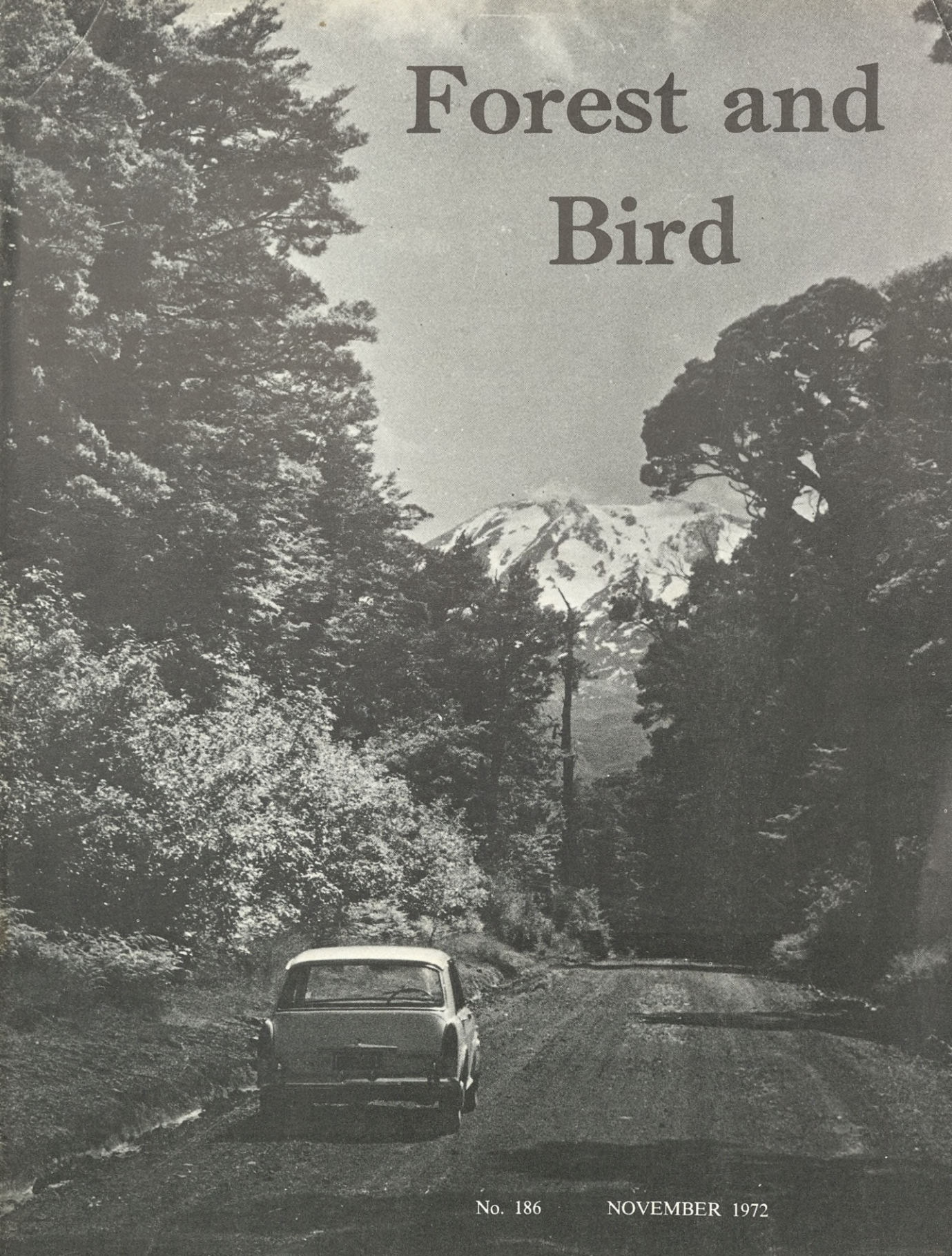
Forest and Bird



No. 186 NOVEMBER 1972

National Publicity Studios photo

Lake Manapouri, whose natural beauty the Society and other organisations have striven hard to preserve in recent years. This view, taken from Homeward Island, faces the cloud-covered Cathedral Peaks of Kepler Mountains. Declarations of policy and intention for the lake's future are given by the Prime Minister and the Leader of the Opposition in the article beginning on the oposite page.

