three new tree-farms were also certified.

## FOREST MANAGEMENT LICENCES

Four management licences were awarded during the year, bringing the total to twenty-three, as listed below:—

| F.M.L. No. | Forest District | Name of Licence | Licensee | Productive Forest Area | Annual Allowable Cut |
|---|---|---|---|---|---|
| | | | | Acres | M C.F. |
| 1 | Prince Rupert | Port Edward | Columbia Cellulose Co., Ltd. | 795,268 | 22,000 |
| 2 | Vancouver | Duncan Bay | Elk Falls Co., Ltd. | 280,558 | 15,000 |
| 3 | Nelson | Little Slocan | Passmore Lumber Co., Ltd. | 100,085 | 2,000 |
| 4 | Vancouver | Blind Channel | D. Morrison | 3,881 | 208 |
| 5 | Prince George | MacKenzie-Cariboo | Western Plywood (Cariboo) Co., Ltd. | 81,410 | 2,500 |
| 6 | Vancouver | Quatsino | Alaska Pine & Cellulose Ltd. | 297,945 | 18,000 |
| 7 | Vancouver | Salmon River | Salmon River Logging Co., Ltd. | 121,154 | 8,500 |
| 8 | Nelson | Boundary Creek | Boundary Sawmills Ltd. | 89,530 | 1,260 |
| 9 | Kamloops | Okanagan (West) | S. M. Simpson Ltd. | 170,633 | 1,680 |
| 10 | Vancouver | Toba | Timberland Development Co., Ltd. | 49,287 | 1,900 |
| 11 | Nelson | Carmi | Olinger Lumber Co., Ltd. | 64,787 | 800 |
| 12 | Vancouver | Hardwicke | Bendickson Logging Co. (1939), Ltd. | 15,497 | 833 |
| 13 | Nelson | Bull River | Galloway Lumber Co., Ltd. | 37,880 | 357 |
| 14 | Nelson | Spillimacheen | Cranbrook Sawmills Ltd. | 86,980 | 2,400 |
| 15 | Kamloops | Inkaneep | Oliver Sawmills Ltd. | 90,837 | 538 |
| 16 | Kamloops | Monte Lake | Pondosa Pine Lumber Co., Ltd. | 115,570 | 1,000 |
| 17 | Vancouver | Knight Inlet | Evans Products Co., Ltd. | 46,479 | 1,500 |
| 18 | Kamloops | Clearwater | Clearwater Timber Products Ltd. | 155,500 | 2,500 |
| 19 | Vancouver | Tahsis | Tahsis Co., Ltd. | 190,880 | 10,000 |
| 20 | Vancouver | Tofino | MacMillan & Bloedel Ltd. | 263,560 | 13,962 |
| 21 | Vancouver | Alberni | MacMillan & Bloedel Ltd. | 461,766 | 25,492 |
| 22 | Vancouver | Maquinna | B.C. Forest Products Ltd. | 276,645 | 16,100 |
| 23 | Nelson | Arrow Lakes | Celgar Development Co., Ltd. | 889,360 | 22,000 |
| | Totals | | | 4,685,492 | 170,530 |

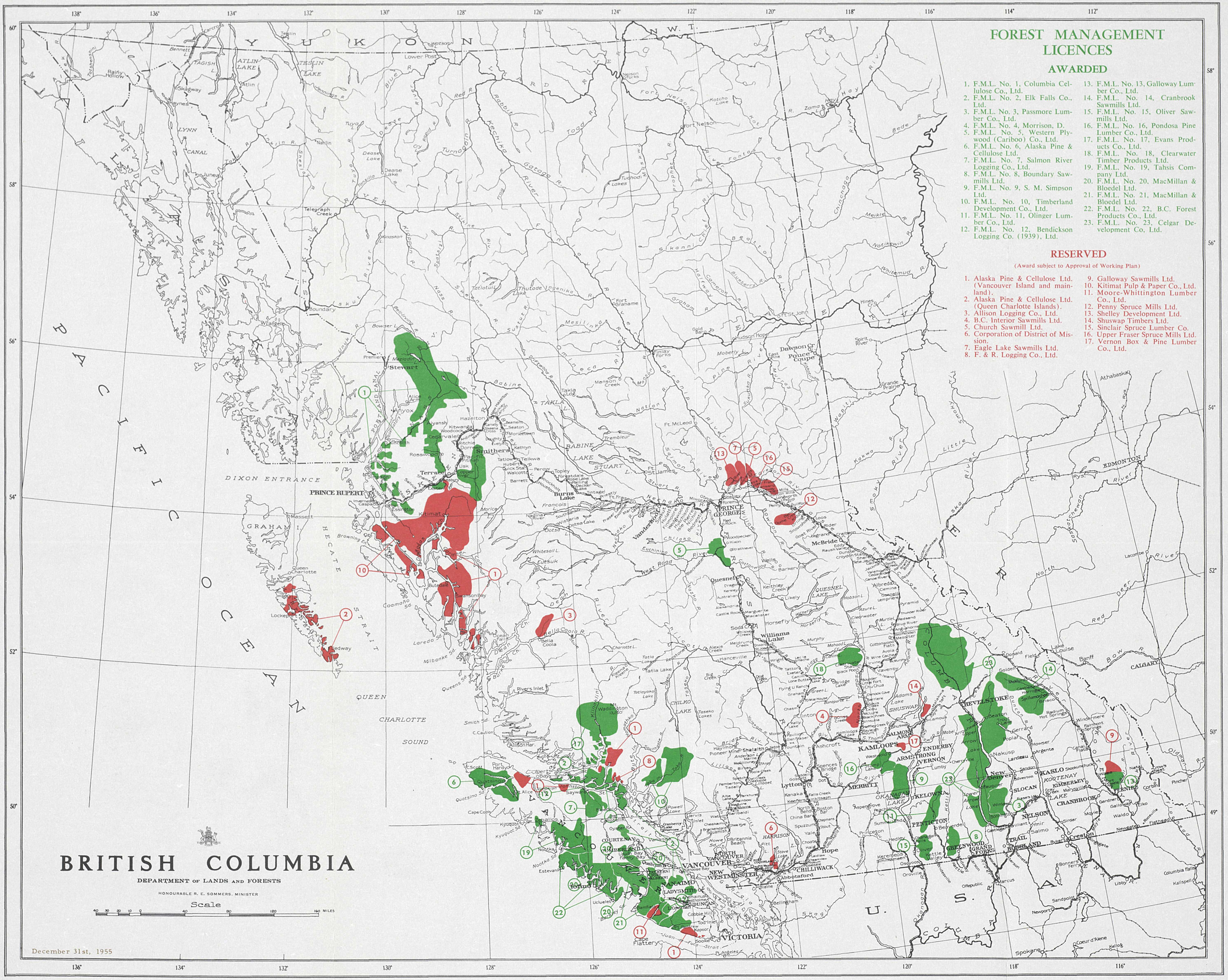
NOTE.—Variations in figures given for the first nineteen licences, when compared with the 1954 Annual Report, are in most cases the result of improved inventories and changes in the licensee's private ownership.

Seventeen applications have been approved, contingent upon submission of a satisfactory working plan, as follows:—

| Applicant | Location | Approximate Productive Forest Area | Approximate Annual Allowable Cut |
|---|---|---|---|
| *Vancouver Forest District* | | Acres | M C.F. |
| Alaska Pine & Cellulose Ltd. | Scattered coastal blocks[1] | 192,320 | 11,700 |
| F. & R. Logging Co., Ltd. | Phillips Arm | 9,360 | 333 |
| Mission, Corporation of District of | Mission | 16,113 | 425 |
| Moore-Whittington Lumber Co., Ltd. | Nitinat Lake | 35,593 | 1,667 |
| *Kamloops Forest District* | | | |
| B.C. Interior Sawmills Ltd. | Kamloops | 94,557 | 890 |
| Shuswap Timbers Ltd. | Shuswap Lake | 14,490 | 385 |
| Vernon Box & Pine Lumber Co., Ltd. | Falkland | 29,275 | 600 |
| *Nelson Forest District* | | | |
| Galloway Lumber Co., Ltd. | Bull River[2] | 39,220 | 360 |
| *Prince George Forest District* | | | |
| Church Sawmill Ltd. | Seebach Creek | 55,058 | 1,775 |
| Eagle Lake Sawmills Ltd. | Olsson Creek | 106,688 | 3,066 |
| Penny Spruce Mills Ltd. | Slim Creek | 46,340 | 2,180 |
| Shelley Development Ltd. | Averil Creek | 85,693 | 2,805 |
| Sinclair Spruce Lumber Co., Ltd. | Torpy River | 68,540 | 2,129 |
| Upper Fraser Spruce Mills Ltd. | McGreggor River | 42,602 | 1,258 |
| *Prince Rupert Forest District* | | | |
| Alaska Pine & Cellulose Ltd. | Queen Charlotte Islands | 133,937 | 8,000 |
| Alaska Pine & Cellulose Ltd. | Scattered coastal blocks[1] | 106,501 | 2,700 |
| Allison Logging Co., Ltd. | Bella Coola | 16,460 | 518 |
| Kitimat Pulp & Paper Co., Ltd. | Kitimat | 362,225 | 13,220 |
| Totals | | 1,454,972 | 54,011 |

[1] Blocks fall within both Vancouver and Prince Rupert Forest Districts.
[2] Extension to Forest Management Licence No. 13.

In addition, there are approximately 104 applications for forest management licences in various stages of review. Twenty-eight of these have completed the necessary advertising.


FOREST MANAGEMENT LICENCES
AWARDED
1. F.M.L. No. 1, Columbia Cellulose Co., Ltd.
2. F.M.L. No. 2, Elk Falls Co., Ltd.
3. F.M.L. No. 3, Passmore Lumber Co., Ltd.
4. F.M.L. No. 4, Morrison, D.
5. F.M.L. No. 5, Western Plywood (Cariboo) Co., Ltd.
6. F.M.L. No. 6, Alaska Pine & Cellulose Ltd.
7. F.M.L. No. 7, Salmon River Logging Co., Ltd.
8. F.M.L. No. 8, Boundary Sawmills Ltd.
9. F.M.L. No. 9, S. M. Simpson Ltd.
10. F.M.L. No. 10, Timberland Development Co., Ltd.
11. F.M.L. No. 11, Olinger Lumber Co., Ltd.
12. F.M.L. No. 12, Bendickson Logging Co. (1939), Ltd.
13. F.M.L. No. 13, Galloway Lumber Co., Ltd.
14. F.M.L. No. 14, Cranbrook Sawmills Ltd.
15. F.M.L. No. 15, Oliver Sawmills Ltd.
16. F.M.L. No. 16, Pondosa Pine Lumber Co., Ltd.
17. F.M.L. No. 17, Evans Products Co., Ltd.
18. F.M.L. No. 18, Clearwater Timber Products Ltd.
19. F.M.L. No. 19, Tahsis Company Ltd.
20. F.M.L. No. 20, MacMillan & Bloedel Ltd.
21. F.M.L. No. 21, MacMillan & Bloedel Ltd.
22. F.M.L. No. 22, B.C. Forest Products Co., Ltd.
23. F.M.L. No. 23, Celgar Development Co, Ltd.
RESERVED
(Award subject to Approval of Working Plan)
1. Alaska Pine & Cellulose Ltd. (Vancouver Island and mainland).
2. Alaska Pine & Cellulose Ltd. (Queen Charlotte Islands).
3. Allison Logging Co., Ltd.
4. B.C. Interior Sawmills Ltd.
5. Church Sawmill Ltd.
6. Corporation of District of Mission.
7. Eagle Lake Sawmills Ltd.
8. F. & R. Logging Co., Ltd.
9. Galloway Sawmills Ltd.
10. Kitimat Pulp & Paper Co., Ltd.
11. Moore-Whittington Lumber Co., Ltd.
12. Penny Spruce Mills Ltd.
13. Shelley Development Ltd.
14. Shuswap Timbers Ltd.
15. Sinclair Spruce Lumber Co.
16. Upper Fraser Spruce Mills Ltd.
17. Vernon Box & Pine Lumber Co., Ltd.
BRITISH COLUMBIA
DEPARTMENT OF LANDS AND FORESTS
HONOURABLE R. E. SOMMERS, MINISTER
Scale
MILES
December 31st, 1955
PACIFIC OCEAN
QUEEN CHARLOTTE SOUND
DIXON ENTRANCE
PRINCE RUPERT
Stewart
Smithers
Terrace
Kitimat
PRINCE GEORGE
Quesnel
Williams Lake
KAMLOOPS
VERNON
KELOWNA
PENTICTON
NELSON
TRAIL
CRANBROOK
CALGARY
EDMONTON
VANCOUVER
NEW WESTMINSTER
VICTORIA
NANAIMO
U. S.

PUBLIC WORKING CIRCLES
1. Arrowhead
2. Babine
3. Barclay
4. Barriere
5. Broughton
6. Cape Scott
7. Chilliwack
8. Cottonwood
9. Crooked River
10. Edgewood
11. Fraser Canyon
12. Kettle
13. Kyuquot
14. Nakusp
15. Narcosli
16. Naver
17. Niskonlith
18. Purden Lake
19. Quesnel Lake
20. Redonda
21. Rivers Inlet
22. Salmon Arm
23. Sayward
24. Sechelt
25. Similkameen
26. Slocan
27. Smithers
28. Spallumcheen
29. Stuart Lake
30. Upper Kootenay
31. Westlake
32. Williams Lake
33. Willow River
BRITISH COLUMBIA
DEPARTMENT OF LANDS AND FORESTS
HONOURABLE R. E. SOMMERS, MINISTER
Scale
December 31st, 1955
PACIFIC OCEAN
DIXON ENTRANCE
QUEEN CHARLOTTE SOUND
HECATE STRAIT
YUKON
N.W.T.
ALBERTA
U.S.A.
PRINCE RUPERT
PRINCE GEORGE
VANCOUVER
VICTORIA
KAMLOOPS
EDMONTON
CALGARY

## PUBLIC WORKING CIRCLES

There are thirty-three public working circles under regulation with cutting-control ledgers in operation. The following table shows their distribution by forest districts:—

| Name of Public Working Circle | Productive Area (Acres) | Annual Allowable Cut (M C.F.) |
|---|---|---|
| Vancouver Forest District— | | |
| Barclay | 47,665 | 2,500 |
| Broughton | 404,349 | 13,000 |
| Cape Scott | 70,150 | 2,250 |
| Chilliwack | 57,630 | 2,330 |
| Fraser Canyon | 192,644 | 6,000 |
| Kyuquot | 362,635 | 19,650 |
| Redonda | 375,985 | 17,000 |
| Sayward | 114,860 | 2,500 |
| Sechelt | 297,080 | 15,000 |
| Prince Rupert Forest District— | | |
| Babine | 541,400 | 6,900 |
| Rivers Inlet | 177,560 | 6,330 |
| Smithers | 506,810 | 4,500 |
| Kamloops Forest District[1]— | | |
| Barriere | 140,461 | 1,800 |
| Niskonlith | 219,700 | 2,350 |
| Quesnel Lake | 726,067 | 5,760[1] |
| Salmon Arm | 78,250 | 1,520 |
| Similkameen | 262,796 | 3,000 |
| Spallumcheen | 551,627 | 9,700 |
| Williams Lake | 505,040 | 6,300[1] |
| Prince George Forest District— | | |
| Cottonwood | 379,000 | 5,000 |
| Crooked River | 500,000 | 6,030 |
| Narcosli | 236,733 | 3,000 |
| Naver | 242,930 | 6,720 |
| Purden Lake | 170,700 | 5,350 |
| Stuart Lake | 350,000 | 4,310 |
| Westlake | 200,000 | 3,700 |
| Willow River | 305,930 | 7,000 |
| Nelson Forest District— | | |
| Arrowhead | 79,975 | 2,000 |
| Edgewood | 151,820 | 2,800 |
| Kettle | 510,140 | 4,400 |
| Nakusp | 94,460 | 2,200 |
| Slocan | 187,195 | 2,500 |
| Upper Kootenay | 286,855 | 6,000 |
| Totals | 9,328,447 | 189,400 |

[1] Cariboo Public Working Circle, as shown in 1954 Annual Report, has been divided into Quesnel Lake and Williams Lake Public Working Circles.

## FARM WOOD-LOT LICENCES

Total number of farm wood-lot licences awarded by districts is as follows:—

| | |
|---|---|
| Vancouver District | 10 |
| Prince George District | 3 |
| Kamloops District | 9 |
| Nelson District | 6 |
| Prince Rupert District | 1 |
| Total | 29 |

Twenty-two additional applications are on hand and under review.

## TREE-FARMS

Three tree-farms were certified by the Forest Service during the year, bringing the total number to fifteen. These are listed below:—

| No. | Owner | Location | Productive Forest Area |
|---|---|---|---|
| | | | Acres |
| 1 | T. G. Wright | Sechelt Peninsula | 263 |
| 2 | H. R. Nickson | Sechelt Peninsula | 165 |
| 3 | MacMillan & Bloedel Ltd. | Fanny Bay | 22,671 |
| 4 | Powell River Co., Ltd. | Valdes and Galiano Islands | 9,138 |
| 5 | Western Forest Industries Ltd. | Cowichan | 8,408 |
| 6 | G. E. Bernard | Sooke | 2,335 |
| 7 | Sooke Lake Lumber Ltd. | Leech River | 8,042 |
| 8 | Elk Falls Company | E. & N. Railway Land Grant | 52,494 |
| 9 | R. J. Filberg | Scattered blocks, Vancouver Island and adjacent islands | 6,553 |
| 10 | Canadian Forest Products Co., Ltd. | Sechelt | 2,347 |
| 11 | F. D. Mulholland | Parksville | 463 |
| 12 | Evans Products Co., Ltd. | Knight Inlet | 489 |
| 13 | MacMillan & Bloedel Ltd. | Alberni | 83,740 |
| 14 | MacMillan & Bloedel Ltd. | Alberni | 28,677 |
| 15 | W. J. Robertson | Robertson River | 157 |
| | Total | | 225,942 |

A good start was made on analyses of some of the more important forest regions, with careful consideration being given to the forest resources of each region and established wood-using industries. The results of these studies will serve as a basis for consideration of forest management licence applications on hand and the need for public working circles in all forest districts. This work will be continued during 1956.

# PUBLIC RELATIONS AND EDUCATION

## RADIO

Radio outlets were again utilized as one of the main channels for informing the public of the importance of forest-fire prevention. Using all stations throughout the Province, a campaign of thirty-two flash and sixteen spot announcements was undertaken. A variation in style was introduced in the Kamloops and Nelson Forest Districts, where the stations and District Rangers collaborated in securing the services of interested local persons in recording the broadcasts. Indications are that the introduction of known names and voices enhanced the interest in the broadcasts, and thanks are tendered to the radio stations for their efforts in this development. Only limited need for special high-hazard broadcasts occurred, due to generally favourable fire conditions. The Kamloops radio station, CFJC, initiated and broadcast a special series of programmes entitled "Conservation Council," as a public service, in the interest of informing the public of the importance of protecting the forests, wildlife, grazing, waters, soil, and other natural resources.

## PUBLICATIONS AND PRINTING

The Annual Report of the Service for the calendar year 1954 was edited, synopsized, printing supervised, and distributed. A calendar for the ensuing year, automobile and other decals, 120,000 blotters, scribblers for distribution in the schools, a third booklet in the Illustrated Forest Activities series (Protecting the Crop), and a special leaflet on wood-carving in the Provincial parks were produced.

In the publication field, service to other divisions included the editing, supervision of printing, and distribution of four research notes, four protection bulletins, and one technical bulletin. Reprints and revised editions of a number of other prior publications were also produced. These included the roadside picnic- and camp-site folder, the Provincial parks folder, the personnel bulletin on the Forest Service, as well as two general bulletins, one Forest Topic leaflet, the motion-picture catalogue, and two miscellaneous publications. Additional supplies of protection and special-purpose posters were produced.

## PHOTOGRAPHY AND MOTION PICTURES

The work of this unit was somewhat disrupted through the extended absence of the head photographer due to serious illness. Under this difficult condition, with assistance in the laboratory and field from temporary technicians at intervals, the assistant photographer maintained commendable services. The following work was accomplished: 7,829 prints were produced in the darkroom; 137 rolls of exposed film were developed; 688 negatives were taken; 24 copy negatives were made; 22 prints were secured from commercial laboratories; 1,541 new negatives were added to the Division files; 250 feet of 16-mm. Commercial Kodachrome film was shot; 4 rolls of 35-mm. colour film were processed in the darkroom. There are at present 300 35-mm. slides in the slide library.

### FILM LIBRARY

The public made good use of the films available for loan free of rental charges. Audience figures increased by approximately 12 per cent over the previous year, to 187,537. These figures include attendances in the schools serviced by two school lecturers, but do not include showings of prints of five Forest Service productions lodged with British Columbia House in London, England. These five films were shown an aggregate of 101 times to 12,537 people. The library commenced the year with sixty-four titles, two were withdrawn during the year, and nine new ones added, making a total of seventy-one available for loan at the year's end. All but one of these were in circulation during the year. (*See* Table 65 of the Appendix.)

Arrangements were made with a commercial agency for the production of a 35-mm. motion-picture trailer and for its projection in fifty-four theatres throughout the Province during the fire season.

## SIGNS AND POSTERS

Additional Ranger stations were equipped with the new white and green plywood-plastic signs and reflecting-fabric protection signs provided for a number of Ranger districts, to the extent that funds permitted. Designs were drafted for forest district and Ranger district boundaries, and the requirements of the Service for these signs were determined. Designs were drafted for a number of new display posters.

The placement of roadway signs, urging care with smoking materials, on the main highways was extended. The message—"KEEP B.C. GREEN—USE YOUR ASH-TRAY"—was painted at 152 locations on Vancouver Island and the southern Mainland, at an average cost of $33.53 per sign.

## CO-OPERATION

The Division continued co-operation with the British Columbia Branch of the Canadian Forestry Association in lecturing on conservation in the schools. The association provided the services of its railway conservation car in the months of September to November and gave ninety-nine showings to 6,390 people; their three school lecturers spoke to 9,245 people in twenty-six schools. The two lecturers from this Division gave 352 programmes in 203 schools, to total audiences of 56,760 pupils and teachers, as well as nine special programmes to non-school audiences totalling 491.

Articles on forestry and the forest industries were prepared for the press, trade journals, and other publications. Assistance was extended to authors and others in providing background material, data, and photographs for articles, and in editing their manuscripts.

There is a steady demand for literature from pupils in schools, the majority in British Columbia, but also from other Canadian Provinces, other Commonwealth countries, the United States, and other foreign countries. Members of the Division staff delivered addresses or projected film programmes to a variety of audiences—service clubs, Chambers of Commerce, Scout and Guide meetings, Parent-Teacher Associations, and others. The member of the Division staff attached to the Parks and Recreation Division accompanied a goodwill cavalcade through Washington State and addressed a number of the host groups on this tour. Tours were arranged for visiting officials to forestry and forest-industry projects, and these on occasion were guided by Division personnel.

## EXHIBITS

The Service exhibit in the British Columbia building at the Pacific National Exhibition was expanded by the addition of a model lookout, and, through the co-operation of the Parks and Recreation Division, a demonstration of wood-carving techniques was maintained throughout the two weeks of the exhibition. The exhibit was staffed from noon to closing-time by Division personnel each day during this two-week period.

## LIBRARY

The library completed another year of high circulation volume. A revision of the circulation list increased the number of those receiving library-accession lists to 280. In an effort to relieve the pressure of requests from the districts for library loans, a beginning was made toward setting up district libraries. The librarian visited the Kamloops District office and listed the publications on hand, preparatory to the provision of adequate quarters for housing the library. A visit was also made to Green Timbers to examine the Ranger School library.

An interesting development during the year was the re-establishment of book exchanges with two scientific organizations in the U.S.S.R. Books and magazines in the Russian language are now being received in the library. Arrangements have been made for Forest Service personnel to translate such texts as may be of interest. At the year's end, the library also completed arrangements with the Forest Products Laboratories of Canada to receive from them the Monthly Report of Translations Initiated and Completed, chiefly on forest-products research and forest utilization.

Approximately 100 interlibrary loans were received from seven Canadian and American libraries. Two extensive bibliographies were prepared by the librarian for use during the hearings of the Royal Commission on Forestry. Once again the Youth Training Crews throughout the Province were provided with magazines during July and August, when these camps are in operation. Routine improvements in filing and cataloguing methods were made during the year as time allowed. A small stock of books and pamphlets in the Forest Surveys and Inventory Division was catalogued and processed for the use of the Division. Amongst the regular services provided by the library may be mentioned the daily clipping service, supervision of the Engineering Services Division library, filing of Centralized Title Service cards, and assistance in the proof-reading of Forest Service publications. A statistical analysis of the library's work appears as Table 66 of the Appendix.

# FOREST MANAGEMENT

## GENERAL

The total estimated value of all products for the year amounted to $631,699,562. This was an increase of $103,676,779 over 1954 and was due primarily to the increased cut of lumber and higher unit values. The industry as a whole had an extremely good year.

The total cut for the Province amounted to 6,109,000,000 board-feet, in comparison with 5,567,000,000 board-feet in 1954. This is an increase of 542,000,000 board-feet over the previous year and is the highest cut recorded to date in any one year. It is interesting to note this cut is just double that attained ten years ago in 1945.

Water-borne shipments for 1955 were 1,413,000,000 board-feet. This was a decrease of 167,000,000 board-feet from 1954. Shipments to the United Kingdom remained the same, the loss being due to lower water-borne shipments to the United States.

The statistical tables in the Appendix of this Report supply details of the Forest Management Division during the year. In commenting on these tables, the following highlights are worthy of mention.

Of the total production of 6,109,000,000 board-feet, which includes all products, Douglas fir again readily maintained its leading position in volume cut by species, namely, approximately 2,382,000,000 board-feet or 39 per cent of the total. Other important species in order of output were hemlock, cedar, and spruce. The cut of these species amounted to 1,227,000,000 board-feet, or 20 per cent, hemlock; 898,000,000 board-feet, or 15 per cent, cedar; 782,000,000 board-feet, or 13 per cent, spruce; as compared with 23, 15, and 11 per cent respectively during 1954. Other species in order of importance were balsam, lodgepole pine, larch, white pine, yellow pine, cypress, and miscellaneous hardwoods.

All forest districts except the Vancouver Forest District participated in the increased production. The latter district suffered a loss in scale of approximately 78,000,000 board-feet, whereas the Prince Rupert Coast area had an increase of approximately 12,000,000 board-feet. There were two significant developments during the year; namely, the increased interest in the North Coast region and the successful driving of the Fraser River north of Hope. As a result of this latter development, there has been keen interest shown on the part of mills in Vancouver for timber stands adjacent to the Fraser north of Hope. The cut in the Interior increased by 608,000,000 board-feet and now represents 36 per cent of the total cut for the Province. Ten years ago in 1945 the cut from the Interior was only 19 per cent of the total, which indicates the large expansion of the industry in this part of the Province.

On the basis of origin of the cut, 4,473,000,000 board-feet or 73 per cent originated from Crown lands, and, of this total, 2,870,000,000 board-feet or 62 per cent originated from timber sales, as compared with 70 and 59 per cent during 1954. Old Crown grants accounted for 1,073,000,000 board-feet.

The sustained-yield programme was carried forward during the year, so that there are now 14,318,939 acres being operated under working plans, with an approximate cut of 186,779,133 cubic feet and 301,319 Christmas trees. Most of the public working circles are becoming fully committed, and in some areas the effect of the restricted cut is being felt by the wood-using industries.

Timber sales awarded, including cash sales, numbered 3,372, an increase from 3,010 in 1954. The estimated value of sales made amounted to $40,507,422.12, which is approximately double that for 1954. This was due to the larger volume sold and also to the increase in stumpage rates. It should be noted, however, that in view of the provision for sliding scale of stumpage in timber-sale contracts, the actual revenue derived

from any timber sale can differ considerably from the estimated revenue at the time the sale is made. The total number of timber sales in existence as at December 31st, 1955, was 8,371, as compared with 7,617 at the end of 1954. The total area held under timber sales is 2,789,657 acres, and moneys held as guarantee deposits on timber sales at December 31st, 1955, amounted to $10,760,505.55.

The number of mills operating throughout the Province reached an all-time high of 2,561, including seventy-two shingle-mills. The biggest increase was in the Kamloops Forest District, with fifty-eight additional mills over 1954.

The total log exports amounted to 89,000,000 board-feet, in comparison with 141,000,000 board-feet for 1954. Of the total, 74,000,000 board-feet came from old Crown grants carrying export privileges, leaving 15,000,000 board-feet from other areas exported under permit. The value of minor products marketed outside the Province amounted to $8,778,455. This is an increase of $2,170,804 from 1954 shipments.

Timber sales to the number of 3,354 were cruised, having a total area of 1,077,986 acres. This represents an increase of 269 in number and 296,321 acres. This increase alone was more than the total acreage cruised during 1945, and over the last decade the acreage cruised has increased fourfold.

The volume of logging inspections again increased, with a total of 22,355 inspections made during the year. This does not keep up with the increased work load, so that the standard necessary to maintain adequate supervision continues unsatisfactory.

As a matter of record, 4,968 registered timber marks were issued during the year, in comparison with 4,280 in 1954.

## MARKET PRICES AND STUMPAGE TRENDS

Coast log-market prices remained at a relatively high level throughout the year, with fir and cedar prices showing increases of about $10 per thousand board-feet. Log prices had reached a higher point in 1951, but the 1955 prices were more stable. After deducting an amount sufficient to cover anticipated costs of extraction and delivery of the timber to market-point, plus a reasonable allowance for profit, the balance of the selling price is the amount that can be bid for stumpage. The increase in log-market prices, therefore, has a very great effect on the average stumpage rates bid. The weighted-average price bid for all species on Coast timber sales was $5.88 per hundred cubic feet, in comparison with $3.93 for 1954.

In the Interior, average net prices received for dressed lumber were at their highest level since 1951. Prices for all species recovered from the low levels of 1953, but those for Douglas fir showed the greatest gain. The average stumpage prices bid for all species on Interior timber sales increased to $4.91 per hundred cubic feet from $3.22 for 1954.

With twenty-three forest management licences now awarded in the Province, stumpage appraisals for management-licence cutting permits are assuming increasing importance.

A number of requests for information to be presented to the Royal Commission on Forestry were received during the year. These, including a brief covering details of British Columbia Forest Service stumpage-appraisal methods, consumed a great deal of time and prevented the completion of reports on mill-studies and logging-production time-studies previously carried out in the field.

Nevertheless, field time-studies were continued on logging operations in the Prince George District, and a preliminary analysis of data obtained under twelve different sets of conditions failed to disclose any important and consistent difference in production rate in felling and skidding from stands on which approximately 50 per cent of the merchantable volume was cut on an individual-tree selection basis, compared to cutting to a 12-inch diameter limit.

## FOREST-COVER MAPS

In the course of the year, 1,031 forest-cover maps were revised as follows: Victoria, 352; district offices, 439; Rangers' offices, 240. Included in the Victoria total are 180 maps from private industry and the Forest Surveys standard series covering forest management licences on which cutting-permit history, etc., is being maintained.

Instructions covering standard procedure for filing maps, plans, and air photos, and the card-indexing and revision of cover maps were forwarded to all district offices and instruction given in this regard at each of the above offices. Progress having been made at district offices, it is planned to extend this requirement to offices of District Rangers.

Instruction in district-report mapping was given Forest Service personnel at the Ranger School and at district offices, as follows: Ranger School, 21; Nelson District office, 3; Prince Rupert District office, 3; and Prince George District office, 3.

## AERIAL PHOTOGRAPHS

During the year, 26,488 aerial photographs were added to district office and District Ranger office libraries, as follows: Vancouver, 7,538; Prince Rupert, 4,102; Prince George, 3,136; Kamloops, 8,897; Nelson, 2,815. Air-photo index maps have been issued with air photos and filed at all offices concerned. The filing and card-indexing of air photos has been started at district offices and will be extended to offices of District Rangers.

## FOREST MANAGEMENT LICENCE ADMINISTRATION

Four new forest management licences were awarded during the first seven months of 1955, to bring to twenty-three the number of management licences being administered. These twenty-three licences have a productive forest area of 4,685,492 acres and are being managed on a sustained-yield basis. In 1955 ninety-one cutting permits were issued, which resulted in a cut of about 70,000,000 cubic feet for this form of tenure.

## SILVICULTURAL FUND

The programme implemented during 1955, through money from the Silvicultural Fund, included stand treatment, silvicultural studies, planning in working circles, slash-disposal projects, road location in working circles, and co-operative studies with the Forest Pathology Unit, Science Service, Canada Department of Agriculture. The following is a summary of work accomplished in the four Interior forest districts—Prince Rupert, Prince George, Kamloops, and Nelson.

The main effort during the year has been centred on stand treatment. In the four Interior districts a total of 287 sales were treated, involving 58,316 acres. Considerable improvement has been effected in the actual techniques of individual-tree selection as a result of a systematized training programme, but further improvement is possible, especially in stream-lining both field and office procedures; however, it is gratifying to be able to report that personnel at all levels are beginning to grasp the necessity for determining a precise objective in deciding the treatment to be accorded an individual stand, and the equally important factor that, having once decided upon the objective, it must then be carefully recorded so that all future planning may be tailored accordingly.

In the Nelson District, a study of cutting methods in second-growth timber was continued and, as a result of the experience gained, considerable progress has been made toward the formulation of a set of preliminary rules governing individual-tree selection in similar stands.

All of the Interior districts continued to make progress in the field of planning in public working circles, and crews were actively engaged in timber-sale layout work.

Throughout the Province, slash-disposal crews continued to carry out a hazard-reduction programme, treating old mill-settings and fire-proofing areas of heavy slash. In all, some 675 acres were treated, in addition to which 26 miles of old roads were either repaired or rebuilt.

As in the past, a free exchange of information concerning insect outbreaks was carried on between the Forest Service and the Forest Zoology Unit, Science Service, Canada Department of Agriculture; particularly noteworthy was the technical assistance rendered in connection with the increase in the Douglas-fir bark-beetle population in the vicinity of Lac la Hache.

# GRAZING

## INTRODUCTION

The forest lands of British Columbia produce wealth in many forms. In addition to timber, forage usable by domestic live stock is one of the more important products of Interior Dry Belt forest lands. In these areas, grazing has long been recognized as a major forest use. Forest range lands, used in conjunction with open grassland and haylands, play a vital role in the ranching industry. Without them, most ranching enterprises could not operate on an economic basis, and the live-stock production of this Province would be seriously curtailed.

Forage, like other products of the forest, is a renewable resource and responds to management, whether good or bad. Under good grazing management, forest ranges can continue to produce forage indefinitely and, in many cases, forage production and utilization can be increased. On the other hand, poor management results in deterioration of the forage-crop and may result in damage to other functions of the forest.

In common with most other forest uses, grazing on Crown lands is administered by the Forest Service. Briefly, the objectives of the Service in this facet of forest administration are: (1) To obtain maximum sustained use of the forage-crop without jeopardy to other forest uses; (2) the equitable distribution of grazing privileges to promote stable, economic ranching units; and (3) to co-operate with the ranchers in correlating good range management with the numerous other requirements of live-stock production. The accomplishment of these objectives involves a wide variety of activities, the performance of which during 1955 are outlined herein.

## ADMINISTRATION

Due partly to a continuing increase in the demand for range and partly to the increasing pressure of competing land uses, range-administration duties were heavier during 1955. As ranges become stocked to near their full capacity, additional range allocations must be carefully considered to ensure that overstocking is not permitted. More intensive management practices must be required of all permittees to secure maximum proper use of the range. Further, the correction of any existing malpractices which result in less than maximum forage production becomes imperative.

Coinciding with the greater demand for range forage is the increase in other, often conflicting, forms of land use, such as logging, recreation, land settlement, game, and domestic water requirements. More careful planning and field supervision is now required to properly correlate grazing with these other land uses and to avoid conflict.

During the year it became necessary to commence protecting sources of water required for stock on the range in certain critical areas. Where there is a strong competing demand for water, water licences are now obtained under the provisions of the "Water Act" to cover those sources of water considered essential to good range management. Special effort was also directed toward the reduction of conflict between logging and grazing interests.

Early in the year a brief on forest grazing was prepared and presented to the Royal Commission on Forests and Forestry. Several live-stock associations and individual ranchers also presented briefs on this subject.

### Grazing Permits

The privilege of grazing a certain number of live stock for a definite period over a specified area of Crown range is allocated by the Forest Service through issuance of grazing permits to qualified applicants. Where necessary, specific management practices to be followed are outlined in the permits. A permittee may be the sole user of a range

unit or may graze his stock in common with a number of other permittees, depending upon the size of the unit and the number of stock allowed each permittee.

During 1955 a total of 1,705 grazing permits were issued, authorizing the grazing of 121,284 cattle, 3,575 horses, and 22,560 sheep on Crown range. Although the number of permits issued was down slightly from the figure for 1954, the number of cattle permitted was up by 9,517 head, or over 8.5 per cent. The numbers of horses and sheep under permit were down slightly from 1954 figures, but total permitted range use still increased by 7.8 per cent.

The tabulation on page 144 shows a breakdown of the above figures by forest districts and a comparison of those for the past ten years.

### Hay Permits

A total of 203 hay permits were issued, authorizing the cutting of 2,077 tons of hay and 24 tons of rushes from natural meadows on Crown range. This represents a small increase in the number of permits but a decrease in tonnage from 1954. High water-levels again prevented the cutting of a number of normally productive meadows.

### Grazing and Hay-cutting Fees

In order to avoid instability in the industry, Crown forage is not sold to the highest bidder, as is timber. Grazing fees are derived from a base fee which is related to 1939 live-stock prices. Grazing fees for each year have the same ratio to the base fee that the average live-stock prices for the immediately preceding year have to the corresponding average prices for 1939. Grazing fees, therefore, vary annually according to fluctuations in live-stock prices. For 1955 the fees per head per month were 13 cents for cattle, 16¼ cents for horses, and 3 cents for sheep. This represents a drop from fees charged in 1954 of 7 per cent for cattle and horses, and reflects the drop in prices which occurred during that year. The fee for sheep remained the same both years. Hay-cutting fees, which are not on a sliding scale, remained at $1 per ton. Reference is made in another section of this Report to a further drop in live-stock prices during 1955. This will result in a further reduction in grazing fees in 1956.

The drop in fees, combined with a shorter grazing season, resulted in a slight reduction in total billings of grazing fees in 1955, in spite of the fact more stock was on the range. The figures for this year and the past ten years appear in the table on page 144. Grazing-fee collections were reasonably good, and only a slight increase in outstanding accounts occurred. Considerable time and effort were required to maintain this situation.

### Live-stock Counts

Stemming from the necessity of closer control of live-stock numbers on crowded ranges and for other reasons, more than the usual number of live-stock counts were carried out in 1955. As a convenience to both the stockmen and the Service, such counts are normally made during the winter months when stock is in the feed-yards.

### Trespass

As usual, a number of cases of trespass on Crown range occurred during the year. For the most part, these were corrected promptly when brought to the attention of the owners of the stock concerned. No prosecutions for violations were undertaken.

An amendment to the " Grazing Act " passed at the 1955 session of the Legislature permits the removal and seizure of stock in trespass on Crown range. This legislation will be useful in dealing with trespassing animals of unknown ownership and in cases where an owner of offending stock fails to remove same from the range when directed to do so and in spite of impending Court action. In many cases the immediate removal of trespassing stock from the Crown range is imperative to protect both the forage and the

legitimate permittees depending on the use of same. No trespassing stock was seized during 1955.

## RANGE MANAGEMENT

Range management involves many factors. The growth and reproductive requirements of the forage plants must be met. Grazing at a time when forage plants or the soil will be damaged and general or localized overgrazing must be avoided. The requirements and limitations of the stock itself must be considered. Grazing and any other existing land uses must be correlated. Once a suitable management plan has been devised, it is the responsibility of the permittee to manage his stock on the Crown range in accordance with the conditions specified in his grazing permit.

### Range Surveys

Range surveys are an essential first step in range management. Range surveys involve the assembly of facts and information on soil, forage production, condition and current trend of soil and forage, developments and improvements needed, relation of grazing to other uses, best season of use, the class of stock for which the range is most suited, and any special management problems. Management plans are devised on the basis of this information in co-operation with the live-stock operators. Follow-up, on-the-ground inspections are required to determine the adequacy of the initial plan and to make any revisions necessary.

During 1955 the following areas were covered by primary grazing surveys:—

| | Acres |
|---|---|
| White Lake-Keremeos Stock Ranges (part) | 86,000 |
| Green Lake and North Bonaparte Stock Range (part) | 264,650 |
| Kettle River Stock Range (part) | 149,600 |
| Windermere Stock Range (part) | 140,160 |
| Total | 640,410 |

This programme required approximately 300 man-days in the field. Numerous range inspections were carried out during the grazing season.

