

1935.
NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY.
PUBLIC DOMAINS AND NATIONAL PARKS
OF NEW ZEALAND
(ANNUAL REPORT ON).

Presented to both Houses of the General Assembly by Command of His Excellency.

SIR,—

Department of Lands and Survey, Wellington, 31st August, 1935.

I have the honour to submit herewith a report on the public domains and national parks of the Dominion for the year ended 31st March, 1935.

I have, &c.,

W. ROBERTSON,

The Hon. Sir E. A. Ransom, Minister of Lands.

Under-Secretary for Lands.

REPORT.

PART I.—PUBLIC DOMAINS.

At the 31st March, 1935, the total number of public domains administered under the provisions of Part II of the Public Reserves, Domains, and National Parks Act, 1928, was 769, covering a total area of 75,450 acres. Forty-six of these domains are controlled by the various Commissioners of Crown Lands, 273 are controlled by local authorities acting as Domain Boards, and the remaining 450 are under the control of local Boards appointed from time to time.

During the year five new domains, with a total area of a little over 50 acres, were reserved and brought under Part II of the Act, and arrangements made for their control. Additions totalling 136 acres were also made to twenty-one existing domains.

Brief mention may be made of the new domains constituted during the year as follows: At Ngawha, near Kaikohe, a small area of Crown land containing a few of the celebrated hot springs in that vicinity was made a public domain and placed under the management of a widely representative Board of Control. It is the Board's intention to make the springs available for the use of the public, and to make the surroundings as pleasant and attractive as possible. The Department intends a little later on to reserve an additional area of Crown land adjoining as an addition to the domain to provide more space for general development. An area of a little over 1½ acres in the Carroll Settlement was placed under the control of the One Tree Hill Borough Council, and will be beautified and developed as a small sports area and children's playground.

At Ngongotaha the residents arranged to purchase an area of 6 acres from the Rotorua County Council for recreation purposes. The land was transferred to the Crown, and a Domain Board has been appointed. A considerable amount of improvement work has been carried out by voluntary labour, and the Ngongotaha people deserve credit for their enterprise in providing themselves with a recreation-ground. At Lakeside, on the shores of Lake Ellesmere, an area of 30½ acres, being portion of an old landing-reserve, was made a public domain and placed under the control of the

Ellesmere County Council. The area is very suitable for picnics, and its reservation as a public domain should be of considerable benefit to the district, where practically all the land adjoining the lake is privately owned. A suitable area has been left as a landing-reserve to meet the needs of the local fishermen. Arrangements were made with the Otago Education Board to have an area of about 9 acres at Tuapeka Mouth made available as a public domain. The local school possessed ample ground without the 9 acres, which the Board therefore agreed to transfer to the Crown so that it could be set aside for public use.

A road exchange was carried out whereby an area of 2 acres 1 rood 11 perches of the Hamilton Domain was taken for street purposes, and a road area of 16 acres lying wholly between various portions of the domain and the Hamilton Lake was closed and added to the domain. Small portions of the Devonport, Rotoiti, Thorpe, and Coe's Ford domains were also taken for road purposes during the year.

An unused road area of some 12 acres at Pounawea was closed, and, together with a small section of Crown land and a small island at the junction of the Catlins and Owaka Rivers, was reserved for recreation purposes and added to the local domain. A closed road area of 8½ acres was also added to the Tuatapere Domain.

For the purpose of providing a permanent water-supply for the Te Teko Domain it was necessary to compulsorily acquire an area of 10 acres from an adjoining owner. Every effort was made to arrive at a voluntary arrangement, but without success, and finally it was decided to take the land under the Public Works Act.

An area of 5 acres 3 roods 9 perches of the Parahaki Domain was, with the consent of the controlling authority—the Whangarei County Council—set apart under the Public Works Act for the purposes of a rifle range.

The reservation over the Paremoremo Domain, Waitemata County, was cancelled during the year. This reserve of 6 acres 1 rood 1 perch was placed under the control of the Waitemata County Council in 1907, and since 1913 the whole area has been held under lease, as it has not been required for recreation purposes. The land proved to be most unsuitable for a domain, and the reservation was cancelled on the recommendation of the County Council. The greater part will be sold, and the remainder will probably be added to an adjoining cemetery.

The reservation over a small portion of 3 roods 32·1 perches of the Ohura Domain was also cancelled, and the land declared to be Crown land available for sale under the Land Act. This area had been in use as a bowling-green, for which purpose, however, it was not altogether suitable. The Domain Board desired to obtain a further area of flat land for the purpose of constructing a first-class green of tournament standard, and to enable this to be done the Department arranged to revoke the reservation over the 3 roods 32·1 perches and to reserve a more suitable area to take its place.

The appointments of the Otoko and Waipuku Domain Boards were revoked owing to lack of interest on the part of the local people in the reserves. Both the domains have been leased by the Department for grazing.

Orders in Council were issued appointing sixty-five Domain Boards to control domains for further terms, while fifty-nine vacancies on various Boards were filled by the appointment of suitable persons nominated by the residents of the various districts concerned. Additional members were appointed to the Dunrobin Domain Board, and three Government nominees were appointed to the Christchurch Domains Board under section 4 of the Christchurch Domains Amendment Act, 1913.

Other documents issued included warrants authorizing the erection of public halls on the Retaruke and Makaka Domains, while an area of 1 rood 35 perches was taken out of the Kaiwera Domain and set apart as a public-hall site. Permission was also granted to several Domain Boards to increase the charges for admission to their domains on special occasions during the year. Eight sets of new by-laws were approved.

Under the provisions of section 13 of the Land Laws Amendment Act, 1932, rental concessions were granted in fifty-seven cases during the year, and further progress was made in the work of placing the leasing of domain lands throughout the Dominion on a uniform basis.

The Reserves and other Lands Disposal Act, 1934, dealt with several matters affecting public domains and requiring special legislation.

A certain payment made by the Taieri Lake Domain Board was validated after full inquiry had been made into all the circumstances of the case.

Authority was provided for the Minister of Lands to approve from time to time of the diversion of moneys from the Westport No. 2 Domain towards the establishment of an aerodrome at Westport. The circumstances of this case are that a considerable area on the beach at Westport is under process of reservation as an aerodrome site, and is being placed under the control of the Westport Borough Council. The land concerned is Crown land which is being made available for aviation purposes on the condition that if at any time it is required for harbour or industrial purposes it will revert to the Crown free of any encumbrance. The Borough Council, which constitutes the Board having control of the Westport No. 2 Domain, desired that portion of the funds standing to the credit of the Domain Account should be made available for the establishment and improvement of the aerodrome. The domain has not been used for recreation, and has been leased for a term of twenty-one years, the credit balance in the Domain Account amounting to approximately £400. This money cannot be expended to any advantage on the domain, and under the circumstances it was considered reasonable to authorize the diversion of portion to aerodrome purposes. Notice of the intention to use the domain funds for aerodrome purposes was advertised in the Westport papers without any objections being received.