Forest and Bird

JOURNAL OF THE ROYAL FOREST AND BIRD PROTECTION SOCIETY OF NEW ZEALAND (Inc.)

NOVEMBER 1972 No. 186

Declarations on Manapouri

FOR 12 years the Society has campaigned in an effort to save the two magnificent lakes in our greatest national park from despoliation by those who wish to obtain the last few megawatts of power from the waters. We have done everything possible to persuade the Government that economic considerations should not necessarily always be overriding. We have petitioned Parliament three times, made lengthy submissions to a Special Commission, and taken part in many deputations. Yet we are without firm assurance that the lakes will not be sacrificed.

We are not a party organisation; nor do we wish to be. Nevertheless we think we are entitled to unequivocal statements from Parliamentary party leaders on such an important matter. We asked for and obtained the following statements:

FROM THE PRIME MINISTER:

Government Policy on Lake Manapouri

"In September 1971 the Government accepted the unanimous recommendations of the Parliamentary Select Committee representing both sides of the House which considered the petitions praying that the waters of Lake Manapouri be not raised beyond the normal levels. The recommendations accepted by Government were:

(i) any dam constructed at Mararoa to control the level of Lake Manapouri be so constructed as to ensure that at this stage the lake is not raised above its natural levels;

(ii) the Mararoa Dam be so constructed as to permit, if necessary in the future, the raising of the lake beyond its natural levels;

(iii) any provision for the raising of the lake above natural levels in the future should not be undertaken without the authority of Parliament.

"This means that when the Mararoa Dam has been constructed to control the lake at its natural level it will be possible to find out the amount of power which

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COVER: Mount Ruapehu from the Ohakune mountain road at 3,000 ft. Arthur P. Bates photo.

Registered at P.O. Headquarters, Wellington, as a magazine.

can be generated without raising the level of the lake. When, through study and observation, more definite information has been obtained, Parliament will be in a better position to reconsider the matter.

"The Government has shown by its actions that it shares the concern shown by many New Zealanders about the future of Lake Manapouri and recognises that no decision on raising the level of the lake should be made without greater knowledge of the likely consequences.

"To ensure that local interests are consulted on all matters relating to the operation of the power scheme as it affects Lakes Manapouri and Te Anau and their environments, Government has decided to establish a Liaison Committee with representatives from the national park board, local authorities, conservation groups, and Government departments.

"The Liaison Committee will have an important role in channelling advice to Government from those organisations which have shown their concern that the development of the power resources of these lakes should not be at the expense of scenic and conservation values."

FROM THE LEADER OF THE OPPOSITION:

"Labour believes the raising or lowering of Lake Manapouri outside its natural levels or at an unnatural rate within its natural levels is not justified when the possible economic advantages are measured against the environmental damage that would certainly result to one of New Zealand's finest lakes.

"Holding these views, Labour undertakes not to allow the lake to go beyond its natural levels.

"Any legal obligation to Comalco to supply extra power will be met from the national grid or by paying compensation fairly assessed.

"To provide for the expenditure of $3,700,000 to allow the lake to be raised would in my view be irresponsible when we have no intention of doing so. The fact that this Government are prepared to spend this sum to allow raising the lake is not without significance."

Wetlands Institute Opened in U.S.A.

THE Prince of the Netherlands, President of the World Wildlife Fund, dedicated the South Jersey Wetlands Institute at Stone Harbour, New Jersey, in the United States in September.