The compilation of grazing-survey maps and reports is a time-consuming job which is carried out mainly in the office. A shortage of office help has resulted in this phase of range-survey work lagging behind the field work. A concerted effort was made during 1955 to rectify this undesirable situation, and it is anticipated that all final mapping and report work will be up to date before the 1956 field season.

### Range-readiness Studies

The date on which a range becomes properly ready for use varies from year to year according to weather conditions. Wherever possible, a range should not be grazed before it is properly ready for use in any year. Where variable turnout dates from year to year cannot be effected, it is necessary to determine the average date of range readiness for the area concerned. To this end, permanent plots have been laid out on a number of ranges on which forage development and soil conditions are observed and recorded periodically from the time snow disappears until the range is ready for use. These observations over a number of years make it possible to determine the average date of range readiness for the area concerned. They also make it possible to predict range readiness with a reasonable degree of accuracy some time in advance each year, a matter of considerable importance to the permittees where variable turnout dates are in effect.

A number of the range-readiness study-plots have now been under observation long enough to yield valuable information, and adjustments in turnout dates in several areas are now indicated and will be effected as soon as possible. There is still a lack of this

information for a large percentage of our ranges, and an intensification of this phase of range management is required.

## Range Improvements

Most Crown ranges require some improvements before they may be utilized fully and properly by domestic live stock. Money for this work is provided from the Range Improvement Fund, set up under the provisions of section 14 of the "Grazing Act." During 1955, $35,641.13 was spent from the Fund on range-improvement work, as follows:—

| | |
|---|---|
| 5 stock-bridges | $470.30 |
| 7 cattle-guards | 1,486.14 |
| 1 holding-corral | 105.00 |
| 19 drift-fences | 4,092.85 |
| 1 hazard-removal | 220.15 |
| 6 holding-grounds | 621.86 |
| 2 meadow improvements | 222.07 |
| 4 mudhole-fences | 1,114.01 |
| 17 range-seedings | 2,232.60 |
| 20 stock-trails | 5,633.77 |
| 7 water developments | 800.15 |
| 1 weed-control measure | 620.71 |
| Wild-horse disposal | 1,512.50 |
| Machinery and equipment (purchase) | 301.30 |
| Maintenance and operation of equipment | 971.13 |
| Materials on hand not yet assigned to projects | 1,311.20 |
| Supervision, surveys, and technical studies | 12,012.78 |
| Storage facilities for range-improvement equipment and material | 1,912.61 |

In addition to the above projects, authority was extended to stockmen to construct, at their own expense, the following improvements: 2 breeding-pastures, 1 corral, 4 drift-fences, 2 grazing-enclosures, 1 holding-ground, and 1 stock-trail.

As usual, most of the projects listed were constructed under contract by live-stock associations or individual ranchers. In some cases, full costs were charged to the Range Improvement Fund, while in others costs were shared by the benefiting stockmen, according to circumstances.

The work accomplished during 1955 was considerably less than planned. This was due almost entirely to an extremely late spring and early winter, preventing the stockmen-contractors from completing their projects during these periods when work is normally slackest on the ranches.

Although all other categories of improvements were reduced, more range-seeding was done during 1955 than in any previous year. With the exception of several trial seedings carried out on open grassland and flood lands, all of the seeding was on logged-over forest land. Excellent results are being obtained, and a further expansion of the seeding programme on this type of site is anticipated. The above-noted cost covers the purchase price only of some 4,750 pounds of suitable grass and legume seed. Actual seeding was carried out by co-operating stockmen and Grazing Division personnel. Preliminary surveys and site selection, supervision, and necessary continuing studies are also carried out by Grazing personnel. Although less supervision is now required in those areas where seeding has been carried out for several years and the co-operating groups of stockmen have gained experience in this type of work, considerable supervision and assistance by Grazing Division personnel is required in those areas where forest-range seeding is being carried out for the first time. Dry grassland seedings of previous

years continue to show up poorly, and extensive seedings of this type will not be undertaken until further information is obtained from small-scale trials.

The weed-control project noted above is a continuation of the goatweed (*Hypericum perforatum*) control project reported on in previous years. As it has proven impractical to eradicate this weed under range conditions through the use of chemicals, chemical control work was limited during 1955 to infestations considered particularly dangerous as sources of further infection. Studies on the biological control of this weed are being continued by the Division of Entomology of the Science Service, Canada Department of Agriculture, with the Forest Service co-operating. Results to date have been disappointing, but the *Chrysolina* spp. beetles, which are being used in this study, continue to show some increase in numbers. Some defoliation of the goatweed plants occurred in 1955, and it is still hoped that biological control will finally prove effective. One new release of beetles was made in the vicinity of Zamora.

During the winter of 1954–55 all of the Kamloops and Nelson Grazing Districts were closed to horses. Wild, useless, and unwanted horses remaining on the Crown range during the closed periods were disposed of by rounding up and shipment for slaughter wherever possible. Shooting was confined to those situations where round-up and shipment was not practical. A total of fifty-eight round-up licences and twenty shooting licences were issued. Two hundred and thirteen horses were cleared for shipment and eighty-four were shot on the range. A bounty or subsidy of $5 on mares and geldings and $7.50 on stallions was offered on horses shot or rounded up and shipped for slaughter. The cost of this work, previously noted, includes only bounties and subsidies claimed, the cost of supervising the programme being included under the general heading for this item. The control of unwanted horses on the range is considered very necessary, as these animals, if left unchecked, increase rapidly in numbers and, through year-long grazing, cause severe damage to the range.

### Plant Collections

To aid in plant identification, an essential in range management, a reference herbarium is maintained in both the Kamloops and Nelson offices. Additional specimens were added to these plant collections during the year.

### Range Research

The Forest Service depends on the findings of the Dominion Range Experiment Station at Kamloops for the solution of troublesome range problems. This station has now been established for a sufficient period so that much valuable information is becoming available. Information of use in the management of the Crown range is first applied on a field-trial basis, usually in co-operation with the station. If successful, the new practices are then extended, such as has been the case with forest-range seeding. A tremendous amount of research is still required to solve the numerous problems confronting the range-livestock industry.

## CO-OPERATION

The effective administration of the Crown range would be impractical without the co-operation of the stockmen. This is achieved through the medium of organized livestock associations. There are now forty-eight approved, local, range-livestock associations. Excellent co-operation was received from these groups during the year in dealing with a wide variety of problems. Close contact was also maintained with the British Columbia Beef Cattle Growers' Association and the British Columbia Sheep Breeders' Association on matters of policy affecting the whole industry. A total of 122 association meetings were reported, of which 117 were attended by Forest Officers.

## GENERAL CONDITIONS

Range-livestock production, in common with most other phases of agriculture, is profoundly affected by weather conditions. The winter of 1954–55 remained very mild until the end of February. Unusually cold weather then occurred and subnormal temperatures persisted until the end of May. On the earliest range, forage-growth commenced at least two weeks later than normal and rate of growth was much retarded by continuing cool weather. This constituted a serious situation in view of the generally poor hay harvest in the summer of 1954. Due to depleted hay-supplies, much stock had to be turned out on the range before it was ready for use. In many cases, stock was in poor condition at time of turnout. Some losses of new-born calves and lambs were reported due to the very cold weather in March.

Heavy rains occurring in June and July resulted in excellent forage-growth on lower and mid-elevation ranges. However, the heavy snow-pack on high-elevation ranges was slow in disappearing and many alpine ranges could not be grazed until mid-July, from two to three weeks later than usual. Warm, clear weather commenced in mid-July in the southerly part of the Province and in early August farther north and persisted until mid-September. Some lower ranges became rather dry toward the end of this period, but there was no shortage of green forage on the timbered ranges and, with few exceptions, stock came off the range in generally good condition. Although some early-cut hay was spoiled by rain, hay production was generally good and of fairly good quality. Some silage was also put up. Mid-September snow-storms in the alpine ranges forced the removal of sheep to lower elevations some two weeks earlier than normal.

Severe winter conditions developed early in November and have persisted to the end of the year. This forced the commencement of winter feeding much earlier than normal. A number of late-fall grazing permits had to be cancelled, and much privately owned late-fall range was unusable.

Grasshoppers did not become a serious problem on the range in 1955, and damage by these pests was light.

Good ranch labour is still difficult to obtain and hold on the ranches. The present relatively low prices being received by live-stock producers make it difficult for them to compete with the high wages and working conditions offered in other industries. This is a serious matter, as good, reliable personnel are required to properly handle stock on the range.

Game and other wild animals are often a problem in range management. In some areas, big-game populations, particularly elk, have increased to the point where they are making extremely heavy demands on range forage. In some critical areas, extensive damage to hay-stacks is reported. Beaver have been responsible for flooding a considerable number of formerly productive meadows.

### Markets and Prices

Cattle shipments were down slightly from last year, while sheep shipments remained about the same. Both cattle and sheep prices showed a further decline. Wool prices also dropped.

### Live-stock Losses

Losses of stock on the range due to poisonous weeds, mudholes, and predatory animals were again lighter than usual. Highway traffic and careless hunters caused some losses. Theft of stock on the range continues to be a problem, and there were an unusually high number of prosecutions for cattle-rustling during the year.

### Diseases of Live Stock

Although there were a few herds still under quarantine for various reasons, there were no new outbreaks of disease necessitating adjustments in the use of Crown range during the year.

# ENGINEERING SERVICES

Money allotted for the construction and maintenance of forest-development roads in public working circles exceeded the million-dollar mark for the first time in the history of the Service. The Engineering Section expanded operations and constructed 27 miles of road, as compared with approximately 12 miles the previous year. Activities of the Mechanical and Marine Sections remained at normal level, with no outstanding events to report. In the structural field the completion of the Prince Rupert District office highlighted the year's work, and the installation of a new high-frequency network from Oliver to Kamloops through the Okanagan Valley was the outstanding feature of the work of the Radio Section.

## ENGINEERING SECTION

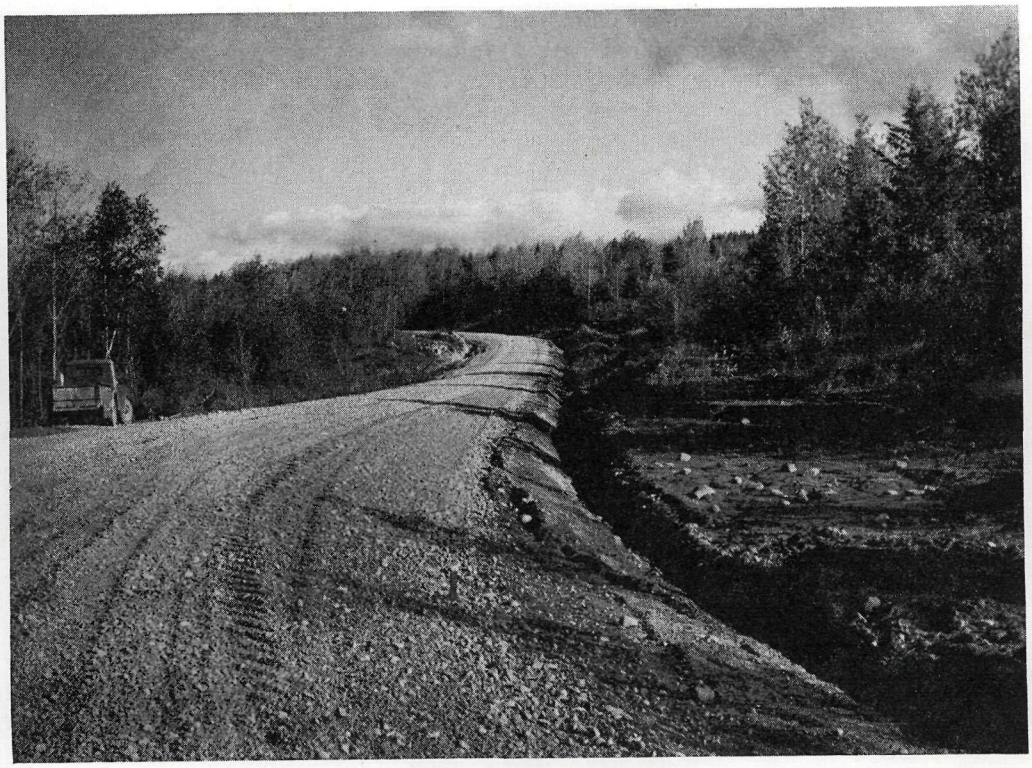
No special assignments occurred and, as a consequence, it was possible to concentrate efforts on the survey and construction of forest-development roads. The higher standard of surveying required on the high-class roads under construction and proposed at the present time resulted in less over-all mileage but more useful locations and designs. Production from Service construction forces was more than twice that of the previous year, and five times greater than the programme of four years ago, the first full year of construction. A significant expansion of the construction programme was anticipated from the award of a contract for a 10-mile section of the Naver road, but results to date have been disappointing, largely due to continuing adverse weather conditions in the Prince George District. There is little doubt, however, that contracts will in the future account for a major part of any speeding-up of the rate of road construction in public working circles.

Due to the urgent demand for the opening-up of mature timber stands, presently inaccessible, in the vicinity of Prince George, both survey and construction work was concentrated in that district. Fifty-four miles of preliminary lines, 7 miles of location survey, and 13 miles of road construction were completed in the area.

The following table shows the work accomplished during the first five-year period of the forest-development road-construction programme.

FOREST-DEVELOPMENT ROAD PROGRAMME IN PUBLIC WORKING CIRCLES, 1950–55

| Forest or Public Working Circle | Forest District | Class of Road | Reconnaissance | Location Survey | Construction |
|---|---|---|---|---|---|
| | | | Miles | Miles | Miles |
| Salmon Arm | Kamloops | 5 | 23 | 21.2 | 10.1 |
| Niskonlith | Kamloops | 3 | 17 | 12.1 | 12.1 |
| | | 4 | 10 | 8.9 | ----- |
| | | 5 | 4 | 3.9 | ----- |
| Naver | Fort George | 2 | 29 | 29.0 | 21.0 |
| | | 3 | 8 | 7.5 | 7.5 |
| | | 4 | 15 | 14.9 | ----- |
| Morice | Prince Rupert | 2 | 26 | 26.0 | 17.0 |
| | | 3 | 16 | 16.0 | ----- |
| Willow | Fort George | 2 | 20 | 20.4 | 7.5 |
| | | 3 | 61 | 14.0 | ----- |
| Upper Kootenay | Nelson | 3 | 14 | 14.0 | ----- |
| | | 4 | 21 | 7.0 | ----- |
| | | 5 | 20 | 16.0 | ----- |
| Purden | Fort George | 4 | 25 | ----- | ----- |
| Babine | ----- | 3 | 12 | ----- | ----- |
| Cottonwood | ----- | 3 | 20 | ----- | ----- |
| Barkley Sound | Vancouver | 5 | 7 | ----- | ----- |
| Chilliwack | Vancouver | 3 | 20 | ----- | ----- |
| | | 5 | 20 | ----- | ----- |
| North Thompson | Kamloops | 3 | 13 | ----- | ----- |
| | | 5 | 10 | ----- | ----- |



Completed forest-development road in the Naver Provincial Forest.

## General Engineering

Work undertaken during the year included:—

(1) Design, and award of a contract for, the construction of a creosoted-timber bridge having a length of 128 feet and a main span of 60 feet. (This bridge will span Naver Creek on the Naver forest-development road at Mile 12.2.)

(2) Partially designing a bridge over the Willow River. This structure will have a 140-foot truss, constructed of creosoted timber and steel members to obtain the best use of both materials.

(3) Designing, and calling of tenders for, a mooring-basin, dock, and parking area at Fisherman's Cove, West Vancouver. This installation will facilitate log-scaling in the Howe Sound area and will provide space for the berthing of Forest Service vessels.

(4) Investigating possible water sources, designing and supervising construction for an 80,000-gallon concrete-paved reservoir having a polyethylene plastic waterproofing membrane incorporated into its construction.

(5) Investigating and designing a water-supply system for Alexis Creek and Kamloops Ranger stations.

(6) Assisting the Structural and Marine Section in the design of the structural frame of a warehouse and garage at Prince George and in other problems.

(7) Enlarging the soil-engineering programme.

(8) Continuing the study of clearing costs. Sufficient data have been obtained to make feasible the contracting of clearing operations on the basis of fixed payment for clearing particular areas. Application of this data and close supervision on one project resulted in the saving of about $15,000.

(9) Development of methods for the calculation of maximum stream run-off and selection of required culvert sizes. Designs have been made for increasing the capacities of culverts by improving the shapes of headwalls and entrances. To increase culvert capacities, experimental installations were made using tapered end sections.

(10) The lands title service was continued, and the following work accomplished:—

| | Completed | Pending |
|---|---|---|
| Purchasing private land for administrative sites | 17 | 10 |
| Reserving Crown land for administrative sites | 36 | 27 |
| Purchasing private land for rights-of-way | 19 | 7 |
| Reserving Crown land for rights-of-way | 22 | 12 |
| Totals | 94 | 56 |

Of the 150 areas processed, the main new administrative sites included Lumby, Oliver, Slocan City, Pemberton, Telegraph Creek, Lower Post, Sayward, and Telkwa. The rights-of-way through private lands were established for several forest-development and forest-protection roads, telephone-lines, etc.

## Road Reconnaissance

Reports were compiled on 140 miles of preliminary route lines established by reconnaissance, and a brief summary was prepared for the remaining 20 miles covered during the previous field season. Field work was completed and reports commenced on the following:—

(1) Twenty-four miles of preliminary route lines in the Willow River Public Working Circle, extending the road system located and under construction.

(2) Preliminary investigation for the development of the Purden Lake Public Working Circle and establishment of the route for 25 miles of road.

(3) Investigation of the proposed Weedon Lake forest-development road and its extension into the timber areas tributary to Carp Lake in the Carp Lake Public Working Circle. The route was defined for 5 miles.

(4) Reconnaissance was made of the area between Babine and Tochcha Lakes in the Babine Public Working Circle, and the route for 12 miles of proposed road outlined.

## Road Location

Quantity analyses, designs, and plans for 12.3 miles of road in the Naver Public Working Circle and 24 miles in the Willow River Public Working Circle were completed in early spring. During the rest of the year, field work was completed and office design commenced on:—

(1) Seven miles of final location on the south main branch and 2.4 miles on the Pitoney Lake extension of the Willow River forest-development road.

(2) Twelve and seven-tenths miles of final location extending the Morice River forest-development road from Mile 28.5 to its terminus at Mile 41.2 on the north shore of McBride Lake. This road will develop that part of the Morice River watershed east and south of the river, comprising some 173,000 acres of productive forest land.

(3) Approximately 15 miles of final location of the White River road in the Upper Kootenay Public Working Circle.

## Road Construction

In spite of a short construction season, the following projects progressed very satisfactorily:—

(1) *The Morice Forest-development Road.*—During the winter, 14 miles of right-of-way was cleared to Mile 18. The subgrade was completed from Mile 0 to Mile 17, with the further construction of 14 miles. This involved the placement of approximately 200,000 cubic yards of common material, 60,000 tons of pit-run gravel, and 2,900 feet of wood-stave culvert from 12 to 84 inches in diameter. This work was performed by the Department's personnel and some gravel-trucks rented for part of the season.

Assembly of a large creosoted wood-stave culvert, Morice Forest development road.

(2) *The Willow River Forest-development Road.*—Thirteen miles of main-road right-of-way was cleared under equipment-rental agreements supervised by Forest Service personnel, and an additional 3 miles was cleared by the Department's personnel. Subgrade construction was completed on 7½ miles of the Willow west road by the Department's employees. This involved the placement of approximately 145,000 cubic yards of common material, 5,400 cubic yards of solid rock, 21,000 tons of pit-run gravel, and 1,500 feet of wood-stave and metal culverts from 12 to 30 inches in diameter.

(3) *The Stone Creek Forest-development Road.*—Utilizing Forest Service and rented equipment, clearing and subgrade construction were completed from Mile 11 to Mile 14.5. This involved the placement of approximately 35,000 cubic yards of common material and 3,500 tons of pit-run gravel.

(4) *The Naver Creek Forest-development Road.*—Approximately 55 acres between Mile 12.21 and Mile 19.5 have been completed under the contract for construction from Mile 12.2 to Mile 22.4. Subgrade construction between Mile 12.21 and Mile 14.2 involved the placing of approximately

36,000 cubic yards of common material, 1,800 tons of pit-run gravel, and 192 feet of wood-stave culvert from 12 to 30 inches in diameter.

(5) *Road Maintenance.*—Most forest-development roads are turned over to the forest districts and maintenance checked by the Engineering staff. The following roads were maintained by equipment from the Engineering Section pending transfer of jurisdiction to the respective forest districts:—

(*a*) Twelve miles of the Naver Creek forest-development road were gravelled where necessary. Additional culverts were placed and the surface graded once a month during the summer hauling season. Approximately 10,000 tons of ¾-inch crushed gravel were stock-piled at Mile 12 for future maintenance.

(*b*) The Stone Creek forest-development road was in good condition and only required grading of the 11 miles built in previous years.

(*c*) The 3 miles of the Morice forest-development road built in 1954 were maintained for construction and public traffic.

(*d*) Supervision was supplied for extensive maintenance and improvement to the Aleza Lake Experimental Station road.

The low-bed truck-trailer unit, operated by the Engineering Section for special heavy hauling throughout the Forest Service, transported equipment and supplies ranging from wood-stave and steel culvert stock to cabin cruisers and 30-ton tractors; freight amounted to approximately 135,000 ton-miles.

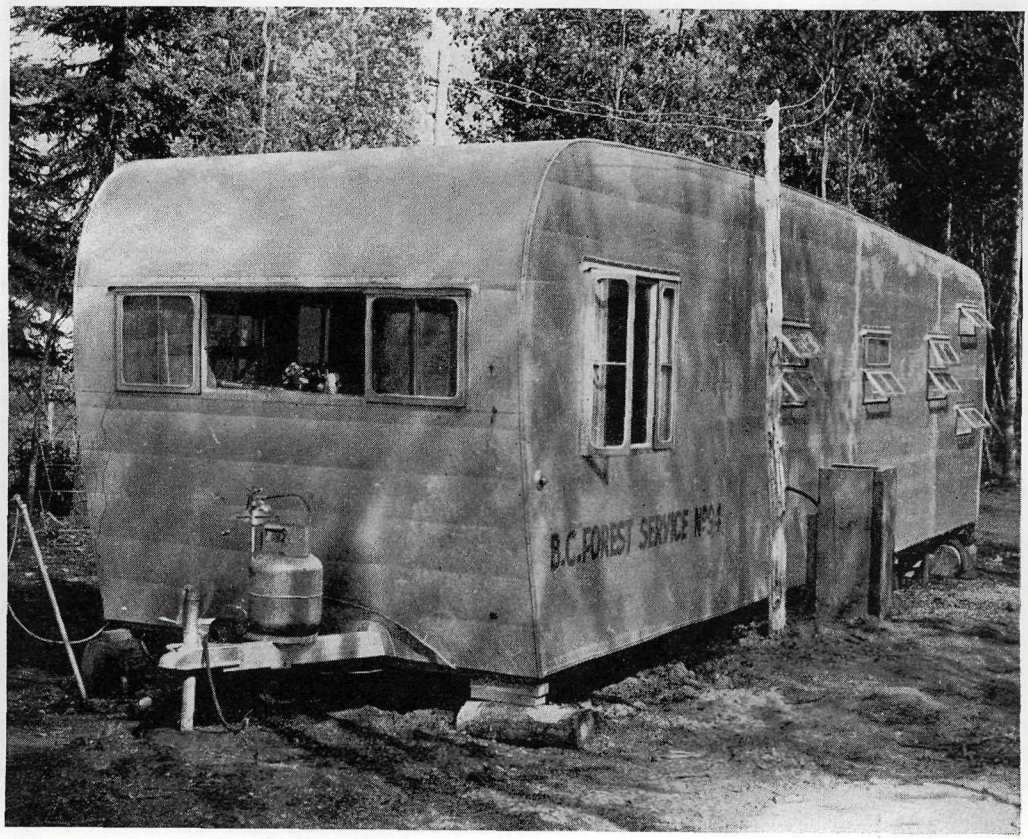
## MECHANICAL SECTION

### Forest Service Mechanical Equipment

| | Total Units, Jan. 1, 1955 | Removed from Service | New Purchases | Total Units, Dec. 31, 1955 |
|---|---|---|---|---|
| Sedans and coaches | 47 | 2 | 6 | 51 |
| Coupes | 73 | 17 | 4 | 60 |
| Suburban | 39 | ..... | 2 | 41 |
| Station wagons—four-wheel-drive | 20 | 2 | 7 | 25 |
| Land rovers—four-wheel-drive | 35 | ..... | 18 | 53 |
| Willys jeeps—four-wheel-drive | 9 | 3 | ..... | 6 |
| Willys pick-ups—four-wheel-drive | 83 | 12 | 11 | 82 |
| Dodge power wagons—four-wheel-drive | 18 | ..... | 2 | 20 |
| ½-ton pick-ups | 224 | 46 | 33 | 211 |
| ¾–1-ton pick-ups | 53 | ..... | 14 | 67 |
| 2–3-ton trucks | 52 | ..... | 3 | 55 |
| Heavy-duty (24–40,000 G.V.W.) trucks | 14 | ..... | 1 | 15 |
| Austin countryman | 48 | 19 | ..... | 29 |
| Thames estate wagon | 1 | ..... | ..... | 1 |
| ½–1-ton panel deliveries | 27 | ..... | 4 | 31 |
| Sedan deliveries | 7 | ..... | 12 | 19 |
| Tankers, cranes, etc. | 5 | ..... | ..... | 5 |
| Tractors | 44 | 3 | 2 | 43 |
| Graders | 16 | ..... | 2 | 18 |
| Scrapers—self-propelled | 3 | ..... | 1 | 4 |
| Power-shovels | 2 | ..... | ..... | 2 |
| Outboard motors | 294 | 2 | 15 | 307 |
| Fire-pumps | 559 | 7 | 54 | 606 |
| Chain-saws | 306 | ..... | 35 | 341 |
| Lighting plants | 58 | ..... | 4 | 62 |
| High-pressure fire-fighting units | 18 | ..... | 15 | 33 |
| Snow-ploughs (Sicard)—rotary blower | 1 | ..... | ..... | 1 |
| Snow sedan—propeller-driven | 1 | ..... | ..... | 1 |
| Speeders—railway | 20 | ..... | ..... | 20 |
| Trailers—low-bed | 7 | ..... | 1 | 8 |
| Trailers—dwelling, bunk-house, etc. | 67 | ..... | 18 | 85 |
| Trailers—miscellaneous | 58 | ..... | 21 | 79 |
| Air-compressors | 6 | ..... | 2 | 8 |
| Gas-powered rock-drills | 5 | ..... | ..... | 5 |
| Muskeg-tractors (personnel carrier) | ..... | ..... | 1 | 1 |
| Yarders | 1 | ..... | ..... | 1 |
| Crushing plants | 1 | ..... | ..... | 1 |
| Mechanical wheelbarrows | 10 | ..... | 10 | 20 |

## Equipment Selection

The Forest Service vehicle-replacement policy is undergoing a gradual revision due to changing economic conditions. Increased labour and parts costs bring about a situation where it is frequently more economical to replace than to repair, and higher salaries have placed a greater value upon the productive time of personnel. This, in turn, demands a greater availability of motor-vehicle equipment, and down-time for minor repairs which was accepted as normal in the past has now become a burdensome factor. This situation has resulted in the need for earlier trade-in of service equipment. There has been a steady increase in the size of the motor-vehicle fleet each year since 1946, with the peak year for purchase of new units being 1951. It follows that replacement requirements have also increased and will continue to do so at least until the 1951 peak has been absorbed, when it may be expected that replacement demands will level off.




Thirty-foot Forest Service dwelling-trailer.

An examination of the vehicle list for the past year or two will show a trend away from coupes, which were formerly the type of vehicle most used by Rangers, to sedan deliveries, panel deliveries, etc. These latter units combine comfort and good appearance as well as providing increased cargo-carrying space for Ranger equipment. There is also a steady increase in the number of four-wheel-drive units purchased. This type of vehicle has proved most useful for year-around operation, through snow or mud, on low-class ungravelled side-roads. To further illustrate the type of roads and trails negotiated (in daily work), mention should be made that the two northern districts find the need of a front-mounted power-winch in conjunction with all their four-wheel-drive vehicles. When

it becomes necessary to penetrate undeveloped forested areas, as for instance on road surveys, the four-wheel-drive unit with winch becomes inadequate, especially in rainy weather or in areas of poor drainage. In an attempt to solve this difficulty, the Forest Service this year purchased a light-weight tracked vehicle known as a "muskeg tractor." Initial experience has been so satisfactory that two more units are contemplated, and a trailer unit will be tried out also.

The four-wheel-drive principle has been extended to cover the grader field, and the Forest Service purchased its first of this type during the year. The grader in question also has independent front- and rear-wheel steering, and it is expected that this combination of traction and control should be of special value on Forest Service trails and fire-access roads, which are usually narrow and winding.

Big equipment is needed for the economical construction of forest-development roads.

Lighting-plant requirements continue to increase. Larger Ranger-station establishments with their Assistant Ranger and other staff are now requiring 10-kilowatt plants. Twenty-five- and 30-kilowatt plants have been purchased for the Engineering Section, and a 100-kilowatt plant is in use at Manning Park. A somewhat new departure is being tried out with some living-trailers for marking crews being supplied with 1,500-watt lighting plants.

One item of interest was the lighting-plant replacement at Thurston Bay. The original installation combined a water-driven Pelton wheel with 100-volt d.c. generator. Trouble had been experienced for many years with voltage-control and commutator-burning troubles. Eventually the generator became unserviceable, and investigations were started with the idea of using an a.c. generator with a Pelton-wheel governor plus the usual constant-voltage control, but inquiries showed that a change-over of this nature could become very expensive. The final solution was quite simple. An over-compounded d.c. generator, custom rewound, was installed in place of the old one. From late reports

it appears to be operating satisfactorily and is undoubtedly the cheapest and most efficient source of electric power in use by this Service to date.

In the chain-saw field, the Vancouver-pioneered and -manufactured direct-drive idea seems to be gaining general acceptance, and the light-weight one-man saw is capable of remarkably fast cutting-speeds and performances even in logs of diameters up to twice the length of the cutting-bar and chain.

A new and larger truck and low-bed trailer was purchased for the Engineering Section. Both units were supplied by Vancouver manufacturers. The truck is powered with a 235-horsepower turbo-charged diesel engine, and the low-bed trailer is of 30 tons capacity, made of light-weight alloy steel. The Engineering Section also added two 200-horsepower tractors, and an 8–10-yard powered scraper, with overhung engine and a grid-roller, to their road-construction equipment. The year has been one of very slow deliveries due to strikes both on this continent and abroad. This has caused some disruption to project programmes.

### General Supervision

Supervision of the maintenance of mechanical equipment continues as one of the main functions of this Section. Procedure for this work remains along the same general lines as in recent years, with some refinements in the matter of reports and records which enable the headquarters office to maintain closer touch with the districts and divisions. Advantage has been taken of several manufacturers' service-schools and courses to assist in maintaining knowledge of current product changes and repair procedures, the information so obtained being then passed on to the district mechanical supervisors.

The repair and maintenance facilities of the Engineering Section, whose road-building activities are covered elsewhere in this Report, have been augmented with more equipment and personnel, with the result that it is able to handle an even greater proportion of its own repairs, almost to the exclusion of outside shop facilities. More welding equipment has been added, and lathes, drill-presses, etc., are being acquired, and, in general, repair facilities have been expanded. The parts problem has grown to the point where a parts-man is used full time at each of two camps, and a fair stock of parts is kept on hand.

A meeting of all supervisors was held, partly at the Forest Service Marine Station and partly in Victoria, during the latter part of March. Annual meetings of this kind serve an admirable purpose, providing a chance to pool information on operating and maintenance difficulties and the methods found successful in correcting such problems. At the meeting the work of the Safety Committee, its aims and intentions, were restated and clarified. Highway loading regulations were discussed, with particular reference to Forest Service truck and transport axle-loadings, as this once-neglected subject is now receiving more and more attention from the Department of Highways.

Considerable time has been spent upon the revision of the mechanical-equipment section of the Forest Service manual. The result, when printed, should do much to guide all those concerned with mechanical matters, from the acceptance of equipment, through its operating life, to final disposal.

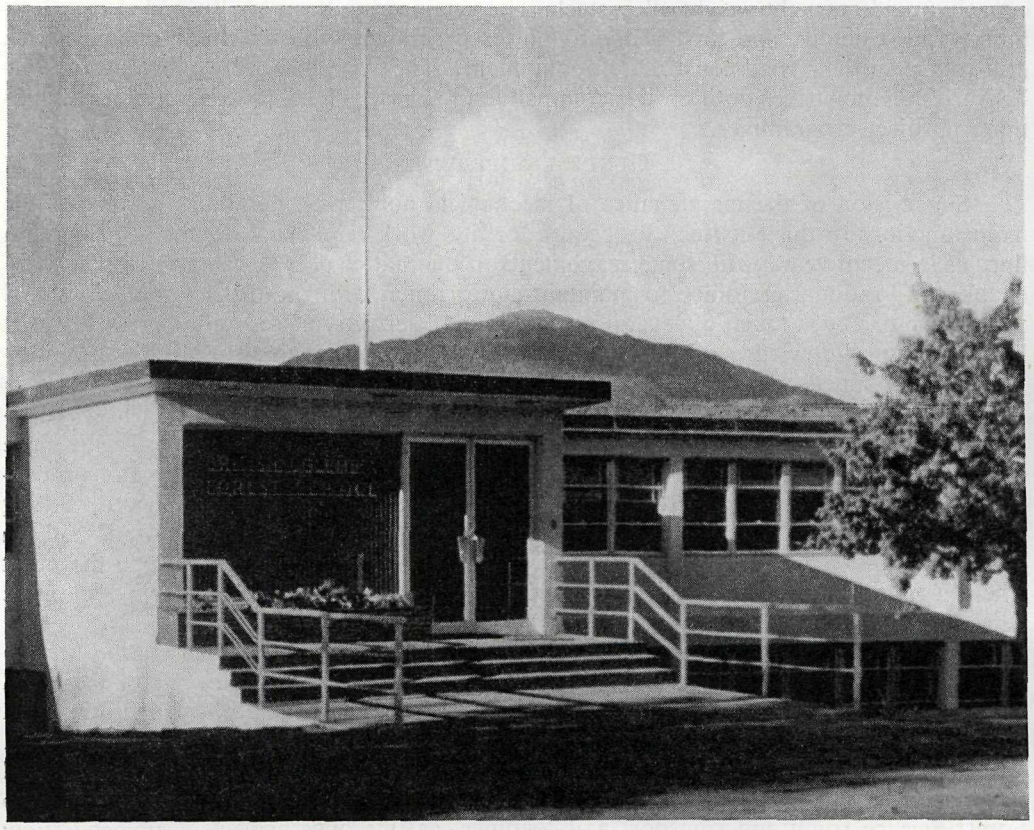
## STRUCTURAL DESIGN AND BUILDING CONSTRUCTION SECTION

No major new project was undertaken by this Section during the year, but close liaison was maintained with the Chief Architect's office with regard to the adequate housing of district staff at Kamloops and Prince George. The new office accommodation for the District Forester's staff at Prince Rupert was completed and occupied in the fall, and reports received indicate the layout has proven very satisfactory.

The majority of the work done by the Section consisted of calling for tenders for standard buildings at various centres throughout the Province. The location and status of these projects is shown in the accompanying chart, which includes the status of last

year's uncompleted work. The only non-standard buildings undertaken this year were a large vehicle-storage garage and workshop for Prince George, which is at this time out to tender, and a cone-drying kiln building designed for the Reforestation Division. This latter building has been erected by its own project crew.

A considerable amount of study was put into the results of our prefabricated housing programme of last year, and it was found that, in some cases, the cost of shipping the packaged house from the Marine Station and erecting it on the site was as great, if not greater, than framing the building from local materials. It was also found that these



Front entrance to Prince Rupert Forest District headquarters building.

buildings were being used for continuous occupancy, when they were designed only for summer occupancy. As a result, a slightly larger residence was designed with a view to framing from local materials for year-around occupancy, and the prefabricated smaller model is reserved for part-time occupancy.

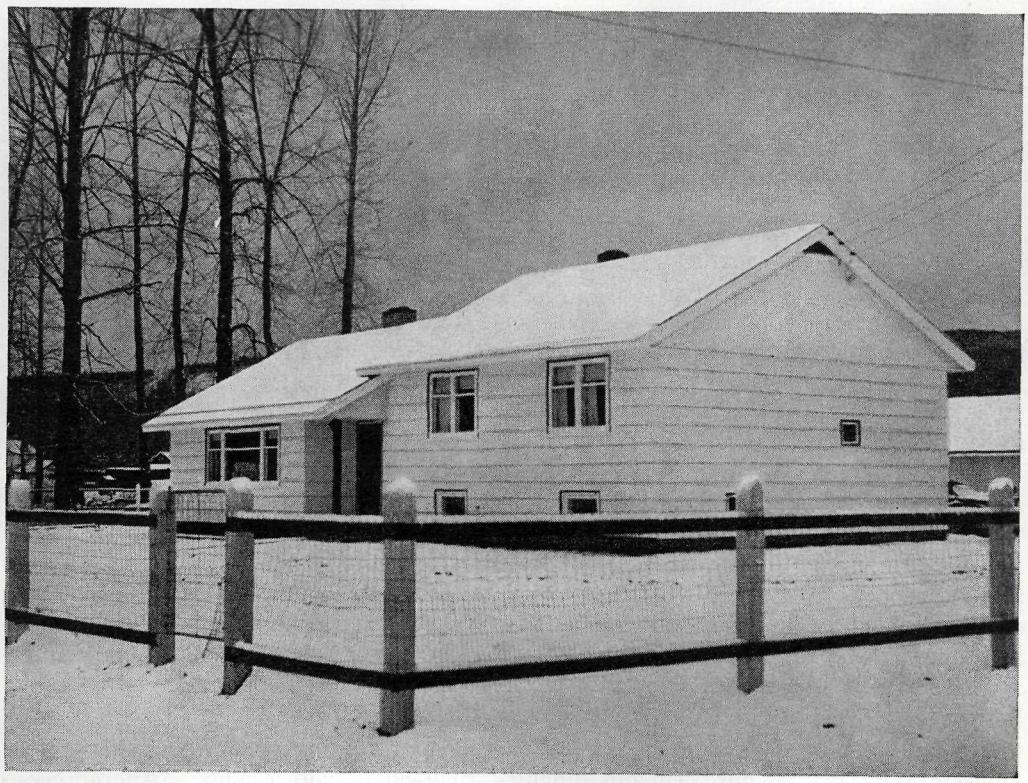
The Section again undertook the design, purchase, and inspection of the Department's trailer requirements in conjunction with the Mechanical Section, and the following units were put in service: Five 4-man units for tree-marking crews in the Prince George District, two 4-man units for tree-marking crews in the Prince Rupert District, three 2-bedroom living-quarters units for key personnel in forest-development road-construction camps, four single-bedroom living-quarters units for key personnel in forest-development road-construction camps, and three 2-man units for use in conjunction with graders in the improvement of forest-protection facilities in Kamloops, Nelson, and Prince Rupert Districts.

The foregoing trailers were all built by open contract but, as a result of the great demand for this type of accommodation, a new type—a compromise between trailers and conventional skid-type camp buildings—was evolved by this Section, and two units built at the Forest Service Marine Station, for the housing of personnel in the forest-development road-construction camps. Briefly, the design endeavours to retain the mobility of trailers while dispensing with fairly costly running-gear for each unit, by providing a common towing-chassis for several units in the same area.

During 1955 the marine-design facilities of this Section were concerned with evaluation of the new-type 32-foot launch designed the previous year for a district supervisor in the Vancouver District. Great interest centred on this craft as it provides the basis for a new and faster type of Assistant Ranger's launch to meet ever-growing demands on the time of our field staff. As a result of several months' use of the " Forest Supervisor," the basic design was adopted with an addition of 2 feet in length, and construction of the first new Assistant Ranger's launch was put in hand. Delivery will be made in April, 1956. Also, as a result of experience with the " Forest Supervisor," plans are being drawn up for a new class of 40-foot Ranger's launch in the same 20-knot category, and construction of the first vessel will commence early in 1956.

An 18-foot hull was designed for either outboard or inboard power, and three such boats were built for various lakes in the Vancouver and Kamloops Districts. Next year's estimates call for several 23-foot high-performance cabin runabouts capable of road transportation, and some preliminary drawings have been prepared for consideration by Divisional and District Foresters.