There are situated in the Fendalton Riding of the Waimairi County a number of small reserves which were vested in the Crown on the subdivision of private properties. Certain of these reserves will be required for public use in the future, but there are six which could be sold without detriment

to the district. The County Council is the sponsor of a scheme having for its object the sale of the six reserves referred to above to assist in the purchase of a suitable public domain for the district. The intention is to raise a special loan to pay for the land it is proposed to acquire, and to use the moneys obtained from the sale of the six reserves towards redeeming the loan. The land when acquired will be vested in the Crown as a public domain. The proposal to sell the reserves was fully advertised in the Christchurch papers, and no objections were received. The special legislation gave authority for the sale of the reserves, and for the proceeds to be paid to the County Council towards the redemption of the loan to be raised.

PART II.—NATIONAL PARKS.

No new parks were constituted during the year, but extensive additions were made to the Sounds or Fiordland National Park.

An area of 2,600 acres situated on the western side of the Waiau River between Lakes Te Anau and Manapouri was set apart for national-park purposes, in order that all the land on the western side of the river in that locality might be administered under the one form of reservation. The area dealt with comprised 1,900 acres of provisional State forest, 160 acres of scenic reserve, and 540 acres of ordinary Crown land. Special legislation was provided to deal with the provisional State forest and scenic reserve areas, and the State Forest Service readily agreed so far as their reserve was concerned.

The opening-up to motor traffic of the Te Anau - Milford Sound Road as so far constructed raised serious problems in connection with the safeguarding of the bush from fires and the control of camping generally along the route. A special report was obtained from the Commissioner of Crown Lands and the Conservator of Forests, following receipt of which the position was fully discussed between the Department and the State Forest Service. It was then decided that some 48,440 acres of provisional State forest reserves situated generally in the Eglinton and Upper Hollyford Valleys, together with some 90,650 acres of Crown land, should be added to the National Park in order to bring as much land as possible along the new tourist road within the boundaries of the park. Special legislation (section 20 of the Reserves and other Lands Disposal Act, 1934) was provided to change the purpose of the reservation over the provisional State forest areas, and the Crown land areas were set apart under the provisions of sections 359 and 360 of the Land Act, 1924. The various areas now made national-park reserve are almost totally unfitted for settlement purposes, but offer an unrivalled combination of river, lake, bush, and mountain scenery, and it was considered essential that they should be set apart for all time as part of the national heritage.

During the 1933-34 season the State Forest Service maintained a motor-cycle patrol in the Eglinton Valley for the purpose of controlling camping and safeguarding the forest from fire. The responsibility for this work was taken over by the Lands Department last season, and a regular patrol maintained from the 1st December to the 30th April, during which period approximately 2,000 motor-vehicles visited the Eglinton.

With the assistance of the Public Works Department and the Southland Automobile Association a proper camping-ground with conveniences, fireplaces, motor-track, &c., was laid off at Cascade Creek, and fireplaces and conveniences were also installed at three subsidiary grounds. There is no doubt that the provision of adequate facilities at the camping-grounds met a great need, and also materially assisted in reducing the fire menace. A small charge was made for the use of the camping-grounds.

A temporary right to conduct an accommodation-house at Cascade Creek was granted at a suitable ground rental.

The motor-cycle patrol will be re-established next season with headquarters at Monkey Creek, in the Upper Hollyford. It is proposed to provide a hut for the patrol-man, who will undertake the same duties as during last season, and in addition will organize, with the co-operation of the Public Works Department, a fire-fighting gang of roadmen able to deal immediately with any outbreak of fire in the Hollyford. The patrol will probably be made a permanent one until at least the completion of the tunnel, as it is desired to take every possible precaution to prevent any damage to the exceedingly beautiful scenery in the Upper Hollyford.

It is considered that Monkey Creek, which is situated at the 59½ mile peg from Te Anau, will develop into a favourite camping-spot, and it is proposed to provide adequate camping facilities there in readiness for next season. The distance between the Te Anau Hotel and Milford Hotel is only seventy-five miles, and when the tunnel has been pierced and the road completed there will probably be no need for any permanent accommodation-houses in between. In the meantime, however, it is considered that some accommodation to serve people who do not wish to camp will be necessary at Monkey Creek, and the Department will probably arrange to call tenders for the right to conduct temporary accommodation there for a period of two years.

The following description of the route from Invercargill to the Gertrude Saddle was supplied by the Commissioner of Crown Lands, and will be found of considerable interest :—

“ From Invercargill the road first traverses the rich lowland farm lands of Southland, and then enters the run country, which stretches from Dipton to Te Anau. There is not a great deal of interest to be seen from the scenic point of view until Te Anau Lake and Hotel are reached—100 miles from Invercargill. The principal attraction at this point is the view of the National Park, mountains, and lake to the west. The country surrounding the hotel itself is drab and uninteresting, being covered with fern and manuka.

“ Commencing at zero, at this point the new Eglinton or Milford Road is pegged in miles, and will be dealt with accordingly.

“ It follows the eastern shore of the lake generally for 9½ miles before entering a scenic reserve, and traverses the bush for approximately 1½ miles until it reaches a burned-over portion of the reserve. The principal attraction so far is the view to the west and across the lake.

"The Te Anau Downs Station homestead is passed at the 18-mile peg, and the road then leaves the lake to pass through poor fern and scrub country for two miles, when the Retford Valley is reached. The road then enters the Eglinton Valley, but continues through rather uninteresting country until the 29-mile peg is reached and the beech forest is entered. From this point northward the route is a most interesting one from a tourist point of view.

"The road passes alternately through forest, open land, and along the river-bank, with precipitous mountains on either side rising to an altitude of 5,000-6,000 ft. until Lake Gunn is reached at the 48-mile peg. Lake Gunn is skirted to the east for $2\frac{1}{2}$ miles, when the road crosses to the western side of the valley to pass Lake Fergus. A small tarn (Lake Lockie) is next seen on the east, and then the divide between the Eglinton and Hollyford Valleys is reached at a point $53\frac{1}{4}$ miles from Te Anau.

"For approximately $7\frac{1}{2}$ miles from the divide the road continues in beech forest, passing through magnificent scenery far surpassing anything to be seen in the Eglinton Valley. The forest ends at Monkey Creek, approximately 60 miles from Te Anau, and open or semi-open land is traversed from this point to the extreme head of the Hollyford, the foot of Gertrude Saddle, and the probable portal of the proposed tunnel.

"Throughout the last 7 miles in the Upper Hollyford the scenery must be classed as amongst the finest in New Zealand. The floor of the valley is narrow, and in parts subject to avalanches. The mountains rise perpendicularly in many cases for over 2,000 ft. to a maximum altitude of 6,000-8,000 ft. Most of the tops carry extensive ice and snowfields, and from these falls of ice and snow to the valley below are of frequent occurrence.