The institute is the centre-piece of 5,000 acres of coastal marshlands which have been conserved as one of the World Wildlife Fund's biggest projects and investments in the world.

The president of the institute is Mr Herbert H. Mills, former executive vice-president of the World Wildlife Fund in the United States.

Research Laboratory

The buildings contain a research laboratory, lecture hall, natural history display area, and an observation tower.

Scientific research and educational programmes at the Wetlands Institute are being conducted by Lehigh University and are aimed at increasing the understanding of wetland ecosystems; ascertaining the effects of disturbance caused by human activities; providing scientific information; training scientists and engineers in methods of solving and preventing ecological problems in coastal areas; and educating the general public on the importance of wetlands and the general ecology of coastal areas.

It is hoped the institute will contribute to the elimination of pollution from marshlands, rehabilitate both finned fish and shellfish in the area, and provide information about the viruses and other diseases of fish migrating through the oceanic sludge dumps off North Jersey and Delaware Bay.

Sutherland Reserve in Turakina Valley Now Open to Public

By Dorothy I. Strauch

THOUGH the Forest and Bird sign, indicating ownership, has been displayed on the Society's Sutherland Reserve in the Turakina Valley since 1969, it was only this year that the Rangitikei Section considered the reserve to be completely in order for visiting naturalists. It is the latest donated reserve to be opened to the public and is the Society's only endowed reserve.

SUTHERLAND RESERVE, of 178 acres, has:

- A marked circular track of 2 miles.
- Trees identified with name-plates.
- Maori sleeping pits of pre-European origin.
- Evidence of natural tree regeneration.
- Picnic tables and seats.

To develop the project members of the Rangitikei Section worked over 400 man-hours at weekends and on odd days. There were fences to erect to exclude stock, tree planting at the entrance, spraying ragwort by helicopter and haversack, building a high footbridge as access to one part of the bush, making tracks, tree-labelling, and setting up picnic areas. The Rangitikei Section has accepted responsibility for the care and supervision of the reserve.

Two Stands of Bush

When Archibald Sutherland died in 1967 he left 2,700 acres of land to various charities. Two blocks of bush he gave specifically to the Forest and Bird Protection Society with a generous endowment for their future preservation.

One stand of 150 acres is 17 miles up the Turakina Valley and the other a further 3 miles on the Mangahoe road (sometimes spelt Mangahowhi) to Hunterville. In 1968, at the time of the property transfer to the Society, members noted on an inspection tour that stock from the surrounding pastures had stripped the forest floor. However, by 1971, after fencing had kept stock off the floor, the same members noticed clear evidence of regeneration.

A south-east view of 150 acres of Sutherland Reserve, main stand.

The bush is classified as temperate rain forest, is located about 250 ft above sea level, and is about 20 miles straight from the coast. The larger stand is at the corner where the Mangahoe Stream flows into the Turakina River.

The visitor enters the reserve over a stile, following the markers with yellow discs a short distance to the edge of the forest. The markers continue to be displayed on trees on a circular track for 2 miles. There are three distinct botanical areas, and the kahikatea is the dominant canopy tree. Seen from a neighbouring hill the canopy areas are kahikatea, tawa, and kanuka in their respective sections.

Canopy layer: The podocarps grow in the damp or swampy ground except the totara, which prefers the drier slopes and ridges. Tawas and kanukas are also on the drier slopes and allow sunshine to filter through the branches to the forest floor. There are rimu, matai, kahikatea, hinau, maire, miro, rewarewa, kowhai, and, in the Mangahoe stand, particularly fine totaras. Epiphytes are growing in the kahikateas and are of the *Astelia* species. Climbers on these trees are rata vines, clematis, supplejack, kohia (native passion vine), and lawyer.

Sub-canopy: These trees are titoki, tarata, putaputaweta, mapua, houhere, kanuka, and mahoe.

A track marker and a supply of tree labels for the reserve made by the chairman of the Rangitikei Section, Mr K. E. Reynolds.