Other miscellaneous-design projects included various road signs, storage-boxes, and, particularly, a revised standard hose-coupling.



Houston Ranger-station residence.

## Building and Construction Undertaken during 1955

| Location | Project | Construction Agency | Stage of Construction |
|---|---|---|---|
| | *Residue of 1954–55 Programme* | | |
| Fort St. John | Office and stores building | Contract | Completed. |
| Houston | Residence | Contract | Completed. |
| Lillooet | Office and stores building | Contract | Completed. |
| Lumby | Office and stores building | Contract | Completed. |
| Lund | Office and stores building | Contract | Completed. |
| Prince Rupert | District office | Contract | Completed. |
| Quesnel Lake | Marine ways | Forest Service | Completed. |
| Smithers | Warehouse and garage | | Abandoned. |
| Trout Lake | Residence | Forest Service | Completed. |
| | *Programme for 1955–56 Fiscal Year* | | |
| Alexis Creek | Residence | Forest Service | Work proceeding. |
| Barriere | Residence | Forest Service | Work proceeding. |
| Bella Coola | Residence | Forest Service | Work proceeding. |
| Campbell River | Four-car garage | Forest Service | Completed. |
| Canyon Creek | Residence | Forest Service | Completed. |
| Chief Lake | Residence | Forest Service | Completed. |
| Cranbrook | Four-car garage | Forest Service | Completed. |
| Fort St. James | Residence | Forest Service | Completed. |
| Fort St. James | Office and warehouse | Contract | Work proceeding. |
| Fort St. John | Residence | Contract | Work proceeding. |
| Golden | Warehouse | Contract | Completed. |
| Kamloops | Water system | | Preparing plans. |
| Kitwanga | Two-car garage | Forest Service | Completed. |
| Lumby | Residence | Contract | Work proceeding. |
| Merritt | Residence | Forest Service | Work proceeding. |
| Oliver | Office and garage | Contract | Tenders called. |
| Pemberton | Residence | Forest Service | Work proceeding. |
| Pendleton Bay | Residence | Forest Service | Completed. |
| Pendleton Bay | Two-car garage | Forest Service | Completed. |
| Prince George | Garage | Contract | Tenders called. |
| Quesnel | Residence | Contract | Work proceeding. |
| Sayward | Office and garage | | Awaiting land purchase. |
| Sechelt | Warehouse | Contract | Completed. |
| Sechelt | Renovations to office and stores building | Contract | Work proceeding. |
| Slocan City | Office and stores building | Contract | Work proceeding. |
| Southbank | Residence | Forest Service | Work proceeding. |
| Summit Lake | Moving office | Contract | Completed. |
| Telkwa | Office and stores building | | Awaiting land purchase. |
| Thurston Bay | Two residences | Contract | Work proceeding. |

## FOREST SERVICE MARINE STATION

### Marine Work

Maintenance of launches and small boats used by the Forest Service is nearing a full-time occupation for the marine subsection, leaving comparatively few man-hours available for the construction of new craft. The marine ways were occupied forty-five times and twenty-two major launch overhauls were completed, together with twenty-six less-important jobs.

Due to dry-rot, major rebuilding was carried out on the forepart of the "Syrene" and the stern section of the "Forest Surveyor." New engines were installed in the "Forest Surveyor" and "Red Cedar," both of which were big jobs because of the necessity of cutting away housework before removal and installation of the engines. This was also necessary on the "B.C. Forester" for the installation of new tanks. The landing craft, L.C. No. 1, which was badly damaged at Nakusp, was brought in, the hull repaired, and a new deck house installed. Modifications improving comfort and (or) performance were made to the new launches "Lodgepole," "Forest Supervisor," and "White Spruce II."

Small-boat repairs included work on fifty such craft for Forest Surveys and Inventory Division and work on miscellaneous dinghies, river-boats, and a canoe. Alterations to the propeller shaft, engine-beds, struts, and rudder of the "Tachi III" at Stuart Lake

were carried out in the middle of May. Shortly thereafter the 40-foot vehicle-barge and the combination towboat-cruiser "Lodgepole" were launched at Likely.

Although man-hours available for new construction were limited and, to some extent, new work was only used as "fill-ins" between repair jobs, it was possible to carry out some important projects. A new 30-foot Assistant Ranger vessel, of which the 32-foot "Forest Supervisor" is the prototype, is now 40 per cent completed. With some changes incorporated in housework design and the use of noise insulation materials, this vessel should be more comfortable than her predecessor, without loss of speed. Also new this year is the 18-foot fast plywood runabout, three of which are in operation and another three under construction. The construction of a 40-foot scow-type float for Lund is the

Landing-craft adapted at Forest Service Marine Station, for use by fire-fighting crews on Interior lakes.

first of its type for the Forest Service. After prefabrication the float was dismantled and all material given the full-cell creosote treatment. This float is very rugged and should give trouble-free service for years. Other new work accomplished included three 14-foot sectional boats of new design, a 9-foot planing dinghy, ten cabinets for Mark IV epidiascopes, thirty cabinets for Mark VII Ranger-model epidiascopes, and various other crates and small jobs.

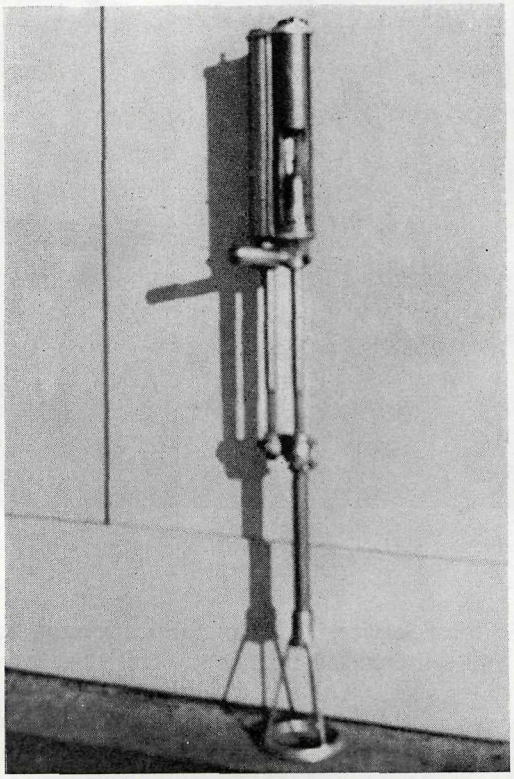
## Prefabrication

The woodworking shop has been fully occupied in the construction of sectional buildings, furniture, tool-boxes, pump, outboard, and lighting-plant crates, boxes for chain saws, hygrographs, fuel-moisture scales, and miscellaneous equipment. In rebuilding the Manning Park signs, heavier and weather-resistant materials were used, which, together with the latest type of Scotchlite, produced a sign second to none. Two new features this year were the exhibit for the Pacific National Exhibition and two portable bunk-houses. The former, constructed to specifications submitted by the Public Relations Division and erected in the British Columbia Building at the Pacific National Exhibition, is a replica

of the 8- by 8-foot lookout tower. Like all lookout buildings, it was prefabricated, but, unlike the standard building, it has a plexiglass roof and is wired for flood-lighting. If necessary it can be dismantled for movement to any location in the Province. The two portable bunk-houses resemble a trailer without wheels. Constructed of plywood and aluminium, completely insulated and equipped with an air-conditioning-heating unit, these units will provide sleeping accommodation for up to six men under all weather conditions. A summary of projects includes the following items: 10 32-foot Assistant Ranger residences, 4 20- by 24-foot sectional prefabricated buildings, 3 14- by 14-foot cabin-type lookout buildings, 1 special P.N.E. exhibit, 65 pieces of office furniture, 30 sets of lookout-building furniture, 229 crates and special shipping boxes, and 110 Ranger-station, road, and other signs.

### Machine-shop

In the machine-shop, pump overhauls were down slightly, lighting plants normal, and chain-saw overhauls up. Manufacture of office and field equipment in this department has reached a point where it could constitute a department unto itself. Work varies



Walking-stick seed-spotter, designed and built at Forest Service Marine Station.

from simple machining of castings, such as pump adaptors, to the building of an intricate piece of equipment, such as the fire-finder or epidiascope. Pump adaptors, suction-hose fittings, foot-valves, strainers, expander-ring tools, radio-antenna fittings, fuel-moisture scales, log-scale computors, paper-corner punches, fire-finders, parts for epidiascopes, and numerous small items such as launch name-plates, special brackets, and so forth have been manufactured or are in the process of being manufactured from patterns made at the station.

Improvements were incorporated in the fire-finders, notably in the traverse and elevating mechanism. The log-scale computors originally designed as a portable instrument for light duty have been revamped for use in the scaling offices in place of the table-desk model formerly manufactured in the carpenter-shop.

Development of an improved type of seeding-tool was undertaken. This new device may well prove to be a real time and money saver in seeding operations on forest lands which have not restocked naturally with desirable species of trees. The seeder permits controlled and positive depositing of seeds on selected seed-spots by means of an adaptation of the well-known air-gun principle with an automatic recharging mechanism, the whole piece of equipment being actuated with a minimum of effort. Seed has become scarce, and consequently valuable, so it must be conserved as much as possible. To meet this problem, an improved type of metering-head ensures that a pre-determined number of seed will be deposited from a reservoir according to the germination index of the particular seed-lot being used. The natural stickiness of the seed has been offset by dusting the already pelletted seed with aluminium powder, which is itself believed to be an added deterrent to rodents. Field tests with this device (which is of walking-stick length) will continue during 1956.

## RADIO SECTION

The year proved an active one in radio communication, with the emphasis on very high frequency development. Sixty-eight new transmitting units of all types were added to last year's 812 sets, making a total at the end of 1955 of 880 units. Of the new installations, amplitude-modulated (A.M.) mobile, both amplitude- and frequency-modulated (F.M.) portables, and frequency-modulated station sets accounted for the majority.

### New Radio Units, 1955–56

| | | |
|---|---|---|
| Portable— | | |
| Model B | 20 | |
| Portaphones, F.M. | 9 | |
| | — | 29 |
| Mobile— | | |
| A.M., Type MBL 25 | 15 | |
| F.M., Type CT43G-1 | 2 | |
| | — | 17 |
| Fixed-station units, A.M.— | | |
| LRT 80F 80-watt | 2 | |
| LRT 100F 100-watt | 1 | |
| | — | 3 |
| Fixed-station units, F.M.— | | |
| 140 BR 60-watt | 10 | |
| 80 BR 30-watt | 2 | |
| 41 BY 10-watt | 4 | |
| | — | 16 |
| Marine—MRT 25F | | 3 |
| 1955 total | | 68 |

Not counted in total above are twenty LWP light-weight portables.

As a result of reconnaissance work carried out in 1954, this year saw the installation of the first Forest Service F.M. network in the Interior. Extending from Oliver to Kamloops, and taking in the main Ranger and Assistant Ranger stations throughout the Okanagan Valley, the new network consists of seventeen stations, including repeaters on Campbell, Silver Star, and Begbie Mountains. The Kamloops-Clinton circuit, successfully tested the previous year, proved unusable during the hot weather, though it is hoped that

this circuit will be completed by further experiments with beam-antennas. Lack of power on Silver Star Mountain, and the inaccessibility of the road to the summit, postponed repeater installation, and heavy snow-storms up to and even after July 1st prevented installation work and the carrying of a motor-driven power plant to the lookout. Until power is wired to the top, as is at present planned by the British Columbia Power Commission, and until the road is completed, the entire Okanagan network must be considered seasonal.

On the Coast, while funds were not sufficient to develop the existing V.H.F. network further, all lookouts between Victoria and Nanaimo were equipped with portable V.H.F. sets, permitting them to carry on conversation with their respective Ranger stations at any time of day without interference to or from the balance of Vancouver District stations. As an adjunct to F.M.-equipped lookouts, the same sets in their light-weight form, which normally can be expected to have a range of only 2 to 3 miles on the level, were employed over distances of 20 to 30 miles. This was done by mounting permanent V.H.F. whip antennas on cars and trucks and carrying, as part of the car equipment, an F.M. set which could, at any time, be attached to the permanent aerial. Personnel travelling the roads below were, therefore, nearly always in contact with at least one lookout and could obtain information on fires or suspected fires as often as desired.

Elsewhere, communication was normal without significant changes. It was noticeable, however, that increasing use in all districts was made of mobile transmitters, which are proving their worth more and more each year. These 20-watt sets have been able to maintain reliable contact over distances in excess of 100 miles, and on occasions over several times this distance.

In the Prince Rupert District, space was allowed in the new office building for a separate radio-room and an adjoining maintenance-room, bringing the headquarters radio station up to the improved standard of other districts. The location of the new building created a problem in planning an aerial system, but, by the addition of two new 80-foot steel towers and the continued use of the old one, a much-needed bi-directional system was created which should, when complete, improve the Victoria–Rupert circuit while giving good radiation into the main group of district stations to the north-east.

In Prince George the impending loss of Carney Hill as a remote-receiver site threatened the communication of the whole district. An agreement with the city averted this danger, and our site has been moved to its new position beside the city reservoir, with increased tower-height to compensate for the excavating of the hill-top. During the year the Prince George radio section was responsible for installing a four-channel 100-watt station at Cassiar for the Department of Mines, this station having supplied the only reliable communication between this isolated area and the outside via Forest Service stations at Prince George and Morice.

In Vancouver the long-expected complete change-over from 3430 kilocycles to 3245 kilocycles did not materialize when it was discovered that there would be a clash in frequencies between our stations and those of United States Forest Service units in Washington and Montana. At the end of 1955 it is not known what the final outcome of this projected change will be.

At Victoria the early part of the year was devoted mostly to preparatory work for the Kamloops V.H.F. installation, as a result of which the entire V.H.F. change-over was completed by Victoria personnel in slightly over a month. During the summer, with all Victoria technicians except one in the field, maintenance of existing facilities precluded any extensive laboratory work though a number of V.H.F. beam-antennas were designed and built. In addition, a remote telephone unit was designed to give the Forest Service Marine Station office radio contact with Victoria through the Vancouver District radio station, this design being constructed and installed in November. At the end of the year, laboratory work in progress includes 100- and 200-watt transmitters to replace obsolete units, the design for a modern Ranger-station remote-control a.c. receiver, and the design

for two multi-channel remote receivers also replacing obsolete sets. V.H.F. experimental work continues when time permits, the present project being to establish a second F.M. circuit between Victoria and Vancouver by means of a 40-megacycle beam from Gonzales Hill.

The radio-channel situation remains unchanged since 1954, with only one district likely to be affected by new Department of Transport regulations. At the same time the gradual replacement of our present system of V.H.F. equipment prepares us for future complications in the event that further frequencies are withdrawn or changed.

# FOREST PROTECTION

## WEATHER

The year 1955 was the third in succession with below average fire-danger. Below normal temperatures and rainfall over the greater part of the Province in April, and the coldest May on record, resulted in a late spring. The usual spring flash-hazard condition in the two northern forest districts extended well into June.

Two weeks of rainless weather over the entire Province during the first half of June was finally ended by general severe thunder-storms over the three Interior forest districts on the 22nd and 23rd of the month. Strong, gusty winds accompanied the thunder-storms in the West Kootenays. Soaking rains occurred in the Prince George area during the last few days of the month.

July was cool, with rainfall generally above normal and mostly concentrated in the last week. Two to three weeks without appreciable rain occurred in the middle of the month over the Cariboo region. Lightning activity set some fires in the Kamloops Forest District on the 16th and 17th and in the Nelson Forest District during the last two weeks of the month.

Although August was one of the driest on record over Southern British Columbia and over the Peace River section, below normal temperatures and high overnight relative humidities helped to keep the fire-danger from becoming critical. Elsewhere north of latitude 52, the weather remained cloudy with fairly frequent rains until the middle of the month.

The dry spell did not break until almost the middle of September over the whole Province, by which time conditions had occasionally become critical over the southern part of the Province during brief periods with low overnight relative humidities.

The most notable feature of the 1955 fire season was the absence of any extended period of low overnight relative humidities, in spite of the six- to seven-week dry period in the late summer. As a result, fuel moistures did not drop to dangerous levels, and deciduous vegetation remained green throughout the greater part of the summer.

## FIRES

### Occurrence and Causes

The number of fires recorded was below the ten-year average. The occurrence by months deviated somewhat from the normal. In May and August there were less than the normal number of fires; in June and September there were more.

| Forest District | Fire Occurrence during Ten-year Period 1946–55 | Percentage of All B.C. |
|---|---|---|
| Vancouver | 4,022 | 27.82 |
| Prince Rupert | 654 | 4.52 |
| Prince George | 1,518 | 10.50 |
| Kamloops | 4,821 | 33.34 |
| Nelson | 3,444 | 23.82 |
| Totals | 14,459 | 100.00 |

The principal cause of fires was lightning, which accounted for 30 per cent, followed by railways operating and smokers, each with 15 per cent, and campers accounting for 14 per cent. Fire occurrence from lightning increased by 2 per cent above the ten-year average, whereas fires caused by smokers and brush-burning decreased 2 per cent each. Fires by other causes followed the normal pattern.

### Cost of Fire-fighting

The 1955 fire-fighting costs amounted to $74,063, or $208,728 less than the ten-year average, although they were double the 1954 costs. For further tables of costs, *see* Tables 59 and 61 of the Appendix, and also Table 45 for cost to other agencies.

The major expenditures on suppression were on fires caused by lightning, being 41 per cent of the total, although that cause represented only 30 per cent of the total number of fires. This is understandable, as lightning fires usually occur in isolated areas which are difficult of access. Campers' fires were responsible for 14 per cent of the total fire-fighting cost, and smokers' fires 15 per cent.

### Damage

The total area burned was estimated to be 46,694 acres (*see* Table 58). This is only 19 per cent of the average annual acreage burned in the last ten years. Of the area burned, the Prince George Forest District accounted for 40,632 acres or 87 per cent. It should be noted that 32,689 acres or 80 per cent of the area burned in the Prince George District was non-commercial cover, grazing or pasture land, or non-productive sites. The largest fire was in the Peace River area in the Prince George Forest District, being over 11,000 acres. The total damage to forest-cover was only 29 per cent of the ten-year average.

## FIRE-CONTROL PLANNING AND RESEARCH

### Fire Atlas and Statistics Ledgers

The Provincial fire atlas has been brought up to date, and the 1,384 accidental fires for the year have been plotted, plus 174 intentional slash-burns in the Vancouver Forest District. The fire-statistics ledgers and fire-classification atlas for all five forest districts are currently being brought up to date. A start has been made this year in supplying district offices with copies of some of the protection data, comprising, essentially, fire occurrence, fire classification, lookout-coverage overlays, and fire statistics, which will be used to bring the district records up to date.

### Visibility Mapping and Lookout Photography

One two-man crew was in the field during the 1955 fire season for the combined job of visibility mapping and lookout photography.

In the visibility-mapping portion of the job, twenty-seven possible lookout-sites were examined. The final recommendation was three primary lookouts for the Vancouver Forest District and three primary and two secondary lookouts for the Kamloops Forest District.

In lookout photography, eighteen lookout points were photographed—ten in the Vancouver Forest District, seven in the Kamloops Forest District, and one in the Prince George Forest District.

### Protection Planning in Public Working Circles

Preliminary field work was carried out in four public working circles this year—two in Kamloops Forest District and one each in Prince George and Nelson Forest Districts. Preliminary reports for protection plans are currently being compiled on these working circles.

The low-cost fire-protection access-road programme was continued this year in the Spallumcheen Working Circle, with approximately 15 miles of road being built.

### Miscellaneous (Air-photo Mosaics)

Coverage has been extended over a large portion of the Kamloops Forest District, with thirty-seven additional mosaics completed this year, making a total of 107 available for use in the Vancouver and Kamloops Forest Districts.

## FIRE-WEATHER RECORDS AND INVESTIGATIONS

Routine observation and reporting of weather observations continued as in the previous season, with the following exceptions. The Model 8 burning-index meter developed by the United States Forest Service Forest Fire Laboratory staff at Missoula, Mont., was given a limited trial in the Nelson Forest District this season, and plans are under way for more extensive trials next season. A provisional ten-day fire-weather reporting form was used on a trial basis in the Prince Rupert Forest District this season, and it is intended that this form will be in wider use next year.

During 1955, 488 sets of fuel-moisture indicator sticks were distributed, of which 316 went to industrial operators. This represents an increase in use by industry of 100 per cent in the last five years. Experiments with small test fires and studies of the behaviour of heavier indicators of fuel moisture were continued at the Langford test-site. Again this season, through the co-operation of one of the operators on Vancouver Island, it was possible to observe the behaviour of slash burns in the Ladysmith area in relation to the moisture content of heavier fuels as measured by weighing 3-inch logs and as indicated by a commercial moisture-meter.

Results of one study were published by the Meteorological Division of the Department of Transport as Technical Circular No. 216, "Lightning Fires over Southeastern British Columbia."

## FIRE-SUPPRESSION CREWS

Sixteen suppression crews, averaging ten men each, were again employed during the summer. These crews were in the field for an average of 100 days during the fire season. They attended 158 fires, of which 97 per cent were held to a spread of less than 5 acres. When not fighting fire or on fire stand-by, the crews worked on improvements and training.

### Analysis of Suppression-crew Fire-fighting Activities

| Size of Fire When Attacked | Number of Fires | Subsequent Spread (by Number of Fires) | | | | |
|---|---|---|---|---|---|---|
| | | ¼ Acre or Less | Over ¼ Acre to 1 Acre | Over 1 Acre to 5 Acres | Over 5 Acres to 50 Acres | Over 50 Acres |
| Spot (up to ¼ acre) | 107 | 106 | ---- | 1 | ---- | ---- |
| Over ¼ acre and up to 1 acre | 25 | 19 | 6 | ---- | ---- | ---- |
| Over 1 acre and up to 5 acres | 20 | 10 | 6 | 4 | ---- | ---- |
| Over 5 acres and up to 50 acres | 3 | ---- | ---- | 1 | 2 | ---- |
| Over 50 acres | 3 | ---- | ---- | ---- | 1 | 2 |
| Totals | 158 | 135 | 12 | 6 | 3 | 2 |

## AIRCRAFT

Protection flying was continued under contract with Pacific Western Airlines Limited who supplied six float-planes. A total of 2,280 flying-hours were logged throughout the Province during the period from April 15th to November 15th.

| Forest District | Base | Type of Aeroplane | Hours Flown |
|---|---|---|---|
| Vancouver | Vancouver | Beaver | 344 |
| Prince Rupert | Lakelse Lake | Fairchild 71c | 428 |
| Prince George | Prince George | Beaver | 388 |
| Kamloops | Kamloops | Beaver and Junkers | 611 |
| Nelson | Nelson | Beaver and Junkers | 509 |
| Total | | | 2,280 |

In addition to carrying out fire patrols and cargo-parachuting in fire suppression, use of the aeroplanes was made by other divisions of the Service. The Engineering Services Division, Parks and Recreation Division, Surveys and Inventory Division, and the Grazing Division used the aeroplanes in their work.

## ROADS AND TRAILS

The Service continued to add to the network of roads and trails throughout the Province as shown in the table below.

CONSTRUCTION OF PROTECTION ROADS AND TRAILS

| | Light | Medium | Heavy | Total |
|---|---|---|---|---|
| | Miles | Miles | Miles | Miles |
| New road construction | 94.60 | 17.60 | 28.05 | 140.25 |
| Road maintenance | 346.25 | 122.50 | 111.25 | 580.00 |
| Total road construction and maintenance | 440.85 | 140.10 | 139.30 | 720.25 |
| New trail construction | 93.75 | 89.25 | 37.50 | 220.50 |
| Trail maintenance | 681.50 | 312.25 | 171.75 | 1,165.50 |
| Total trail construction and maintenance | 775.25 | 401.50 | 209.25 | 1,386.00 |

## SLASH-DISPOSAL AND SNAG-FALLING

The continued moist spring weather combined with below average temperatures and hours of sunshine precluded much spring burning. July had rainfall far in excess of the average, with the result that the forest floor was thoroughly moist to depth. August was a very dry month, and a gradual drying of all openings developed, with the result that by early September a hazardous condition had developed in all open areas, necessitating the imposition of a forest closure from September 5th to September 13th.

Generally speaking, timber stands of even moderate density were reasonably safe and, during the period from about September 19th to September 30th, conditions were almost ideal for the burning of slash. Opportune burning operations were uniformly successful, with some very successful burns obtained on open or southerly exposures. Through overcaution, some operators failed to take advantage of these favourable conditions at the time, and are now left with a carry-over of unburned slash. These circumstances point out the need for reliable rating of hazard conditions, with emphasis on purely local conditions rather than a generalized rating over a large area. The gradual trend toward better utilization and improved logging methods is reflected in the increasing acreage on which either no burning is required or only spot burning at landings. Only 199 acres of slash, the second lowest figure on record, were burned accidentally in 1955, attributable to the comparatively wet season.

No slash-disposal has been required to date on the north end of Vancouver Island, a policy warranted in view of generally inclement weather conditions and lack of extreme hazard. However, in recent years, large areas of contiguous slash have been created which could be subject to the drying effects of wind and solar radiation. A slash-disposal officer will inspect major operations in the area during the spring of 1956, with the object of discussing the problem with the operators and instituting a planned and orderly abatement programme.

Snag-falling assessments were made on 1,840.5 acres, and accounts covering 453.5 acres were cancelled, the operators having later completed snag-falling. Snag-falling contracts were let during the year covering 3,940 acres, the majority of which were in the Sayward Forest, with one contract in the Haslam Lake area. In addition, Reforestation Division crews felled snags on 6,838 acres on the Coast and 833 acres in the Interior preparatory to planting. A further 40 acres were felled by the Parks and Recreation Division in Manning Park.

## FIRE-LAW ENFORCEMENT

The eighty-three prosecutions were almost double the ten-year average. The unusually large number of prosecutions was due in most part to the forest closure in the Vancouver Forest District. The prosecutions are further analysed in Table 62 of the Appendix.

## FOREST CLOSURE

Four regional closures were imposed during the fire season. Three of these were recreational closures in the Nelson Forest District and the other was a general closure in part of the Vancouver Forest District. A fifth closure which had been put into effect in 1953 to protect an uncompleted access road was also in effect and was lifted at the close of the fire season. The table below shows the effective dates.

FOREST CLOSURES, 1955

| Area | District | Effective Date | Termination Date |
|---|---|---|---|
| Koch Creek | Nelson | August 18 | September 16. |
| Horsefly Lake–Quesnel Lake Road | Kamloops | Sept. 24, 1953 | October 11. |
| Part of Vancouver Forest District, general closure | Vancouver | September 5 | September 13. |
| Wilson Creek | Nelson | September 8 | September 16. |
| Arrow Park Creek | Nelson | September 8 | September 16. |

## CO-OPERATION—OTHER AGENCIES

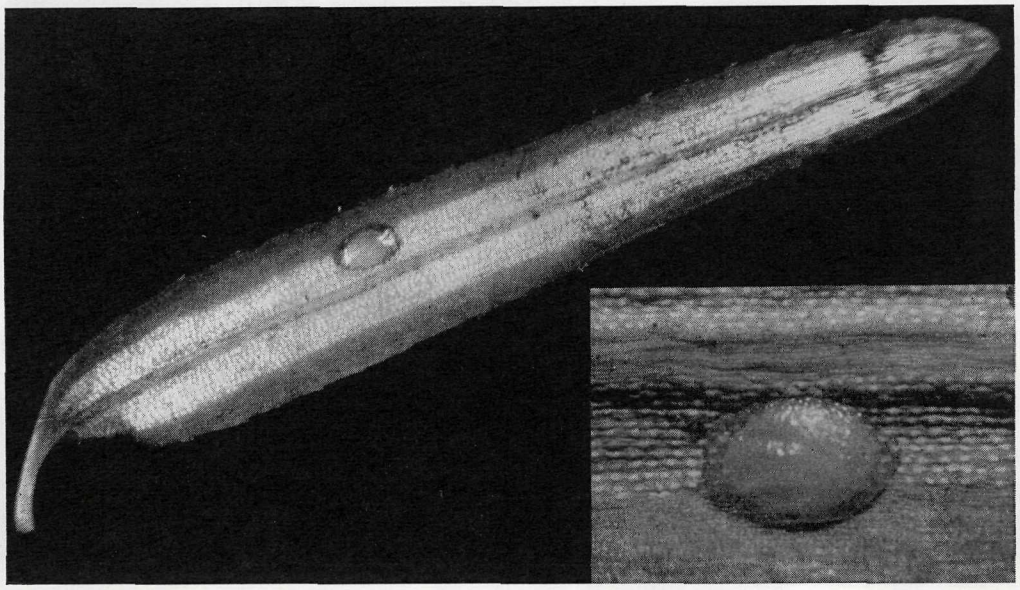
During the 1955 fire season, 981 Honorary Fire Wardens accepted appointment. These public-spirited citizens take voluntary action on fires which occur in their vicinity, and their invaluable aid in reporting and fighting fires is acknowledged with appreciation.

In addition, there were 1,065 Forest Fire Prevention Officers appointed under section 123 of the "Forest Act." These men, appointed at the request of their employers, have the same authority as a Forest Officer on the particular operation with which they are concerned.

## FOREST-INSECT INVESTIGATIONS*

The black-headed budworm, spruce budworm, and Douglas-fir beetle commanded more than usual attention during 1955, due to continuing or developing situations of destructive activity.

The black-headed budworm outbreak in hemlock on Northern Vancouver Island assumed major proportions, and every effort was made to determine the extent, severity, and trend of the outbreak. Although this insect had been increasing in numbers for several years, conspicuous defoliation did not occur until 1954. In 1955 the known infestations covered about 1,600 square miles, with moderate to severe defoliation occurring over more than half of this area. Almost without exception the top third of the crowns were the most severely defoliated, and in some instances from 5 to 20 feet of the tops were completely stripped. Natural control factors were apparently ineffective.



Egg of black-headed budworm on a hemlock needle. Insert shows the egg greatly enlarged. Eggs are laid in the fall and hatch the following spring.

An egg-survey carried out in the fall of 1955 indicates that about two-thirds of the area will be moderately to severely attacked again in 1956, barring an unforeseen collapse of the infestation due to the intervention of natural control factors. The areas in danger of a moderate to heavy attack in 1956 will, in general, be subjected to their second year of serious defoliation if the population develops as predicted. Past records of outbreaks suggest that this should not cause heavy tree mortality, though top-killing could be extensive. It was recommended that widespread control action does not seem necessary in 1956 to prevent serious tree mortality, but this recommendation was qualified to the extent that aerial spraying might be considered for the protection of extremely valuable stands, which should not be exposed to the risk of serious injury through inaction.

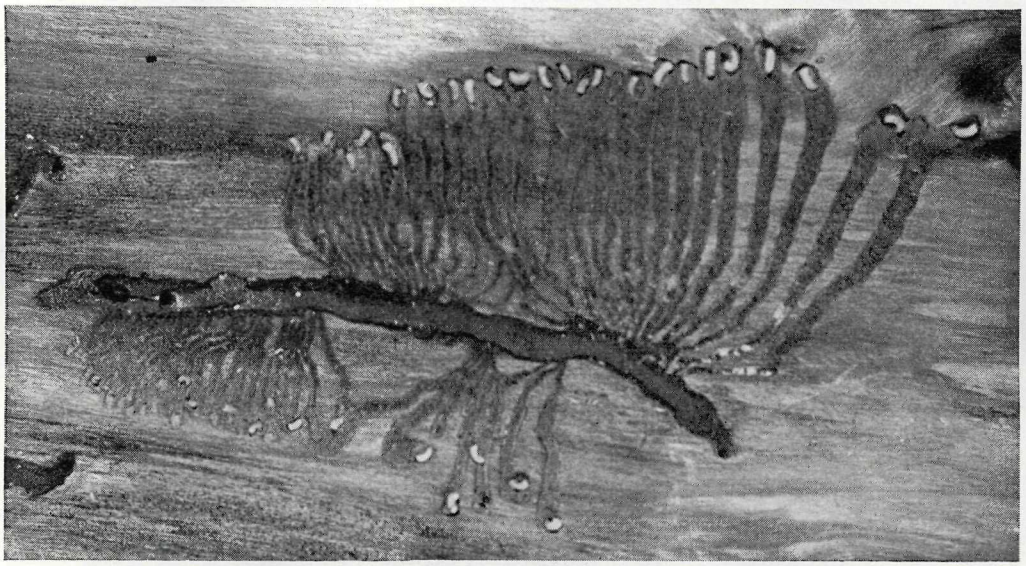
Hemlock in the Queen Charlotte Islands experienced severe defoliation by the black-headed budworm in 1955, particularly on Moresby Island. However, late-season sampling showed a large decrease in the number of larvæ and pupæ and a marked scarcity of eggs. Little or no defoliation is expected on the Queen Charlotte Islands in 1956.

* Prepared by R. R. Lejeune, Forest Zoology Unit (Victoria, B.C.), Forest Biology Division, Science Service, Canada Department of Agriculture.

Small infestations occurred in the Interior, between Miles 15 and 22 and Miles 40 and 45 on the Big Bend Highway.

The spruce-budworm outbreak in the Lillooet River and Lake country and the Fraser Valley-Nahatlatch River areas covered about 171 square miles in 1955. This was the third, and in some instances the fourth, year of severe defoliation. The loss of current year's foliage was slightly less than in 1954, and there was little back-feeding on the old foliage. Some top-killing is expected, but tree mortality, if it occurs, should be limited to the dry sites. The budworm population is believed to have passed its peak, and the trend is toward a gradual decrease in the intensity of the infestation.

Populations of the two-year-cycle spruce budworm in Central British Columbia continued to diminish. Since 1955 was the off-year for feeding, little defoliation occurred.



Gallery system of the Douglas-fir beetle. The vertical gallery, in which the eggs are laid, is constructed by the adult beetles and the larvæ form the mines leading away from the egg gallery.

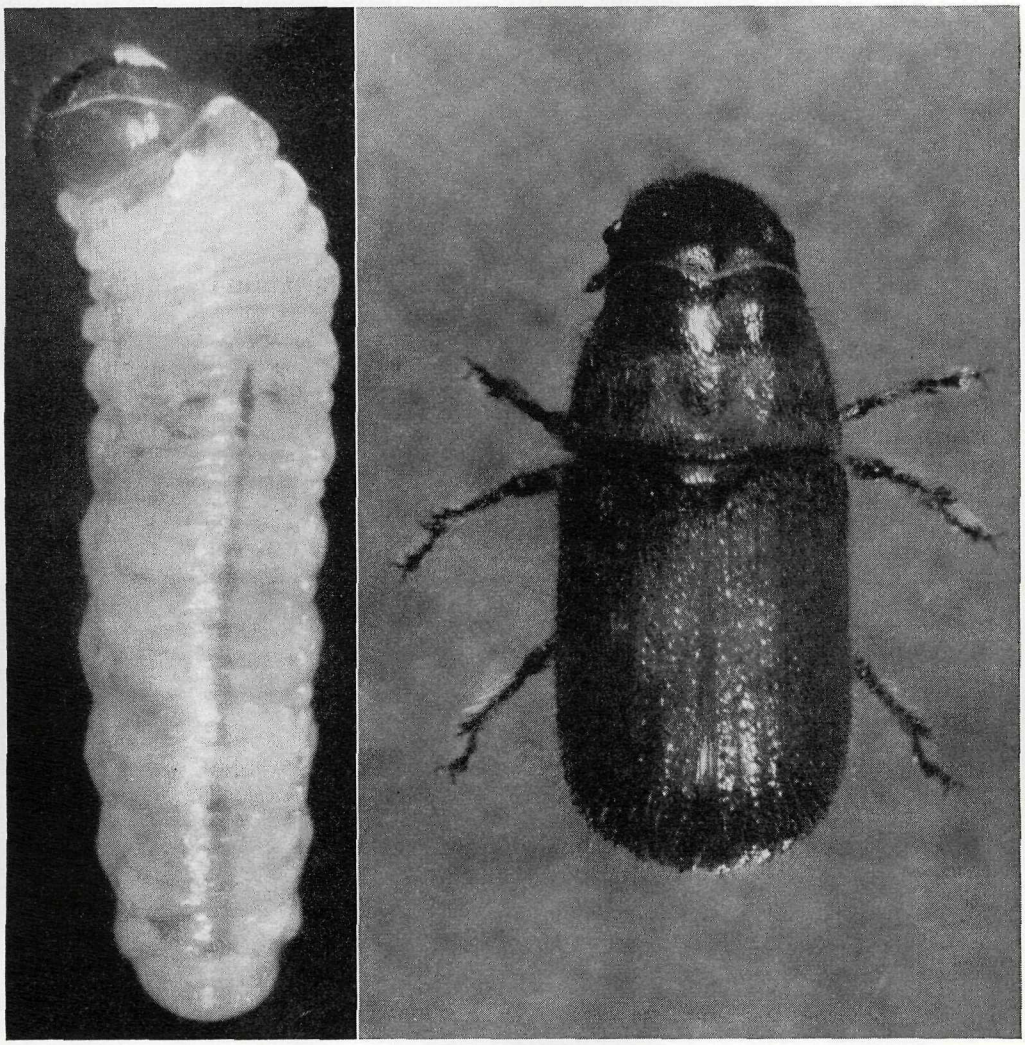
The Douglas-fir beetle continued its widespread destruction of groups of trees in various parts of the Province, notably in the Kamloops, Prince George, and Vancouver Forest Districts. In the Interior a critical situation is developing in an area of about 200 square miles around Lac la Hache, which apparently suffered winter injury during 1952–53. Douglas-fir beetle populations subsequently began to build up in the weakened stands. The number of trees infested during 1955 provides grounds for suspecting that the increasing beetle populations could become epidemic in the near future. Recommendations were submitted on procedures that should be followed to utilize the timber, to provide some control of the beetle populations, and to protect residual and adjacent stands.

On the Coast, new attacks by this beetle took place in the Nimpkish Valley, although the situation was no worse than in 1954. Disease is believed to be responsible for severe mortality of larval broods in some instances. Some of the timber killed during the past two years is being salvaged. New attacks were also observed at Woss Lake, north of the Nimpkish Valley, and in the Lillooet and Anderson River valleys.

There was a general decrease in western-hemlock looper populations during 1955. The heaviest infestation covered a 1-square-mile area of mature and overmature hemlock south of McBride in the Prince George District. The infestation on overmature

cedar, 3 miles south of Penny, decreased in intensity, and the Eaglet Lake-Fraser River infestation collapsed. Elsewhere in the Province, populations were light.

Infestations of bark beetles on Engelmann spruce that have occurred during the past two or three years in the Nelson Forest District have practically disappeared. A trap-tree programme at Cold Creek appears to have been quite successful. In June, 1955, six groups, each consisting of twenty-five trees, were felled at ¼-mile intervals. The trap-trees absorbed heavy populations of bark beetles, whereas no standing trees in the area were found to have been attacked.



Fully grown larva (or grub) of the Douglas-fir beetle, and adult beetle.

Research projects were continued on ambrosia beetles, the Douglas-fir beetle, the hemlock looper, insect pathology, and the Douglas-fir needle miner, and studies of the spruce budworm were started.

Ambrosia-beetle studies were concerned with testing new formulations of insecticides and with fundamental studies on ambrosia-beetle behaviour, attack patterns, distribution of over-wintering populations, and responses of beetles to wood extracts. Ethylene dibromide added to a stable emulsion of lindane was effective in reducing

damage after beetles had entered the wood. Because adult beetles over-winter in the duff in the area containing infested logs and in the immediately surrounding timber margins, the hazard to attack in any given setting will probably be influenced by proximity to logging operations of the preceding year. Extracts of volatile substances removed from the sap-wood of logs susceptible to ambrosia beetles attracted beetles under certain cage conditions, whereas extracts from unsusceptible logs failed to do so.

Douglas-fir beetle studies in the Interior are planned to show to what extent various types of host material—i.e., green standing trees, wind-throws, slash, and cull logs—affect population increases. In this work the importance of diameter, bark thickness, density of attack, parasites, predators, and disease on brood survival is being studied.

Investigation of the effect of factors such as light, temperature, humidity, and food on mating and egg-laying of the western-hemlock looper were undertaken. The need for understanding how these factors operate is based on the belief that they are critical influences in promoting outbreaks.

New records were obtained on the distribution and incidence of termites, powder-post beetles, and carpenter ants. Numerous inquiries were handled for information on termites and powder-post beetles.

During 1955 a 7-acre tract of land near Victoria was purchased as a proposed site for a new forest biology laboratory, greenhouses, insectary, and other auxiliary buildings. A combined workshop and garage is under construction at the Vernon laboratory. One additional research officer was added to the staff at Victoria, and one administrative officer position was established, with headquarters at Victoria, to aid in the performance of administrative functions and in the further development of the work of the Forest Biology Division in British Columbia.