"From the portal of the proposed tunnel, a comparatively easy climb of 1,700 ft. gives access to the top of Gertrude Saddle (4,700 ft.) and within sight of Milford Sound. There is, however, at present no safe and easy way of reaching the Sound from the Upper Hollyford. While the distance from the top of the Saddle to the Sound is only 10 miles, the way is barred by a sheer drop of roughly 2,000 ft. from the top of the Saddle to the Gulliver Valley. An alternative route is to cross the Homer Saddle and Grave Talbot Pass a few miles to the south; but this is only safe for experienced mountaineers for a few months each year, and could never possibly be made safe for ordinary pedestrian traffic. The other alternative is to return to Te Anau and proceed by boat and the Milford Track, a distance of approximately 140 miles."

Extracts from the annual reports of the Tongariro, Egmont, and Arthur Pass National Park Boards are appended hereto. The Boards have again been seriously handicapped by lack of funds, and it is apparent that no great progress can be made until a satisfactory method of providing finance for National Park administration is evolved. The Department has always held the view that our National Parks are primarily the responsibility of the State; but, unfortunately, this view is not yet generally accepted.

Bound up to a considerable extent with the question of finance is the problem of the protection of the National Park forests from the depredations of deer and other browsing animals. Very serious damage has been done in Fiordland by the red deer, and on Egmont goats have for long been a source of grave concern. However, it is pleasing to record that the Internal Affairs Department last season arranged to place departmental parties on deer destruction in Fiordland, and that a full investigation is to be made into the best means of combating the goat menace in the Egmont National Park area.

The Lands Department is prepared to give all the support it can to properly controlled measures for the destruction of deer and other browsing animals. No difficulty has been found in making a comparison between the value to the Dominion of our National Park forests and the value of the sport of deer-stalking, and it is considered that the deer should be recognized and dealt with purely as a menace to the forests and not as an animal which may provide a certain amount of sport. The welfare of the forests must be the first consideration at all times.

That portion of the Sounds National Park within the Preservation Survey District, and comprising some 31,400 acres, was brought within the operation of the Mining Act, 1926, during the year. The major portion of this area is auriferous, and has been worked for both reef and alluvial gold in past years. The condition has been made that no mining privilege shall be granted in respect of any portion of the land except with the consent of the Minister of Mines, and subject to such conditions as he may impose. This will ensure complete control being retained by the Government over the granting of any mining privileges within the area, and every care will be taken to prevent any unnecessary damage being done to the natural features of the locality.

APPENDIX.

REPORTS OF NATIONAL PARK BOARDS.

TONGARIRO NATIONAL PARK BOARD.

(W. ROBERTSON, Under-Secretary for Lands, Chairman.)

The business of the Board for the year ended 31st March, 1935, did not necessitate the holding of frequent meetings, the bulk of the matters on hand being dealt with at meetings held on 18th September and 21st November last.

RUAPEHU SKI CLUB'S HUT.

At the last-mentioned meeting the representations of the Ruapehu Ski Club with respect to mountain-hut proposals were dealt with, and it was decided that in regard to a high-altitude hut the Board would favourably consider the granting of facilities on the lines indicated in the previous report of the Board. The plans of the hut proposed to be erected and the exact location of the site are to be submitted for examination and approval by a sub-committee of the Board.

OHAKUNE MOUNTAIN TRACK.

Representations were received from the Ohakune Chamber of Commerce that a road should be formed from Ohakune Junction to the Ohakune mountain hut on Mount Ruapehu. Various phases of this proposal were discussed, particularly as to the necessity or desirability of cutting a chain strip through the forest, whether such a road would be restricted to one-way traffic, and whether it would be possible to survey a route without going through the heavy forest. The matter will be closely investigated and further considered at a future meeting of the Board.

PARK LAND NEAR OHAKUNE.

To give access to a block of land being subdivided by the Crown near Ohakune the Board consented to the taking of a short length of road through a portion of the park land in that locality. The question of removing certain dead trees from the fringe of the forest in this vicinity and the planting of other trees as a protective measure are matters which have received consideration by the Board, and it has been decided not to remove the dead timber. In regard to the planting of other trees, further inquiries are being made, and the matter will be finally determined at the next meeting.

ACCESS TO WAIHOHONU HUT.

Representations were made that a road should be formed branching off from the Waiouru-Tokaanu Road to give access to the WaihoHonu hut on the north-eastern side of the park, but it was decided that no action could be taken at present, particularly as the Board has no funds available.

DEER.

As stated in the previous report, permits to shoot deer within the boundaries of the park subject to certain safeguarding conditions were issued to two officers of the Prisons Department at Waikune. In a recent memorandum from the Controller-General of Prisons it is stated that 102 deer have been shot, and it is appropriate that the Board should here record its thanks to the officers of the Prisons Department for their valuable services in ridding the forest of so many of these animals. The permits to shoot have been renewed.

THE FOREST IN TONGARIRO NATIONAL PARK.

The following report dealing with the above has been prepared by Mr. C. M. Smith, Chief Inspector, State Forest Service, and the thanks of the Board to Mr. Smith and the Director of Forestry in this connection are recorded:—

“Twenty-seven years ago the late Dr. L. Cockayne, F.R.S., wrote thus:—

“The park presents the curious anomaly of being, except for the narrow piece of forest on the north of Tongariro and one or two small patches on the spurs of Ruapehu, practically without a tree.”

“He made this fact the basis of a recommendation for extension of the then boundaries of the park to include the beech-clad gullies to the east of Tongariro and the beech slopes to the south and west of Ruapehu. These recommendations have now been not only carried out, but exceeded.”

The forest now included within the park boundaries covers 24,000 acres, and the Board feels some satisfaction in recording this result of twenty-seven years' continuous pursuance of a policy advocated by the late doyen of the New Zealand scientific world. The merit of the performance is in no small measure shared with Cockayne by Mr. E. Phillips-Turner, of Hamilton, an ex-member of the Board, who in various administrative capacities lent uninterrupted and assiduous support to the Board's efforts.

The reproach of a forestless park having been removed, it becomes not only appropriate but almost necessary that at least a note should be incorporated in this report to deal with the park forests; for inquirers who read Cockayne's 1908 report on the vegetation will no longer find that it covers all the botanical features of the areas concerned. Its author anticipated some extension of area, and described in some detail plant associations which were but meagrely if at all represented in the then park, so that whilst, for instance, the boundaries were extending through the different types of subalpine beech forest the report was still complete and adequate. As, however, these boundaries were pushed farther and farther into the lower country they enclosed or intersected forest associations of a totally different nature from that of any described in the report, and in such cases not only are the association descriptions lacking from the body of the report, but even the species names do not appear in the plant catalogue.