Location of Reserve

DISTANCES that the Sutherland Reserve is from nearby towns are:

Marton–Turakina–Sutherland: 26 miles.

Marton–Mangahoe or Taurimu–Sutherland: 21 miles.

Wanganui–Turakina–Sutherland: 31 miles

Wanganui – Fordell – Sutherland: 23 miles.

Shrub layer: There is a variety of coprosma, koromiko, manuka, lancewood, five-finger, kohuhu, turepo, poroporo, mapau, taurepo, ti kouka, and native broom.

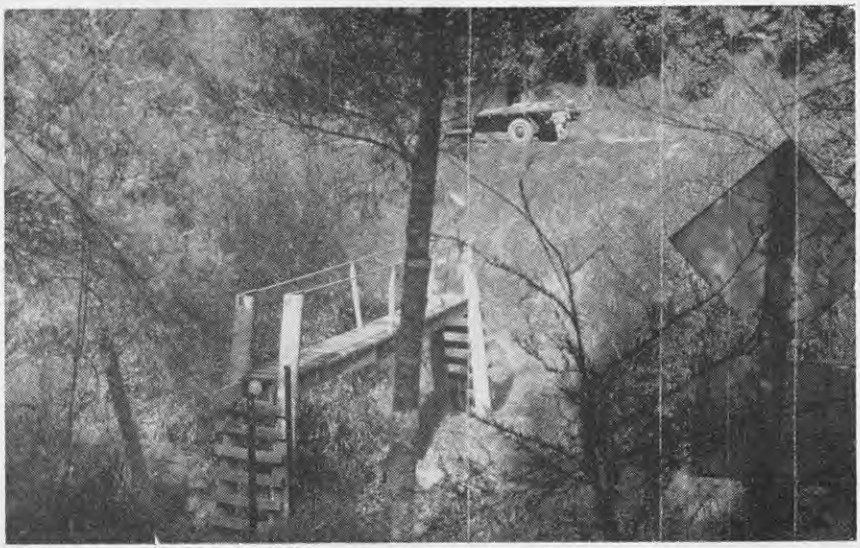
Area of Regeneration

The kanuka, which grows along the stream cliff edge for some distance, has nursed the kowhai to a height of 30 to 40 ft and skirts an area of regeneration which indicates that at some period well before this century there was deliberate or accidental fire.

In August 1971, when a working party saw foliage dropping from a considerable height, two pigeons were discovered in the tops of one of these high kowhai plucking the young shoots. August is a month when bird food is becoming scarce.

Mr K. E. Reynolds, chairman of the Rangitikei Section, who has provided much information for this article, says native birds he has seen in the reserve are kereru, tui, bellbird, grey warbler, pied fantail, kingfisher, and morepork.

Mrs Reynolds, whose relative owned the block of land before Sutherland came into the valley, told me that soon after the turn of the century someone near the township of Turakina liberated a pair of Australian sulphur-crested cockatoos which have since bred a colony of descendants. Some can be seen at times around the reserve and they can be heard screaming from the canopy. Forty or 50 inhabit the area between the Turakina Valley and Hunterville and sometimes they congregate in a flock of this number.



A footbridge over Mangahoe Stream gives access to a 28-acre stand on the Mangahoe road.

Sleeping Pits

On a high cliff overlooking a gully, where river and stream meet, and sheltered by bush, are three Maori sleeping pits. A titoki with a trunk of 18 in. in diameter grows at the edge of the largest pit, its roots exposed on the inside of the pit.

The late Mr M. J. G. Smart, a former curator of the Wanganui Museum, identified the pits as the temporary sleeping quarters of Maori in the district, who in the past came from their main habitation to replenish their larder. The district, which was covered with bush for miles in the early days, teemed with birds such as kaka and kereru. There was a plentiful supply of berries and fruits of the forest—tawa, hinau, supplejack, and kohia berries—to be enjoyed by pigeon and man alike.