## FOREST-DISEASE INVESTIGATIONS*

Although no outbreaks of new disease were encountered in 1955, additional reports of damage from previously known diseases were received. These reports served to emphasize regional problems of decay in old growth and local problems of various natures in young growth.

Continued excellent co-operation was experienced from the British Columbia Forest Service and forest industry in regard to survey and research activities conducted throughout the Province. The Forest Service was most helpful in submitting reports of new or unusual disease occurrence and in assigning personnel to assist in various co-operative field activities.

A specially equipped trailer was purchased during the year for use as a field laboratory. This equipment has filled a long-standing need in relation to studies conducted at locations remote from headquarters and has overcome many of the sampling problems previously encountered.

Two new projects were initiated during 1955, bringing the total number currently under consideration to twenty-three. Field activities relating to four projects were terminated. All projects are listed below.

| Project No. | Title of Project | Location |
|---|---|---|
| 51.01.03 | White-pine blister rust | Coast-Interior. |
| 51.01.12A | Pole blight of pine (biological studies) | Nelson-Kamloops. |
| 51.01.12B | Pole blight of pine (progress and control studies) | Nelson. |
| 51.01.20 | Root ecology of white pine | Nelson. |
| 51.02.08[1] | Decay in *Abies*, Kitimat | Prince Rupert. |
| 51.02.13 | Suspect analyses, alpine fir | Prince George. |
| 51.04.02[1] | Rhabdocline needle-cast of Douglas fir | Coast-Interior. |
| 51.04.04 | Poria root-rot of Douglas fir | Vancouver. |
| 51.04.06 | Root ecology of Douglas fir | Vancouver. |
| 51.05.02 | Keithia blight of cedar | Vancouver. |
| 51.06.07[1] | Decay in hemlock, Kitimat | Prince Rupert. |
| 51.06.09 | Ecology of *Echinodontium* | Coast-Interior. |
| 51.21.01 | Forest-tree rusts | Coast-Interior. |
| 51.21.07 | Phytophthora root-rot of cypress | Vancouver. |
| 52.01.01 | Forest-disease survey | Coast-Interior. |
| 52.02.01 | Reference collections (culture) | Coast-Interior. |
| 52.21.02 | Hypodermataceæ of conifers | Coast-Interior. |
| 53.01.01A | Damping-off of coniferous seedlings | Coast-Interior. |
| 53.01.01B | Seed microflora | Vancouver. |
| 53.03.03[1] | Hemlock deterioration | Vancouver. |
| 53.03.42 | Spruce-balsam deterioration | Prince George. |
| ..... | Priority of cutting, hemlock forests | Vancouver. |
| ..... | Logging damage, spruce-balsam forests | Prince George. |

[1] Field work terminated.

Publications pertaining to forest-disease conditions in British Columbia distributed during 1955 included the following:—

McMinn, R. G.: The root system of second-growth Douglas fir. *In* Can. Dept. Agr., For. Biol. Div., Bi-monthly Prog. Rept., 11 (3):3. 1955.

Salisbury, P. J.: Parasitism of Phytophthora spp. isolated from root rots of Port Orford cedar in British Columbia. *In* Can. Dept. Agr., For. Biol. Div., Bi-monthly Prog. Rept., 11 (5):3–4. 1955.

Ziller, W. G.: Studies of western tree rusts. II. *Melampsora occidentalis* and *M. albertensis,* two needle rusts of Douglas fir. Can. J. Bot., 33:177–188. 1955.

Ten interim reports were prepared for regional distribution or technical reference during 1955.

* Prepared by R. E. Foster, Forest Pathology Unit, Forest Biology Division, Science Service, Canada Department of Agriculture, Victoria Laboratory.

## FOREST-DISEASE SURVEY

During the year, 2,018 collections of diseased material were submitted to the laboratory for examination. Although many of these submissions duplicated previous collections, additional information of value was gained in relation to host, distribution, and damage. A number of new records were obtained. Collections on *Abies,* for example, included an apparently new species of needle-damaging fungus, a first North American record of a fungus associated with terminal die-back, a first western North American record of a needle-cast disease, and a first record for British Columbia of a stem canker-producing organism. These and other collections received verify the value of the forest-disease survey in regard to the detection of new and noteworthy diseases.

Mobile trailer unit adapted to meet field-laboratory requirements.

Infection by needle-cast diseases was generally less severe than during 1954. Needle-cast of larch, caused by *Hypodermella laricis* v. Tubeuf, appeared to be the only representative of this group causing severe local defoliation. Infection by needle-rusts, on the other hand, was notably more severe than in previous years. Needle-rust of spruce, caused by *Chrysomyxa ledicola* Lagerh., caused appreciable damage throughout the northern part of the Province, especially on the Queen Charlotte Islands. Needle-rust of alpine fir, caused by *Pucciniastrum epilobii* Otth., was responsible for severe defoliation in many parts of the Province, particularly in the vicinity of Smithers, Prince George, Quesnel, and Kamloops.

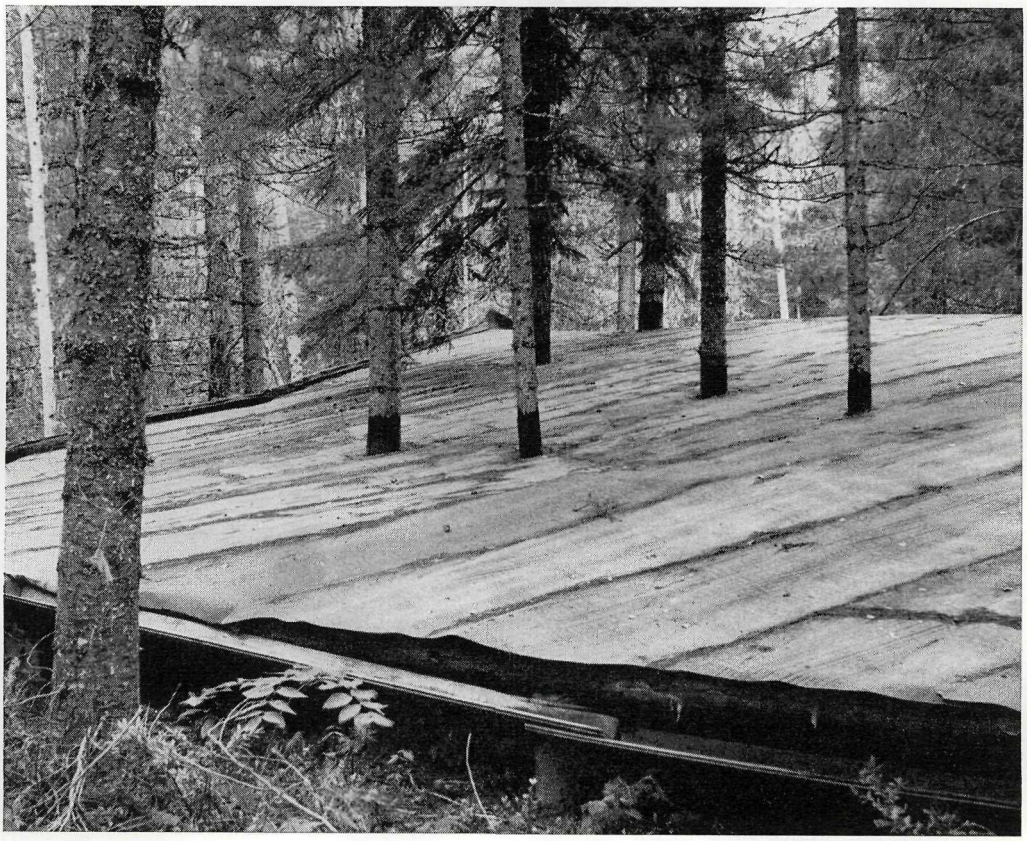
An unusual condition of leader damage to Douglas fir was reported in the Nitinat Valley and at Bear Creek on Vancouver Island. Both affected areas were of high site-quality, as evidenced by the frequent occurrence of annual leader growth in excess of 3 feet. Toward the end of the growing season, leaders of trees 10 to 20 years of age were found to wilt and break at the base, resulting in multiple growth and distorted stem development. In the two areas examined, both involving several hundred acres, as many as 50 per cent of the trees were damaged. The damage was attributed to a physiological condition and is believed to be more widespread than presently reported.

Some time was spent in the development of sampling techniques designed to appraise the occurrence and importance of Poria root-rot of Douglas fir on different growing-sites. Initial steps were also taken in regard to the development of a programme of periodic inspections of exotic forest plantations. Major attention to date has been directed to the compilation of essential data relating to the location, species composition, age, origin, and extent of plantations in the Coast region, but it is planned to extend the programme to include all important plantations in the Province. Regular surveys can then be undertaken to detect the possible presence of foreign pathogens and to evaluate the susceptibility of exotics to native insects and disease.

## NURSERY, SEED, AND CONE DISEASES

Studies of root-rot of ornamental cypress were continued. Although this disease constitutes an important problem in nurseries and outplantings of ornamental *Chamæcyparis* spp., there is no evidence of spread to natural stands of any of the susceptible native forest-tree hosts.

Damping-off losses remained at an endemic level at all Forest Service nurseries during 1955. The losses at Duncan, however, approached a significant level, with 11 per cent early and a further 10 per cent late post-emergence damping-off recorded in check-plots. The presence of Rossilinia needle disease during the winter of 1954 was responsible for an average cull of 3 per cent of Douglas-fir seedlings at Duncan during 1955. This constitutes the first record of the damaging occurrence of this fungus in British Columbia.



Shelter built to simulate drought conditions in studies on western white pine in the Nelson Forest District.

## DISEASES OF IMMATURE FORESTS

Investigations were continued on *Poria weirii* root-rot of Douglas fir. A total of fifteen fir and three cedar were examined in two plantations 10 years of age and in a natural stand 40 years old. These studies were designed to examine the normal and abnormal rooting characteristics of fir in pure and mixed stands, and to study the behaviour of root-rot under varying conditions of site and age. The preliminary analysis

Equipment used in studies to determine the influence of temperature and moisture on rootlet mortality on western white pine.

of data indicates that the disease is capable of spreading from tree to tree through the superficial contact of roots as small as 1 centimetre in diameter. Some indication also was gained that spread might be slower in a mixed stand of fir and cedar than in a pure stand of fir. Studies are to be continued to verify these and other findings that may provide a better appreciation of the conditions favouring the development and spread of root-rot, and hence its control.

Further studies were made of the pole-blight disorder of western white pine. Additional samples of the roots of healthy and diseased pine were obtained under varying

conditions of age and site. An experiment was initiated to study the effect of increased soil temperature on root mortality, and an attempt was made to produce pole-blight symptoms through the construction of shelters simulating drought conditions. Permanent plots established in 1950–51 in thinned and natural stands affected by pole-blight were remeasured and analysed during the year to appraise the effects of thinning and the normal progress of the disease. Thinning was found to be ineffective in retarding the progress of the disease. Intensification of pole-blight has continued on all sample plots, and cumulative mortality appears to have reached an important level.

Scions from selections of seven western white pine were grafted and outplanted on Vancouver Island in connection with studies of resistance to the blister-rust disease. A total of forty-seven selected trees are now under test. Eight selections of *Pinus strobus* received from Ontario also were grafted and planted.

Field work directed to the study of the ecology of the root systems of second-growth Douglas fir was temporarily postponed during 1955. Field work was terminated on Rhabdocline needle-cast of Douglas fir and Keithia blight of western red cedar.

## DISEASES OF MATURE FORESTS

A project was initiated in spruce-balsam forests in the Prince George Forest District in co-operation with the Forest Service. This study was designed to appraise logging and post-logging damage in selectively cut stands. Major attention was directed to the examination of scars to determine the incidence of decay and volumetric loss. Samples were obtained of stands with previous selective cutting dates of two, five, and fifteen years. Additional samples are contemplated in residual stands of different composition, site, and cutting history.

Field work was initiated on a study of hemlock forests on the west coast of Vancouver Island. This study is intended to develop techniques of possible value in the orderly removal of mature forests through appreciation of defect, mortality, and succession to less desirable forest growth. Preliminary investigations were carried out at Sarita River, Franklin River, and Kennedy Lake.

An examination was made of a 120-year-old Douglas-fir stand near Courtenay reported to have an excessive incidence of butt-rot. The occurrence of excessive cull was confirmed and traced to the occurrence of basal scars resulting from ground fires in 1872 and 1896. Fifty-nine per cent of the living firs on three sample plots were scarred, and of these, 85 per cent were infected with butt-rot. There was evidence, moreover, of a substantial volumetric loss through wind-throw and breakage, most of which was attributed to basal decay. These data emphasize the importance of fire scars as factors contributing to the abnormal development of decay in young stands of merchantable size.

Studies of the Indian-paint fungus were continued in Coast and Interior forests. Two hundred and fifty temporary plots have been examined to date in a survey to appraise the habitats associated with varying degrees of occurrence of this fungus. A number of stands showing substantial loss from this fungus have been discovered in the Lower Coast region.

Studies of decay in balsam fir and of deterioration in wind-thrown spruce-balsam forests in the Prince George Forest District were temporarily postponed during 1955.

## FOREST RANGER SCHOOL

The eighth class enrolled in January, 1955, and is due to graduate in April, 1956.

Although there has been no departure from the curriculum as revised in 1953, there has been considerable revision in the subject material of many of the courses.

This is a continuing process, made necessary because of the ever-increasing trend by the Forest Service toward more intensive forest management, with its attendant changes in policy and administration, all of which directly affect the work of the Forest Ranger.

The task of the School in this connection is, however, greatly assisted by the current programme of manual revision being carried on by most divisions of the Service, and, in addition, by the noticeably increased familiarity of the field staff with the more technical aspects of forestry, which is reflected in the students at the School.

Subjects given during the year were as follows:—

### First Term—Spring, 1955

| Subject | Days Allotted |
|---|---|
| Scaling | 14 |
| Mathematics—Review | 5 |
| Surveying—Mapping | 6 |
| Mensuration | 6 |
| Fire Law—Operation Procedure | 16 |
| Preliminary Fire Organization | 13 |
| Public Relations—Public Speaking | 6 |
| Field-trips, visitors, examinations | 6 |
| Total days | 72 |

### Second Term—Fall, 1955

| Subject | Days Allotted |
|---|---|
| Surveying, Mensuration, Photogrammetry | 21 |
| Botany, Dendrology | 9 |
| Pathology | 3 |
| Entomology | 4 |
| Public Relations (including Business English, Personnel Management) | 4 |
| Forest Inventory—Mapping | 3 |
| Fire Suppression | 18 |
| Examinations, field-trips, visitors | 9 |
| Total days | 72 |

### EXTRA COURSES

A six-day course for lookout-men followed the spring term. Sixteen men completed the course and later were appointed to stations in the Vancouver Forest District.

During the spring term a three-day course was given to each of two groups of scalers from the Vancouver District to familiarize them with the functions of the Forest Service as a whole, together with special subjects relating to their particular work.

### BUILDINGS AND GROUNDS

During the summer recess the usual maintenance was carried on, and the painting of the administration building was completed.

## ACKNOWLEDGMENTS

The co-operation of the Faculty of Forestry of the University of British Columbia, for the use of their camp facilities and their assistance at the University forest at Haney, is appreciated. Thanks are due also to lecturers provided by the following agencies: Forest Pathology and Forest Entomology Units, Science Service, Canada Department of Agriculture; National Film Board; the St. John Ambulance Society; Air Division, Survey and Mapping Branch, Lands Service, British Columbia Department of Lands and Forests; and lecturers from other divisions of the Forest Service. The co-operation of the Forest Products Laboratory, Canada Department of Northern Affairs and National Resources, Vancouver, is also acknowledged.

## FOREST ACCOUNTS

During 1955 the value and volume of business dealt with by this Division increased to record high levels, as will be seen by reference to the various financial tables appearing elsewhere in this Report.

Revenue was considerably in excess of the amount anticipated, being 28.3 per cent greater than the total for 1954 and 23.8 per cent greater than that for 1953, which was the previous record year. This can be attributed to many factors, the chief of these being the record volume of all forest products cut, the upward revision of sliding-scale stumpage prices on many existing timber sales due to rising market prices, and increased stumpage prices bid on new timber sales. Other important factors were the absence of any prolonged forest closures or strikes in the industry which would curtail production. Collections continued at a high rate to the end of the year, and there was no indication of any significant change in the near future.

In accordance with instructions from the Department of Finance, centralization in the headquarters Accounts office of expenditure-accounting for all Victoria divisions was undertaken, commencing October 1st, with absorption of vouchering and payroll-preparation functions from all divisions to be completed by February 1st, 1956. Preparation of the expenditure section of the accounting manual was in progress, as well as revision of the existing revenue section.

Issuance of log-salvage permits was accelerated as a result of extension of the Vancouver Log Salvage District, effective December 3rd, to include all waters between Vancouver Island and the Mainland. By December 31st, 315 permits had been issued.

Five field auditors were kept fully occupied checking mill records for collection of selling-price data and unreported scale.

# PERSONNEL

## ORGANIZATION

Three new Ranger districts were manned during the year—one each at Smithers and Burns Lake in the Prince Rupert Forest District, and one at Quesnel in the Prince George Forest District. The new districts were created by splitting former overloaded districts. A reorganization of the official scaling staff took place with the creation of four field Scaling Supervisor and two Scaling Dispatcher positions under the direction of the Superintendent and Assistant Superintendent of Scaling, Coast Region.

## SERVICES

The functions of personnel administration carried out by the personnel office remained substantially the same as in the previous year; namely, employment office for staff recruitment, selection, and placement, and handling of inquiries, correspondence, and documents regarding employment; information bureau for inquiries regarding location or service of present and former employees; personnel records office; administrative office dealing with leave, retirement, efficiency ratings, establishment control, work-organization advice, salary, and classification administration; liaison office for resolving Forest Service personnel matters with the Civil Service Commission and British Columbia Government Employees' Association; communication centre for instruction, training, and promulgating of personnel policies and information; employee-counselling service and personnel-research centre. At the commencement of hearings of the Royal Commission on Forestry in February, a brief on Forest Service organization was presented. The Personnel Officer continued as a member of the Professional Salaries Board, which this year drew up a professional employees' classification rating system acceptable to the Board and the Civil Service Commission. The Board also prepared a brief to the Government on professional salaries.

During the first seven months of the year a survey was carried out at the direction of the Government under the supervision of the Civil Service Commission to investigate organizational and staff efficiency throughout all Government departments. Seconded to the Civil Service Commission as a team to survey the Forest Service were the Personnel Officer as Chairman, the Forest Counsel (replacing the Departmental Comptroller, who was taken ill early in the survey), and a member of the Department of Finance Audit Branch. The survey team visited all divisional and forest district offices prior to presenting its report at the end of July.

During the year, discussions and negotiations were carried on with the British Columbia Government Employees' Association in some nine matters of grievance, of which six were satisfactorily settled and three were still unsettled at the end of the year.

## COMMUNICATIONS AND TRAINING

The efforts of the previous year to maintain and develop improved communication and understanding within the Forest Service were severely curtailed due to the Personnel Officer's appointment to the Civil Service Commission's staff survey of the Forest Service. No new issues of "Personnel Notes" were prepared, and staff-change bulletins were suspended for eight months. No Ranger meetings were attended and no part taken in the annual Assistant Ranger examinations.

However, personal contacts were partially maintained by attendance at most other major meetings in the Forest Service. Talks were given at the District Foresters' meeting and to the Ranger School class. Including the staff-survey visits, thirteen district field-trips were made, averaging nine days in each forest district, including visits to several Ranger offices not previously visited. Twenty-one per cent of the Personnel Officer's time in 1955 was spent in district visits.

Arrangements were made for thirty-two senior executive and supervisory personnel to attend a one-day course in Human Relations, Man Management and Supervision presented through the British Columbia Safety Council and the University Extension Division. The Personnel Officer attended the Seventeenth Annual Conference of the Pacific Northwest Personnel Management Association as a panel chairman.

## ESTABLISHMENT, RECRUITMENT, AND STAFF TURNOVER

The permanent Civil Service establishment approved for the Forest Service by the Legislative Assembly for the fiscal year commencing April 1st, 1955, was 804, with one additional position provided under the Salary Contingencies Vote. This latter position and five others were approved by Order in Council and filled during the year. During 1955, 148 persons received Civil Service appointments and 122 left the permanent Service. Two twenty-five-year service badges were presented. There were eight retirements during the year. Forty-two transfers of permanent staff took place. Permanent-staff turnover for the year averaged 16.1 per cent with heaviest losses in the Prince George and Prince Rupert areas, followed by Vancouver. There was a 4.2-per-cent turnover in technical staff, 10-per-cent turnover in professional staff, and 30.5-per-cent turnover of clerical and draughting staff. Turnover of the latter group in the Prince George District reached 79.2 per cent by the year-end. The loss of seventeen professional men with an aggregate of over sixty-seven years' of experience with the Forest Service was seriously aggravated by extreme difficulty in recruiting, due primarily to non-competitive salaries offered.

After some years with few fatalities, the Forest Service suffered an unprecedented year of loss, through fatal accident, of eleven men. Eight were workmen's compensation cases and three occurred off the job. Of the eight, three were lost in a missing aircraft, three were drowned, one was killed by a falling snag, and one became lost in the woods in winter. Maximum assistance was rendered to dependents.

Some 450 applications for employment were handled by correspondence apart from Youth Training Camp applications, and many interviews were held with applicants for work. Written examinations were held for one promotional position, and oral examinations at panel interviews were employed in filling twenty-two positions. The personnel office also participated in making selections for fifty-eight other Civil Service positions.

At the annual spring examination for Assistant Rangers, 146 candidates sat, of whom 49 passed.

## CLASSIFICATIONS, SALARIES, AND WORKING CONDITIONS

A new classification involving four grades of engineering aide was implemented by the Civil Service Commission prior to the field season and replaced former grades of rodmen, chainmen, levelmen, and instrumentmen. New field positions and classifications were created as a result of reorganization of the Vancouver scaling staff in an effort to raise scaling standards through improved training and supervision.

Numerous individual position-classification reviews were carried out. Of the sixty-nine which were submitted to the Civil Service Commission for approval of reclassification, sixty-two were approved, three were rejected, and four were still unresolved at the year-end. During the year two merit increases were withheld. One dismissal by Order in Council was required.

Negotiations were carried on for adjustments in Marine Station hourly rates for tradesmen, and new rates were set for launch personnel, both permanent and casual, and for all grades of mechanics and mechanical superintendents. Representations were made to adjust clerical and stenographic rates in the northern districts and Vancouver in particular to reduce the high turnover of staff.

Effective April 1st, 1955, the Government announced a general policy of a forty-hour week for most grades previously on a forty-four-hour week. New leave regulations were approved for outside staffs, permitting proportional leave after one month of service without a preliminary qualifying period. Overtime regulations and their application to various groups in the Forest Service which are partially governed by weather and other conditions of employment were revised, and progress was made in establishing uniform practices throughout the Service in the matter of standard work-weeks for groups such as cooks, suppression crews, patrolmen, foremen, and survey parties. Effective January 1st, 1956, the Federal Government granted our requests for the extension of unemployment insurance coverage to forestry workers, and agreement was reached on the details of this extension to all Forest Service non-Civil Service employees except casual fire-fighters.

## YOUTH TRAINING PROGRAMME

The Youth Training Programme was again responsible for the operation of youth crews widely distributed throughout the Province. Two crews, each of ten boys, were assigned to the four Interior forest districts; one crew of ten boys was placed in both the Aleza Lake and Cowichan Lake Forest Experimental Stations. The Parks and Recreation Division had twelve crews—ten of twelve boys and two of eight boys each. The crews, for the most part, lived in tents with lumber floors, in which small stoves were placed to provide warmth and shelter during inclement weather. The food provided was plain, wholesome, and varied, dependent on the capability of the cook. Each crew was under the immediate direction and supervision of a foreman, who was responsible to the forester in charge of the district or division concerned. Tools suitable for woods and carpentry work are placed at each camp. Transportation was generally of the ½-ton pick-up type, with which food and materials were transported as required. It was also available in cases of emergency. Altogether the Forest Service had 236 youths placed in twenty-two camps throughout the Province. Funds would not permit employment of more boys, though 836 applications for employment were received. Fifty of the applicants were under age.

In the early stages of the project, when crews were established at site of development, they were given instruction on the various tools to be used—axe, saw, shovel, mattock, and tools used in rough carpentry work. After this training the boys were put to work developing picnic-sites, camp-sites, and parks. In addition, some trail and light road maintenance and construction was carried out. No work of a nature beyond the physical capabilities of youths of this age-group was attempted. Educational programmes were conducted as part of the project. The youths were told of the work carried on by the Forest Service, and a career in the Service was explained to them at both professional and practical levels.

Recreational periods were arranged weekly in which boating, fishing, swimming, and games were participated in by the crews. Sport equipment such as quoits, softball, and volleyball were provided and, where possible, games were arranged in competition with local teams.

When possible, organized trips were arranged to industrial operations—sawmills, pulp-mills, mines, and logging operations—to further the boys' knowledge of our industries and resources.

One of the most valuable assets of the programme is to instruct the crew members in the art of living and working in the woods. Also the blending of the varied personalities into a functional and co-operative group is a very valuable asset in the carrying-out of the programme.

# PERSONNEL DIRECTORY, 1956

## VICTORIA OFFICE

| | |
|---|---|
| DR. C. D. ORCHARD | DEPUTY MINISTER AND CHIEF FORESTER. |
| HICKS, W. V. | DEPARTMENTAL COMPTROLLER. |
| MacLeod, D. | Assistant to Comptroller. |
| Rhodes, A. E. | Chief Accountant. |
| Robertson, D. | Assistant Accountant. |
| COOPER, C. | FOREST COUNSEL. |
| WILLIAMS, W. J. | PERSONNEL OFFICER. |
| McKeever, A. E. | Assistant Personnel Officer. |

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|---|---|
| F. S. MCKINNON | ASSISTANT CHIEF FORESTER I/C TECHNICAL PLANNING BRANCH. |
| POGUE, H. M. | FORESTER I/C SURVEYS AND INVENTORY DIVISION. |
| Silburn, G. | Forester. |
| Cliff, H. N. | Assistant Forester. |
| Abernethy, G. M. | Assistant Forester. |
| Allison, G. W. | Assistant Forester. |
| Bradshaw, M. W. | Assistant Forester. |
| Breadon, R. E. | Assistant Forester. |
| Browne, J. E. | Assistant Forester. |
| Calder, C. J. | Assistant Forester. |
| Highsted, C.J. | Assistant Forester. |
| Jones, R. C. | Assistant Forester. |
| Lyons, E. H. | Assistant Forester. |
| McLaren, J. G. | Assistant Forester. |
| Small, P. | Assistant Forester. |
| Vaughan, E. G. | Assistant Forester. |
| Wright, N. R. | Assistant Forester. |
| Fligg, D. M. | Assistant Forester. |
| Horth, A. | Assistant Forester. |
| Leahy, P. M. | Assistant Forester. |
| Macdougall, D. | Assistant Forester. |
| McMinn, A. R. | Assistant Forester. |
| Robinson, A. B. | Assistant Forester. |
| Brahniuk, F. | Forester-in-training. |
| Clouston, R. W. | Forester-in-training. |
| Dixon-Nuttall, M. F. | Forester-in-training. |
| Elliott, R. J. | Forester-in-training. |
| Finding, S. L. | Forester-in-training. |
| Goddard, W. D. | Forester-in-training. |
| Jelinek, J. J. | Forester-in-training. |
| Marshall, J. E. | Forester-in-training. |
| Spriggs, W. M. | Forester-in-training. |
| Vyhnanek, J. | Forester-in-training. |
| West, P. H. | Forester-in-training. |
| Zachary, M. | Forester-in-training. |
| Rhodes, C. J. T. | Chief Draughtsman. |
| Smith, S. | Chief Clerk. |
| Bailey, W. M. | Senior Clerk (Compilation). |
| McKibben, A. M. | Mechanical Superintendent. |
| SPILSBURY, R. H. | FORESTER I/C RESEARCH DIVISION. |
| Fraser, A. R. | Assistant Forester (Technical Adviser). |
| Warrack, G. C. | Assistant Forester (i/c Cowichan Lake Experiment Station). |
| Decie, T. P. | Forester-in-training (i/c Aleza Lake Experiment Station). |

VICTORIA OFFICE—*Continued*

| | |
|---|---|
| Garman, E. H. | Assistant Forester (Silviculture). |
| Orr-Ewing, A. L. | Assistant Forester (Genetics). |
| Clark, M. B. | Assistant Forester (Research Officer, Kamloops). |
| Schmidt, R. L. | Assistant Forester (Ecology). |
| Finnis, J. M. | Assistant Forester (Silviculture). |
| Borzuchowski, R. | Assistant Forester (Silviculture). |
| Stewart, M. | Assistant Forester (Silviculture). |
| Arlidge, J. W. C. | Forester-in-training (Ecology). |
| Knight, H. A. W. | Forest Agrologist (Soils). |
| Prochnau, A. | Forest Agrologist (Silviculture). |
| Roberts, E. A. | Foreman, Cowichan Lake Experiment Station. |
| Hellenius, R. A. | Foreman, Aleza Lake Experiment Station. |
| Goward, Miss R. | Clerk. |

| | |
|---|---|
| McWilliams, H. G. | Forester i/c Reforestation Division. |
| Bamford, A. H. | Assistant Forester. |
| Whiting, E. G. | Assistant Forester. |
| Grainger, W. D. | Assistant Forester (Cranbrook). |
| Berg, W. E. | Nursery Superintendent (Cranbrook). |
| Long, J. R. | Nursery Superintendent (Duncan). |
| Turner, W. | Nursery Superintendent (Quinsam). |
| Wells, T. | Nursery Superintendent (Green Timbers). |
| Platt, L. V. | Technical Forest Assistant. |

| | |
|---|---|
| Oldham, E. G. | Forester i/c Parks and Recreation Division. |
| Velay, C. J. | Assistant to Forester i/c. |
| Brooks, L. | Assistant Forester (i/c Planning). |
| Ahrens, R. H. | Assistant Forester (i/c Reconnaissance and Inventory). |
| Edwards, R. Y. | Research Assistant (i/c Wildlife). |
| Shaw, D. A. | Assistant Engineer (i/c Operations). |
| Rolls, W. E. | Assistant Engineer (i/c Engineering and Design). |
| Lyons, C. P. | Assistant Forester (Special Projects). |
| McGowan, E. A. | Assistant Engineer (Office Engineer). |
| Ritcey, R. | Resident Biologist (Tweedsmuir Park). |
| Hartman, F. | Resident Forester (Wells Gray Park). |
| Lowrey, R. | Assistant Forester (Planning). |
| Macnab, G. F. | Assistant Forester (Reconnaissance and Inventory). |
| Taylor, G. D. | Research Assistant (Reconnaissance and Inventory). |
| Macmurchie, D. L. | Technical Forest Assistant (Administration). |
| Boyd, R. H. | Park Officer (Manning Park). |
| Cook, L. E. | Park Officer (Wells Gray Park). |
| Johansen, O. N. | Park Officer (Mount Seymour Park). |
| Fenner, C. A. | Park Officer (Garibaldi Park). |
| McFarland, F. J. | Park Officer (Cultus Lake Park). |
| Rainbow, F. | Park Officer (Miracle Beach Park). |
| Kristjanson, S. J. | Park Officer (Peace Arch Park). |
| Nicholson, C. S. | Park Officer (Mount Robson Park). |
| Darkis, C. | Supervisor (Vancouver Island Parks). |
| Hall, J. | Park Officer (Elk Falls Park). |
| Holme, W. | Park Officer (Little Qualicum Falls Park). |
| Stephinson, C. R. | Park Officer (Stamp Falls Park). |
| Lewis, C. | Park Officer (John Dean Park). |
| Nielsen, C. | Park Officer (Englishman River Falls Park). |
| Guthrie, S. | Park Officer (Ivy Green Park). |
| Rosen, T. | Park Officer (Roberts Creek Park). |
| Green, D. E. | Park Officer (Tweedsmuir Park). |
| Moore, J. W. | Project Foreman. |
| Shaw, L. A. | Foreman (Langford Workshop). |
| Heggie, W. R. C. | Clerk (Accounts and Records). |
| Park, S. E. | Clerk (attached from Public Relations and Education). |

VICTORIA OFFICE—*Continued*

| | |
|---|---|
| HUGHES, W. G. | FORESTER I/C WORKING PLANS DIVISION. |
| Carey, D. M. | Assistant Forester (Public Working Circles). |
| Burrows, I. R. | Assistant Forester (Management Licences). |
| Young, W. | Assistant Forester (Management Licences, Working Plans Analysis). |
| Tannhauser, J. R. | Assistant Forester (General). |
| Judd, P. H. | Assistant Forester (Farm Wood-lots, Tree-farms). |
| Mellander, C. P. | Clerk. |
| DRUCE, E. | FORESTER I/C PUBLIC RELATIONS AND EDUCATION DIVISION. |
| Monk, D. R. | Public Relations Officer. |
| Golding, R. C. T. | Photographer. |
| Jones, T. C. | Technical Forest Assistant (School Lecturer). |
| Hall, R. F. | Technical Forest Assistant (School Lecturer). |
| Guthrie, Mrs. I. V. | Forest Service Library. |
| Foord, M. W. | Clerk (Motion-picture Library). |

---

| | |
|---|---|
| R. G. MCKEE | ASSISTANT CHIEF FORESTER I/C OPERATIONS BRANCH. |
| STOKES, J. S. | FORESTER I/C MANAGEMENT DIVISION. |
| Marling, S. E. | Forester. |
| Hope, L. S. | Forester. |
| Reid, J. A. K. | Assistant Forester (Appraisals). |
| Corregan, R. W. | Assistant Forester. |
| Bancroft, H. C. | Assistant Forester. |
| Collins, A. E. | Assistant Forester (Cover Maps). |
| Glew, D. R. | Assistant Forester (Silviculture). |
| Axhorn, C. P. | Chief Clerk (General). |
| Chisholm, A. | Chief Clerk (Timber Sale Administration). |
| PENDRAY, W. C. | AGROLOGIST I/C GRAZING DIVISION. |
| GREGGOR, R. D. | FORESTER I/C ENGINEERING SERVICES DIVISION. |
| Crowe, A. B. | Mechanical Superintendent. |
| Gilbert, H. F. | Assistant Mechanical Superintendent. |
| Playfair, G. A. | Radio Superintendent. |
| Chorlton, D. J. | Assistant Radio Superintendent. |
| Taylor, J. H. | Superintendent of Construction. |
| Paynter, J. W. | Technical Draughtsman. |
| Slaney, F. F. | Chief Engineer. |
| Hemphill, P. J. J. | Construction Engineer. |
| White, R. G. | Assistant Engineer. |
| Doyle, P. | Assistant Engineer. |
| Williams, C. P. | Assistant Engineer. |
| Waelti, H. | Assistant Engineer. |
| Nordlund, K. N. | Assistant Engineer. |
| Bryant, R. F. | Assistant Engineer. |
| Scarisbrick, R. G. | Design Engineer. |
| Gower, L. E. | Assistant Engineer. |
| Thomas, R. D. | Surveys Engineer. |
| Jacobsen, J. M. | Assistant Engineer. |
| Forsberg, R. H. | Assistant Engineer. |
| MacDonald, R. L. | Assistant Engineer. |
| Kelly, R. L. | Engineering Assistant. |
| Adams, D. J. | Draughtsman. |
| Johnson, F. E. | Technical Forest Assistant (Land Titles). |
| Foxgord, J. E. | Senior Clerk. |
| Hill, H. H. | Superintendent, Forest Service Marine Station. |
| Shaw, W. H. | Clerk, Forest Service Marine Station. |

VICTORIA OFFICE—*Continued*

| | |
|---|---|
| DIXON, A. H. | FORESTER I/C RANGER SCHOOL (New Westminster). |
| Kirk, A. J. | Assistant to the Forester in Charge. |
| Pedley, J. A. | Forester (Special Duties). |
| Finlayson, D. A. | Clerk. |
| CAMERON, I. T. | FORESTER I/C PROTECTION DIVISION. |
| Nelson, F. H. | Forest Protection Officer. |
| Henning, W. G. | Assistant Forester. |
| Moyes, E. A. | Assistant Forester (Research). |
| Turner, J. A. | Meteorologist. |
| Stringer, A. | Chief Clerk. |

VANCOUVER DISTRICT

| | |
|---|---|
| D. B. TAYLOR | DISTRICT FORESTER. |
| Boulton, L. B. B. | Assistant District Forester. |
| McRae, N. A. (Management); Charnell, G. S.; Hubbard, T.; Johnston, G. R.; Gill, R. G.; Tuttle, W. F.; Williams, F. S.; Webb, R. A. | Assistant Foresters. |
| Holmberg, J. H. (Operations); Neil, P.; Haddon, C. D. S.; Morrison, R. H.; Owen, D. H. | Forest Protection Officers. |
| Hlady, E.; Scholefield, A.; Rogers, G. | Foresters-in-training. |
| Robinson, J. H.; Tannock, F.; Wagner, C. J. | Ranger Supervisors. |
| Evans, C. | Mechanical Supervisor. |
| Armstrong, C. L. (Superintendent); Munn, H. A. D. (Assistant) | Scalers. |
| Marriott, G. L.; McNary, E. C.; Clutterbuck, F. | Inspectors of Licensed Scalers and Export. |
| Coles, L.; Galbraith, G. A. | Scaling Dispatchers. |
| Dunn, H. J. | Tabulating Supervisor. |
| Benwell, S. A. | Chief Clerk. |
| Barrett, R. J. (Chilliwack); Ginnever, A. F. W. (Hope); Wilson, R. (Harrison Lake); Rockwell, I. (Mission); Aylett, R. W. (Port Moody); Henderson, J. E. (Squamish); Chamberlin, L. C. (Sechelt); Briggs, B. T. (Madeira Park); Jones, R. W. (Powell River); Winslow, J. R. (Lund); McKinnon, C. G. (Thurston Bay E.); Webster, J. B. (Thurston Bay W.); Greenhouse, J. P. (Chatham Channel); Bell, P. A. (Echo Bay); Antonelli, M. W. (Alert Bay); Lorentsen, L. H. (Port Hardy); Hollinshead, S., and Carradice, J. (Ranger—Grade 1) (Campbell River); Silke, S. (Courtenay); Glassford, R. J. (Parksville); Haley, K. (Nanaimo); Rawlins, W. P. (Duncan); Frost, S. C. (Ganges); Mudge, M. H. (Langford); Morley, K. A. (Lake Cowichan); Brooks, F. T. (Alberni); Ormond, L. D. (Tofino) | Rangers. |

## PRINCE RUPERT DISTRICT

| | |
|---|---|
| P. YOUNG | DISTRICT FORESTER. |
| Bennett, C. E. | Assistant District Forester. |
| Knight, E. (i/c Management); Morton, W. D. (Management, Cruising); Grant, D. T. (Protection Planning); Schutz, A. C. (Public Working Circles); Gilmour, J. (Silviculturist); Munro, J. F. (Management Licences) | Assistant Foresters. |
| Strimbold, S. T. | Forest Protection Officer. |
| McDonald, J. A. D. (Operations); Waddell, J. K. (Management) | Foresters-in-training. |
| Campbell, W. H. (Management Appraisals); Dahlie, C. (Project Supervisor) | Technical Forest Assistants. |
| Whitehouse, W. D.; Smith, D. R. | Inspectors of Licensed Scalers. |
| Pavlikis, N. A. | Scaler. |
| MacPherson, A. C. (Coast); Antilla, W. A. (Interior) | Ranger Supervisors. |
| Thompson, H. W. | Mechanical Supervisor. |
| Smith, C. V. | Chief Clerk. |
| Mackie, B. A. (Ocean Falls); Tourand, A. (Queen Charlotte City); Brooks, R. L. (Prince Rupert); Taft, L. G. (Terrace); Hamblin, R. A. (Kitwanga); Petty, A. P. (Hazelton); Mould, J. (Smithers N.); Clay, W. D. (Smithers S.); Keefe, J. J. (Houston); Kullander, M. O. (Pendleton Bay); Gibson, C. L. (Burns Lake N.); Hesketh, F. G. (Burns Lake S.); Lindstrom, W. (Southbank); Pement, A. R. (Atlin) | Rangers. |