The present brief note does not purport to fill in all the deficiencies thus created in the recorded forest features of the park. It is based on a general moderately intensive knowledge of the lower level forests of the park district; but the writer has made no special catalogues of the park species, and in many portions he does not know to within a mile or two the exact location of the park boundaries on the ground. In an area where many species approach their altitudinal limit, where altitude alters rapidly and suddenly, and where forest type meets forest type sometimes without even one chain of overlap between different associations, only an intensive and prolonged examination on foot of the actual boundaries could determine the matter of the inclusion in or exclusion from the park forest flora of many species. These notes, on the contrary, are intended to indicate only such salient differences between the vegetation of the original park and that of the present-day area as are due to the fact that previously the park contained no land below 3,000 ft. in altitude.

Species.—In addition to the 259 species and varieties listed by Cockayne as occurring within the park, at least the following 56 additional species may be encountered by the present-day observer within or near the boundaries:—

Pteridophyta.

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| Hymenophyllaceæ— <i>Trichomanes reniforme</i> , Forst. | Polypodiaceæ— <i>continued.</i> |
| Cyatheaceæ— | <i>Asplenium bulbiferum</i> , Forst. |
| <i>Cyathea dealbata</i> , Sw. | <i>Blechnum fluviatile</i> , Salom. |
| — <i>medullaris</i> , Sw. | <i>Hypolepis tenuifolia</i> , Bernh. |
| <i>Dicksonia squarrosa</i> , Sw. | <i>Paesia scaberula</i> , Kuhn. |
| — <i>fibrosa</i> , Col. | Ophioglossaceæ— <i>Botrychium australe</i> , R. Br. |
| Polypodiaceæ— | Lycopodiaceæ— |
| <i>Dryopteris pennigera</i> , C. Christen. | <i>Lycopodium Billardieri</i> , Spring. |
| <i>Asplenium falcatum</i> , Lam. | <i>Tmesipteris tannensis</i> , Bernh. |

Spermaphyta.

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| Taxaceæ— | Myrtaceæ— <i>Metrosideros robusta</i> , A. Cunn. |
| <i>Podocarpus ferrugineus</i> , D. Don. | Onagraceæ— <i>Epilobium rotundifolium</i> , Forst. |
| — <i>spicatus</i> , R. Br. | Araliaceæ— |
| — <i>dacrydioides</i> , A. Rich. | <i>Nothopanax Edgerleyi</i> , Harms. |
| <i>Dacrydium cupressinum</i> , Soland. | — <i>parvum</i> , (Kirk) (Ckn. |
| Pandanaceæ— <i>Freycinetia Banksii</i> , A. Cunn. | <i>Schefflera digitata</i> , Forst. |
| Juncaceæ— <i>Juncus lampocarpus</i> , Ehr. | Myrsinaceæ— <i>Suttonia salicina</i> , Hook. f. |
| Liliaceæ— <i>Astelia Solandri</i> , A. Cunn. | Oleaceæ— |
| Orchidaceæ— <i>Corysanthes macrantha</i> , Hook. f. | <i>Olea Cunninghamii</i> , Hook. f. |
| Urticaceæ— <i>Urtica ferox</i> , Forst. | — <i>montana</i> , Hook. f. |
| Balanophoraceæ— <i>Dactylanthus Taylori</i> , Hook. f. | Apocynaceæ— <i>Parsonsia capsularis</i> , R. Br. |
| Polygonaceæ— <i>Muehlenbeckia australis</i> , Meissn. | Gesneraceæ— <i>Rhabdothamnus Solandri</i> , A. Cunn. |
| Ranunculaceæ— <i>Clematis indivisa</i> , Willd. | Rubiaceæ— |
| Magnoliaceæ— <i>Drimys axillaris</i> , Forst. | <i>Coprosma grandifolia</i> , Hook. f. |
| Monimiaceæ— <i>Hedycarya arborea</i> , Forst. | — <i>lucida</i> , Forst. |
| Lauraceæ— <i>Beilschmiedia tawa</i> , Hook. f. | — <i>rotundifolia</i> , A. Cunn. |
| Pittosporaceæ— | — <i>rhamnoides</i> , A. Cunn. |
| <i>Pittosporum Kirkii</i> , Hook. f. | Compositæ— |
| — <i>eugenoides</i> , A. Cunn. | <i>Olearia Cunninghamii</i> , Hook. f. |
| — <i>Turneri</i> , Cheesem. | <i>Gnaphalium luteo-album</i> , Linn. |
| Rosaceæ— <i>Rubus schmidelioides</i> , A. Cunn. | <i>Erechtites prenanthoides</i> , DC. |
| Icacinaceæ— <i>Pennantia corymbosa</i> , Forst. | <i>Gnaphalium japonicum</i> , Thunb. |
| Violaceæ— | <i>Brachyglottis repanda</i> , Forst. |
| <i>Melicytus, ramiflorus</i> , Forst. | <i>Senecio Kirkii</i> , Hook. f. |
| — <i>lanceolatus</i> , Hook. f. | |

The best species catalogue of the plants occurring in the locality of the forest portion of the park will be found in Phillips-Turner's Report on the Higher Waimarino District (published 1909). Its exhaustive and copious lists, however, describe vegetation of localities which do not exactly coincide with the areas within park boundaries as determined since its publication; and so it is probable that inquirers would seek in vain within the park boundaries for many of the species there listed. The above list for adding to the original list of Cockayne's report has been compiled by culling from Phillips-Turner's lists such species as are with certainty to be found within or very near to the park boundaries, and by supplementing these selections from original notes of the flora furnished by Mr. B. C. Aston.

Forest Types.—The report already referred to describes in some detail the different types of sub-antarctic *Northofagus* forest that may be encountered on the park. It contains also short paragraphs on the totara forest of Tongariro and the forest on Hauhungatahi, which appears to be rimu forest merging into kaikawaka forest at the higher altitudes.

To these descriptions nothing need be added here except that attention must be drawn to the mass of *Northofagus* forest to the south and east of Mount Ruapehu, extending to altitudes lower than those which, on the western flank, carry podocarp-dicotylous forest. There are in the forests of the Dominion few clearer examples of the influence of aspect and exposure upon the constitution of a forest.

The later accretions to the park area, however, have brought in two types of forest community common enough elsewhere—so common, in fact, that their omission from the preservation secured by park status would have seriously impaired the value of the park as a sanctuary for primitive forest types. These are—

(a) Sub-tropical rain forest of dry ground exemplified in (1) rimu communities; (2) matai communities.

(a) Sub-tropical rain forest of wet ground exemplified in silver-pine - kaikawaka communities.