## PRINCE GEORGE DISTRICT

| | |
|---|---|
| W. C. PHILLIPS | DISTRICT FORESTER. |
| Young, W. E. L. | Assistant District Forester. |
| Bruce, J. B. (i/c Management); Mason, N. V. (Silviculture); Trew, D. M. (Management Licences); Selkirk, D. R. (Public Working Circles); Isenor, M. G. (i/c Protection); Sutton, R. C. (Protection) | Assistant Foresters. |
| Robbins, R. W. (Management); Talbot, G. P. (Management); Armit, D. (Management); Decie, T. P. (Research, Aleza Lake Experiment Station) | Foresters-in-training. |
| Willington, L. A. (Protection); Reaugh, I. F. (Stand Treatment); Thomas, P. R.; Norheim, B., and Sandborg, C. W. (Working Circles); Flynn, D. M. (Cruising) | Forest Assistants. |
| Layton, H. R.; Threatful, N. | Inspectors of Scalers. |
| MacKenzie, R. A.; Smith, W. W. | Ranger Supervisors. |
| Galinis, J. | Radio Technician. |
| Watts, C. | Mechanical Supervisor. |
| Carter, R. B. | Chief Clerk. |
| French, C. L. (McBride); Baker, F. M. (Penny); Kerr, R. D. (Prince George); Moen, A. E. (Prince George); Northrup, K. A. (Fort St. James); Kuly, A. (Quesnel); Barbour, H. T. (Pouce Coupe); Bailey, J. D. (Aleza Lake); Graham, G. W. (Vanderhoof); Cosens, A. S. (Fort St. John); McQueen, L. (Fort Fraser); Irwin, K. L. (Summit Lake); Meents, G. E. (Quesnel); Angly, R. B. (Prince George); Anderson, O. J. (Hixon); Mitchell, B. A. (Quesnel); Thorston, S. H. (Quesnel) | Rangers. |

## KAMLOOPS DISTRICT

| | |
|---|---|
| L. F. SWANNELL | DISTRICT FORESTER. |
| Johnston, J. R. | Assistant District Forester. |
| Robinson, E. W. (i/c Management) | Forester. |
| Kerr, M. L. (Management, Timber Sales); Robinson, J. L. (Management, Timber Sales); Robson, P. E. (Management, Timber Sales); Neighbor, B. E. (Christmas Trees, Farm Wood-lots); Parlow, A. L. (i/c Silviculture); Milner, L. J. (Silviculture); Lehrle, L. W. W. (Management Licences); Groner, A. (Working Plans); Bodman, P. B. (Operations); Broadland, T. R. (Recreation Officer); Clark, M. B. (Research Officer); Boulton, G. B. (Management, Timber Sales) | Assistant Foresters. |
| Johnson, I. B. (i/c Protection); Noakes, H. S. | Forest Protection Officers. |
| DeBeck, H. K. (i/c Grazing); Wallace, M. T.; Smith, E. R.; Pringle, R.; Murray, W. K. | Assistant Forest Agrologists. |
| Mayson, H. G. (Operations); Gibbs, T. L. (Operations); Downing, C. R. (Silviculture); Huffman, C. H. (Marking) | Forest Assistants. |
| Charlesworth, E. A.; Hewlett, R. C. | Inspectors of Licensed Scalers. |
| Fraser, D. P.; McGuire, C. J.; Specht, A. F. | Ranger Supervisors. |
| Stewart, W. J. | Mechanical Supervisor. |
| Cowan, W. P. | Chief Clerk. |
| Specht, G. H. (Lumby); McKenna, L. J. (Birch Island); Noble, J. (Barriere); Paquette, O. (Chase); Boydell, J. (Salmon Arm); Jones, G. G. (Sicamous); Cameron, A. G. (Lillooet); Johnson, M. A. (Vernon); Scott, E. L. (Penticton); Dearing, J. H. (Princeton); Robertson, C. E. (Clinton); Petersen, K. N. (Kamloops N.); Cawston, J. B. (Williams Lake); Hamilton, T. J. (Alexis Creek); Hewlett, H. C. (Kelowna); Cook, L. E. (Wells Gray Park); Williams, R. V. (Merritt); Hill, A. F. (Blue River); Collins, B. G. (Enderby); Boyd, R. H. (Manning Park); DeWitt, D. O. (100 Mile House N.); Campbell, H. W. (Kamloops S.); Weinard, J. P. (Horsefly); Hammer, H. B. (100 Mile House S.) | Rangers. |

## NELSON DISTRICT

| | |
|---|---|
| H. B. Forse | District Forester. |
| (To be appointed) | Assistant District Forester. |
| Payne, J. C. (Management); Waldie, R. A. (Management); Hall, J. G. (Management, Working Circles); Bishop, W. G. (Management Licences) | Assistant Foresters. |
| Couling, H. L. | Forest Protection Officer. |
| Gavin, H. C. R. (Management, Cruising); Hepper, W. H. (Recreation Officer); Hough, W. S. (Management); Joyce, J. F. (Management); Grainger, W. I. (Christmas Trees) | Foresters-in-training. |
| Milroy, J. E. | Assistant Forest Agrologist. |
| Bawtree, A. H. | Forest Agrologist-in-training. |
| Barnes, J. N. (Operations); Malenka, D. (Management, Cruising); Chase, L. A. (Protection); Fisher, S. F. (Management, Cruising); Palethorpe, G. C. (Protection); Sandberg, H. (Management, Christmas Trees); Burbidge, M. (Public Working Circles) | Technical Forest Assistants. |
| Killough, J. F.; Hill, F. R. | Inspectors of Licensed Scalers. |
| Christie, R. O.; MacDonald, J. P.; Kettleson, O. J. | Ranger Supervisors. |
| Lees, J. | Mechanical Supervisor. |
| Koski, V. | Chief Clerk. |
| Hopkins, H. V. (Invermere); Humphrey, J. L. Fernie); Connolly, J. (Golden); Gierl, J. B. (Cranbrook E.); Ross, A. I. (Creston); Stilwell, L. E. (Kaslo); Benwell, W. G. (Lardeau); Larsen, A. J. (Nelson); Robinson, R. E. (New Denver); Raven, J. H. (Nakusp); Wood, H. R. (Castlegar); Reid, E. W. (Grand Forks); Uphill, W. T. (Kettle Valley); Cartwright, G. M. (Canal Flats); Old, F. G. (Arrowhead); Haggart, W. G. (Edgewood); Jupp, C. C. (Elko); Reaney, R. J. C. (Spillimacheen); Bailey, J. F. (Cranbrook W.); Ivens, J. H. (Beaverdell); Webster, G. R. (Slocan City); Jackson, R. C. (Revelstoke) | Rangers. |

# APPENDIX

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(1)

## DISTRIBUTION OF PERSONNEL, 1955

| Personnel | Vancouver | Prince Rupert | Prince George | Kamloops | Nelson | Victoria | Total |
|---|---|---|---|---|---|---|---|
| *Continuously Employed* | | | | | | | |
| Chief Forester, Assistant Chief Foresters, and Division Foresters | ------ | ------ | ------ | ------ | ------ | 14 | 14 |
| Forest Counsel and Personnel Officer | ------ | ------ | ------ | ------ | ------ | 2 | 2 |
| District Foresters and Assistant District Foresters | 2 | 2 | 2 | 2 | 2 | ------ | 10 |
| Foresters and Assistant Foresters | 10 | 8 | 12 | 13 | 10 | 62 | 115 |
| Agrologists and Assistants | ------ | ------ | ------ | 5 | 2 | 2 | 9 |
| Engineers and Assistants | ------ | ------ | ------ | ------ | ------ | 21 | 21 |
| Forest Protection Officers | 4 | 1 | ------ | 2 | 1 | 2 | 10 |
| Supervisor of Rangers | 3 | 2 | 3 | 3 | 3 | ------ | 14 |
| Rangers | 28 | 14 | 17 | 23 | 23 | 2 | 107 |
| Supervisor of Scalers and Assistants | 6 | 2 | 2 | 2 | 2 | ------ | 14 |
| Scalers, Official | 53 | 2 | ------ | ------ | ------ | ------ | 55 |
| Scalers, Official, temporary and students | 65 | 2 | ------ | 1 | ------ | 1 | 69 |
| Comptroller and Audit Assistants | ------ | ------ | ------ | ------ | ------ | 7 | 7 |
| Engineering, Mechanical and Radio | 4 | 3 | 3 | 3 | 3 | 15 | 31 |
| Technical Forest and Public Relations Assistants | 2 | 2 | 4 | 6 | 4 | 12 | 30 |
| Reforestation, Parks, Research, and Survey Assistants | ------ | ------ | 1 | 2 | ------ | 112 | 115 |
| Nursery Superintendents | ------ | ------ | ------ | ------ | ------ | 4 | 4 |
| Draughtsmen | 6 | 2 | 3 | 4 | 3 | 37 | 55 |
| Clerks, Stenographers, and Messengers | 94 | 30 | 23 | 28 | 23 | 119 | 317 |
| Superintendent and Foremen, Forest Service Marine Station | ------ | ------ | ------ | ------ | ------ | 5 | 5 |
| Mechanics, Carpenters, and Technicians | 2 | 2 | 1 | 2 | ------ | 51 | 58 |
| Launch Crewmen | 14 | 4 | ------ | ------ | ------ | 5 | 23 |
| Assistant and Acting Rangers | 37 | 24 | 29 | 37 | 42 | ------ | 169 |
| Dispatchers | 19 | 2 | 7 | 6 | 4 | ------ | 38 |
| Cruisers, Compassmen, and Marking Crewmen | 18 | 14 | 38 | 24 | 8 | 2 | 104 |
| Truck and Tractor Operators | 4 | ------ | ------ | ------ | ------ | 45 | 49 |
| Foremen | 1 | ------ | 2 | ------ | ------ | 15 | 18 |
| Miscellaneous | 1 | 1 | 1 | 1 | 4 | 64 | 72 |
| Total, continuous personnel | 373 | 117 | 148 | 164 | 134 | 599 | 1,535 |
| *Seasonally Employed* | | | | | | | |
| Assistant and Acting Rangers | 14 | 5 | 5 | 6 | 4 | 2 | 36 |
| Patrolmen | 3 | 5 | 5 | 8 | 14 | 2 | 37 |
| Lookoutmen | 32 | 17 | 19 | 28 | 37 | 2 | 135 |
| Dispatchers and Radio Operators | 5 | 1 | 2 | 15 | 16 | 2 | 41 |
| Fire-suppression Crewmen | 70 | ------ | ------ | 49 | 32 | ------ | 151 |
| Reforestation—Snag-fallers, Planters, etc. | ------ | ------ | ------ | ------ | ------ | 402 | 402 |
| Cruisers and Compassmen | ------ | ------ | 4 | ------ | 8 | 1 | 13 |
| Truck and Tractor Operators | 1 | 5 | 6 | 9 | 8 | 15 | 44 |
| Student and Survey Assistants | ------ | ------ | ------ | 1 | ------ | 160 | 161 |
| Silvicultural Crewmen | ------ | 3 | ------ | 17 | ------ | ------ | 20 |
| Foremen | 9 | 3 | 2 | 10 | 6 | 5 | 35 |
| Youth Training Programme | ------ | 20 | 20 | 20 | 20 | 176 | 256 |
| Miscellaneous | 16 | 24 | 6 | 11 | 6 | 122 | 185 |
| Total, seasonal personnel | 150 | 83 | 69 | 174 | 151 | 889 | 1,516 |
| Total, all personnel | 523 | 200 | 217 | 338 | 285 | 1,488 | 3,051 |

(2)

## SUMMARY OF PLANTING DURING THE YEARS 1946–55

| Year | Experimental | | Forest Service on Crown Land | | Private Companies | | Community Forests | | Private Planting and Farm Wood-lots | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Trees in Thousands | Acres | Trees in Thousands | Acres | Trees in Thousands | Acres | Trees in Thousands | Acres | Trees in Thousands | Acres | Trees in Thousands | Acres |
| *Coast* | | | | | | | | | | | | |
| 1955 | 10.0 | 15.0 | 2,174.6 | 3,410.0 | 4,623.4 | 7,076.0 | 40.0 | 15.0 | 62.2 | 80.0 | 6,910.2 | 10,596.0 |
| 1954 | 27.5 | 30.0 | 5,679.0 | 7,135.0 | 3,302.0 | 5,024.0 | 59.5 | 36.0 | 73.7 | 72.0 | 9,141.7 | 12,297.0 |
| 1953 | 28.5 | 33.0 | 2,377.0 | 2,860.0 | 2,740.1 | 3,808.0 | 25.0 | 31.0 | 21.0 | 6.0 | 5,191.6 | 6,738.0 |
| 1952 | 8.1 | 5.0 | 4,228.4 | 4,865.0 | 1,664.2 | 2,065.0 | 137.4 | 210.0 | 40.9 | 15.0 | 6,079.0 | 7,160.0 |
| 1951 | 12.0 | 20.0 | 5,733.9 | 6,070.0 | 1,808.0 | 2,235.0 | 110.0 | 130.0 | 31.2 | 25.0 | 7,695.1 | 8,480.0 |
| 1950 | ..... | ..... | 6,261.6 | 6,670.0 | 553.1 | 680.0 | 52.0 | 50.0 | 20.9 | ..... | 6,887.6 | 7,400.0 |
| 1949 | 15.3 | 15.0 | 7,418.5 | 8,125.0 | 855.5 | 1,010.0 | 5.0 | ..... | 23.2 | 15.0 | 8,317.5 | 9,165.0 |
| 1948 | 3.4 | 4.0 | 9,123.3 | 10,560.0 | 1,402.0 | 2,140.0 | 5.0 | 5.0 | 18.4 | 20.0 | 10,552.1 | 12,729.0 |
| 1947 | ..... | ..... | 3,466.5 | 4,380.0 | 473.5 | 490.0 | ..... | ..... | 34.0 | 20.0 | 3,974.0 | 4,890.0 |
| 1946 | ..... | ..... | 3,670.2 | 6,000.0 | 3,854.2 | 4,700.0 | ..... | ..... | 6.7 | 7.0 | 7,531.1 | 10,707.0 |
| Previously planted | 710.0 | 617.7 | 33,085.0 | 41,205.0 | 2,978.1 | 3,576.3 | 299.0 | 317.0 | 75.8 | 75.0 | 37,147.9 | 45,791.0 |
| Totals to date | 814.8 | 739.7 | 83,218.0 | 101,280.0 | 24,254.1 | 32,804.3 | 732.9 | 794.0 | 408.0 | 335.0 | 109,427.8 | 135,953.0 |
| *Interior* | | | | | | | | | | | | |
| 1955 | 1.5 | 2.0 | 215.8 | 288.0 | 81.0 | 105.0 | ..... | ..... | 12.2 | 10.0 | 310.5 | 405.0 |
| 1954 | 5.6 | 8.0 | 590.9 | 1,007.0 | 94.0 | 109.0 | ..... | ..... | 7.2 | 9.0 | 697.7 | 1,133.0 |
| 1953 | 2.0 | 2.0 | 282.3 | 284.0 | 35.0 | 47.0 | ..... | ..... | 10.4 | 17.0 | 329.7 | 350.0 |
| 1952 | 27.0 | 38.0 | 167.2 | 292.0 | 2.0 | ..... | ..... | ..... | 3.1 | 4.0 | 199.3 | 334.0 |
| 1951 | 56.5 | 78.0 | 0.2 | ..... | ..... | ..... | 0.5 | ..... | 1.2 | 1.0 | 58.4 | 79.0 |
| 1950 | 27.2 | 30.0 | ..... | ..... | ..... | ..... | ..... | ..... | 0.1 | ..... | 27.3 | 30.0 |
| Totals to date | 119.8 | 158.0 | 1,256.4 | 1,871.0 | 212.0 | 261.0 | 0.5 | ..... | 34.2 | 41.0 | 1,622.9 | 2,331.0 |
| All planted to date | 934.6 | 897.7 | 84,474.4 | 103,151.0 | 24,466.1 | 33,065.3 | 733.4 | 794.0 | 442.2 | 376.0 | 111,050.7 | 138,284.0 |

(3) ESTIMATED VALUE OF PRODUCTION, INCLUDING LOADING AND FREIGHT WITHIN THE PROVINCE, 1946–55

| Product | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | Ten-year Average, 1946–55 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lumber | $87,013,502 | $155,761,222 | $219,289,000 | $206,228,610 | $303,384,304 | $278,904,266 | $280,006,490 | $279,979,507 | $270,109,948 | $348,264,190 | $242,894,104 |
| Pulp and paper | 41,800,555 | 57,145,678 | 73,989,000 | 68,482,241 | 78,739,573 | 135,167,761 | 129,238,520 | 135,871,797 | 156,178,180 | 166,902,992 | 104,351,630 |
| Shingles | 12,946,506 | 23,625,946 | 25,094,000 | 16,881,240 | 37,502,958 | 32,537,442 | 23,878,880 | 26,700,153 | 28,077,416 | 29,488,730 | 25,673,327 |
| Boxes | 8,288,491 | 10,430,608 | 6,129,000 | 3,424,268 | 3,837,067 | 4,062,133 | 2,367,450 | 1,810,376 | 1,481,051 | 1,374,984 | 4,320,543 |
| Plywood | 9,120,000 | 20,830,000 | 22,430,000 | 21,500,000 | 26,250,000 | 34,500,000 | 36,572,000 | 45,240,000 | 53,000,000 | 68,000,000 | 33,744,200 |
| Piles, poles, and mine-timber | 5,125,762 | 5,225,000 | 4,158,000 | 4,470,379 | 5,127,681 | 5,805,745 | 9,540,340 | 8,646,611 | 5,087,052 | 6,283,909 | 5,947,048 |
| Cordwood, fence-posts, and lagging | 2,647,488 | 2,200,000 | 1,671,000 | 2,058,200 | 2,189,249 | 2,349,720 | 2,675,870 | 2,581,806 | 2,282,996 | 1,447,950 | 2,210,428 |
| Ties, railway | 478,519 | 580,000 | 671,000 | 467,127 | 281,308 | 633,089 | 963,200 | 669,007 | 445,777 | 306,625 | 549,565 |
| Additional value contributed by the wood-using industry | 1,700,000 | 1,600,000 | 1,800,000 | 2,000,000 | 2,250,000 | 2,812,500 | 2,530,000 | 2,530,000 | 2,530,000 | 2,530,000 | 2,228,250 |
| Laths and other miscellaneous products | 1,400,000 | 1,200,000 | 1,598,000 | 1,454,000 | 1,723,616 | 1,994,340 | 2,164,660 | 2,688,007 | 1,845,901 | 1,595,900 | 1,766,442 |
| Logs exported | 2,349,280 | 3,313,672 | 6,435,000 | 4,029,069 | 5,741,784 | 4,981,597 | 5,401,410 | 4,514,777 | 5,918,306 | 4,413,508 | 4,709,840 |
| Pulp-wood exported | 6,787 | 32,610 | 29,000 | 139,200 | 741,128 | 99,375 | 236,900 | 37,296 | 85,716 | 480 | 140,849 |
| Christmas trees | 402,056 | 293,652 | 470,000 | 445,965 | 583,549 | 939,390 | 912,700 | 999,159 | 968,047 | 1,085,045 | 709,956 |
| Cascara bark | 192,421 | 50,000 | 23,000 | 9,250 | 18,925 | 20,572 | 18,130 | 20,160 | 12,393 | 5,249 | 37,010 |
| Totals | $173,471,367 | $282,288,388 | $363,786,000 | $331,589,549 | $468,371,142 | $504,807,930 | $496,506,550 | $512,288,656 | $528,022,783 | $631,699,562 | $429,283,193 |

(4) PAPER PRODUCTION (IN TONS), 1946–55

| Product | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | Ten-year Average, 1946–55 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Newsprint | 259,921 | 338,239 | 327,764 | 378,355 | 388,191 | 385,172 | 428,832 | 501,083 | 536,656 | 560,993 | 109,765 |
| Other papers | 82,833 | 72,755 | 79,446 | 83,927 | 89,437 | 99,409 | 92,777 | 96,853 | 110,461 | 127,880 | 93,578 |

In addition to 641,280 tons of pulp manufactured into paper in the Province, 672,909 tons were shipped out of the Province during the year.

(5) WATER-BORNE LUMBER TRADE (IN M B.M.), 1946–55

| Destination | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | Ten-year Average, 1946–55 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Eastern Canada | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 6,708 | 5,670 | 3,037 | 1,542 |
| Australia | 67,269 | 71,313 | 54,376 | 83,523 | 90,936 | 93,566 | 36,060 | 89,658 | 115,464 | 137,308 | 83,947 |
| New Zealand | 5,892 | 15,362 | 6,768 | 10,702 | 8,823 | 13,311 | 7,839 | 6,036 | 13,465 | 12,588 | 10,079 |
| South America | 11,794 | 5,519 | 5,486 | 7,234 | 2,227 | 2,067 | 2,164 | 3,924 | 648 | 5,756 | 4,682 |
| China, Hong Kong, and Formosa | 58,632 | 48,426 | 34,390 | 4,318 | 7,087 | 21,382 | 7,915 | 9,206 | 3,599 | 1,909 | 19,686 |
| Japan and Korea | ..... | ..... | ..... | ..... | 86 | 101 | 82 | 23,742 | 8,216 | 10,725 | 4,295 |
| United Kingdom and Continent | 418,960 | 744,804 | 470,445 | 345,812 | 243,632 | 763,267 | 772,527 | 502,814 | 697,298 | 611,451 | 557,101 |
| Africa | 95,588 | 69,136 | 108,384 | 101,957 | 89,152 | 94,412 | 52,344 | 123,064 | 145,308 | 188,567 | 106,791 |
| India | 161 | 8,783 | 2,497 | 12,261 | 2,621 | 7,396 | 1,029 | 16,695 | 4,397 | 1,745 | 5,759 |
| United States | 2,905 | 205 | 104,636 | 310,411 | 736,831 | 71,316 | 229,809 | 542,472 | 509,661 | 345,694 | 285,394 |
| Philippine and Hawaiian Islands | 1,084 | 73 | 13,901 | 11,086 | 13,112 | 11,353 | 9,558 | 7,577 | 4,998 | 12,715 | 8,546 |
| West Indies | 16,832 | 18,934 | 4,328 | 9,754 | 8,654 | 9,669 | 3,404 | 12,235 | 12,062 | 10,516 | 10,639 |
| South Sea Islands | 3,565 | 6,388 | 5,930 | 7,668 | 7,751 | 9,917 | 8,538 | 8,563 | 8,402 | 16,140 | 8,286 |
| Mexico and Central America | 5,812 | 7 | 435 | 4,619 | 89 | 762 | 463 | 269 | 29,192 | 33,788 | 7,544 |
| Egypt, Arabia, and Israel | 19,185 | 28,451 | 10,291 | 11,744 | 7,634 | 22,426 | 498 | 2,191 | 2,368 | 1,320 | 10,611 |
| Belgium | 897 | 180 | 1,203 | 3,202 | 8,958 | (1) | 2,390 | 8,951 | 4,977 | 3,121 | 3,388 |
| France | 16,229 | 26,107 | 30 | 1,841 | ..... | 1,672 | 1,172 | 1,382 | 2,950 | 2,845 | 5,423 |
| Germany | ..... | ..... | ..... | 51 | ..... | 291 | 73 | 105 | 15 | 732 | 127 |
| Holland | 17,387 | 52,813 | 7,883 | 1,945 | 1,917 | (1) | 1,217 | 4,524 | 4,123 | 4,042 | 9,585 |
| Italy | ..... | 80 | 47 | 294 | 549 | 1,221 | 637 | 1,084 | 2,284 | 4,349 | 1,055 |
| Foreign, unclassified | 2,603 | 12,597 | 10,568 | 6,939 | 20,423 | 13,335 | 10,107 | 20,217 | 4,674 | 3,603 | 10,507 |
| Belgium and Holland | ..... | ..... | ..... | ..... | ..... | 7,720 | ..... | ..... | ..... | ..... | ..... |
| Denmark, Norway, and Sweden | 420 | ..... | ..... | 309 | 714 | 1,107 | 227 | 247 | 175 | 109 | 331 |
| Totals | 745,215 | 1,109,178 | 841,598 | 935,670 | 1,251,196 | 1,146,291 | 1,148,053 | 1,391,664 | 1,579,946 | 1,413,060 | ..... |

[1] Belgium and Holland combined in 1951.

## TOTAL AMOUNT OF TIMBER SCALED IN BRITISH COLUMBIA DURING YEARS 1954 AND 1955 IN F.B.M.

*(6A)* (All products converted to f.b.m.)

| Forest District | 1954 | 1955 | Gain | Loss | Net Gain |
|---|---|---|---|---|---|
| Vancouver | 3,674,155,996 | 3,595,748,638 | ..... | 78,407,358 | ..... |
| Prince Rupert (C.) | 323,824,921 | 335,893,492 | 12,068,571 | ..... | ..... |
| Totals, Coast | 3,997,980,917 | 3,931,642,130 | ..... | 66,338,787 | ..... |
| Prince Rupert (I.) | 179,203,994 | 216,145,984 | 36,941,990 | ..... | ..... |
| Prince George | 446,033,592 | 609,359,407 | 163,325,815 | ..... | ..... |
| Kamloops | 618,255,759 | 893,391,529 | 275,135,770 | ..... | ..... |
| Nelson | 325,948,345 | 458,662,838 | 132,714,493 | ..... | ..... |
| Totals, Interior | 1,569,441,690 | 2,177,559,758 | 608,118,068 | ..... | ..... |
| Grand totals | 5,567,422,607 | 6,109,201,888 | 541,779,281 | ..... | 541,779,281 |

## TOTAL AMOUNT OF TIMBER SCALED IN BRITISH COLUMBIA DURING YEARS 1954 AND 1955 IN CUBIC FEET

(Conversion factor: Coast—6 f.b.m.=1 cu. ft.; Interior—5.75 f.b.m.=1 cu. ft.)

*(6B)* (All products converted to cubic measure.)

| Forest District | 1954 | 1955 | Gain | Loss | Net Gain |
|---|---|---|---|---|---|
| Vancouver | 612,359,333 | 599,291,440 | ..... | 13,067,893 | ..... |
| Prince Rupert (C.) | 53,970,820 | 55,982,248 | 2,011,428 | ..... | ..... |
| Totals, Coast | 666,330,153 | 655,273,688 | ..... | 11,056,465 | ..... |
| Prince Rupert (I.) | 31,165,912 | 37,590,606 | 6,424,694 | ..... | ..... |
| Prince George | 77,571,060 | 105,975,549 | 28,404,489 | ..... | ..... |
| Kamloops | 107,522,741 | 155,372,440 | 47,849,699 | ..... | ..... |
| Nelson | 56,686,669 | 79,767,450 | 23,080,781 | ..... | ..... |
| Totals, Interior | 272,946,382 | 378,706,045 | 105,759,663 | ..... | ..... |
| Grand totals | 939,276,535 | 1,033,979,733 | 94,703,198 | ..... | ..... |

(7A)

## Species Cut, All Products, 1955, in F.B.M.

| Forest District | Fir | Cedar | Spruce | Lodgepole Pine | Hemlock | Balsam | White Pine | Yellow Pine | Cypress | Larch | Hardwoods | Cottonwood | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vancouver | 1,400,002,806 | 775,516,991 | 47,464,770 | | 1,004,241,573 | 317,968,780 | 24,598,780 | 83,500 | 19,588,314 | | 3,880,224 | 2,402,900 | 3,595,748,638 |
| Prince Rupert (C.) | 26,957,952 | 53,822,195 | 84,867,043 | 19,214 | 141,452,795 | 16,057,136 | | | 431,549 | | 5,065 | 12,280,543 | 335,893,492 |
| Totals, Coast | 1,426,960,758 | 829,339,186 | 132,331,813 | 19,214 | 1,145,694,368 | 334,025,916 | 24,598,780 | 83,500 | 20,019,863 | | 3,885,289 | 14,683,443 | 3,931,642,130 |
| Prince Rupert (I.) | 338,314 | 9,181,762 | 93,819,744 | 38,301,898 | 43,715,366 | 28,565,205 | | | | | 98,000 | 2,125,695 | 216,145,984 |
| Prince George | 143,230,597 | 1,444,870 | 365,231,190 | 89,257,021 | 708,487 | 7,081,100 | | | | 11,040 | 493,577 | 1,901,525 | 609,359,407 |
| Kamloops | 680,493,119 | 20,712,065 | 89,784,304 | 6,645,739 | 5,310,039 | 5,605,460 | 15,116,660 | 39,465,628 | | 28,908,700 | 229,494 | 1,120,321 | 893,391,529 |
| Nelson | 130,598,525 | 37,050,149 | 100,496,019 | 19,995,844 | 31,779,960 | 6,084,278 | 18,550,508 | 11,393,948 | | 102,176,533 | 1,723 | 535,351 | 458,662,838 |
| Totals, Interior | 954,660,555 | 68,388,846 | 649,331,257 | 154,200,502 | 81,513,852 | 47,336,043 | 33,667,168 | 50,859,576 | | 131,096,273 | 822,794 | 5,682,892 | 2,177,559,758 |
| Grand totals | 2,381,621,313 | 897,728,032 | 781,663,070 | 154,219,716 | 1,227,208,220 | 381,361,959 | 58,265,948 | 50,943,076 | 20,019,863 | 131,096,273 | 4,708,083 | 20,366,335 | 6,109,201,888 |

(7B)

## Species Cut, All Products, 1955, in Cubic Feet

(Conversion factor: Coast—6 f.b.m.=1 cu. ft.; Interior—5.75 f.b.m.=1 cu. ft.)

| Forest District | Fir | Cedar | Spruce | Lodgepole Pine | Hemlock | Balsam | White Pine | Yellow Pine | Cypress | Larch | Hardwoods | Cottonwood | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vancouver | 233,333,801 | 129,252,832 | 7,910,795 | | 167,373,595 | 52,994,797 | 4,099,797 | 13,917 | 3,264,719 | | 646,704 | 400,483 | 599,291,440 |
| Prince Rupert (C.) | 4,492,992 | 8,970,366 | 14,144,507 | 3,202 | 23,575,466 | 2,676,189 | | | 71,925 | | 844 | 2,046,757 | 55,982,248 |
| Totals, Coast | 237,826,793 | 138,223,198 | 22,055,302 | 3,202 | 190,949,061 | 55,670,986 | 4,099,797 | 13,917 | 3,336,644 | | 647,548 | 2,447,240 | 655,273,688 |
| Prince Rupert (I.) | 58,837 | 1,596,828 | 16,316,477 | 6,661,200 | 7,602,672 | 4,967,862 | | | | | 17,044 | 369,686 | 37,590,606 |
| Prince George | 24,909,670 | 251,282 | 63,518,468 | 15,522,960 | 123,215 | 1,231,495 | | | | 1,920 | 85,839 | 330,700 | 105,975,549 |
| Kamloops | 118,346,629 | 3,602,098 | 15,614,662 | 1,155,781 | 923,485 | 974,863 | 2,628,984 | 6,863,588 | | 5,027,600 | 39,912 | 194,838 | 155,372,440 |
| Nelson | 22,712,787 | 6,443,504 | 17,477,568 | 3,477,538 | 5,526,950 | 1,058,135 | 3,226,175 | 1,981,556 | | 17,769,832 | 300 | 93,105 | 79,767,450 |
| Totals, Interior | 166,027,923 | 11,893,712 | 112,927,175 | 26,817,479 | 14,176,322 | 8,232,355 | 5,855,159 | 8,845,144 | | 22,799,352 | 143,095 | 988,329 | 378,706,045 |
| Grand totals | 403,854,716 | 150,116,910 | 134,982,477 | 26,820,681 | 205,125,383 | 63,903,341 | 9,954,956 | 8,859,061 | 3,336,644 | 22,799,352 | 790,643 | 3,435,569 | 1,033,979,733 |

## TOTAL SCALE OF ALL PRODUCTS, 1955, IN F.B.M. (SEGREGATED BY LAND STATUS AND FOREST DISTRICTS)

*(8A)*

| Land Status | Vancouver | Prince Rupert (Coast) | Prince Rupert (Interior) | Prince George | Kamloops | Nelson | Total |
|---|---|---|---|---|---|---|---|
| Timber licences | 733,355,978 | 11,722,815 | 38,235 | 1,145,204 | 3,316,446 | 36,523,692 | 786,102,370 |
| Timber berths | 84,821,296 | | | | 10,012,269 | 13,226,924 | 108,060,489 |
| Timber leases | 136,837,976 | | | | | 427,861 | 137,265,837 |
| Pulp leases | 35,866,895 | 32,279,900 | | | | | 68,146,795 |
| Pulp licences | 13,961,059 | 35,477,966 | | | | | 49,439,025 |
| Hand-loggers' licences | 25,882 | 113,851 | | | | | 139,733 |
| Farm wood-lots | 331,631 | | | | 9,889 | | 341,520 |
| Timber sales | 1,106,607,886 | 100,970,253 | 139,632,905 | 542,004,604 | 685,992,067 | 294,732,073 | 2,869,939,788 |
| Pulp-timber sales | | 98,550,091 | | | | | 98,550,091 |
| No mark visible | 86,807,805 | | | | | | 86,807,805 |
| Management licences | 59,022,462 | 25,863,108 | 51,080,380 | 10,795,021 | 18,087,913 | 29,876,201 | 194,725,085 |
| Miscellaneous | 46,837,513 | 7,632,624 | 2,939,973 | 7,327,217 | 5,159,274 | 3,809,343 | 73,705,944 |
| Sub-totals, Crown lands | 2,304,476,383 | 312,610,608 | 193,691,493 | 561,272,046 | 722,577,858 | 378,596,094 | 4,473,224,482 |
| Federal lands | 32,994,030 | 6,100,508 | 7,224,891 | | 16,279,212 | 1,447,504 | 64,046,145 |
| Crown grants— | | | | | | | |
| To 1887 | 1,035,399,005 | 857,281 | | 573,310 | 33,461,273 | 2,669,233 | 1,072,960,102 |
| 1887–1906 | 66,274,015 | 3,406,662 | 367,279 | 645,069 | 16,232,457 | 42,111,183 | 129,036,665 |
| 1906–1914 | 37,766,786 | 1,518,718 | 6,774,897 | 3,643,694 | 26,476,389 | 12,653,385 | 88,833,869 |
| 1914 to date | 118,838,419 | 11,399,715 | 8,087,424 | 43,225,288 | 78,364,340 | 21,185,439 | 281,100,625 |
| Totals | 3,595,748,638 | 335,893,492 | 216,145,984 | 609,359,407 | 893,391,529 | 458,662,838 | 6,109,201,888 |

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 Canadian Government is shown under the heading "Federal Lands."

N.B.—For details of material actually scaled in cubic feet and units of measurement other than f.b.m., *see* Table 9.

## TOTAL SCALE OF ALL PRODUCTS, 1955, IN CUBIC FEET (SEGREGATED BY LAND STATUS AND FOREST DISTRICTS)

*(8B)* (Conversion factor: Coast—6 f.b.m.=1 cu. ft.; Interior—5.75 f.b.m.=1 cu. ft.)

| Land Status | Vancouver | Prince Rupert (Coast) | Prince Rupert (Interior) | Prince George | Kamloops | Nelson | Total |
|---|---|---|---|---|---|---|---|
| Timber licences | 122,225,996 | 1,953,803 | 6,650 | 199,166 | 576,773 | 6,351,946 | 131,314,334 |
| Timber berths | 14,136,883 | | | | 1,741,264 | 2,300,335 | 18,178,482 |
| Timber leases | 22,806,329 | | | | | 74,411 | 22,880,740 |
| Pulp leases | 5,977,816 | 5,379,983 | | | | | 11,357,799 |
| Pulp licences | 2,326,843 | 5,912,994 | | | | | 8,239,837 |
| Hand-loggers' licences | 4,314 | 18,975 | | | | | 23,289 |
| Farm wood-lots | 55,272 | | | | 1,720 | | 56,992 |
| Timber sales | 184,434,648 | 16,828,376 | 24,283,983 | 94,261,670 | 119,302,968 | 51,257,752 | 490,369,397 |
| No mark visible | 14,467,968 | | | | | | 14,467,968 |
| Pulp-timber sales | | 16,425,015 | | | | | 16,425,015 |
| Management licences | 9,837,077 | 4,310,518 | 8,883,544 | 1,877,395 | 3,145,724 | 5,195,861 | 33,250,119 |
| Miscellaneous | 7,806,252 | 1,272,104 | 511,300 | 1,274,299 | 897,265 | 662,494 | 12,423,714 |
| Sub-totals, Crown lands | 384,079,398 | 52,101,768 | 33,685,477 | 97,612,530 | 125,665,714 | 65,842,799 | 758,987,686 |
| Federal lands | 5,499,005 | 1,016,751 | 1,256,503 | | 2,831,167 | 251,740 | 10,855,166 |
| Crown grants— | | | | | | | |
| To 1887 | 172,566,501 | 142,880 | | 99,706 | 5,819,352 | 464,214 | 179,092,653 |
| 1887–1906 | 11,045,669 | 567,777 | 63,875 | 112,186 | 2,823,036 | 7,323,684 | 21,936,227 |
| 1906–1914 | 6,294,465 | 253,119 | 1,178,243 | 633,686 | 4,604,590 | 2,200,589 | 15,164,692 |
| 1914 to date | 19,806,403 | 1,899,953 | 1,406,508 | 7,517,441 | 13,628,581 | 3,684,424 | 47,943,310 |
| Totals | 599,291,441 | 55,982,248 | 37,590,606 | 105,975,549 | 155,372,440 | 79,767,450 | 1,033,979,734 |

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 Canadian Government is shown under the heading "Federal Lands."

N.B.—For details of material actually scaled in units of measurement other than cubic feet, *see* Table 9.