The Rimu Community will be found at its best in the western salient of the park near Erua Railway-station (2,400 ft. altitude). The steeper slopes still carry a magnificent stand of untouched rimu forest; the flat country, whilst aesthetically unimpaired from an exterior view, has been milled over and carries now a modified indigenous forest of second growth, which is of great scientific interest in its development, although scarcely in line with the avowed objects of park management. This milling-right was granted before the Park Board was constituted.

The Matai Community.—As a species matai (*Podocarpus spicatus*) reaches its optimum development in the forest belt to the north of the park. This forest belt (nearly all at slightly lower altitude than the park forest) is, moreover, the last extensive remaining example of the matai association, which must once have played a considerable part in the primitive vegetation of New Zealand.

Near or within the park boundaries are numerous small colonies of matai, the outliers, so to speak, of the true matai communities of the lower altitudes to the north and south. (The southern ones have in the main been now cleared to make way for settlement.)

The Silver-pine - Kaikawaka Community.—Bog forest with silver-pine (*Dacrydium Colensoi*) as the dominant species occurs to any extent only in Westland and on the volcanic plateau of the North Island. This type of forest in the latter case occurs in large areas chiefly to the north and the west of the park proper, and is differentiated markedly from the Westland bog forest by the great abundance of kaikawaka (*Libocedrus Bidwillii*), which in many places is practically co-dominant with the silver-pine. This extremely interesting, although sombre and almost repellent, type of forest community occurs to the west of the park boundary near Pokaka Railway-station, and representative areas of it have been retained in that neighbourhood within the park proper.

Ecological Notes.—The above brief sketch will suffice to show the importance of the National Park to the plant ecologist. For the tourist and sightseer, for the geologist, for the winter sportsman, the park's main interest must always be the open areas of the higher altitudes that formed the central nucleus of the original reservation. For the ecological botanist, the lowest elevations, particularly in the vicinity of Erua Railway-station on the westerly salient of the park, carry permanent interest. Here is as it were a focal-point where at least five types of plant community meet and carry on the struggle for supremacy. Within the course of a single afternoon's walk one may traverse—

- (a) Red tussock grassland dominated by *Danthonia Raoultii* var. *rubra* (red tussock).
- (b) Sub-antarctic rain-forest of *Nothofagus* (beech).
- (c) Sub-tropical rain-forest dominated by *Dacrydium cupressinum* (rimu).
- (d) Sub-tropical rain-forest of the bog-forest type dominated by *Dacrydium Colensoi* (silver-pine) and *Libocedrus Bidwillii* (kaikawaka).
- (e) Small colonies of *Podocarpus spicatus* (matai) type of sub-tropical rain-forest.

It is safe to say that nowhere else in the Dominion could such variety be found within an equal area. Moreover, the reason for the transition from one association to another is not at all apparent, and will for long give cause for speculation, until means are provided for elucidation of the problem by careful, intensive, and possibly prolonged research.

The demarcation lines between the various associations—the tension zones, as they are sometimes termed—are sharply drawn, and are perhaps the most interesting areas to examine. They are certainly of crucial importance from the point of view of retention of truly representative primitive forest associations. These zones are usually quite narrow, and their importance is often underestimated. The casual and accidental (frequently railway-caused) fire on the tussock grassland near National Park Station is frequently condoned on the plea that “it always stops at the green bush.” This is true; but unfortunately the green bush on which the fire spends its dying vigour is exactly that narrow “tension zone” (often only $\frac{1}{4}$ chain wide) different in composition from the main forest inside it and from the tussock grassland outside it. It is the protective belt of the forest, the zone where, in some places, the forest is in ever so leisurely fashion overcoming the tussock grassland community; but where in most places it may rather be deemed to have established a fortified frontier, impregnable to all attack by natural agencies. The fire invariably assists the grassy invaders, and then there is lost yet another forest outpost, regained after a century or more of silent conflict, or held for even longer since some long past major cataclysm. Successive fires (and these fires are of annual occurrence on the western side of the park) carry on a war of attrition against the forest, although in any one year their territorial gains are but small.

One can justify fire properly used, even on occasions used for forest amelioration; but at a point such as the forest-edge on the western side of the park, where the vegetative balance has an adjustment more delicate than that of the finest man-made precision instrument, both incendiarism, whether deliberate or accidental, and neglect to extinguish fire before it reaches the bush-edge can be regarded only as symptoms of pyromania.

From an ecologist's viewpoint, then, fire is the catastrophe chiefly to be guarded against on the western salient; and, in order to minimize the risk of it, removal of all activities save forest protective ones to a point well beyond the park boundaries in this vicinity would be a cheap and easy safeguard.

Exotic Trees on the Park. No note on the park forests can be complete without a passing reference to the few incongruous groups of exotic conifers to be seen within the western boundary where the Whakapapa River flows out of the park. These were planted experimentally on the Waimarino

Plains before the park boundaries were extended to the Tokaanu Road. The extended boundaries later enclosed these small alien groups; but they are not the result of inconsistent policy on the part of the Park Board. The strictly logical procedure for a National Park Board would be to destroy them now; but it would appear that most of them (except possibly the larch plots) are doomed ultimately to die without regenerating their kind; and meantime within their scrubby shelter some few native shrub seedlings are appearing. It is just possible that they may serve as nuclei for the ultimate establishment of clumps of indigenous scrub on the red-tussock plains; and, if so, they will have served as it were by accident to enrich the indigenous flora of the plains. They certainly, although at present conspicuous, are less of a menace to the true objectives of national-park policy than is the abundant and uncontrollable heather (both common ling and bell heather) which is spreading freely in the tussock grassland in the north-west corner of the park in the same area as the exotics—*i.e.*, it was included in the 1922 boundary extension.

VOLCANIC ACTIVITY.

Mr. R. Cobbe, Manager at the Chateau, advises that the outstanding feature of the year was the unexpected eruption of Mount Ngauruhoe on 7th December, 1934. In the course of his report he remarks as follows:—

“On Wednesday, 5th December, I was camped with three guides in the Maungatepopo Hut at the foot of the mountain, and there was no sign of any volcanic activity whatsoever, though Guide Risberg, who ascended the mountain on this date, noted that the upper lip of rock had broken away, and it was possibly the partial blockage of the vent with these rocks that caused the eruption on the following Friday. For three days the sky was darkened with vast columns of volcanic dust and dense black smoke interspersed with outbursts of steam, some shots recorded by the photographer showing a height of over 1,400 ft. Observers did not see any sign of flames, but at times rocks and stones could be seen rolling down the mountain-sides. At 9 a.m. on the Sunday the roar of the explosions vibrated the ground at the Chateau for about ten minutes, though usually it was only the observers at the foot of the mountain who could hear the explosions. The ashes from the eruptions were found on the plains for a radius of ten miles from the base of Mount Ngauruhoe, but the fall was slight, and the evidence disappeared after the first rain.”

WINTER SPORTS AND EXCURSIONS TO THE PARK.

Mr. R. Cobbe, Manager at the Chateau, advises that winter sports are gaining hundreds of recruits each year, and that it would be reasonable to estimate that 15,000 New-Zealanders are now directly interested in various forms of snow sports. He states that there were no serious accidents during the year, and attributes this to the excellent organization of the various mountaineering clubs and their constant endeavours to warn climbers of the dangers of making ascents without guides and proper equipment.

The following clubs have kindly submitted short accounts of visits of their members to the park during the year under review, and extracts from these accounts are quoted:—

The Ruapehu Ski Club (Inc.).—Several trips to the Tongariro National Park have been undertaken by club parties during the year ended 31st March, 1935, the most noteworthy being one at 3rd June week-end and the annual winter sports visit.

At the 1934 King's Birthday week-end snow conditions made ski-ing practice possible in the vicinity of the Glacier Hut, and some members climbed on ski to the Crater Lake and returned via the Whakapapa Glacier.

Pleasing features of the winter excursion in August, 1934, were the return visit of that Australian enthusiast, T. W. Mitchell, winner of the New Zealand Ski Championship in 1932, and the personal acquaintance of representatives from several South Island ski clubs.

The Ruapehu Ski Club's annual ski tournament provided opportunity for practice prior to the New Zealand Championships, for which conditions were considerably improved by snow which fell towards the end of the former meeting.

With a view to the provision of further safety measures at the park, representations have been made in regard to the installation of a telephone to connect the Chateau and the Salt Memorial Hut, and the clearing of the bush track near the Mahuia River which was cut by rescue parties during the eventful 1931 search activities.

Tararua Tramping Club (Inc.), (August, 1934).—The Tararua Tramping Club's annual winter sports visit to the National Park was held from 21st to 31st August. Sixty-five members, including representatives from the Hutt Valley, Manawatu, and Pawa Tramping Clubs, took part in the trip. The party was in residence at the Chateau for the whole period, during part of which some of the members took part in and others watched the events held in connection with the New Zealand Ski-ing Championships, which took place on 27th, 28th, and 29th August, 1934.

The snow conditions at the time of the visit were the poorest that have been experienced for some years. The total absence of snow on Lower Scoria Flat and also on the lower reaches of Upper Scoria Flat made it necessary for the more skilled members to proceed a little higher up the slopes of Mount Ruapehu for good ski runs. A number of smaller slopes about 100 yards above Salt Hut provided a practice ground for the novices, and later—when these members of the party had gained more confidence and skill—they were able to follow the more expert members.

A party of nineteen made a successful ascent to the crater lake on Ruapehu. A party of twenty-two members also made a motor trip to Ketatahi Mill, from which point the climb to the Ketatahi Hot Springs was made. While the majority of this party explored the wonders of this little known and extremely active thermal district seven of the party made a successful ascent of Mount Tongariro under very bad weather conditions.

Alpine Sports Club (Inc.).—A very successful official winter sports party to the Tongariro National Park was held during August, the party lodging at the Chateau. Snow conditions were not ideal, and, with the exception of a novice race, the usual sports had to be abandoned. A number of members have visited the park in private parties, and have been given assistance and advice by the club, thus enabling them to make the most of the facilities at the park.

WARDEN'S REPORT.

Mr. John Cullen, I.S.O., Warden of the Park, in his annual report remarks as follows:—

"The park area has been quite free from tussock and scrub fires during the year ended 31st March, 1935. For many years past tussock fires have done serious damage to the native bush, the Moturoa bush having been damaged on both its northern and southern sides, and three of the isolated patches of bush on the flat between the eastern end of the Moturoa bush which existed there forty years ago have completely disappeared, and others along the Waimarino Stream have been greatly reduced in area during that period.

"Native-bird life is fast disappearing from the north-west side of the park owing to the swarms of cats gone wild which now infest it, as well as the damage done by stoats and weasels, which are also numerous there. Tuis, which used to be plentiful there some years ago, are now rarely seen or heard there.

"The three mountains—namely, Tongariro, Ngauruhoe, and Ruapehu—were quite bare of snow during the months of February and March. During these months the Whakapapa-iti River was quite discoloured with a greyish sediment, while the Mahuia and Waikari Streams, which run close to and parallel with it and have their sources close by its source, were running quite clear. During the months of February and March of 1917 the three mountains were quite bare of snow, as were also the glaciers. This was owing to about six weeks' continuous dry and very warm weather. During this dry spell the Whakapapa-iti River water became heavily charged with a greyish sediment, which settled all over the river-bed and filled up the various pools in it down to its junction with the Whakapapa-nui River. Some of the pools so filled up were a chain long and fully 9 ft. deep, and were full right up to the level of their outlets. One pool, immediately above the Whakapapa-iti Bridge, in which prisoners, whose camp was nearby, used to bathe, was completely filled and prevented bathing therein. When the weather broke with heavy rain for two days, the river was cleared of all the deposited sediment. The Mahuia and Waikari Streams running close to the Whakapapa-iti River were not discoloured in any way. The Whakapapa-iti is always of a greyish colour down to where it is joined on its right side by the Waimapu Stream in a large pool, the water of which is quite greyish on the Whakapapa-iti side and quite clear on the other. The discoloration of the water disappears after going over the first rapid after leaving the pool. There must be somewhere along the course of the Whakapapa-iti from where it leaves the Whakapapa Glacier to the Ngarorere Waterfall a sulphur and silica spring which causes the discoloration referred to, as water smells strongly of sulphur at times."

EGMONT NATIONAL PARK BOARD.

(W. C. WESTON, Chairman.)

The work of the Board during the past year has again been very severely handicapped by the almost total absence of finance. The Board members are very much concerned at the apparent lack of sympathy on behalf of the Government in this connection, as they feel that they are endeavouring to control a very valuable national reserve without any financial assistance whatever. The Board views the general position with alarm, as it is felt that, unless some definite steps are taken shortly, the forest under its control will rapidly deteriorate.

During the year several deputations have waited on Ministers with a request for some permanent contribution from the Government for the ranging and upkeep of the reserve. The necessity for the employment of two permanent rangers was stressed. In all cases Ministers have assured the Board of their sympathy and interest. This year a start was made by the Survey Department to define the boundaries of the reserve northwards, work having commenced at the junction of the areas controlled by the south and east committees. It is estimated that the survey will take at least three years to complete.

Goats.—Although in the past considerable work has been done in the matter of the destruction of goats in the reserve, during the year under review it was not possible to do anything, and now several areas are fast becoming overrun with this pest. It seems a pity that evidence of rejuvenation apparent last year will shortly be spoilt owing to the rapid increase of goats in the reserve.

Local Committees.—The local committees have all functioned very well considering the lack of funds available, and a great deal of valuable work is being done by committee members in their honorary capacity.