(9) TIMBER SCALED IN BRITISH COLUMBIA IN 1955 (BY MONTHS AND FOREST DISTRICTS)

| Month | Vancouver | Prince Rupert (Coast) | Prince Rupert (Interior) | Prince George | Kamloops | Nelson | Total F.B.M. | Total Cubic Feet | Total Lineal Feet | Total Cords | Total Hewn Ties |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January— | | | | | | | | | | | |
| F.b.m. | 147,615,442 | 1,070,864 | 2,649,604 | 11,830,423 | 31,657,580 | 12,002,371 | 206,826,284 | | | | |
| Cubic feet | 6,520,141 | 711,465 | 670,663 | 3,129,160 | 6,671,488 | 2,128,056 | | 19,830,973 | | | |
| Lineal feet | 311,652 | | 67,240 | 7,385 | 554,506 | 314,501 | | | 1,255,284 | | |
| Cords | 3,166 | | 89 | 56 | 1,396 | 613 | | | | 5,320 | |
| Hewn ties | | | 3,337 | 230 | 507 | | | | | | 4,074 |
| February— | | | | | | | | | | | |
| F.b.m. | 163,329,417 | 1,256,066 | 6,445,953 | 9,702,666 | 29,650,155 | 20,140,497 | 230,524,754 | | | | |
| Cubic feet | 6,601,265 | 994,515 | 1,822,785 | 3,996,043 | 7,293,545 | 2,924,108 | | 23,632,261 | | | |
| Lineal feet | 350,385 | | 124,819 | | 701,216 | 597,866 | | | 1,774,286 | | |
| Cords | 2,834 | | 84 | 279 | 1,611 | 1,936 | | | | 6,744 | |
| Hewn ties | | | 5,026 | | 1,246 | | | | | | 6,272 |
| March— | | | | | | | | | | | |
| F.b.m. | 190,246,563 | 8,031,711 | 6,720,419 | 22,743,399 | 30,695,603 | 15,544,796 | 273,982,491 | | | | |
| Cubic feet | 6,223,406 | 876,059 | 2,377,446 | 10,443,396 | 7,355,183 | 3,150,404 | | 30,425,894 | | | |
| Lineal feet | 375,782 | | 268,450 | 33,450 | 194,499 | 41,720 | | | 913,901 | | |
| Cords | 2,294 | | 141 | 233 | 375 | 323 | | | | 3,366 | |
| Hewn ties | | | 7,531 | 21,025 | | | | | | | 28,556 |
| April— | | | | | | | | | | | |
| F.b.m. | 205,442,071 | 16,781,103 | 7,611,961 | 22,454,233 | 29,164,517 | 17,053,823 | 298,507,708 | | | | |
| Cubic feet | 10,112,870 | 1,374,857 | 3,067,797 | 10,106,121 | 8,706,801 | 3,597,402 | | 36,965,848 | | | |
| Lineal feet | 355,612 | | 21,365 | 316,040 | 216,595 | 388,909 | | | 1,298,521 | | |
| Cords | 4,714 | | 71 | 434 | 468 | 2,049 | | | | 7,736 | |
| Hewn ties | | | | 500 | | | | | | | 500 |
| May— | | | | | | | | | | | |
| F.b.m. | 242,006,879 | 21,011,113 | 4,806,586 | 14,278,436 | 16,507,879 | 18,680,428 | 317,291,321 | | | | |
| Cubic feet | 14,640,104 | 1,105,871 | 1,822,122 | 5,861,676 | 3,811,061 | 3,015,461 | | 30,256,295 | | | |
| Lineal feet | 597,629 | | | 181,120 | 244,105 | 265,342 | | | 1,288,196 | | |
| Cords | 4,352 | | | 359 | 588 | 1,132 | | | | 6,431 | |
| Hewn ties | 2,040 | | | 13,100 | | | | | | | 15,140 |
| June— | | | | | | | | | | | |
| F.b.m. | 253,765,107 | 23,594,473 | 3,319,824 | 7,966,685 | 22,273,342 | 9,096,383 | 320,015,814 | | | | |
| Cubic feet | 18,645,899 | 1,978,964 | 1,826,738 | 4,745,720 | 4,094,420 | 1,453,005 | | 32,744,746 | | | |
| Lineal feet | 1,103,941 | 3,513 | 373,760 | 20,000 | 206,150 | 86,120 | | | 1,793,484 | | |
| Cords | 4,759 | | 115 | 926 | 948 | 912 | | | | 7,660 | |
| Hewn ties | 1,474 | | 17,699 | 5,197 | 1,165 | 158 | | | | | 25,693 |
| July— | | | | | | | | | | | |
| F.b.m. | 277,448,766 | 24,378,691 | 3,841,096 | 7,187,227 | 31,835,121 | 11,639,251 | 356,330,152 | | | | |
| Cubic feet | 20,218,053 | 2,167,657 | 1,847,495 | 2,693,796 | 7,568,885 | 2,657,902 | | 37,153,788 | | | |
| Lineal feet | 423,481 | | 123,460 | 39,793 | 244,132 | 372,735 | | | 1,203,601 | | |
| Cords | 4,427 | | 334 | 497 | 1,636 | 3,202 | | | | 10,096 | |
| Hewn ties | 488 | | 7,462 | 9,643 | 1,130 | 1,416 | | | | | 20,139 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| August— | | | | | | | | | | | |
| F.b.m. | 234,715,468 | 26,284,382 | 3,397,872 | 13,174,016 | 29,104,955 | 21,029,129 | 327,705,822 | | | | |
| Cubic feet | 18,649,107 | 2,174,737 | 2,933,601 | 8,648,965 | 8,130,384 | 3,589,715 | | 44,126,509 | | | |
| Lineal feet | 1,054,140 | 710 | 372,970 | 55,457 | 516,062 | 532,835 | | | 2,532,174 | | |
| Cords | 5,411 | 5 | 103 | 1,348 | 1,589 | 2,055 | | | | 10,511 | |
| Hewn ties | | | 8,720 | 6,703 | 393 | 3,402 | | | | | 19,218 |
| September— | | | | | | | | | | | |
| F.b.m. | 245,814,755 | 29,662,403 | 4,606,697 | 12,218,100 | 37,423,293 | 25,313,158 | 355,038,406 | | | | |
| Cubic feet | 22,746,084 | 3,139,030 | 2,424,909 | 8,351,051 | 11,344,960 | 5,322,527 | | 53,328,561 | | | |
| Lineal feet | 758,918 | | | 105,049 | 576,839 | 569,572 | | | 2,010,378 | | |
| Cords | 8,353 | | 272 | 514 | 1,807 | 1,666 | | | | 12,612 | |
| Hewn ties | | | | 16,104 | | | | | | | 16,104 |
| October— | | | | | | | | | | | |
| F.b.m. | 216,085,249 | 30,991,492 | 4,138,103 | 13,112,473 | 28,908,726 | 14,546,713 | 307,782,756 | | | | |
| Cubic feet | 19,283,435 | 2,481,966 | 2,456,268 | 10,141,481 | 9,585,453 | 4,087,058 | | 48,035,661 | | | |
| Lineal feet | 442,066 | 3,818 | 210,030 | 40,781 | 617,155 | 706,207 | | | 2,020,057 | | |
| Cords | 3,755 | 23 | 375 | 395 | 1,072 | 1,818 | | | | 7,438 | |
| Hewn ties | | | 6,495 | 6,098 | 2,901 | 1,481 | | | | | 16,975 |
| November— | | | | | | | | | | | |
| F.b.m. | 125,957,929 | 22,712,762 | 3,269,247 | 7,324,834 | 30,669,687 | 15,907,802 | 205,842,261 | | | | |
| Cubic feet | 13,081,048 | 2,484,978 | 3,288,289 | 5,614,699 | 10,197,120 | 3,585,888 | | 38,252,022 | | | |
| Lineal feet | 63,740 | | 325,190 | 110,290 | 1,803,456 | 431,767 | | | 2,734,443 | | |
| Cords | 1,420 | | 289 | 261 | 1,655 | 589 | | | | 4,214 | |
| Hewn ties | | | 15,680 | 10,218 | 582 | 62 | | | | | 26,542 |
| December— | | | | | | | | | | | |
| F.b.m. | 202,036,816 | 7,831,485 | 2,779,111 | 8,127,315 | 21,960,380 | 26,108,486 | 268,843,593 | | | | |
| Cubic feet | 15,275,107 | 874,165 | 2,162,966 | 4,623,683 | 7,368,181 | 4,333,518 | | 34,637,620 | | | |
| Lineal feet | 1,756,093 | 21,080 | 69,704 | 42,356 | 390,764 | 564,277 | | | 2,844,274 | | |
| Cords | 2,153 | 7 | 92 | 109 | 2,030 | 1,547 | | | | 5,938 | |
| Hewn ties | | | 4,552 | 9,600 | 516 | 1,671 | | | | | 16,339 |
| Totals, 1955— | | | | | | | | | | | |
| F.b.m. | 2,504,464,462 | 213,606,545 | 53,586,473 | 150,119,807 | 339,851,238 | 207,062,837 | 3,468,691,362 | | | | |
| Cubic feet | 171,996,519 | 20,364,264 | 26,701,079 | 78,355,791 | 92,127,481 | 39,845,044 | | 429,390,178 | | | |
| Lineal feet | 7,593,439 | 29,121 | 1,956,988 | 951,721 | 6,265,479 | 4,871,851 | | | 21,668,599 | | |
| Cords | 47,638 | 35 | 1,965 | 5,411 | 15,175 | 17,842 | | | | 88,066 | |
| Hewn ties | 4,002 | | 76,502 | 98,418 | 8,440 | 8,190 | | | | | 195,552 |

(10) VOLUME OF WOOD REMOVED UNDER RELOGGING AT REDUCED ROYALTY AND STUMPAGE, 1948–55, IN M CUBIC FEET

| | Salvage Wood (M Cu. Ft.) | | Salvage Wood (M Cu. Ft.) |
|---|---|---|---|
| 1948 | 727 | 1953 | 1,053 |
| 1949 | 549 | 1954 | 1,888 |
| 1950 | 324 | 1955 | 1,209 |
| 1951 | 420 | | |
| 1952 | 732 | Total | 6,902 |

(11) NUMBER OF ACRES MANAGED AND OPERATED UNDER APPROVED WORKING PLANS, 1946–55

| Year | Forest Management Licences | | Christmas-tree Permits | | Farm Wood-lots | | Tree-farms | | Public Working Circles | | Total Acres |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Productive Acres | Number | Productive Acres | Number | Productive Acres | Number | Productive Acres | Number | Productive Acres | |
| 1946 | ---- | ---- | 71 | 27,061 | ---- | ---- | ---- | ---- | ---- | ---- | 27,061 |
| 1947 | ---- | ---- | 82 | 32,139 | ---- | ---- | ---- | ---- | ---- | ---- | 32,139 |
| 1948 | 1 | 795,208 | 107 | 40,767 | ---- | ---- | ---- | ---- | ---- | ---- | 835,975 |
| 1949 | 2 | 1,081,711 | 118 | 43,778 | ---- | ---- | ---- | ---- | ---- | ---- | 1,125,489 |
| 1950 | 7 | 1,668,663 | 129 | 45,360 | ---- | ---- | ---- | ---- | ---- | ---- | 1,714,023 |
| 1951 | 10 | 1,953,754 | 135 | 47,250 | 3 | 452 | ---- | ---- | ---- | ---- | 2,001,456 |
| 1952 | 13 | 2,071,918 | 145 | 49,986 | 5 | 727 | 3 | 23,099 | ---- | ---- | 2,145,730 |
| 1953 | 14 | 2,158,898 | 163 | 64,835 | 20 | 4,571 | 6 | 42,980 | 24 | 5,649,162 | 7,920,446 |
| 1954 | 19 | 2,788,313 | 174 | 68,689 | 25 | 5,549 | 12 | 60,385[1] | 28 | 7,019,759 | 9,942,695 |
| 1955 | 23 | 4,685,492 | 209 | 72,603 | 29 | 6,455 | 15 | 225,942 | 33 | 9,328,447 | 14,318,939 |

[1] This figure does not include 53,724 acres which are also under forest management licence tenure.

(12) TOTAL SCALE OF ALL PRODUCTS FROM MANAGED LANDS, 1946–55

(In Table 8B, " management licences " includes only the cut from Crown lands within forest management licences. The cut from " other tenures " is shown under appropriate headings. In this table, all the cut from managed lands under regulation is combined.)

| Year | Forest Management Licences | | Christmas-tree Permits | | Farm Wood-lots | | Tree-farms | | Public Working Circles | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Cubic Feet | Number | Number of Trees | Number | Cubic Feet | Number | Cubic Feet | Number | Cubic Feet | Number of Christmas Trees | Cubic Feet |
| 1946 | ---- | ---- | 71 | 177,138 | ---- | ---- | ---- | ---- | ---- | ---- | 177,138 | ---- |
| 1947 | ---- | ---- | 82 | 163,648 | ---- | ---- | ---- | ---- | ---- | ---- | 163,648 | ---- |
| 1948 | 1 | ---- | 107 | 157,944 | ---- | ---- | ---- | ---- | ---- | ---- | 157,944 | ---- |
| 1949 | 2 | ---- | 118 | 165,035 | ---- | ---- | ---- | ---- | ---- | ---- | 165,035 | ---- |
| 1950 | 7 | ---- | 129 | 174,609 | ---- | ---- | ---- | ---- | ---- | ---- | 174,609 | ---- |
| 1951 | 10 | 27,440,866 | 135 | 175,755 | 3 | ---- | ---- | ---- | ---- | ---- | 175,755 | 27,440,866 |
| 1952 | 13 | 33,532,810 | 145 | 195,803 | 5 | 232 | 3 | ---- | ---- | ---- | 195,803 | 33,533,042 |
| 1953 | 14 | 40,442,745 | 163 | 267,182 | 20 | 17,497 | 6 | 2,270,464 | 24 | 89,731,000 | 267,182 | 132,461,706 |
| 1954 | 19 | 47,631,411 | 174 | 326,106 | 25 | 26,939 | 12 | 406,000 | 28 | 100,166,664 | 326,106 | 148,231,014 |
| 1955 | 23 | 69,715,422 | 209 | 301,319 | 29 | 64,482 | 15 | 1,908,000 | 33 | 115,091,229 | 301,319 | 186,779,133 |
| Totals | ---- | 218,763,254 | ---- | 2,104,539 | ---- | 109,150 | ---- | 4,584,464 | ---- | 304,988,893 | 2,104,539 | 528,445,761 |

(13)

## LOGGING INSPECTIONS, 1955

| Forest District | Type of Tenure Operated | | | | Number of Inspections |
|---|---|---|---|---|---|
| | Timber Sales | Hand-loggers' Licences | Leases, Licences, Crown Grants, and Pre-emptions | Totals | |
| Vancouver | 1,377 | 1 | 1,484 | 2,862 | 10,300 |
| Prince Rupert | 882 | 2 | 321 | 1,205 | 1,618 |
| Prince George | 1,506 | ---- | 478 | 1,984 | 3,159 |
| Kamloops | 2,330 | ---- | 1,760 | 4,017 | 2,079 |
| Nelson | 723 | ---- | 630 | 1,353 | 5,199 |
| Totals, 1955 | 6,818 | 3 | 4,673 | 11,421 | 22,355 |
| Totals, 1954 | 5,855 | 3 | 4,874 | 10,732 | 21,011 |
| Totals, 1953 | 5,851 | 3 | 4,859 | 10,711 | 20,656 |
| Totals, 1952 | 5,822 | 6 | 5,710 | 11,458 | 20,264 |
| Totals, 1951 | 5,448 | 6 | 4,766 | 10,220 | 17,754 |
| Totals, 1950 | 5,189 | 6 | 3,812 | 9,007 | 16,221 |
| Totals, 1949 | 6,405 | 7 | 4,440 | 10,852 | 15,483 |
| Totals, 1948 | 4,847 | 5 | 3,982 | 8,834 | 15,432 |
| Totals, 1947 | 4,428 | 5 | 3,190 | 7,623 | 13,876 |
| Totals, 1946 | 3,627 | 6 | 3,021 | 6,654 | 12,974 |
| Ten-year average, 1946–55 | 5,429 | 5 | 4,333 | 9,751 | 17,603 |

(14)

## TRESPASSES, 1955

| Forest District | Number of Cases | Areas Cut Over (Acres) | Quantity Cut | | | | | | | | Number of Resulting Seizures | Amount Charged |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cubic Feet | Feet B.M. | Lineal Feet | Cords | Ties | Christmas Trees | Cedar Shakes, Car-stakes | Posts | | |
| Vancouver | 134 | 558 | 1,717,588 | ..... | 10,252 | 19 | ..... | 50 | 66,975 | ..... | ..... | $82,216.92 |
| Prince Rupert | 58 | 722 | 444,990 | ..... | 52,695 | 1 | 175 | ..... | ..... | ..... | ..... | $26,411.78 |
| Prince George | 105 | 1,428 | 1,234,534 | ..... | 321,377 | 1,566 | 630 | ..... | ..... | ..... | 3 | $30,704.08 |
| Kamloops | 123 | 2,474 | 603,354 | ..... | 34,106 | ..... | ..... | 3,244 | ..... | 1,575 | ..... | $50,185.21 |
| Nelson | 79 | 916 | 218,239 | ..... | 39,996 | 21 | 158 | 10,806 | ..... | 4,032 | 1 | $22,665.50 |
| Totals, 1955 | 499 | 6,098 | 4,218,705 | ..... | 458,426 | 1,607 | 963 | 14,100 | 66,975 | 5,607 | 4 | $212,183.49 |
| Totals, 1954 | 463 | 5,910 | 4,373,368 | ..... | 266,856 | 270 | 5,083 | 14,914 | 119,364 | 9,750 | 7 | $198,220.15 |
| Totals, 1953 | 446 | 10,188 | 4,072,874 | 466,401 | 230,636 | 2,917 | 6,335 | 16,314 | 116,368 | 30,663 | 4 | $221,000.12 |
| Totals, 1952 | 419 | 5,768 | 372,788 | 24,247,327 | 272,770 | 1,147 | 5,237 | 10,921 | 227,267 | 3,991 | 13 | $312,774.33 |
| Totals, 1951 | 454 | 5,999 | ..... | 24,545,775 | 159,064 | 1,779 | 20,976 | 28,121 | ..... | 13,325 | 41 | $237,588.00 |
| Totals, 1950 | 276 | 3,072 | ..... | 12,753,405 | 360,190 | 1,475 | 1,806 | 6,312 | 75,309 | 7,550 | 16 | $87,589.23 |
| Totals, 1949 | 418 | 4,132 | ..... | 20,419,563 | 244,655 | 1,298 | 3,514 | 9,022 | 34,070 | 8,785 | 28 | $81,923.27 |
| Totals, 1948 | 312 | 3,062 | ..... | 11,738,855 | 470,674 | 3,569 | 18,211 | 3,711 | 11,135 | 4,100 | 8 | $59,654.37 |
| Totals, 1947 | 316 | 5,132 | ..... | 17,234,601 | 659,621 | 5,599 | 5,235 | 15,416 | 439,554 | 17,506 | 15 | $74,761.43 |
| Totals, 1946 | 226 | 2,568 | ..... | 7,084,343 | 1,760,574 | 1,469 | 2,900 | 10,148 | 41,377 | 35,997 | 8 | $27,530.63 |
| Ten-year average, 1946–55 | 383 | 5,193 | 3,259,434[1] | 14,811,284[1] | 488,347 | 2,113 | 7,026 | 12,898 | 113,142 | 13,727 | 14 | $151,322.50 |

[1] Cubic feet—four-year average; feet b.m.—eight-year average.

(15)

## PRE-EMPTION INSPECTIONS, 1955

| | |
|---|---|
| Vancouver | 5 |
| Prince Rupert | ---- |
| Total | 5 |

## (16) AREAS EXAMINED BY THE FOREST SERVICE FOR MISCELLANEOUS PURPOSES OF THE "LAND ACT," 1955

| Forest District | Applications for Hay and Grazing Leases | | Applications for Pre-emption Records | | Applications to Purchase | | Miscellaneous | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Acres | Number | Acres | Number | Acres | Number | Acres | Number | Acres |
| Vancouver | 1 | 40 | ..... | ..... | 12 | 799 | 22 | 517 | 35 | 1,356 |
| Prince Rupert | 1 | 395 | 1 | 146 | 9 | 690 | 15 | 503 | 25 | 1,734 |
| Totals | 2 | 435 | 1 | 146 | 21 | 1,489 | 37 | 1,020 | 60 | 3,090 |

## (17) CLASSIFICATION OF AREAS EXAMINED BY THE FOREST SERVICE, 1955

| Forest District | Total Area | Agricultural Land | Non-agricultural Land | Merchantable Timber Land | Estimated Timber on Merchantable Timber Land |
|---|---|---|---|---|---|
| | Acres | Acres | Acres | Acres | M F.B.M. |
| Vancouver | 1,356 | 37 | 1,319 | 153 | 1,036 |
| Prince Rupert | 1,734 | 190 | 1,544 | 608 | 8,475 |
| Totals | 3,090 | 227 | 2,863 | 761 | 9,511 |

## (18) AREAS CRUISED FOR TIMBER SALES, 1955

| Forest District | Number Cruised | Acreage | Saw-timber (M B.M.) | Pit-props, Poles, and Piles (Lin. Ft.) | Shingle-bolts and Cord-wood (Cords) | Railway-ties (No.) | Car-stakes, Posts, Shakes, etc. (No.) | Saw-timber (M Cu. Ft.) |
|---|---|---|---|---|---|---|---|---|
| Vancouver | 954 | 148,552 | ..... | 70,624 | 6,266 | 6,620 | 35,000 | 355,743 |
| Prince Rupert | 580 | 100,457 | ..... | 2,058,540 | 4,222 | 20,655 | 400 | 100,751 |
| Prince George | 696 | 206,907 | ..... | 164,610 | ..... | 115,750 | ..... | 263,562 |
| Kamloops | 787 | 426,681 | ..... | 6,093,670 | 1,485 | ..... | 205,400 | 286,736 |
| Nelson | 337 | 195,389 | ..... | 1,498,007 | 4,846 | 2,500 | 261,020 | 124,729 |
| Totals, 1955 | 3,354 | 1,077,986 | ..... | 9,885,451 | 16,819 | 145,525 | 501,820 | 1,131,521 |
| Totals, 1954 | 3,085 | 781,665 | ..... | 10,532,164 | 76,859 | 76,310 | 1,127,346 | 697,421 |
| Totals, 1953 | 2,579 | 719,234 | ..... | 12,887,882 | 12,328 | 141,313 | 694,182 | 561,601 |
| Totals, 1952 | 2,340 | 1,029,199 | 2,543,890 | 40,005,329 | 13,405 | 989,144 | 518,652 | 1,188,361 |
| Totals, 1951 | 2,704 | 934,475 | 6,577,298 | 20,674,280 | 25,630 | 316,954 | 432,000 | ..... |
| Totals, 1950 | 2,196 | 333,435 | 1,777,025 | 7,388,875 | 24,522 | 123,091 | 352,440 | ..... |
| Totals, 1949 | 1,638 | 269,576 | 1,355,342 | 9,599,176 | 57,002 | 170,475 | 738,510 | ..... |
| Totals, 1948 | 1,851 | 346,648 | 1,817,737 | 7,603,641 | 44,726 | 180,602 | 1,947,010 | ..... |
| Totals, 1947 | 1,960 | 361,834 | 1,481,715 | 23,015,436 | 50,346 | 299,501 | 1,064,125 | ..... |
| Totals, 1946 | 2,059 | 362,587 | 1,230,716 | 40,760,769 | 90,078 | 216,892 | 2,718,706 | ..... |
| Ten-year average, 1946–55 | 2,377 | 621,664 | 2,397,675[1] | 18,235,300 | 41,172 | 265,981 | 1,009,479 | 894,726[1] |

[1] M B.M.—seven-year average; M cu. ft.—four-year average.

## (19) TIMBER-SALE RECORD, 1955

| Forest District | Sales Made | Sales Closed | Total Sales Existing | Total Area (Acres) | Area Paying Forest Protection Tax (Acres) | Total 10-per-cent Deposits |
|---|---|---|---|---|---|---|
| Vancouver | 709 | 668 | 1,957 | 459,302 | 387,568 | $4,223,791.79 |
| Prince Rupert | 554 | 406 | 1,516 | 340,255 | 321,012 | 864,904.91 |
| Prince George | 662 | 446 | 1,576 | 449,098 | 397,601 | 1,360,194.82 |
| Kamloops | 808 | 519 | 2,268 | 1,032,254 | 1,022,657 | 2,829,383.75 |
| Nelson | 397 | 337 | 1,054 | 508,748 | 496,131 | 1,482,230.28 |
| Totals | 3,130 | 2,376 | 8,371 | 2,789,657 | 2,624,969 | $10,760,505.55 |
| Cash sales | 242 | ..... | ..... | ..... | ..... | ..... |
| Total sales | 3,372 | ..... | ..... | ..... | ..... | ..... |

(20)

## TIMBER SALES AWARDED BY FOREST DISTRICTS, 1955

| Forest District | No. of Sales | Acreage | Saw-timber (F.B.M.) | Poles and Piling (Lin. Ft.) | No. of Posts | No. of Cords | No. of Ties | Cubic Feet | No. of Christmas Trees | No. of Hop-poles | No. of Car-stakes | No. of Blasting-sticks | No. of Bean-poles | No. of Cedar Shakes | No. of Fence-rails | Estimated Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vancouver | 713 | 121,749 | 8,356,000 | 184,855 | 1,000 | 9,492 | 7,000 | 222,202,100 | ..... | ..... | ..... | ..... | ..... | 110,400 | ..... | $13,750,468.92 |
| Prince Rupert | 559 | 96,109 | ..... | 1,982,345 | 1,800 | 3,119 | 32,310 | 78,164,000 | 300 | ..... | 1,000 | ..... | ..... | ..... | ..... | 3,121,200.42 |
| Prince George | 755 | 161,583 | ..... | 441,740 | 244,650 | 1,362 | 114,711 | 146,561,200 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 5,555,938.97 |
| Kamloops | 907 | 358,424 | ..... | 4,604,573 | 174,450 | 4,064 | ..... | 191,746,640 | ..... | ..... | ..... | 45,000 | ..... | ..... | 1,951 | 11,394,315.78 |
| Nelson | 444 | 185,365 | ..... | 3,552,469 | 335,990 | 4,553 | 2,056 | 126,138,600 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 6,685,498.03 |
| Totals, 1955 | 3,378 | 923,230 | 8,356,000 | 10,765,982 | 757,890 | 22,590 | 156,077 | 764,812,540 | 300 | ..... | 1,000 | 45,000 | ..... | 110,400 | 1,951 | $40,507,422.12 |
| Totals, 1954 | 3,009 | 693,153 | ..... | 10,210,460 | 1,017,098 | 655,670 | 67,275 | 530,817,905 | 300 | ..... | 7,600 | 15,500 | ..... | 95,400 | 235 | $18,938,049.78 |
| Totals, 1953 | 2,881 | 605,450 | 446,200 | 22,090,812 | 795,235 | 22,580 | 196,144 | 461,100,000 | ..... | ..... | 6,810 | 12,000 | 500 | 9,100 | ..... | $17,322,931.29 |
| Totals, 1952 | 2,594 | 534,409 | 2,221,589,000 | 14,148,539 | 1,005,485 | 20,546 | 218,433 | 57,729,795 | 300 | ..... | 700 | ..... | ..... | 174,700 | ..... | $23,584,741.49 |
| Totals, 1951 | 2,962 | 605,511 | 2,806,195,000 | 12,812,383 | 615,153 | 25,783 | 296,932 | 5,000 | ..... | ..... | 2,150 | ..... | ..... | 313,250 | ..... | $24,621,254.79 |
| Totals, 1950 | 2,591 | 372,237 | 1,628,166,500 | 12,451,507 | 793,976 | 31,785 | 144,592 | ..... | 300 | ..... | 1,700 | ..... | ..... | 113,720 | ..... | $9,152,791.81 |
| Totals, 1949 | 2,525 | 375,717 | 1,238,155,000 | 10,298,466 | 1,601,707 | 57,557 | 200,300 | ..... | ..... | ..... | 2,650 | ..... | ..... | 542,000 | ..... | $5,669,035.70 |
| Totals, 1948 | 2,611 | 440,198 | 1,824,615,000 | 12,052,076 | 966,267 | 65,599 | 235,583 | ..... | ..... | ..... | ..... | 117,000 | ..... | 1,247,800 | ..... | $8,544,121.84 |
| Totals, 1947 | 2,469 | 375,781 | 1,469,890,000 | 27,185,542 | 1,291,482 | 64,576 | 236,851 | ..... | ..... | 3,000 | 1,800 | ..... | ..... | 636,385 | ..... | $7,097,435.12 |
| Totals, 1946 | 2,637 | 443,505 | 1,262,948,000 | 55,461,304 | 2,982,443 | 87,322 | 266,338 | ..... | ..... | 600 | 5,350 | ..... | 1,000 | 2,072,726 | ..... | $5,036,148.66 |
| Ten-year average, 1946–55 | 2,766 | 536,919 | ..... | 18,747,707 | 1,182,674 | 105,401 | 201,853 | ..... | ..... | ..... | ..... | ..... | ..... | 531,548 | ..... | $16,047,393.26 |

(21)

## Average Stumpage Prices as Bid, by Species and Forest Districts, on Saw-timber Cruised on Timber Sales in 1955, per C C.F. Log-scale

| Forest District | Douglas Fir | | | Cedar | | | Spruce | | | Hemlock | | | Balsam | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M C.F. | Price per C C.F. | Price Range per C C.F. | M C.F. | Price per C C.F. | Price Range per C C.F. | M C.F. | Price per C C.F. | Price Range per C C.F. | M C.F. | Price per C C.F. | Price Range per C C.F. | M C.F. | Price per C C.F. | Price Range per C C.F. |
| Vancouver | 49,646 | $10.82 | $2.60–37.00 | 43,282 | $5.25 | $2.00–30.00 | 1,376 | $5.12 | $1.80– 6.00 | 73,111 | $5.12 | $1.70–15.00 | 48,300 | $4.04 | $1.50– 7.30 |
| Prince Rupert (C.) | 2,180 | 4.52 | 3.20– 7.50 | 3,670 | 2.62 | 2.00– 3.80 | 7,636 | 4.26 | 2.40– 6.70 | 9,186 | 3.59 | 2.40– 6.90 | 1,648 | 3.85 | 2.30– 6.00 |
| Prince Rupert (I.) | 26 | 8.40 | 8.40 | 925 | 3.61 | 2.10– 6.00 | 21,353 | 3.91 | 0.30– 7.00 | 2,472 | 3.73 | 1.40– 5.00 | 6,357 | 3.29 | 1.70– 7.00 |
| Prince George | 28,955 | 3.91 | 2.00–10.50 | ..... | ..... | ..... | 90,875 | 3.96 | 2.00– 9.00 | ..... | ..... | ..... | 8,524 | 2.75 | 1.80– 8.00 |
| Kamloops | 145,592 | 6.17 | 2.10–25.00 | 2,176 | 4.04 | 2.00–11.70 | 25,263 | 4.90 | 2.30–15.00 | 1,931 | 3.29 | 2.00–11.70 | 2,891 | 3.79 | 1.60–11.35 |
| Nelson | 21,566 | 4.78 | 1.70–13.30 | 4,600 | 3.02 | 1.70– 8.50 | 41,278 | 5.29 | 2.20–12.60 | 4,569 | 3.02 | 1.80– 5.60 | 7,135 | 3.56 | 1.80– 8.30 |
| Totals for Province | 247,965 | $5.39 | $1.70–37.00 | 54,653 | $4.81 | $1.70–30.00 | 187,781 | $4.38 | $0.30–15.00 | 91,269 | $4.78 | $1.40–15.00 | 74,855 | $3.77 | $1.50–11.35 |

| Forest District | White Pine | | | Western Yellow Pine | | | Larch (Tamarack) | | | Other Species | | | All Species | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M C.F. | Price per C C.F. | Price Range per C C.F. | M C.F. | Price per C C.F. | Price Range per C C.F. | M C.F. | Price per C C.F. | Price Range per C C.F. | M C.F. | Price per C C.F. | Price Range per C C.F. | M C.F. | Price per C C.F. | Price Range per C C.F. |
| Vancouver | 523 | $8.21 | $4.30–20.20 | 42 | $5.88 | $5.00– 5.90 | ..... | ..... | ..... | 7,289 | $3.27 | $2.00–12.00 | 223,569 | $6.14 | $1.50–37.00 |
| Prince Rupert (C.) | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3,045 | 3.48 | 2.20– 9.00 | 27,365 | 3.72 | 2.00– 7.50 |
| Prince Rupert (I.) | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 11,905 | 3.39 | 0.20– 7.30 | 43,038 | 3.66 | 0.20– 7.30 |
| Prince George | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 25,163 | 3.64 | 1.70– 8.00 | 153,517 | 3.83 | 1.70–10.50 |
| Kamloops | 2,591 | 13.19 | 7.60–22.30 | 3,701 | 4.89 | 2.80–11.30 | 1,703 | $4.59 | $2.80– 9.70 | 2,986 | 3.60 | 1.25–11.40 | 188,834 | 5.93 | 1.25–25.00 |
| Nelson | 3,290 | 15.61 | 2.80–26.20 | 1,301 | 5.62 | 2.30–14.50 | 18,998 | 5.92 | 1.70–13.30 | 5,346 | 3.45 | 2.80– 9.20 | 108,083 | 5.18 | 1.70–26.20 |
| Totals for Province | 6,404 | $14.03 | $2.80–26.20 | 5,044 | $5.09 | $2.30–14.50 | 20,701 | $5.81 | $1.70–13.30 | 55,734 | $3.51 | $0.20–12.00 | 744,406 | $5.07 | $0.20–37.00 |

(22A)

## Average Stumpage Prices Received, by Species and Forest Districts, on Saw-timber Scaled on Timber Sales, 1955, per M B.F. Log-scale

| Forest District | Douglas Fir | | Cedar | | Spruce | | Hemlock | | Balsam | | White Pine | | Yellow Pine | | Larch | | Other Species | | All Species | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M B.F. | Price per M | M B.F. | Price per M | M B.F. | Price per M | M B.F. | Price per M | M B.F. | Price per M | M B.F. | Price per M | M B.F. | Price per M | M B.F. | Price per M | M B.F. | Price per M | M B.F. | Price per M |
| Vancouver | 77,949 | $12.32 | 81,126 | $5.96 | 3,785 | $7.17 | 96,968 | $4.88 | 39,777 | $3.91 | 1,489 | $10.52 | 1 | $2.22 | ..... | ..... | 4,510 | $5.19 | 305,605 | $7.00 |
| Prince Rupert (C.) | 30 | 9.97 | 996 | 5.37 | 2,641 | 5.43 | 4,503 | 4.82 | 13 | 5.57 | ..... | ..... | ..... | ..... | ..... | ..... | 635 | 3.51 | 8,818 | 4.99 |
| Prince Rupert (I.) | ..... | ..... | 781 | 5.20 | 16,564 | 6.04 | 4,352 | 4.61 | 2,716 | 5.54 | ..... | ..... | ..... | ..... | ..... | ..... | 7,731 | 5.45 | 32,144 | 5.64 |
| Prince George | 22,425 | 6.29 | 2 | 6.25 | 56,587 | 7.48 | ..... | ..... | 691 | 5.07 | ..... | ..... | ..... | ..... | ..... | ..... | 16,270 | 5.63 | 95,975 | 6.87 |
| Kamloops | 129,000 | 6.31 | 882 | 4.83 | 22,719 | 8.31 | 1,167 | 4.54 | 1,071 | 5.44 | 3,095 | 23.91 | 3,552 | 8.76 | 8,533 | $7.13 | 1,269 | 5.43 | 171,288 | 6.96 |
| Nelson | 27,156 | 5.59 | 3,732 | 3.64 | 22,383 | 7.93 | 7,441 | 4.43 | 1,902 | 4.69 | 3,448 | 19.05 | 1,202 | 9.89 | 23,049 | 6.09 | 3,832 | 4.61 | 94,145 | 6.59 |
| Totals | 256,560 | $8.06 | 87,519 | $5.84 | 124,679 | $7.47 | 114,431 | $4.84 | 46,170 | $4.09 | 8,032 | $19.34 | 4,755 | $9.04 | 31,582 | $6.37 | 34,247 | $5.36 | 707,975 | $6.83 |

(22B)

## Average Stumpage Prices Received, by Species and Forest Districts, on Saw-timber Scaled on Timber Sales, 1955, per C C.F. Log-scale

| Forest District | Douglas Fir | | Cedar | | Spruce | | Hemlock | | Balsam | | White Pine | | Yellow Pine | | Larch | | Other Species | | All Species | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M C.F. | Price per C C.F. | M C.F. | Price per C C.F. | M C.F. | Price per C C.F. | M C.F. | Price per C C.F. | M C.F. | Price per C C.F. | M C.F. | Price per C C.F. | M C.F. | Price per C C.F. | M C.F. | Price per C C.F. | M C.F. | Price per C C.F. | M C.F. | Price per C C.F. |
| Vancouver | 48,476 | $7.19 | 33,927 | $3.09 | 1,763 | $3.08 | 33,699 | $3.11 | 10,716 | $2.69 | 690 | $5.31 | 10 | $3.72 | ..... | ..... | 2,355 | $1.86 | 131,636 | $4.57 |
| Prince Rupert (C.) | 1,703 | 3.91 | 1,543 | 2.58 | 3,719 | 2.99 | 7,136 | 2.94 | 896 | 2.68 | ..... | ..... | ..... | ..... | ..... | ..... | 350 | 2.47 | 15,347 | 3.03 |
| Prince Rupert (I.) | 49 | 4.37 | 65 | 3.36 | 10,436 | 2.95 | 1,196 | 2.81 | 1,354 | 2.86 | ..... | ..... | ..... | ..... | ..... | ..... | 4,267 | 2.61 | 17,367 | 2.86 |
| Prince George | 15,946 | 3.01 | 21 | 2.12 | 49,374 | 2.79 | ..... | ..... | 968 | 2.05 | ..... | ..... | ..... | ..... | ..... | ..... | 9,899 | 2.66 | 76,208 | 2.81 |
| Kamloops | 68,504 | 3.81 | 324 | 2.96 | 8,636 | 4.09 | 593 | 3.10 | 635 | 3.39 | 1,341 | 13.25 | 3,211 | 3.89 | 2,713 | $3.30 | 634 | 2.32 | 86,591 | 3.95 |
| Nelson | 10,549 | 3.13 | 1,283 | 2.52 | 7,864 | 4.27 | 1,239 | 2.74 | 484 | 3.31 | 931 | 13.00 | 849 | 3.95 | 8,874 | 3.37 | 813 | 2.80 | 32,886 | 3.73 |
| Totals | 145,227 | $4.81 | 37,163 | $3.05 | 81,792 | $3.11 | 43,863 | $3.07 | 15,053 | $2.71 | 2,962 | $11.34 | 4,070 | $3.91 | 11,587 | $3.36 | 18,318 | $2.54 | 360,035 | $3.82 |

(23)

## TIMBER CUT FROM TIMBER SALES DURING 1955

| Forest District | Board-feet | Lineal Feet | Cords | Ties | Posts | Christmas Trees | Hop-poles | Stakes and Sticks | Car-stakes | Blasting-sticks | Anchor-blocks | Shingle-shakes | Shake Blanks | Cubic Feet |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vancouver | 305,603,933 | 839,601 | 2,610 | 1,496 | 10,962 | ..... | ..... | ..... | ..... | ..... | ..... | 5,966,313 | 1,196,178 | 131,634,861 |
| Prince Rupert | 40,962,540 | 1,643,799 | 1,786 | 65,742 | ..... | ..... | ..... | ..... | 1,784 | ..... | ..... | ..... | ..... | 32,714,645 |
| Prince George | 95,974,607 | 830,337 | 4,077 | 87,667 | 102,541 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 76,208,407 |
| Kamloops | 171,288,654 | 4,619,529 | 9,133 | 1,204 | 189,695 | 647 | ..... | ..... | ..... | 45,000 | ..... | ..... | ..... | 86,598,857 |
| Nelson | 94,145,598 | 2,712,935 | 2,233 | 2,639 | 409,615 | 313,173 | ..... | ..... | 2,187 | ..... | 610 | ..... | ..... | 32,889,478 |
| Totals, 1955 | 707,975,332 | 10,646,201 | 19,839 | 158,748 | 712,813 | 313,820 | ..... | ..... | 3,971 | 45,000 | 610 | 5,966,313 | 1,196,178 | 360,046,248 |
| Totals, 1954 | 1,072,985,534 | 9,249,681 | 15,214 | 241,579 | 773,939 | 234,277 | 42,632 | 1,225,534 | 1,204 | 15,000 | 107 | 4,030,698 | 1,262,058 | 208,475,224 |
| Totals, 1953 | 1,593,812,300 | 14,671,961 | 14,961 | 345,513 | 1,209,211 | 208,070 | 254,330 | 908,250 | 3,266 | 12,500 | 340 | 4,753,434 | 783,450 | 74,251,388 |
| Totals, 1952 | 1,853,359,728 | 15,463,269 | 14,861 | 390,598 | 1,168,309 | 177,329 | 42,834 | 1,223,775 | 1,190 | 12,000 | 925 | 3,505,899 | 729,817 | 828,089 |
| Totals, 1951 | 1,761,852,867 | 8,794,979 | 15,682 | 276,688 | 1,018,336 | 1,025 | ..... | 690,200 | 2,550 | ..... | ..... | 3,008,663 | 1,092,737 | 2,440 |
| Totals, 1950 | 1,522,542,421 | 11,393,092 | 24,260 | 175,905 | 1,101,724 | 174,048 | 3,940 | 631,900 | 2,350 | 12,000 | ..... | 4,480,878 | 956,777 | 173,729 |
| Totals, 1949 | 1,310,203,222 | 13,412,816 | 33,148 | 327,215 | 1,357,854 | 197,699 | 8,126 | 756,725 | 8,650 | 77,000 | ..... | 2,061,390 | 470,162 | 17,121 |
| Totals, 1948 | 1,355,986,827 | 13,329,783 | 42,102 | 357,618 | 1,403,700 | 157,944 | 4,072 | 1,031,925 | 2,975 | ..... | ..... | 4,585,000 | 286,750 | ..... |
| Totals, 1947 | 1,263,834,114 | 24,205,192 | 42,463 | 391,343 | 2,140,769 | 408,239 | 21,336 | ..... | 3,252 | 75 | ..... | ..... | ..... | ..... |
| Totals, 1946 | 792,163,118 | 35,854,520 | 56,123 | 311,596 | 1,696,068 | 224,712 | 63,974 | ..... | 15,218 | 75,675 | 100 | ..... | ..... | ..... |
| Ten-year average, 1946-55 | 1,323,471,546 | 15,702,149 | 27,865 | 297,680 | 1,258,272 | 209,716 | 44,124 | 646,831 | 4,463 | 24,925 | 208 | 3,239,228 | 677,793 | 64,379,424 |

(24)

## SAW AND SHINGLE MILLS OF THE PROVINCE, 1955

| Forest District | Operating | | | | Shut Down | | | |
|---|---|---|---|---|---|---|---|---|
| | Sawmills | | Shingle-mills | | Sawmills | | Shingle-mills | |
| | Number | Estimated Eight-hour Daily Capacity, M B.F. | Number | Estimated Eight-hour Daily Capacity, M B.F.[1] | Number | Estimated Eight-hour Daily Capacity, M B.F. | Number | Estimated Eight-hour Daily Capacity, M B.F.[1] |
| Vancouver | 359 | 9,679 | 67 | 1,734 | 100 | 480 | ..... | ..... |
| Prince Rupert | 323 | 3,009 | ..... | ..... | 46 | 317 | ..... | ..... |
| Prince George | 730 | 6,060 | ..... | ..... | 92 | 459 | ..... | ..... |
| Kamloops | 735 | 5,766 | 1 | 5 | 81 | 540 | ..... | ..... |
| Nelson | 342 | 3,502 | 4 | 65 | 85 | 489 | 3 | 19 |
| Totals, 1955 | 2,489 | 28,016 | 72 | 1,804 | 404 | 2,285 | 3 | 19 |
| Totals, 1954 | 2,346 | 25,602 | 57 | 1,108 | 367 | 2,281 | 13 | 22 |
| Totals, 1953 | 2,413 | 23,300 | 59 | 1,121 | 286 | 2,186 | 12 | 47 |
| Totals, 1952 | 2,223 | 23,433 | 59 | 1,173 | 332 | 2,092 | 24 | 117 |
| Totals, 1951 | 2,100 | 21,748 | 60 | 1,169 | 294 | 1,474 | 16 | 78 |
| Totals, 1950 | 1,826 | 19,143 | 65 | 1,234 | 234 | 1,462 | 11 | 25 |
| Totals, 1949 | 1,671 | 19,082 | 61 | 1,101 | 314 | 2,373 | 17 | 73 |
| Totals, 1948 | 1,671 | 18,570 | 68 | 1,209 | 179 | 840 | 11 | 51 |
| Totals, 1947 | 1,634 | 17,546 | 73 | 1,230 | 143 | 754 | 6 | 14 |
| Totals, 1946 | 1,228 | 15,256 | 59 | 1,238 | 115 | 741 | 8 | 24 |
| Ten-year average, 1946–55 | 1,960 | 21,170 | 63 | 1,239 | 267 | 1,649 | 12 | 47 |

[1] Capacity of shingle-mills formerly shown in M shingles now shown in M B.F.