Improvements in accommodation have been made, roads have been maintained, and, where possible, tracks have been partially put in order.

Complaint has been made of the cutting and sale of timber by the east committee from the reserve during the past several years. This has been investigated, and it is to be hoped that there will be no further cause for complaint. Perhaps it is only fair to report that whatever revenue was derived from the sale of timber was spent on the upkeep of the house, tracks, and in planting in the vicinity of the Stratford Mountain House.

Alpine Clubs.—As in the past, members of alpine clubs have been of great assistance to the Board. Huts have previously been erected by members—one at Fantham's Peak, erected by the Egmont Alpine Club, another at the Manganui Gorge, erected by the Stratford Mountain Club, and this year an excellent hut has been erected at Humphries Castle by the Taranaki Alpine Club.

The efforts of Alpine Club members generally have been of real benefit to the Board in providing attractions which, it is felt, will bring in increased revenue in later years.

Afforestation.—The clearing of the plantation has again been done by unemployed labour, but, unfortunately, replacement of dead trees has not been possible owing to total lack of the Board's funds.

Viewed generally, 300 acres of plantation are in very fair order, but there are numerous places where additional planting is vitally necessary to make a uniform plantation.

With the limited amount of unemployed labour available, considerable difficulty is experienced in getting adequate fire-breaks cleared in order to protect the trees in case of outbreak of fire from the neighbouring farms.

Every endeavour has been made by the Board through its various committees to again improve facilities for winter sport, as it is felt that considerable improvement in finance will follow if this attractive sport can be obtained on Mount Egmont. Winter sports are now held both at Stratford and Dawson Falls, and now that the new hut has been erected at Humphries Castle it will provide the necessary accommodation for winter sports on the northern area.

In an endeavour to obtain some financial assistance the Board has this year done everything possible to interest the local bodies of Taranaki in the hopes that some definite annual contribution may be obtained from them which, it is hoped, will carry a Government subsidy as well.

The Board has waited upon the District Highways Council with a request that it recommends to the Main Highways Board that the latter Board take over the responsibility for the maintenance of the roads within the reserve belonging to the North, East, and South Mountain Houses. This request was affirmed by the Council and recommended to the Highways Board.

ARTHUR PASS NATIONAL PARK BOARD.

(J. F. QUINN, Commissioner of Crown Lands, Christchurch, Chairman.)

I have the honour to submit a report and statement of accounts for the fifth complete year since the Board was established in September, 1929. The Board has this year been able to make some advance with a few of its projects, chiefly because of the assistance given by the Unemployment Board. Apart from these works, which will be covered in subsequent paragraphs, the Board continues to be stultified in its endeavours by the complete withdrawal of financial support, which very naturally reflects itself in a restriction of all the Board's activities. Nevertheless, the Board claims to have exercised a progressive and healthful influence in the park itself and upon the residents and public who make use of its attractions.

Personnel.—At the beginning of the year the Board had the misfortune to lose the services of Professor Arnold Wall, who removed his residence to Auckland. In September, Mr. W. Stewart was appointed to the office of Valuer-General in Wellington, and in consequence resigned his position as Chairman of the Board. The Board has tendered Mr. Stewart its cordial congratulations on his promotion and its sincere appreciation of his able services in the Board's behalf. Mr. J. F. Quinn, on his appointment as Commissioner of Crown Lands, assumes the Chairmanship in Mr. Stewart's stead.

Meetings.—The Board met on two occasions, and the Executive met once. Although more meetings were desirable and even necessary, considerations of expense were the chief cause of the reduction. The Board, however, has resolved on holding a minimum of four meetings annually. It was regrettable that the annual inspection was not held on the 3rd June, as this visit on the part of members is a most valuable feature of the Board's work.

Finance.—(a) Further endeavours were made to secure a share in an art union, but it was made abundantly clear by the authorities that the Board's application would not be granted.

Permission has just been sought and obtained for the Board to organize an art union for its own benefit. The limitations, however, that have been imposed are such as to make such an undertaking a most unattractive proposition. It will be a matter for the Board's consideration as to whether it will proceed.

(b) As a preliminary to approaching local bodies for further assistance, inquiries were made of the Christchurch City Council as to whether the sum of £150, the unpaid balance of a grant made in 1930, could now be paid. It appears that there will be considerable difficulty in obtaining approval to this. It will be an unprofitable proceeding to seek further grants from other local bodies unless a practical lead can be obtained from the City Council.

(c) Notwithstanding that the Government has made no monetary grants to the Board except a sum of £200 to cover preliminary expenses in 1929, and that other similar bodies have received generous grants, the Government will not afford any help. The only course to take here is to place the facts frankly before the Government in a final attempt to persuade the Government of the Board's urgent need.

(d) It is now a matter of immediate concern as to what further action can be taken to place the Board on a sound financial basis. Obviously the Board cannot be content to merely continue its present services until its funds are exhausted. There are many projects unfulfilled and added responsibilities to maintain which make it imperative to increase the Board's income and reserves, or both.

Unemployment Camp.—It is gratifying to report that we were able to arrange this year for a camp of unemployed to be established. A camp of six men, together with a foreman and cook, subsidized by this Board, was set up and were engaged for four months. Weather conditions, first heavy continuous rain and then prolonged drought, were against the best use being made of our opportunity.

In the early stages we suffered from labour troubles, but in due course we succeeded in getting together a first-class team of men whose work and general behaviour have merited high commendation. The camp has reopened at Otira to clear up rubbish that has disfigured the landscape since the opening of the tunnel. Early in April it will be transferred to Arthur Pass to continue planting operations. It will then remove again to Otira to finish the work there. In respect of both camps, and in

particular at Otira, the Board stands in the debt of the Railway Department for assistance in very many respects, and the Board's officers have been received with every consideration by the Department's officers.

Publications.—(a) A handbook on the park is about to be published by Mr. R. S. Odell. The Board has from its inception entertained the hope that a suitable treatise on the features of the park might be compiled. The offer of Mr. Odell to publish such a book was gladly availed of, and the Board has assisted its publication with a grant of £25. The manuscript has been perused on the Board's behalf and approved, and will shortly issue. It contains chapters by the compiler and specialists on particular topics, on the history of the district, tracks and trails, the mountains, the geology, the vegetation, and notes on place names. It is a very useful work and one which the Board very cordially welcomes.

(b) A pamphlet conveying sufficient information to guide the excursionist who pays a casual visit is to be printed by the Railway Department on behalf of the Board. The Board expresses its appreciation of this piece of help given by the Department.

Thanks are offered to the Railway Department and its officers for many services referred to in this report; to the public press for generous publicity; to Mr. M. J. Barnett for supervision of the work being carried out by the unemployed; to Dr. William McKay for his continued services as Chairman of the Grounds Committee, in which office he has ably directed much of the Board's work with his customary energy; to the honorary rangers for carrying out their duties in the best spirit; to Mr. C. G. S. Ellis, Deputy Chief Surveyor, for help during the interregnum between Mr. Stewart's departure and Mr. Quinn's accession to office.