(25)

## EXPORT OF LOGS (IN F.B.M.), 1955

| Species | Grade No. 1 | Grade No. 2 | Grade No. 3 | Ungraded | Fuel-logs | Total |
|---|---|---|---|---|---|---|
| Fir | 3,380 | 1,571,445 | 4,123,903 | ..... | 3,702,522 | 9,401,250 |
| Cedar | 538,113 | 2,833,424 | 11,630,435 | ..... | 1,306 | 15,003,278 |
| Spruce | 946 | 30,936 | 90,682 | ..... | 72,932 | 195,496 |
| Hemlock | 321,366 | 2,862,418 | 41,155,201 | ..... | 962,261 | 45,301,246 |
| Balsam | ..... | ..... | ..... | 16,974,165 | 7,791 | 16,981,956 |
| White pine | 23,881 | 20,754 | 17,344 | ..... | 7,768 | 69,747 |
| Cypress | 17,129 | 71,528 | 1,338,755 | ..... | 216 | 1,427,628 |
| Hardwoods | 1,326 | 3,444 | 55,541 | ..... | ..... | 60,311 |
| Cottonwood | ..... | 75,000 | 445,098 | ..... | ..... | 520,098 |
| Yellow pine | ..... | ..... | 5,151 | ..... | ..... | 5,151 |
| Larch | ..... | ..... | 1,367 | ..... | ..... | 1,367 |
| Totals, 1955 | 906,141 | 7,468,949 | 58,863,477 | 16,974,165 | 4,754,796 | 88,967,528[1] |
| Totals, 1954 | 3,948,345 | 19,595,544 | 90,691,771 | 17,465,267 | 9,274,995 | 140,975,922 |
| Totals, 1953 | 5,341,576 | 15,853,076 | 74,187,464 | 18,974,550 | 5,788,905 | 120,145,571 |
| Totals, 1952 | 4,732,890 | 15,944,292 | 84,757,110 | 18,400,266 | 1,161,660 | 124,996,218 |
| Totals, 1951 | 5,901,140 | 12,229,159 | 51,669,605 | 10,202,844 | 2,224,693 | 82,257,441 |
| Totals, 1950 | 8,659,552 | 21,625,295 | 88,031,088 | 19,210,615 | ..... | 137,526,550 |
| Totals, 1949 | 6,392,228 | 21,382,979 | 103,550,707 | 14,228,041 | ..... | 145,553,955 |
| Totals, 1948 | 9,380,092 | 31,127,805 | 106,739,296 | 16,367,096 | ..... | 163,614,289 |
| Totals, 1947 | 7,156,095 | 21,100,803 | 52,368,152 | 7,552,386 | ..... | 88,177,436 |
| Totals, 1946 | 6,843,046 | 17,485,065 | 28,308,163 | 33,898,926 | ..... | 86,535,200 |
| Ten-year average, 1946–55 | 5,926,111 | 18,381,297 | 73,916,683 | 17,327,416 | 4,641,010[2] | 117,875,011 |

[1] Of this total, 73,843,819 f.b.m. were exported from Crown-granted lands carrying the export privilege; 15,123,709 f.b.m. were exported under permit from other areas.

[2] Five-year average.

(26) SHIPMENTS OF POLES, PILING, MINE-PROPS, FENCE-POSTS, RAILWAY-TIES, ETC., 1955

| Forest District and Product | | Quantity Exported | Approximate Value, F.O.B. | Where Marketed | | |
|---|---|---|---|---|---|---|
| | | | | United States | Canada | Other Countries |
| Vancouver— | | | | | | |
| Poles | lin. ft. | 3,787,038 | $1,675,227.75 | 2,972,162 | 679,317 | 131,559 |
| Piling | ,, | 411,842 | 172,094.76 | 27,827 | 359,519 | 24,496 |
| Pulpwood | cords | 24 | 480.00 | 24 | ..... | ..... |
| Posts | pieces | 24,033 | 6,729.24 | 9,929 | 14,104 | ..... |
| Shakes | ,, | 16,370,151 | 2,455,522.65 | 14,994,646 | ..... | 1,375,505 |
| Blanks | ,, | 15,133 | 9,836.45 | 15,133 | ..... | ..... |
| Christmas trees | ,, | 134,152 | 167,690.00 | 134,152 | ..... | ..... |
| Maple burls | cu. ft. | 1,892 | 4,730.00 | 1,892 | ..... | ..... |
| Prince Rupert— | | | | | | |
| Poles | lin. ft. | 1,940,925 | 679,323.75 | 1,552,750 | 388,175 | ..... |
| Railway-ties | pieces | 76,502 | 113,987.98 | ..... | 76,502 | ..... |
| Fence-posts | ,, | 4,792 | 2,396.00 | ..... | 4,792 | ..... |
| Prince George— | | | | | | |
| Poles | lin. ft. | 153,775 | 40,331.75 | 61,345 | 92,430 | ..... |
| Railway-ties | pieces | 56,680 | 90,688.00 | ..... | 56,680 | ..... |
| Fence-posts | ,, | 89,290 | 13,393.50 | 2,817 | 86,473 | ..... |
| Kamloops— | | | | | | |
| Poles and piling | lin. ft. | 5,881,190 | 918,921.90 | 3,125,840 | 2,755,350 | ..... |
| Fence-posts | cords | 3,362 | 84,050.00 | ..... | 3,362 | ..... |
| Christmas trees | pieces | 535,028 | 120,381.30 | 499,159 | 35,869 | ..... |
| Nelson— | | | | | | |
| Poles and piling | lin. ft. | 5,593,046 | 1,374,401.00 | 4,456,158 | 1,136,888 | ..... |
| Orchard-props | ,, | 670,000 | 10,050.00 | 670,000 | ..... | ..... |
| Corral-rails | ,, | 70,565 | 847.00 | ..... | 70,565 | ..... |
| Mine-timbers | ,, | 368,177 | 22,091.00 | ..... | 368,177 | ..... |
| Mine-props | cords | 225 | 2,745.00 | ..... | 225 | ..... |
| Cordwood | ,, | 31 | 442.00 | 31 | ..... | ..... |
| Fence-posts | ,, | 5,523 | 176,736.00 | 1,526 | 3,997 | ..... |
| Hewn ties | pieces | 9,577 | 17,239.00 | ..... | 9,577 | ..... |
| Hop-poles | ,, | 2,097 | 7,340.00 | ..... | 2,097 | ..... |
| Anchor-blocks | ,, | 360 | 270.00 | ..... | 360 | ..... |
| Christmas trees | ,, | 1,453,592 | 610,509.00 | 1,362,262 | 91,330 | ..... |
| Total value, 1955 | | ..... | $8,778,455.03 | ..... | ..... | ..... |
| Total value, 1954 | | ..... | $6,607,651.56 | ..... | ..... | ..... |

(27) SUMMARY FOR PROVINCE, 1955

| Product | | Volume | Value | Per Cent of Total Value |
|---|---|---|---|---|
| Poles and piling | lin. ft. | 17,767,816 | $4,860,300.91 | 55.3662 |
| Mine-timbers | ,, | 368,177 | 22,091.00 | 0.2516 |
| Orchard-props | ,, | 670,000 | 10,050.00 | 0.1145 |
| Corral-rails | ,, | 70,565 | 847.00 | 0.0096 |
| Pulpwood | cords | 24 | 480.00 | 0.0055 |
| Mine-props | ,, | 225 | 2,745.00 | 0.0313 |
| Cordwood | ,, | 31 | 442.00 | 0.0050 |
| Fence-posts | ,, | 8,885 | 260,786.00 | 2.9708 |
| Fence-posts | pieces | 118,115 | 22,518.74 | 0.2565 |
| Shakes | ,, | 16,370,151 | 2,455,522.65 | 27.9721 |
| Shake blanks | ,, | 15,133 | 9,836.45 | 0.1121 |
| Hewn ties | ,, | 142,759 | 221,914.98 | 2.5280 |
| Christmas trees | ,, | 2,122,772 | 898,580.30 | 10.2362 |
| Hop-poles | ,, | 2,097 | 7,340.00 | 0.0836 |
| Anchor-blocks | ,, | 360 | 270.00 | 0.0031 |
| Maple burls | cu. ft. | 1,892 | 4,730.00 | 0.0539 |
| Total value | | ..... | $8,778,455.03 | 100.0000 |

(28)

## TIMBER MARKS ISSUED

| | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | Ten-year Average, 1946–55 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Old Crown grants | 631 | 738 | 791 | 548 | 549 | 1,062 | 696 | 381 | 528 | 609 | 653 |
| Crown grants, 1887–1906 | 200 | 191 | 156 | 128 | 169 | 269 | 201 | 134 | 175 | 218 | 184 |
| Crown grants, 1906–1914 | 176 | 176 | 150 | 97 | 165 | 218 | 204 | 136 | 160 | 171 | 165 |
| Section 55, "Forest Act" | 473 | 489 | 439 | 352 | 505 | 714 | 538 | 409 | 485 | 653 | 506 |
| Stumpage reservations | 70 | 75 | 82 | 60 | 69 | 108 | 62 | 95 | 69 | 95 | 78 |
| Pre-emptions under sections 28 and 29, "Land Act" | 3 | 8 | 5 | ..... | 5 | 3 | 8 | 10 | 1 | 2 | 4 |
| Timber berths | 8 | 9 | 4 | 7 | 8 | 6 | 7 | 3 | 1 | 10 | 6 |
| Indian reserves | 15 | 18 | 20 | 18 | 32 | 41 | 13 | 24 | 30 | 31 | 24 |
| Timber sales | 2,637 | 2,469 | 2,612 | 2,525 | 2,591 | 2,962 | 2,594 | 2,881 | 2,786 | 3,130 | 2,719 |
| Hand-loggers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Special marks and rights-of-way | 35 | 32 | 40 | 26 | 33 | 73 | 98 | 63 | 44 | 43 | 49 |
| Pulp leases | ..... | ..... | ..... | 1 | 4 | ..... | 6 | 3 | 1 | 6 | 2 |
| Pulp licences | ..... | 1 | 2 | 1 | 4 | 2 | 1 | ..... | ..... | ..... | 1 |
| Totals | 4,248 | 4,206 | 4,301 | 3,763 | 4,134 | 5,458 | 4,428 | 4,139 | 4,280 | 4,968 | 4,392 |
| Transfers and changes of marks | 486 | 655 | 745 | 550 | 752 | 1,086 | 983 | 744 | 780 | 867 | 765 |

(29)

## FOREST SERVICE DRAUGHTING OFFICE, 1955

| Month | Number of Drawings Prepared or Tracings Made | | | | | Number of Blue-prints or Ditto-prints Made from Draughting Office Drawings | | |
|---|---|---|---|---|---|---|---|---|
| | Timber Sales | Timber Marks | Examination Sketches | Miscellaneous Matters | Total | Blue-prints | Ditto-prints | Total |
| January | 32 | 324 | ..... | 15 | 371 | 624 | 1,280 | 1,904 |
| February | 28 | 215 | ..... | 169 | 412 | 722 | 1,120 | 1,842 |
| March | 27 | 184 | ..... | 132 | 343 | 557 | 1,170 | 1,727 |
| April | 25 | 127 | ..... | 173 | 325 | 664 | 1,000 | 1,664 |
| May | 22 | 99 | ..... | 120 | 241 | 675 | 880 | 1,555 |
| June | 28 | 72 | ..... | 140 | 240 | 524 | 432 | 956 |
| July | 32 | 152 | ..... | 134 | 318 | 953 | 1,280 | 2,233 |
| August | 38 | 210 | ..... | 120 | 368 | 710 | 1,520 | 2,230 |
| September | 38 | 246 | ..... | 52 | 336 | 647 | 1,710 | 2,357 |
| October | 37 | 314 | ..... | 58 | 409 | 941 | 1,665 | 2,606 |
| November | 36 | 229 | ..... | 64 | 329 | 951 | 1,725 | 2,676 |
| December | 38 | 137 | ..... | 67 | 242 | 726 | 1,756 | 2,482 |
| Totals, 1955 | 381 | 2,309 | ..... | 1,244 | 3,934 | 8,694 | 15,538 | 24,232 |
| Totals, 1954 | 274 | 1,983 | ..... | 574 | 2,831 | 6,275 | 9,920 | 16,195 |
| Totals, 1953 | 270 | 1,823 | 382 | 350 | 2,825 | 6,976 | 6,989 | 13,965 |
| Totals, 1952 | 491 | 2,827 | 1,387 | 1,068 | 5,773 | 18,924 | 10,320 | 29,244 |
| Totals, 1951 | 1,008 | 3,196 | 1,336 | 1,891 | 7,431 | 17,540 | 19,360 | 36,900 |
| Totals, 1950 | 828 | 2,050 | 1,108 | 805 | 4,791 | 13,759 | 16,599 | 30,358 |
| Totals, 1949 | 514 | 1,547 | 988 | 353 | 3,402 | 10,184 | 10,344 | 20,528 |
| Totals, 1948 | 681 | 2,300 | 1,247 | 241 | 4,469 | 13,625 | 12,959 | 26,584 |
| Totals, 1947 | 500 | 2,223 | 1,238 | 290 | 4,251 | 12,026 | 9,844 | 21,870 |
| Totals, 1946 | 604 | 1,931 | 1,028 | 525 | 4,088 | 9,113 | 7,300 | 16,413 |
| Ten-year average, 1946–55 | 555 | 2,219 | ..... | 734 | 4,379 | 11,712 | 11,917 | 23,629 |

(30) CROWN-GRANTED TIMBER LANDS PAYING FOREST PROTECTION TAX AS COMPILED FROM TAXATION RECORDS

| Year | Acreage Assessed as Timber Land | Coast | | Interior | |
|---|---|---|---|---|---|
| | | Logged | Timber | Logged | Timber |
| | | Acres | Acres | Acres | Acres |
| 1955 | 783,517 | 221,934 | 429,350 | 69,822 | 62,411 |
| 1954 | 801,983 | 236,350 | 429,037 | 69,416 | 67,180 |
| 1953 | 757,516 | 201,264 | 444,014 | 27,692 | 84,546 |
| 1952 | 718,284 | 203,249 | 433,496 | 29,418 | 52,121 |
| 1951 | 682,746 | 191,435 | 410,037 | 31,333 | 49,941 |
| 1950 | 631,967 | 207,308 | 378,985 | 8,635 | 37,039 |
| 1949 | 597,790 | 172,024 | 340,200 | 30,625 | 54,941 |
| 1948 | 571,439 | 158,120 | 326,738 | 25,485 | 61,096 |
| 1947 | 596,900 | 153,072 | 354,207 | 26,591 | 63,030 |
| 1946 | 601,148 | 146,331 | 364,556 | 23,125 | 67,136 |
| 1945 | 591,082 | 142,504 | 357,037 | 21,536 | 70,005 |
| 1944 | 571,308 | 134,194 | 345,378 | 20,816 | 70,920 |
| 1943 | 543,044 | 125,313 | 325,996 | 20,205 | 71,529 |
| 1942 | 527,995 | 112,834 | 322,306 | 20,072 | 72,781 |
| 1941 | 543,633 | 105,541 | 335,468 | 26,016 | 76,608 |
| 1940 | 549,250 | 103,486 | 338,419 | 24,852 | 82,493 |
| 1939 | 719,111 | 89,209 | 338,794 | 153,032 | 138,075 |
| 1938 | 756,328 | 106,833 | 344,858 | 157,508 | 147,129 |
| 1937 | 766,413 | 96,598 | 363,693 | 153,566 | 152,556 |

(31) ACREAGE OF TIMBER LAND BY ASSESSMENT DISTRICTS

| District | Acres | District | Acres |
|---|---|---|---|
| Alberni | 92,268 | Omineca | 160 |
| Comox | 157,473 | Prince George | 960 |
| Cowichan | 149,172 | Prince Rupert | 34,988 |
| Fort Steele | 6,400 | Princeton | 555 |
| Kettle River | 853 | Revelstoke | 33,190 |
| Lillooet | 2,554 | Slocan | 38,227 |
| Nanaimo | 159,046 | Vancouver | 1,828 |
| Nelson | 49,334 | Victoria | 56,509 |

(32) ACREAGE OF CROWN-GRANTED TIMBER LANDS PAYING FOREST PROTECTION TAX AS COMPILED FROM TAXATION RECORDS

| Year | Area (Acres) | Year | Area (Acres) |
|---|---|---|---|
| 1955 | 783,517 | 1937 | 743,109 |
| 1954 | 801,983 | 1936 | 515,924 |
| 1953 | 757,516 | 1935 | 535,918 |
| 1952 | 718,284 | 1934 | 557,481 |
| 1951 | 682,746 | 1933 | 567,731 |
| 1950 | 631,967 | 1932 | 552,007 |
| 1949 | 597,790 | 1931 | 602,086 |
| 1948 | 571,439 | 1930 | 629,156 |
| 1947 | 596,900 | 1929 | 644,011 |
| 1946 | 601,148 | 1928 | 671,131 |
| 1945 | 591,082 | 1927 | 690,438 |
| 1944 | 571,308 | 1926 | 688,372 |
| 1943 | 543,044 | 1925 | 654,016 |
| 1942 | 527,995 | 1924 | 654,668 |
| 1941 | 543,632 | 1923 | 883,344 |
| 1940 | 549,250 | 1922 | 887,980 |
| 1939 | 719,112 | 1921 | 845,111 |
| 1938 | 754,348 | | |

(33)

## FOREST REVENUE

| | Twelve Months to Dec. 31, 1951 | Twelve Months to Dec. 31, 1952 | Twelve Months to Dec. 31, 1953 | Twelve Months to Dec. 31, 1954 | Twelve Months to Dec. 31, 1955 | Ten-year Average, 1946–55 |
|---|---|---|---|---|---|---|
| Timber-licence rentals | $381,865.23 | $366,163.74 | $364,497.01 | $372,401.39 | $361,975.14 | $378,555.89 |
| Timber-licence transfer fees | 5,090.00 | 2,520.00 | 4,670.00 | 1,970.00 | 2,120.16 | 2,919.02 |
| Timber-licence penalty fees | 2,391.10 | 1,723.07 | 1,646.74 | 4,112.38 | 1,204.89 | 3,255.13 |
| Hand-loggers' licence fees | 100.00 | 100.00 | 50.00 | ---------- | ---------- | 85.00 |
| Timber-lease rentals | 48,906.74 | 49,584.88 | 48,974.49 | 72,117.02 | 72,165.65 | 54,875.93 |
| Timber-lease penalty fees | 50.91 | 129.09 | 5.96 | 48.56 | 73.18 | 56.07 |
| Timber-sale rentals | 135,156.26 | 171,823.98 | 187,991.05 | 235,597.98 | 313,865.18 | 142,332.31 |
| Timber-sale stumpage | 9,124,411.49 | 14,240,255.46 | 15,405,085.68 | 14,702,704.22 | 19,538,202.71 | 8,959,697.03 |
| Timber-sale cruising | 86,625.98 | 83,404.65 | 108,881.28 | 151,679.94 | 221,334.48 | 80,662.51 |
| Timber-sale advertising | 23,460.90 | 24,739.87 | 26,080.28 | 28,224.58 | 39,249.17 | 17,140.97 |
| Timber royalty and tax | 2,281,369.04 | 2,190,410.88 | 2,338,624.30 | 2,260,406.43 | 2,368,344.78 | 2,411,013.25 |
| Scaling expenses (not Scaling Fund) | 5,397.68 | 9,415.03 | 9,046.93 | 9,190.37 | 10,532.29 | 5,811.20 |
| Exchange | 113.50 | 118.49 | 68.74 | 51.77 | 51.99 | 77.77 |
| Seizure expenses | 620.90 | 1,921.88 | 1,249.14 | 1,501.64 | 740.22 | 1,112.08 |
| General miscellaneous | 39,274.95 | 55,541.01 | 64,024.29 | 79,248.71 | 102,231.43 | 43,965.55 |
| Timber-berth rentals and bonus | 20,409.61 | 20,166.61 | 20,297.86 | 19,851.56 | 19,592.47 | 20,239.06 |
| Interest on timber-berth rentals and bonus | 5.88 | ---------- | 33.19 | 10.92 | 13.05 | 15.43 |
| Transfer fees on timber berths | 220.82 | 189.76 | 27.33 | 102.74 | 89.99 | 108.62 |
| Grazing fees and interest | 106,181.05 | 110,731.32 | 102,983.97 | 81,589.75 | 75,250.32 | 66,990.65 |
| Totals | $12,261,652.04 | $17,328,939.72 | $18,684,238.24 | $18,020,809.96 | $23,127,037.10 | $12,188,913.47 |

(34)

## AMOUNTS CHARGED AGAINST LOGGING OPERATIONS, 1955

| District | Royalty | Tax | Trespass Stumpage | Seizure Expenses | Government Scaling Expenses | Scaling Fund | | Stumpage | Rentals, Cruising, Advertising, Transfer Fees | Forest Reserve Account Timber | Silviculture Fund | Forest Development Fund | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Scaling Expenses | Scaling Fees | | | | | | |
| Vancouver | $1,697,752.36 | $9,809.59 | | $479.00 | $2,914.42 | $171,220.45 | $421,811.85 | $8,928,017.16 | $208,963.49 | | | | $11,440,968.32 |
| Prince Rupert | 326,039.35 | 747.21 | | 10.00 | 1,312.52 | 4,930.72 | 30,359.47 | 1,590,912.93 | 91,802.22 | | $66,895.98 | | 2,113,010.40 |
| Prince George | 60,174.22 | | | 30.00 | 1,537.75 | | | 2,897,533.44 | 120,759.82 | | 256,504.36 | $42,543.39 | 3,379,082.98 |
| Kamloops | 131,156.47 | 884.61 | | 214.88 | 2,918.65 | | | 4,500,723.43 | 245,414.22 | | 398,647.44 | 29,318.17 | 5,309,277.87 |
| Nelson | 125,054.47 | 1,016.18 | | 32.00 | 1,575.51 | | | 2,033,223.77 | 150,738.02 | | 169,028.87 | | 2,480,668.82 |
| Totals, 1955 | $2,340,176.87 | $12,457.59 | | $765.88 | $10,258.85 | $176,151.17 | $452,171.32 | $19,950,410.73 | $817,677.77 | | $891,076.65 | $71,861.56 | $24,723,018.39 |
| Totals, 1954 | $2,207,163.57 | $27,145.42 | | $1,393.07 | $9,291.03 | $144,589.21 | $556,779.39 | $14,596,633.95 | $586,983.41 | | $1,163,596.44 | $32,785.07 | $19,326,360.56 |
| Totals, 1953 | $2,230,773.33 | $30,410.06 | | $1,134.99 | $8,578.30 | $126,613.32 | $552,705.46 | $14,961,152.26 | $453,745.79 | | $1,066,676.88 | $22,501.38 | $19,454,291.77 |
| Totals, 1952 | $2,059,831.35 | $37,180.07 | | $2,075.40 | $10,043.93 | $119,689.20 | $555,735.85 | $14,950,895.47 | $421,924.48 | $12,008.53 | $153,752.26 | $8,871.32 | $18,332,007.86 |
| Totals, 1951 | $2,255,986.89 | $13,361.79 | | $720.21 | $4,889.37 | $103,302.87 | $444,068.21 | $10,151,067.98 | $358,394.68 | $33,986.75 | $93,127.15 | | $13,458,905.90 |
| Totals, 1950 | $2,442,763.64 | $23,764.59 | | $733.18 | $4,871.58 | $100,555.30 | $376,945.27 | $6,261,542.18 | $253,486.04 | | $694,948.82 | | $10,163,125.26 |
| Totals, 1949 | $2,577,770.96 | $47,469.51 | | $1,128.73 | $4,943.46 | $94,588.60 | $295,075.36 | $4,946,698.82 | $210,112.24 | | $478,602.29 | | $8,655,568.74 |
| Totals, 1948 | $3,137,060.09 | $36,807.32 | | $611.36 | $3,437.13 | $78,846.92 | $305,961.62 | $4,476,410.64 | $246,342.89 | | $314,660.90 | | $8,602,220.83 |
| Totals, 1947 | $2,984,978.60 | $20,944.06 | $123,345.94 | $1,227.84 | $2,717.46 | $63,361.93 | $308,652.88 | $3,331,244.16 | $163,659.81 | | | | $7,000,132.68 |
| Totals, 1946 | $2,162,183.55 | $15,829.93 | $51,050.81 | $1,815.77 | $1,179.85 | $43,796.85 | $167,064.09 | $1,855,151.90 | $99,687.89 | | | | $4,397,760.64 |
| Ten-year average, 1946–55 | $2,439,868.89 | $26,537.03 | | $1,160.64 | $6,021.08 | $105,148.59 | $401,515.95 | $9,548,120.81 | $361,201.50 | | | | $13,411,339.26 |

(35)

## AMOUNTS CHARGED AGAINST LOGGING OPERATIONS, FISCAL YEAR 1954–55

| District | Royalty | Tax | Trespass Stumpage | Seizure Expenses | Government Scale Expenses | Scaling Fund | | Stumpage | Rentals, Cruising, Advertising, Transfer Fees | Silviculture Fund | Forest Reserve Account | Forest Development Fund | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Expenses | Fees | | | | | | |
| Vancouver | $1,776,395.29 | $27,162.88 | | $238.35 | $2,379.36 | $143,627.26 | $508,674.98 | $7,559,292.04 | $160,481.27 | | | | $10,178,251.43 |
| Prince Rupert | 245,520.18 | 172.47 | | 12.00 | 1,344.31 | 7,586.60 | 42,203.40 | 1,395,460.65 | 57,961.49 | $90,617.87 | | | 1,840,878.97 |
| Prince George | 61,462.11 | | | 82.00 | 981.25 | | | 2,165,584.27 | 92,136.64 | 322,100.54 | | $22,326.69 | 2,664,673.50 |
| Kamloops | 109,875.94 | 1,144.80 | | 288.00 | 3,313.69 | | | 3,065,502.77 | 201,476.69 | 424,025.62 | | 24,045.06 | 3,829,672.57 |
| Nelson | 93,921.64 | 1,080.80 | | 119.90 | 2,447.00 | | | 1,588,477.73 | 97,938.32 | 182,165.36 | | | 1,966,150.75 |
| Totals, 1954–55 | $2,287,175.16 | $29,560.95 | | $740.25 | $10,465.61 | $151,213.86 | $550,878.38 | $15,774,317.46 | $609,994.41 | $1,018,909.39 | | $46,371.75 | $20,479,627.22 |
| Totals, 1953–54 | $2,129,798.35 | $22,187.23 | | $1,620.06 | $7,862.82 | $123,420.80 | $523,584.39 | $13,672,473.41 | $408,143.52 | $1,077,446.47 | | | $17,966,537.05 |
| Totals, 1952–53 | $2,051,347.46 | $43,148.91 | | $2,042.15 | $10,734.56 | $118,794.61 | $525,391.14 | $15,175,379.22 | $289,757.89 | $381,467.62 | $8,991.41 | | $18,607,054.97 |
| Totals, 1951–52 | $2,299,053.99 | $17,168.38 | | $856.75 | $5,179.84 | $110,524.80 | $527,790.82 | $11,596,883.33 | $261,783.40 | [1] $6,025.17 | $37,003.87 | | $14,850,220.01 |
| Totals, 1950–51 | $2,548,879.89 | $20,313.87 | | $756.14 | $4,872.85 | $108,594.65 | $399,834.04 | $7,021,098.74 | $265,649.10 | $663,475.85 | | | $11,033,475.13 |
| Totals, 1949–50 | $2,495,843.74 | $47,791.08 | | $932.34 | $5,351.54 | $92,195.04 | $288,118.35 | $4,950,699.50 | $209,680.23 | $482,808.18 | | | $8,571,244.98 |
| Totals, 1948–49 | $3,031,177.07 | $37,722.35 | | $724.75 | $3,485.69 | $76,559.44 | $286,340.73 | $4,564,284.78 | $262,403.83 | $381,505.04 | | | $8,642,471.12 |
| Totals, 1947–48 | $2,932,284.42 | $22,450.07 | $92,695.98 | $1,260.50 | $2,695.01 | $70,073.76 | $320,438.04 | $3,123,738.93 | $196,341.75 | $53,260.31 | | | $6,819,025.78 |
| Totals, 1946–47 | $2,509,322.95 | $18,176.08 | $85,269.80 | $1,425.15 | $2,265.58 | $44,310.81 | $190,607.89 | $1,999,259.67 | $142,390.02 | | | | $4,993,027.95 |
| Totals, 1945–46 | $2,029,589.74 | $11,512.06 | $56,860.04 | $1,082.57 | $1,058.56 | $49,358.67 | $123,522.07 | $1,687,500.72 | $80,116.11 | | | | $4,040,600.54 |
| Ten-year average, 1945–46 to 1954–55 | $2,431,447.27 | $27,003.10 | | $1,144.06 | $5,397.20 | $94,504.65 | $373,650.58 | $7,956,563.57 | $272,526.02 | | | | $11,595,691.29 |

[1] Credit.

(36A)

## FOREST REVENUE, FISCAL YEAR 1954–55

| | | Ten-year Average |
|---|---|---|
| Timber-licence renewal fees | $373,071.39 | $385,276.36 |
| Timber-licence transfer fees | 1,300.00 | 2,826.35 |
| Timber-licence penalty fees | 4,138.31 | 4,822.14 |
| Hand-logging licence fees | | 154.05 |
| Timber-lease rentals | 72,671.28 | 52,186.09 |
| Timber-lease penalty fees and interest | 56.82 | 55.90 |
| Timber-sale rentals | 247,380.27 | 112,900.36 |
| Timber-sale stumpage | 15,705,042.71 | 6,481,669.10 |
| Timber-sale cruising | 163,571.02 | 56,914.38 |
| Timber-sale advertising | 29,952.90 | 12,547.63 |
| Timber royalty | 2,305,576.38 | 2,412,372.57 |
| Timber tax | 28,816.38 | 23,716.31 |
| Scaling expenses (not Scaling Fund) | 10,192.61 | 2,829.13 |
| Exchange | 43.14 | 81.35 |
| Seizure expenses | 1,086.85 | 964.58 |
| General miscellaneous | 87,698.23 | 33,260.56 |
| Timber-berth rentals, bonus, and fees | 19,851.56 | 18,668.73 |
| Interest on timber-berth rentals | 10.92 | 30.41 |
| Transfer fees on timber berths | 84.74 | 75.29 |
| Grazing fees and interest | 80,289.80 | 53,902.83 |
| | $19,130,835.31 | $9,655,254.12 |
| Taxation from Crown-granted timber lands | 621,527.16 | 418,185.06 |
| Taxation collected under authority of "Esquimalt and Nanaimo Railway Belt Land Tax Act" | 879,822.00[1] | |
| Taxation collected on forest land (section 32A, "Taxation Act") | 513,398.60[2] | |
| Taxation collected on tree-farm land (section 33A, "Taxation Act") | 5,250.14[3] | |
| | $21,150,833.21 | |

[1] Collection of this tax has only been authorized during the last five fiscal years.
[2] Collection of this tax authorized in the 1954–55 fiscal year.
[3] Collection of this tax has only been authorized during the last two fiscal years.

(36B)

## FOREST REVENUE BY FISCAL YEARS

| Fiscal Year | Direct Forest Revenue | Taxation from Crown-granted Lands | Taxation Collected under Secs. 32A and 33A of "Taxation Act" | Taxation Collected under Authority of "E. & N. Railway Belt Land Tax Act" | Total |
|---|---|---|---|---|---|
| 1954–55 | $19,130,835.31 | $621,527.16 | $518,648.74 | $879,822.00 | $21,150,833.21 |
| 1953–54 | 17,578,625.58 | 612,865.29 | ..... | 863,116.21 | 19,054,607.08 |
| 1952–53 | 18,016,025.17 | 588,821.78 | ..... | 418,395.59 | 19,023,242.54 |
| 1951–52 | 13,703,715.41 | 484,475.51 | ..... | 972,156.13 | 15,160,347.05 |
| 1950–51 | 10,089,884.69 | 440,213.07 | ..... | 345,220.16 | 10,875,317.92 |
| 1949–50 | 8,331,497.19 | 445,632.68 | ..... | ..... | 8,777,129,87 |
| 1948–49 | 7,977,676.22 | 453,980.08 | ..... | ..... | 8,431,656.30 |
| 1947–48 | 7,010,038.77 | 253,345.02 | ..... | ..... | 7,263,383.79 |
| 1946–47 | 4,880,232.89 | 237,506.83 | ..... | ..... | 5,117,739.72 |
| 1945–46 | 4,352,179.14 | 244,980.89 | ..... | ..... | 4,597,160.03 |
| 1944–45 | 4,017,653.53 | 213,912.46 | ..... | ..... | 4,231,565.99 |
| 1943–44 | 3,703,703.13 | 203,457.36 | ..... | ..... | 3,907,160.49 |
| 1942–43 | 3,519,892.44 | 206,146.21 | ..... | ..... | 3,726,038.65 |
| 1941–42 | 4,057,437.86 | 211,410.13 | ..... | ..... | 4,268,847.99 |
| 1940–41 | 3,549,931.53 | 224,652.87 | ..... | ..... | 3,774,584.40 |
| 1939–40 | 3,236,731.36 | 267,290.48 | ..... | ..... | 3,504,021.84 |
| 1938–39 | 2,982,702.42 | 241,109.96 | ..... | ..... | 3,223,812.38 |
| 1937–38 | 3,257,525.05 | 269,285.54 | ..... | ..... | 3,526,810.59 |
| 1936–37 | 3,001,054.84 | 299,992.41 | ..... | ..... | 3,301,047.25 |

(37)

## FOREST EXPENDITURE, FISCAL YEAR 1954–55

| Forest District | Salaries | Expenses | Total |
|---|---|---|---|
| Vancouver | $397,923.54 | $134,814.26 | $532,737.80 |
| Prince Rupert | 237,936.38 | 79,799.19 | 317,735.57 |
| Prince George | 251,130.27 | 72,865.81 | 323,996.08 |
| Kamloops | 347,800.83 | 90,142.65 | 437,943.48 |
| Nelson | 319,896.31 | 95,088.22 | 414,984.53 |
| Victoria | 442,042.51 | 349,468.68 | 791,511.19 |
| Totals | $1,996,729.84 | $822,178.81 | $2,818,908.65 |
| Reforestation and forest nursery | | | 409,752.68 |
| Provincial parks | | | 749,921.48 |
| Forest management | | | 151,781.30 |
| Forest research | | | 55,964.08 |
| Public relations | | | 47,672.51 |
| Ranger School | | | 68,683.30 |
| Canadian Forestry Association | | | 6,000.00 |
| Office furniture and equipment | | | 39,593.15 |
| Rentals | | | 60,891.04 |
| Boys' training camp | | | 126,171.88 |
| Engineering services | | | 286,127.26 |
| Forest Protection Fund[1] | | | 2,080,837.10 |
| Forest Reserve Account[1] | | | 995,629.56 |
| Grazing Range Improvement Fund[1] | | | 46,304.25 |
| Forest Development Fund[1] | | | 364,910.47 |
| Grand total | | | $8,309,148.71 |

[1] With the exception of these items, all figures are net expenditures. Items marked are actual gross expenditures and statements of these funds will be found in this Report.

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## SCALING FUND

| | | |
|---|---|---|
| Balance forward, April 1st, 1954 (credit) | | $149,589.01 |
| Collections, fiscal year 1954–55 | | 715,175.90 |
| | | $864,764.91 |
| Expenditures, fiscal year 1954–55 | $743,945.05 | |
| *Less* refunds | 3,402.38 | |
| | | 740,542.67 |
| Balance, March 31st, 1955 (credit) | | $124,222.24 |
| Collection, nine months, April to December, 1955 | | 505,019.29 |
| | | $629,241.53 |
| Expenditures, nine months, April to December, 1955 | | 669,988.05 |
| Balance, December 31st, 1955 (debit) | | $40,746.52 |

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## SILVICULTURE FUND

| | | |
|---|---|---|
| Balance forward, April 1st, 1954 (credit) | | $365,676.11 |
| Collections, fiscal year 1954–55 | | 1,132,854.60 |
| | | $1,498,530.71 |
| Expenditures, fiscal year 1954–55 | $894,457.13 | |
| *Less* refunds | 5,627.05 | |
| | | 888,830.08 |
| Balance, March 31st, 1955 (credit) | | $609,700.63 |
| Collections, nine months to December 31st, 1955 | | 660,601.30 |
| | | $1,270,301.93 |
| Expenditures, nine months to December 31st, 1955 | $944,528.31 | |
| *Less* refunds | 2,028.35 | |
| | | 942,499.96 |
| Balance, December 31st, 1955 (credit) | | $327,801.97 |

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## FOREST RESERVE ACCOUNT

| | | |
|---|---|---|
| Credit balance at March 31st, 1954 | | $774,544.53 |
| *Less* excess of disbursements transferred from Vote 234, during 1954–55 | $534,012.90 | |
| *Less* balance in Fund taken to revenue (Fund abolished by chapter 11, 1954) | 240,531.63 | |
| | | 774,544.53 |
| Balance at March 31st, 1955 | | *Nil* |

(41)

## Grazing Range Improvement Fund

| | |
|---|---|
| Balance, April 1st, 1954 (credit) | $29,642.90 |
| Government contribution (section 14, "Grazing Act") | 46,867.01 |
| Other collections | 196.75 |
| | $76,706.66 |
| Expenditures, April 1st, 1954, to March 31st, 1955 | 46,501.00 |
| Balance, March 31st, 1955 (credit) | $30,205.66 |
| Government contribution (section 14, "Grazing Act") | 40,144.90 |
| Other collections | 48.00 |
| | $70,398.56 |
| Expenditures, April 1st, 1955, to December 31st, 1955 | 26,829.99 |
| Balance, December 31st, 1955 (credit) | $43,568.57 |

(42)

## Forest Development Fund

| | | | |
|---|---|---|---|
| Amounts borrowed under authority of "Forest Development Fund Loan Act, 1948"— | | | |
| Fiscal year 1950–51 | | | $35,000.00 |
| Fiscal year 1951–52 | | | 45,000.00 |
| Fiscal year 1952–53 | | | 185,000.00 |
| Amounts advanced under authority of the Legislature— | | | |
| Fiscal year 1953–54 | | | 345,104.72 |
| Fiscal year 1954–55 | | | 312,207.48 |
| Nine months to December 31st, 1955 | | | 279,022.39 |
| | | | $1,201,334.59 |
| Total gross expenditures— | | | |
| Fiscal year 1950–51 | $7,958.84 | | |
| Fiscal year 1951–52 | 71,986.26 | | |
| Fiscal year 1952–53 | 161,378.25 | | |
| Fiscal year 1953–54 | 365,883.00 | | |
| Fiscal year 1954–55 | 364,910.47 | | |
| Nine months to December 31st, 1955 | 349,780.75 | | |
| | | $1,321,897.57 | |
| *Less* collections (under authority of section 164 (4), "Forest Act") and loan repayments— | | | |
| Fiscal year 1952–53 | $10,582.22 | | |
| Fiscal year 1953–54 | 20,778.28 | | |
| Fiscal year 1954–55 | 52,702.99 | | |
| Nine months to December 31st, 1955 | 70,758.36 | | |
| | | 154,821.85 | |
| | | | 1,167,075.72 |
| Balance, December 31st, 1955 (credit) | | | $34,258.87 |

(43)

## FOREST PROTECTION FUND

| | | |
|---|---|---|
| Balance, April 1st, 1954 (credit) | | $476,456.48 |
| Government contribution | $2,000,000.00 | |
| Collections, tax | 404,672.31 | |
| | | 2,404,672.31 |
| | | $2,881,128.79 |
| Expenditures, 1954–55 | $2,127,624.40 | |
| *Less* refunds | 46,787.30 | |
| | | 2,080,837.10 |
| Balance, March 31st, 1955 (credit) | | $800,291.69[1] |

[1] Fund abolished. Excess of disbursements in Vote 244, 1955–56, to be carried to Fund on March 31st, 1956, and balance remaining at that date to be taken to Consolidated Revenue.

(44) FOREST PROTECTION EXPENDITURE FOR TWELVE MONTHS ENDED MARCH 31ST, 1955, BY THE FOREST SERVICE

| District | Salaries and Expenses | | Tools and Equipment | | Fires | Improvements | Aircraft | Planning and Research | Hazard Reduction | Uniforms | Miscellaneous | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Permanent | Temporary | New | Maintenance and Operation | | | | | | | | |
| Vancouver | $1,996.68 | $201,467.89 | $1,011.59 | $37,728.61 | $7,605.00 | $38,265.88 | $36,613.75 | ..... | ..... | ..... | $3,359.36 | $328,048.76 |
| Prince Rupert | 2,021.94 | 92,799.06 | 1,157.01 | 28,764.43 | 443.00 | 16,256.18 | 30,930.43 | ..... | ..... | ..... | 2,606.18 | 174,978.23 |
| Prince George | 2,107.30 | 102,046.64 | 1,298.07 | 38,316.13 | 10,140.00 | 46,531.33 | 22,196.95 | ..... | ..... | ..... | 2,557.79 | 225,194.21 |
| Kamloops | 1,520.97 | 191,885.68 | 2,156.07 | 42,243.18 | 7,873.00 | 115,230.96 | 55,804.15 | ..... | ..... | ..... | 2,567.51 | 419,281.52 |
| Nelson | 4,462.21 | 202,636.34 | 3,636.06 | 48,969.92 | 11,132.25 | 98,944.23 | 37,265.00 | ..... | ..... | ..... | 3,098.13 | 410,144.14 |
| Victoria | 1,552.10 | 4,432.87 | 381,748.67 | 23,213.41 | 1,463.61 | 86,520.37 | 5,115.00 | $15,257.49 | $35,272.00 | $9,954.59 | 5,447.43 | 569,977.54 |
| Totals | $13,661.20 | $795,268.48 | $391,007.47 | $219,235.68 | $38,656.86 | $401,748.95 | $187,925.28 | $15,257.49 | $35,272.00 | $9,954.59 | $19,636.40 | $2,127,624.40 |

(45) REPORTED APPROXIMATE EXPENDITURE IN FOREST PROTECTION BY OTHER AGENCIES, 1955

| Forest District | Expenditures | | | | |
|---|---|---|---|---|---|
| | Patrols and Fire Prevention | Tools and Equipment | Fires | Improvements | Total |
| Vancouver | $203,963.00 | $200,374.00 | $23,178.00 | $39,881.00 | $467,396.00 |
| Prince Rupert | 30,003.00 | 33,285.00 | 17,970.00 | 7,800.00 | 89,058.00 |
| Prince George | 16,000.00 | 8,720.00 | 2,720.00 | 4,000.00 | 31,440.00 |
| Kamloops | 2,285.00 | 43,360.00 | 9,942.00 | 6,559.00 | 62,146.00 |
| Nelson | 9,050.00 | 42,068.00 | 5,467.00 | 29,700.00 | 86,285.00 |
| Totals | $261,301.00 | $327,807.00 | $59,277.00 | $87,940.00 | $736,325.00 |
| Ten-year average, 1946–55 | $193,482.28 | $285,024.09 | $256,416.85 | $53,478.80 | $788,402.02 |

(46) SUMMARY OF SNAG-FALLING, 1955, VANCOUVER FOREST DISTRICT

| | | | Acres |
|---|---|---|---|
| Total area logged, 1955[1] | | | 84,484 |
| Logged in snag-exempted zone[2] | 2,740 | | |
| Logged in small exempted operations[2] | 1,949 | | |
| | | 4,689 | |
| Assessed for non-compliance, *less* 495.5 acres subsequently felled | | 1,345 | |
| | | | 6,034 |
| Balance logged acres snagged, 1955 | | | 78,450 |

[1] Approximate figure only, compiled prior to end of calendar year.
[2] Exemption granted under subsection (3), section 113, "Forest Act."

(47) SUMMARY OF LOGGING SLASH CREATED, 1955, VANCOUVER FOREST DISTRICT

| | | Acres |
|---|---|---|
| Total area logged, 1955 | | 84,484 |
| Area covered by full hazard reports | 73,308 | |
| Covered by snag reports but exempted from slash-disposal[1] | 2,740 | |
| Covered by acreage reports only (exempted from slash and snag disposal) | 1,949 | |
| | | 77,997 |
| Slash created too late to be dealt with in 1955 | | 6,487 |

[1] Exemption granted under subsection (3), section 113, "Forest Act."

(48) ACREAGE ANALYSIS OF SLASH-DISPOSAL REQUIRED, 1955, VANCOUVER FOREST DISTRICT

| | Acres of Slash | | |
|---|---|---|---|
| | Prior to 1955 | 1955[1] | Total Acres |
| Broadcast burning | 2,856 | 3,795 | 6,651 |
| Spot burning | 15,465 | 16,370 | 31,835 |
| Totals | 18,321 | 20,165 | 38,486 |
| 1955 reports not recommending slash-disposal | | | 34,822 |
| 1955 slash examined for snags but exempt from slash-disposal | | | 1,652 |
| 1955 slash in zone completely exempted | | | 2,740 |
| 1955 slash on very small operations exempted without special examination | | | 297 |
| Total area of slash dealt with, 1955 | | | 77,997 |

[1] Above table does not include the estimated 6,487 acres (*see* Table 47) created too late to be dealt with in 1955.

(49) ANALYSIS OF PROGRESS IN SLASH-DISPOSAL, 1955, VANCOUVER FOREST DISTRICT

| | | | Acres |
|---|---|---|---|
| Total disposal required (*see* Table 48) | | | 38,486 |
| | Acres of Slash | | |
| Type of Disposal | Prior to 1955 | 1955 | Total Acres |
| Spring broadcast-burning | 7.0 | 40.0 | 47 |
| Spring spot-burning[1] | 468.0 | ---------- | 468 |
| Fall broadcast-burning | 1,596.0 | 2,335.0 | 3,931 |
| Fall spot-burning[2] | 10,431.5 | 9,793.5 | 20,225 |
| Total burning completed | 12,502.5 | 12,168.5 | 24,671 |
| Burned by accidental fires | | | 199 |
| Lopping, scattering, land-clearing, etc. | | | *Nil* |
| Total | | | 24,870 |
| Balance reported slash not yet abated | | | 13,616 |
| Slash created, 1955—acres assessed | | | *Nil* |
| *Plus* slash created too late to be dealt with, 1955 | | | 6,487 |
| Total area of slash carried over to 1956 for disposition | | | 20,103 |

[1] Actual area burned in spring spot-burning, 52 acres.
[2] Actual area burned in fall spot-burning, 3,930 acres.
The above figures do not include 1954 slash-burn reports received too late for inclusion in 1954 Annual Report, 2,940 acres.

(50) SUMMARY OF OPERATIONS, 1955, VANCOUVER FOREST DISTRICT

| | | |
|---|---|---|
| Total operations, Vancouver Forest District | | 1,249 |
| Intentional slash-burns | 174 | |
| Operations on which slash was disposed of by lopping, scattering, land-clearing, etc. | *Nil* | |
| Operations on which slash was accidentally burned | 7 | |
| Operations not required to burn | 694 | |
| Operations granted total exemption under subsection (3), section 113, "Forest Act" | 265 | |
| Operations where compensation assessed or security deposit posted | 35 | |
| Operations in snag-falling only area | 76 | |
| Operations pending decision *re* assessment or further time for disposal | 40 | |
| | | 1,291[1] |

[1] Difference noted above is accounted for by slash on some operations being disposed of by both accidental and intentional means and some operators conducting both spring and fall burns.

(51) SUMMARY OF SLASH-BURN DAMAGE AND COSTS, 1955, VANCOUVER FOREST DISTRICT

| | |
|---|---|
| Total acres of forest-cover burned in slash fires, 1955 | 12 |
| Net damage to forest-cover | $526.00 |
| Net damage to cut products | *Nil* |
| Net damage to equipment and property | 1,991.00 |
| Total damage | $2,517.00 |

*Cost of Slash-burning as Reported by Operators*

| | Total Cost | Acres | Cost per M B.F. | Cost per Acre |
|---|---|---|---|---|
| (*a*) Spring broadcast-burning | $130.00 | 47 | $0.07 | $2.76 |
| (*b*) Spring spot-burning | 1,209.00 | 468 | 0.09 | 2.58 |
| (*c*) Fall broadcast-burning | 13,698.44 | 3,931 | 0.09 | 3.48 |
| (*d*) Fall spot-burning | 34,957.44 | 20,225 | 0.06 | 1.72 |

(*a*) and (*c*) based on volume of 40 M B.F. per acre.
(*b*) and (*d*) based on volume of 30 M B.F. per acre.

(52)

## RECAPITULATION OF SLASH-DISPOSAL, 1934–55

| | Acres of Slash Burned | |
|---|---|---|
| | Accidentally | Intentionally |
| 1955 | 199 | 38,486 |
| 1954 | 225 | 41,596 |
| 1953 | 17 | 22,220 |
| 1952 | 3,856 | 39,064 |
| 1951 | 11,614 | 10,436 |
| 1950 | 1,700 | 25,389 |
| 1949 | 1,468 | 53,543 |
| 1948 | 2,215 | 30,652 |
| 1947 | 2,663 | 34,414 |
| 1946 | 2,174 | 25,498 |
| 1945 | 3,897 | 46,467 |
| 1944 | 5,121 | 27,278 |
| 1943 | 2,046 | 40,013 |
| 1942 | 4,504 | 80,226 |
| 1941 | 3,385 | 5,524 |
| 1940 | 2,265 | 33,034 |
| 1939 | 1,930 | 51,603 |
| 1938 | 35,071 | 50,033 |
| 1937 | 3,015 | 27,516 |
| 1936 | 1,340 | 7,691 |
| 1935 | 11,783 | 13,239 |
| 1934 | 4,927 | 15,935 |

(53)

## FIRE OCCURRENCES BY MONTHS, 1955

| Forest District | March | April | May | June | July | August | September | October | Total | Per Cent |
|---|---|---|---|---|---|---|---|---|---|---|
| Vancouver | ..... | ..... | 33 | 72 | 61 | 70 | 81 | 2 | 319 | 23.05 |
| Prince Rupert | 1 | 2 | 16 | 28 | 11 | 5 | 10 | 1 | 74 | 5.35 |
| Prince George | 3 | ..... | 35 | 57 | 33 | 11 | 15 | 4 | 158 | 11.42 |
| Kamloops | ..... | 9 | 33 | 120 | 168 | 111 | 87 | 5 | 533 | 38.51 |
| Nelson | ..... | 5 | 16 | 81 | 87 | 68 | 40 | 3 | 300 | 21.67 |
| Totals | 4 | 16 | 133 | 358 | 360 | 265 | 233 | 15 | 1,384 | 100.00 |
| Per cent | 0.29 | 1.16 | 9.61 | 25.87 | 26.01 | 19.15 | 16.83 | 1.08 | 100.00 | ..... |
| Ten-year average, 1946–55 | 10 | 47 | 202 | 191 | 396 | 400 | 175 | 25 | 1,446 | ..... |
| Per cent | 0.69 | 3.25 | 13.97 | 13.21 | 27.39 | 27.66 | 12.10 | 1.73 | 100.00 | ..... |

(54)

## NUMBER AND CAUSES OF FOREST FIRES, 1955

| Forest District | Lightning | Campers | Railways Operating | Smokers | Brush-burning (Not Railway-clearing) | Road and Power- and Telephone-line Construction | Industrial Operation | Incendiarism | Miscellaneous (Known Causes) | Unknown Causes | Total | Per Cent of Total Fires in Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vancouver | 9 | 15 | 143 | 57 | 18 | 6 | 20 | 2 | 47 | 2 | 319 | 23.05 |
| Prince Rupert | 6 | 14 | 7 | 14 | 7 | 4 | 8 | ..... | 8 | 6 | 74 | 5.35 |
| Prince George | 30 | 44 | 13 | 6 | 9 | 6 | 17 | ..... | 11 | 22 | 158 | 11.42 |
| Kamloops | 208 | 99 | 35 | 83 | 8 | 1 | 32 | 8 | 45 | 14 | 533 | 38.51 |
| Nelson | 165 | 23 | 8 | 46 | 5 | 7 | 12 | 5 | 23 | 6 | 300 | 21.67 |
| Totals | 418 | 195 | 206 | 206 | 47 | 24 | 89 | 15 | 134 | 50 | 1,384 | 100.00 |
| Per cent | 30.20 | 14.09 | 14.89 | 14.89 | 3.40 | 1.73 | 6.43 | 1.08 | 9.68 | 3.61 | 100.00 | ..... |
| Ten-year average, 1946–55 | 407 | 208 | 211 | 248 | 77 | 16 | 80 | 15 | 150 | 34 | 1,446 | ..... |
| Per cent | 28.15 | 14.38 | 14.59 | 17.15 | 5.33 | 1.11 | 5.53 | 1.04 | 10.37 | 2.35 | 100.00 | ..... |

## (55) NUMBER AND CAUSES OF FOREST FIRES FOR THE LAST TEN YEARS

| Causes | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lightning | 515 | 326 | 266 | 487 | 342 | 574 | 431 | 597 | 116 | 418 | 4,072 |
| Campers | 263 | 193 | 105 | 215 | 251 | 228 | 298 | 174 | 157 | 195 | 2,079 |
| Railways operating | 231 | 270 | 113 | 325 | 197 | 211 | 255 | 184 | 118 | 206 | 2,110 |
| Smokers | 326 | 245 | 140 | 281 | 291 | 354 | 349 | 171 | 120 | 206 | 2,483 |
| Brush-burning (not railway-clearing) | 117 | 51 | 39 | 60 | 77 | 128 | 140 | 47 | 63 | 47 | 769 |
| Road and power- and telephone-line construction | 16 | 8 | 5 | 20 | 25 | 20 | 17 | 10 | 11 | 24 | 156 |
| Industrial operations | 38 | 53 | 45 | 87 | 94 | 133 | 114 | 83 | 64 | 89 | 800 |
| Incendiarism | 10 | 13 | 5 | 13 | 7 | 28 | 37 | 10 | 12 | 15 | 150 |
| Miscellaneous (known causes) | 159 | 144 | 58 | 169 | 196 | 205 | 237 | 116 | 82 | 134 | 1,500 |
| Unknown causes | 32 | 29 | 23 | 44 | 35 | 42 | 36 | 28 | 21 | 50 | 340 |
| Totals | 1,707 | 1,332 | 799 | 1,701 | 1,515 | 1,923 | 1,914 | 1,420 | 764 | 1,384 | 14,459 |

## (56) FIRES CLASSIFIED BY SIZE AND DAMAGE, 1955

| Forest District | Total Fires | | Under ¼ Acre | | | ¼ to 10 Acres | | | Over 10 to 500 Acres | | | Over 500 Acres in Extent | | | Damage | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Per Cent of Total Fires in Province | Number | Per Cent of Total Fires in District | Per Cent of Total Fires in This Class | Number | Per Cent of Total Fires in District | Per Cent of Total Fires in This Class | Number | Per Cent of Total Fires in District | Per Cent of Total Fires in This Class | Number | 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 | 319 | 23.05 | 265 | 83.07 | 28.04 | 44 | 13.79 | 13.02 | 10 | 3.14 | 11.63 | ..... | ..... | ..... | 311 | 4 | 4 |
| Prince Rupert | 74 | 5.35 | 42 | 56.76 | 4.44 | 25 | 33.78 | 7.40 | 7 | 9.46 | 8.14 | ..... | ..... | ..... | 70 | 2 | 2 |
| Prince George | 158 | 11.42 | 70 | 44.30 | 7.41 | 45 | 28.48 | 13.31 | 30 | 18.99 | 34.88 | 13 | 8.23 | 86.66 | 128 | 21 | 9 |
| Kamloops | 533 | 38.51 | 350 | 65.67 | 37.04 | 153 | 28.70 | 45.26 | 29 | 5.44 | 33.72 | 1 | 0.19 | 6.67 | 506 | 22 | 5 |
| Nelson | 300 | 21.67 | 218 | 72.67 | 23.07 | 71 | 23.67 | 21.01 | 10 | 3.33 | 11.63 | 1 | 0.33 | 6.67 | 290 | 9 | 1 |
| Totals | 1,384 | 100.00 | 945 | ..... | 100.00 | 338 | ..... | 100.00 | 86 | ..... | 100.00 | 15 | ..... | 100.00 | 1,305 | 58 | 21 |
| Per cent | 100.00 | ..... | 68.28 | ..... | ..... | 24.42 | ..... | ..... | 6.21 | ..... | ..... | 1.09 | ..... | ..... | 94.29 | 4.19 | 1.52 |
| Ten-year average, 1946–55 | 1,446 | ..... | 844 | ..... | ..... | 418 | ..... | ..... | 150 | ..... | ..... | 34 | ..... | ..... | 1,337 | 69 | 40 |
| Per cent | 100.00 | ..... | 58.37 | ..... | ..... | 28.91 | ..... | ..... | 10.37 | ..... | ..... | 2.35 | ..... | ..... | 92.46 | 4.77 | 2.77 |

## (57) DAMAGE TO PROPERTY OTHER THAN FORESTS, 1955[1]

| Forest District | Forest Products in Process of Manufacture | Buildings | Railway and Logging Equipment | Miscellaneous | Total | Per Cent of Total |
|---|---|---|---|---|---|---|
| Vancouver | $19,585.20 | ..... | $29,670.80 | ..... | $49,256.00 | 76.78 |
| Prince Rupert | 2,112.00 | $40.00 | 75.00 | $15.00 | $2,242.00 | 3.50 |
| Prince George | 450.00 | 100.00 | ..... | 440.00 | 990.00 | 1.54 |
| Kamloops | 425.00 | 160.00 | 5,500.00 | 60.00 | 6,145.00 | 9.58 |
| Nelson | 4,520.00 | ..... | ..... | 1,000.00 | 5,520.00 | 8.60 |
| Totals | $27,092.20 | $300.00 | $35,245.80 | $1,515.00 | $64,153.00 | 100.00 |
| Per cent | 42.23 | 0.47 | 54.94 | 2.36 | 100.00 | ..... |
| Ten-year average, 1946–55 | $157,078.72 | $20,774.80 | $178,290.23 | $21,379.75 | $377,523.50 | ..... |
| Per cent | 41.61 | 5.49 | 47.24 | 5.66 | 100.00 | ..... |

[1] Does not include intentional slash-burns. (For this item *see* page 137.)

## (58) DAMAGE TO FOREST-COVER CAUSED BY FOREST FIRES, 1955—PART I[1]

| Forest District | Accessible Merchantable Timber | | | | Inaccessible Merchantable Timber | | | Immature Timber | |
|---|---|---|---|---|---|---|---|---|---|
| | Net Area Killed | Total Volume Killed | Salvable Volume of Timber Killed | Net Stumpage Loss | Net Area Killed | Total Volume Killed | Damage | Net Area Killed | Present Value |
| | Acres | M B.F. | M B.F. | $ | Acres | M B.F. | $ | Acres | $ |
| Vancouver | 7 | 50 | ..... | 443 | ..... | ..... | ..... | 108 | 6,316 |
| Prince Rupert | 225 | 2,331 | 1,580 | 2,483 | ..... | ..... | ..... | 299 | 6,112 |
| Prince George | 25 | 26 | ..... | 636 | 50 | 500 | 1,400 | 2,498 | 44,482 |
| Kamloops | 201 | 2,300 | ..... | 1,641 | 49 | 2 | 444 | 1,322 | 10,673 |
| Nelson | 28 | 107 | 35 | 418 | 1 | ..... | ..... | 71 | 1,303 |
| Totals | 486 | 4,814 | 1,615 | 5,621 | 100 | 502 | 1,844 | 4,298 | 68,886 |
| Per cent | 1.04 | 90.56 | 33.55 | 6.18 | 0.21 | 9.44 | 2.03 | 9.21 | 75.72 |
| Ten-year average, 1946–55 | 7,054 | 69,712 | 36,685 | 116,209 | 1,482 | 3,081 | 8,155 | 30,448 | 126,209 |
| Per cent | 2.83 | 95.77 | 52.62 | 37.12 | 0.59 | 4.23 | 2.61 | 12.21 | 40.31 |

[1] Does not include intentional slash-burns. (For this item *see* page 137.)

## (58) DAMAGE TO FOREST-COVER CAUSED BY FOREST FIRES, 1955—PART II[1]

| Forest District | Not Satisfactorily Restocked | | | | Non-commercial Cover | | Grazing or Pasture Land | | Non-productive Sites | | Grand totals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Logged Unburned | Logged and Burned | Burned, Not Logged | Damage | Area Burned | Damage | Area Burned | Damage | Area Burned | Damage | Area | Quantity | Damage |
| | Acres | Acres | Acres | $ | Acres | $ | Acres | $ | Acres | $ | Acres | M B.F. | $ |
| Vancouver | 199 | 2 | 1 | 26 | 197 | 49 | 26 | 1 | 94 | 20 | 634 | 50 | 6,855 |
| Prince Rupert | 36 | ..... | 2 | 453 | 33 | 8 | 23 | 1 | 6 | 1 | 624 | 2,331 | 9,058 |
| Prince George | 45 | 25 | 5,300 | 3,291 | 20,369 | 4,989 | 7,816 | 477 | 4,504 | 1,126 | 40,632 | 526 | 56,401 |
| Kamloops | 132 | 21 | 23 | 1,681 | 252 | 73 | 1,225 | 170 | 163 | 38 | 3,388 | 2,302 | 14,720 |
| Nelson | 59 | ..... | 25 | 575 | 192 | 1,401 | 84 | 5 | 956 | 235 | 1,416 | 107 | 3,937 |
| Totals | 471 | 48 | 5,351 | 6,026 | 21,043 | 6,520 | 9,174 | 654 | 5,723 | 1,420 | 46,694 | 5,316 | 90,971 |
| Per cent | 1.01 | 0.10 | 11.46 | 6.62 | 45.06 | 7.17 | 19.65 | 0.72 | 12.26 | 1.56 | 100.00 | 100.00 | 100.00 |
| Ten-year average, 1946–55 | 5,199 | 2,549 | 22,739 | 25,253 | 93,056 | 24,788 | 50,425 | 3,155 | 36,380 | 9,254 | 249,332 | 72,793 | 313,023 |
| Per cent | 2.09 | 1.02 | 9.12 | 8.07 | 37.32 | 7.92 | 20.23 | 1.01 | 14.59 | 2.96 | 100.00 | 100.00 | 100.00 |

[1] Does not include intentional slash-burns. (For this item *see* page 137.)

## (59) FIRE CAUSES, AREA BURNED, FOREST SERVICE COST, AND TOTAL DAMAGE, 1955

| Causes | Fire Causes | | Area Burned | | Forest Service Cost | | Total Damage | |
|---|---|---|---|---|---|---|---|---|
| | Number | Per Cent | Acres | Per Cent | Amount | Per Cent | Amount | Per Cent |
| Lightning | 418 | 30.20 | 4,155 | 8.90 | $30,372.60 | 41.00 | $27,347.00 | 17.63 |
| Campers | 195 | 14.09 | 13,094 | 28.04 | 10,194.91 | 13.77 | 25,510.00 | 16.44 |
| Railways operating | 206 | 14.89 | 275 | 0.59 | 45.18 | 0.06 | 415.00 | 0.27 |
| Smokers | 206 | 14.89 | 965 | 2.07 | 11,116.75 | 15.01 | 37,951.00 | 24.46 |
| Brush-burning (not railway-clearing) | 47 | 3.40 | 1,902 | 4.07 | 1,696.92 | 2.29 | 10,800.00 | 6.96 |
| Road and power- and telephone-line construction | 24 | 1.73 | 281 | 0.60 | 4,962.26 | 6.70 | 5,518.00 | 3.56 |
| Industrial operations | 89 | 6.43 | 485 | 1.04 | 6,348.65 | 8.57 | 22,230.00 | 14.33 |
| Incendiarism | 15 | 1.08 | 739 | 1.58 | 450.69 | 0.61 | 4,230.00 | 2.73 |
| Miscellaneous (known causes) | 134 | 9.68 | 14,338 | 30.71 | 4,501.83 | 6.08 | 5,380.00 | 3.47 |
| Unknown causes | 50 | 3.61 | 10,460 | 22.40 | 4,373.81 | 5.91 | 15,743.00 | 10.15 |
| Totals | 1,384 | 100.00 | 46,694 | 100.00 | $74,063.60 | 100.00 | $155,124.00 | 100.00 |

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## Comparison of Damage Caused by Forest Fires in Last Ten Years

| | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | Total, Ten Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total number of fires | 1,707 | 1,332 | 799 | 1,701 | 1,515 | 1,923 | 1,914 | 1,420 | 764 | 1,384 | 14,459 |
| Area burned (acres) | 303,395 | 142,765 | 384,356 | 145,549 | 848,246 | 420,954 | 152,406 | 38,645 | 10,309 | 46,694 | 2,493,319 |
| Standing timber destroyed or damaged (M f.b.m.) | 69,119 | 11,017 | 31,265 | 7,617 | 17,882 | 295,462 | 278,759 | 8,308 | 3,186 | 5,316 | 727,931 |
| Amount salvable (M f.b.m.) | 16,150 | 3,846 | 13,678 | 1,518 | 7,805 | 187,235 | 129,146 | 4,680 | 1,177 | 1,615 | 366,850 |
| Damage to forests | $191,669 | $62,497 | $287,192 | $32,449 | $359,417 | $1,417,975 | $498,775 | $145,957 | $43,329 | $90,971 | $3,130,231 |
| Damage to other forms of property | 166,315 | 246,737 | 284,271 | 326,848 | 413,194 | 1,535,125 | 492,344 | 114,693 | 131,554 | 64,153 | 3,775,234 |
| Total damage | $357,984 | $309,234 | $571,463 | $359,297 | $772,611 | $2,953,100 | $991,119 | $260,650 | $174,883 | $155,124 | $6,905,465 |

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## Fires Classified by Forest District, Place of Origin, and Cost per Fire of Fire-fighting, 1955

| Forest District | Total Fires | Originated on Vacant Crown Lands and Lands Contributing to Forest Protection Fund | Originated on Lands Not Contributing to Forest Protection Fund | Total Forest Service Cost | | | Extinguished without Cost | | | Cost Money to Extinguish | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dollars | Per Cent | Average Expenditure per Cost-fire (Dollars) | Number | Per Cent of Total Fires in District | Per Cent of Total Fires in Province | Number | Per Cent of Total Fires in District | Per Cent of Total Fires in Province | Cost less than $100 per Fire | Cost $100 to $1,000 per Fire | Cost over $1,000 to $5,000 per Fire | Cost over $5,000 to $10,000 per Fire | Cost over $10,000 per Fire |
| Vancouver | 319 | 36 | 283 | 12,188.75 | 16.46 | 136.95 | 230 | 72.10 | 16.62 | 89 | 27.90 | 6.43 | 81 | 5 | 3 | ------- | ------- |
| Prince Rupert | 74 | 31 | 43 | 1,595.11 | 2.16 | 53.17 | 44 | 59.46 | 3.18 | 30 | 40.54 | 2.17 | 20 | 8 | 1 | 1 | ------- |
| Prince George | 158 | 148 | 10 | 17,429.68 | 23.53 | 215.18 | 77 | 48.73 | 5.56 | 81 | 51.27 | 5.85 | 47 | 30 | 4 | ------- | ------- |
| Kamloops | 533 | 507 | 26 | 19,199.06 | 25.92 | 75.29 | 278 | 52.16 | 20.09 | 255 | 47.84 | 18.42 | 215 | 37 | 3 | ------- | ------- |
| Nelson | 300 | 289 | 11 | 23,651.00 | 31.93 | 119.45 | 102 | 34.00 | 7.37 | 198 | 66.00 | 14.31 | 186 | 9 | 3 | ------- | ------- |
| Totals | 1,384 | 1,011 | 373 | 74,063.60[1] | 100.00 | 113.42 | 731 | ------- | 52.82 | 653 | ------- | 47.18 | 549 | 89 | 14 | 1 | ------- |
| Per cent | 100.00 | 73.05 | 26.95 | ------- | ------- | ------- | 52.82 | ------- | ------- | 47.18 | ------- | ------- | 39.67 | 6.43 | 1.01 | 0.07 | ------- |
| Ten-year average, 1946–55 | 1,446 | 979 | 467 | 282,791.88 | ------- | ------- | 700 | ------- | ------- | 746 | ------- | ------- | 525 | 171 | 34 | 7 | 9 |
| Per cent | 100.00 | 67.70 | 32.30 | ------- | ------- | ------- | 48.41 | ------- | ------- | 51.59 | ------- | ------- | 36.31 | 11.83 | 2.35 | 0.48 | 0.62 |

[1] Cost correct to date. Subject to later revision.
Cost to other parties (225 cost-fires), $59,277. Cost to Forest Service (653 cost-fires), $74,063.60.
Detailed final costs are published one year in arrears in the table "Expenditure by District" in each Annual Report.

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## PROSECUTIONS, 1955

| Forest District | Information Laid | Burning without Permit | Refusing to Render Assistance in Fire-fighting | Contravening a Forest Closure | Illegal Disposal of Camp-fire Permits | Failure to Maintain Proper Fire-protection Equipment | Failure to Fail Snags in Accordance with Regulations | Failing to Control and Extinguish Fire | Fines | | Served Sentence in Gaol | Suspended Sentence | Cases Dismissed | Cases Withdrawn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Number | Amount | | | | |
| Vancouver | 66 | 22 | 6 | 26 | 1 | 10 | 1 | — | 59 | $1,795.00 | — | 1 | 1 | 5 |
| Prince Rupert | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Prince George | 7 | 4 | 2 | — | — | 1 | — | — | 4 | 125.00 | 2 | — | 1 | — |
| Kamloops | 10 | 3 | 2 | — | — | — | — | 5 | 5 | 125.00 | — | 4 | 1 | — |
| Nelson | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Totals | 83 | 29 | 10 | 26 | 1 | 11 | 1 | 5 | 68 | $2,045.00 | 2 | 5 | 3 | 5 |
| Ten-year average, 1946–55 | 41 | 15 | — | — | — | — | — | — | 32 | $975.35 | 1 | 5 | 2 | 1 |

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## BURNING PERMITS, 1955

| 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 | 4,058 | 3,484 | 9 | 8 | 178 | 16,139 | 1 | — | 16 | 379 | — | — | 59 | 128 | 5 | — | 4,311 | 20,130 | 15 | 8 |
| Prince Rupert | 1,075 | 3,760 | — | — | 84 | 65 | — | — | 33 | 240 | 2 | — | 14 | 75 | — | — | 1,206 | 4,140 | 2 | — |
| Prince George | 1,633 | 21,991 | 1 | 1 | 597 | 687 | — | — | 31 | 727 | 4 | — | 60 | 206 | 2 | — | 2,321 | 23,611 | 7 | 1 |
| Kamloops | 2,110 | 7,408 | — | — | 566 | 1,271 | — | — | 48 | 2 | — | — | 65 | 1,995 | — | — | 2,789 | 10,676 | — | — |
| Nelson | 1,292 | 3,630 | 1 | — | 635 | 1,734 | 5 | — | 64 | 5 | — | — | 71 | 1,196 | 1 | — | 2,062 | 6,565 | 7 | — |
| Totals | 10,168 | 40,273 | 11 | 9 | 2,060 | 19,896 | 6 | — | 192 | 1,353 | 6 | — | 269 | 3,600 | 8 | — | 12,689 | 65,122 | 31 | 9 |
| Per cent | 80.13 | 61.84 | 35.49 | 100.00 | 16.24 | 30.55 | 19.35 | — | 1.51 | 2.08 | 19.35 | — | 2.12 | 5.53 | 25.81 | — | 100.00 | 100.00 | 100.00 | 100.00 |
| Ten-year average, 1946–55 | 8,850 | 16,873 | 19 | 10 | 895 | 23,624 | 12 | 1 | 141 | 670 | 6 | — | 170 | 29.70 | 6 | — | 10,056 | 44,137 | 43 | 11 |
| Per cent | 88.01 | 38.23 | 44.19 | 90.91 | 8.90 | 53.52 | 27.91 | 9.09 | 1.40 | 1.52 | 13.95 | — | 1.69 | 6.73 | 13.95 | — | 100.00 | 100.00 | 100.00 | 100.00 |

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## ENROLMENT AT RANGER SCHOOL, 1955

| Forest District | Forest Assistants | Rangers | Acting Rangers | Assistant Rangers | Clerks | Total | Graduations |
|---|---|---|---|---|---|---|---|
| Vancouver | ---- | ---- | ---- | 5 | ---- | 5 | ---- |
| Prince Rupert | ---- | ---- | ---- | 3 | ---- | 3 | ---- |
| Prince George | 2 | ---- | ---- | 2 | ---- | 4 | ---- |
| Kamloops | 1 | ---- | ---- | 4 | ---- | 5 | ---- |
| Nelson | ---- | ---- | ---- | 4 | ---- | 4 | ---- |
| Attendance, 1955[1] | 3 | ---- | ---- | 18 | ---- | 21 | ---- |
| Attendance, 1954 | ---- | ---- | ---- | 20 | ---- | 20 | 20 |
| Attendance, 1953 | ---- | ---- | ---- | 21 | ---- | 21 | ---- |
| Attendance, 1953 | ---- | ---- | ---- | 20 | ---- | 20 | 20 |
| Attendance, 1952 | ---- | ---- | ---- | 20 | ---- | 20 | ---- |
| Attendance, 1951 | ---- | 3 | 3 | 15 | ---- | 21 | 21 |
| Attendance, 1950 | ---- | 3 | 3 | 15 | ---- | 21 | 21 |
| Attendance, 1949 | ---- | 3 | 2 | 16 | ---- | 21 | ---- |
| Attendance, 1948 | ---- | 4 | 2 | 12 | 2 | 20 | 20 |
| Attendance, 1947 | ---- | 8 | ---- | 12 | ---- | 20 | 20 |
| Attendance, 1946 | ---- | 2 | 9 | 9 | ---- | 20 | 20 |

[1] New class, 1955–56, will not graduate until 1956.
NOTE.—Commencing with the class of 1949–50, each class takes one and one-half years to complete the course.

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## MOTION-PICTURE LIBRARY

### *Stock Records*

| | Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 |
| Films in library at January 1st | 75 | 75 | 74 | 77 | 75 | 75 | 74 | 77 | 80 | 64 |
| Films withdrawn during year | 2 | 8 | 2 | 3 | 9 | 8 | 3 | -------- | 24 | 2 |
| New films added during year | 2 | 7 | 5 | 1 | 9 | 7 | 6 | 3 | 8 | 9 |
| Films in library at December 31st | 75 | 74 | 77 | 75 | 75 | 74 | 77 | 80 | 64 | 71 |
| Films used during year | 61 | 77 | 77 | 74 | 76 | 71 | 72 | 79 | 64 | 70 |

### *Circulation Records*

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Number of loans made during year | 164 | 235 | 436 | 397 | 416 | 461 | 492 | 490 | 422 | 429 |
| Number of film loans during year (one film loaned one time) | 328 | 632 | 1,122 | 1,075 | 1,046 | 1,057 | 1,218 | 1,158 | 1,474 | 1,280 |
| Number of showings during year | 371 | 812 | 1,293 | 1,505 | 1,880 | 2,943 | 2,764 | 2,288 | 2,664 | 1,998 |
| Number of audiences— | | | | | | | | | | |
| Adults | 11,940 | 8,009 | 21,633 | 14,568 | 26,988 | 13,542 | 13,655 | 12,640 | 12,333 | 14,353 |
| Children | 10,408 | 25,362 | 20,455 | 24,031 | 95,102[1] | 264,245[1] | 157,085[2] | 118,622[2] | 102,013[1] | 131,844[1] |
| Mixed | 10,285 | 24,351 | 42,930 | 87,506 | 43,282 | 26,706 | 59,182 | 43,099 | 54,069 | 41,340 |
| Totals | 32,633 | 57,722 | 85,018 | 126,105 | 165,372[1] | 304,493[1] | 234,396[2] | 174,367[2] | 168,415[1] | 187,537[1] |

[1] Including attendances of lecture tour of two school lecturers.
[2] Including attendances of lecture tour of three school lecturers.

### *Loaned and Leased Films, 1955*

| Title | Number of Showings | Number in Audience | | | |
|---|---|---|---|---|---|
| | | Adult | Children | Mixed | Total |
| " Bear Country " | 245 | 548 | 44,199 | 90 | 44,657 |
| " Beaver Valley " | 110 | 713 | 9,265 | 316 | 10,294 |

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## Forest Service Library

| Classification | Items Catalogued and Indexed | | | | | | | | | | Ten-year Average, 1946–55 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | |
| Bound volumes | 12 | 14 | 39 | 36 | 27 | 23 | 9 | 41 | 62 | 55 | 32 |
| Government reports and bulletins | 126 | 231 | 123 | 100 | 62 | 109 | 122 | 484 | 246 | 190 | 179 |
| Other bulletins and reports | 79 | 90 | 140 | 153 | 140 | 152 | 337 | 90 | 92 | 94 | 137 |
| Periodicals | 51 | 72 | 72 | 80 | 102 | 110 | 115 | 111 | 124 | 136 | 97 |
| Serials[1] | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 66 | 127 | 141 | ..... |
| References indexed | 1,523 | 1,798 | 3,543 | 2,074 | 1,960 | 2,650 | 2,203 | 1,800 | 932 | 1,090 | 1,957 |

[1] Previous to 1953 included with periodicals, bulletins, and reports.

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## Grazing Permits Issued

| Forest District | Number of Permits Issued | Number of Stock under Permit | | |
|---|---|---|---|---|
| | | Cattle | Horses | Sheep |
| Kamloops | 1,220 | 106,306 | 2,535 | 21,074 |
| Nelson | 432 | 13,395 | 902 | 1,470 |
| Prince George | 53 | 2,583 | 138 | 16 |
| Totals, 1955 | 1,705 | 121,284 | 3,575 | 22,560 |
| Totals, 1954 | 1,750 | 111,767 | 3,738 | 24,909 |
| Totals, 1953 | 1,730 | 108,894 | 4,133 | 23,172 |
| Totals, 1952 | 1,621 | 104,610 | 4,040 | 23,565 |
| Totals, 1951 | 1,561 | 100,082 | 4,350 | 22,282 |
| Totals, 1950 | 1,562 | 98,484 | 4,650 | 23,100 |
| Totals, 1949 | 1,496 | 101,349 | 5,029 | 25,842 |
| Totals, 1948 | 1,444 | 110,333 | 6,644 | 29,444 |
| Totals, 1947 | 1,322 | 105,723 | 5,513 | 25,289 |
| Totals, 1946 | 1,378 | 106,273 | 6,025 | 31,274 |

N.B.—Some of the figures in this table for the years 1946 to 1951, inclusive, have been revised and differ from those shown in previous Reports. Past tables have shown net figures for some years and gross figures for others. This table shows the total number of permits issued and the net number of live stock covered for each of the years listed.

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## Grazing Fees Billed and Collected

| Year | Fees Billed | Fees Collected | Outstanding |
|---|---|---|---|
| 1955 | $76,061.32 | $75,250.32 | $16,577.24 |
| 1954 | 80,191.97 | 85,043.96 | 15,766.24 |
| 1953 | 95,088.64 | 102,460.00 | 20,618.23 |
| 1952 | 125,495.09 | 110,731.32 | 27,989.59 |
| 1951 | 108,400.14 | 106,161.36 | 13,225.82 |
| 1950 | 80,178.43 | 74,305.08 | 10,986.74 |
| 1949 | 27,819.65 | 28,299.94 | 5,113.39 |
| 1948 | 28,960.42 | 27,089.74 | 5,597.18 |
| 1947 | 28,584.74 | 29,203.74 | 3,726.50 |
| 1946 | 30,120.38 | 31,412.24 | 4,345.50 |

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