The Ranger continues to serve the Board effectively. He has had a busy year with many visitors and with work in connection with the Unemployment Camp. We are glad to hear many commendations received from the public whom he has served.

The Township is yearly showing an improvement in its general appearance. Hut owners are developing a commendable community spirit, which the Board hopes will ultimately bring about a thoroughly tidy township, with every hut and residence a presentable structure. As a contribution toward the attainment of this ideal the Board sold for destruction its large store shed—a most unsightly if somewhat useful edifice—and also bought out for the same purpose the owner of a similar structure. During the year two very fine houses have been built, which in itself is indicative of the increasing popularity of the district. Inquiries point to the fact that a growing demand for building-sites will go hand in hand with improving conditions.

Visitors for holiday purposes have never been in greater numbers, and there was a full township during the various holiday periods. Railway excursions were neither as frequent nor as well patronized as usual. The winter was not suitable for winter sports, indeed several recent seasons have been unusually mild. The cognoscenti, however, predict heavy snows and frosts for the coming winter. The summer display of blossoms and fruits was exceptionally profuse and attracted much attention. It is a matter for gratification that both residents and visitors are exhibiting a progressively greater respect for the flora, so that the vandal and despoiler are becoming a *rara avis* and we shall hope soon be an extinct specimen.

General.—The projected construction of a bridge over the Waimakariri should have a pronounced influence for good. . . . The year was free from serious accident. . . . The traffic bridge over Magrath's Creek is now almost complete and is a great improvement in the Arthurs Pass—Otira Highway. . . . Increasing motor traffic with the dust in its wake has raised the question of the desirability of a tar-sealed road through the township. . . . Sixteen people were on the top of Mount Rolleston together during the season. . . . The Board has offered a grant of £25 to the Railway Department to help construct a combined tennis-court and ice-skating rink. . . . We still have hordes of deer, but getting harder to shoot. . . . Trespassing cattle seem to be on the wane. . . . Nothing further has been heard of the proposed memorial to the late Sir Arthur Dudley Dobson. . . . The plans and site were approved some months since. . . . The Board's application to have the Lake Kaurapataka district brought within its jurisdiction has not yet been acceded to. . . . The Christchurch Ski Club enjoyed a successful year. Its control of the devotees of winter sports has been a great help to the Board. . . . The club's hut was constantly patronized during the winter.

GROUND.

The report of the Grounds Committee, which follows, is submitted by the Chairman, Dr. William McKay:—

The Grounds Committee, in submitting their report for the past year, wish to state that the lowered condition of the Board's finances has dissuaded them from pressing for many works which otherwise they consider desirable.

Township Improvements.—The plans suggested by the Board for general beautifying of the township have been given effect to. The unsightly waste material lying about has been disposed of, and the beautifying scheme drawn up by Mr. M. J. Barnett has been well carried out. Prolonged dry weather after completion of planting militated against perfect results, but it is surprising to note what a large percentage of the trees and shrubs has become rooted.

Your sub-committee, who have from time to time inspected the work, wish here to express their appreciation of the faithful manner in which Mr. Barnett has carried it out and the enthusiasm he has displayed since its inception. We feel sure that, in a few years when growth has developed in the various plots, this spot will be a monument to his zeal and ability.

Improvements at Otira Settlement.—Following on the suggestions made in your sub-committee's last annual report, we are pleased to note that satisfactory arrangements have been made with the Railway Department to co-operate with the Board in cleaning up the old iron and other litter which has for so long disfigured the landscape in and around Otira.

Winter Sports.—An excellent new toboggan run was formed by labour provided by the Railway Department on a site quite near the station, so that next winter it is expected that much use will be made of it by visitors. It was completed too late last year to be availed of during the times of snowfall.

Alpine Climbing.—The many peaks within our boundaries are becoming increasingly popular with climbers: Mounts Rolleston, Avalanche, and Philistine especially being made easier of approach by reason of the formed tracks made through the subalpine forest and scrub.

Additional Track.—An old abandoned but well-graded and benched track formed by the Public Works Department during the tunnel surveys was discovered and opened up, an extension being made to connect with the main western track leading to the summit of Mount Philistine. The value of this track lies in the fact that the ascent begins immediately on leaving the highway in Otira Gorge, and should consequently prove of great benefit to climbers arriving either from east or west. Suitable sign-posts have been erected.

Deer, Chamois, and Goats.—The number of licenses issued by the Grounds Committee for those wishing to shoot in the western part of the park was fourteen. The regular expeditions of these sportsmen all the year round on to the slopes of the mountains are not only resulting in a considerable number of kills, but are driving the herds from within the park. So far the system of issuing these permits has worked smoothly, and the committee recommends its continuance.

Breaches of By-laws.—We regret to have to record that there have been serious cases of destruction of living forest by residents seeking firewood. The offences have been the more reprehensible in that some of the offenders were Government employees. It is needless to enlarge upon the consequences that must follow such damage in mountainous districts with unstable surfaces.

Grazing and Upland Protection.—The existence of grazing-rights, particularly in the Otira Valley, will always be a source of annoyance through animals browsing within the park. The position is a difficult one unless assurance can be given the Land Board that stock would not continue to have the run of the river-bed.

Probably some of the freehold and leases remain more or less unfenced, and it would be almost impossible to exercise adequate control. Also it is doubtful if the Park Board could compel them to fence, at least those not actually adjoining the National Park.

However, it appears pertinent to consider the disappearance of plant cover and the gradual destruction of surface sponge, affecting evaporation and moisture run-off, aggravated by chamois, deer, and such predatory animals.

The increased presence of land-slides and general hillside erosion are serious factors affecting the silting of stream-flow.

The granting of grazing-rights, whilst at the same time encouraging the destruction of deer, chamois, &c., is contradictory and detrimental to upland protection.

Mining-rights.—With the increased activity in mining operations, some applications for mining privileges have affected the park, and these have been investigated and reported for appropriate action by the Board.

Timber Trespass.—With the co-operation of the Conservator of Forests, an inspection made of adjoining sawmilling operations resulted in the detection of unauthorized timber-cutting within the park boundary. An investigation and appraisal of the trespass was made by the State Forest Service for the Board, and the total value including penalty was paid by the sawmiller in question.

Fires.—Too much emphasis cannot be given to the need for care and prevention of fire. Complaints reached us of careless lighting of fires near Aitken's, and these were investigated without securing sufficient evidence to prosecute. The reduction of beautiful verdant growth to a blackened vista of charcoal and stone along the road and railway is indeed depressing. We think the Railway Department through its surfacemen could help in the detection and prevention of such vandalism.

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