The river and stream could supply eels, minnows, and other fish. Even in recent years an eel basket or hinaki has been seen in the river. Eels are still trapped by eel weir and basket about the end of March or early April. Formerly this area was a secondary food basket when supplies ran short in winter. The closest kainga would be only a few miles' walk from Kauangaroa on the Whangaehu River, which has no no fish because of its sulphur content. The main villages at Turakina would also use these upper regions for food gathering.

The ridge would be chosen because of its good drainage and the sunken floor of the pits would ensure greater warmth in winter

A Rangitikei Section working party setting up picnic tables at the main stand, Sutherland Reserve.

and, according to Mr Smart, would be roofed and give good dry cover. These wharau or or temporary shelters could easily be repaired at every annual visit.

In the pits, shellrock and shells lie just below the surface of the soil, indicating Pleistocene origin. Sample shells sent to the Dominion Museum for identification proved to be fossils. They were fragments of oyster, brachiopod hinges, and a fairly complete valve of a *Tawera.*

A few chains away from the pits, at the edge of the kanuka, there is a small open clearing circled by kowhai and kanuka where the New Zealand ricegrass (*Microlaena avenacea*) is the only plant. Perhaps the answers to the questions arising from the change of pattern in the vegetation lie with these food-hunting expeditions. Was a special food-gatherers' ritual involving fire performed at this spot at some pre-European time? Did the hunters light a fire that spread out of hand?

According to Mrs P. Hekenui, of Marton, none of the birds or fish caught would be cooked or preserved in the area. If this were done, it was believed the fish would go down stream and the birds depart to another area. The snarers would bring their own sustenance for the duration of the visit. For here was a community where Mother Earth provided generously from tree and water and where the mystic relationships between the god of the forest and the inhabitants—animal, plant, and man—had to be recognised with awe and invocation. Some part of the fish or bird must be returned to the earth, for the *tapu* enclosing all must not be broken.

Sutherland the Man

Archibald Sutherland was born in 1884 at Lamb Hill, Fordell. In 1902 he bought the property in the Turakina Valley and remained there for the rest of his life. By this time the valley was fairly well settled, with a road alongside the river giving easy access. This was a vast improvement on the conditions prevailing in 1890, when Mr Malcolm McGregor, Sutherland's predecessor, had to make 26 crossings of the river to travel from Turakina to the property.

Sutherland, too, was a pioneer, a man of the old school who believed in plenty of work. For recreation he considered a change of work as good as a holiday and found enjoyment in giving his neighbours a hand. Not one to move readily with the times, he was still using blade shears when all his neighbours had converted to power tools, but his generosity was heart-warming. When families were in need during the depression he supplied them with a cow and a calf, the only proviso being the return of the calf when it was reared.

This man loved trees. It made him sad to see the pastures encroaching on the bush. He considered that when a tree was cut down, another should be planted.

He hated praise. But in giving the two stands of forest to the Society his kindness will be perpetuated.

[In bequeathing these reserves to the Society, Mr Sutherland requested that there be no picnicking in them on Sundays. Ed.]

Week at Bushy Park Being Arranged for January

SEVERAL members have expressed disappointment at there being no Forest and Bird camp this summer.

A Forest and Bird week has been arranged for the week 8 to 15 January 1973 at Bushy Park, the lovely homestead and grounds owned by the Society at Kai Iwi, near Wanganui.

There is very limited sleeping accommodation in the homestead, but plenty of room in the "Bottom Paddock" for tents and caravans.

Meals will be provided; members will help on a roster basis.

This is a chance to see the Wanganui area, including McPherson's Bush and Laird's Bush, the local coast, and estuaries.

Very few members have had the opportunity to get the "atmosphere" of Bushy Park; usually all that time permits is a weekend.

Come along next January, meet old and new friends, and get a good start to 1973.

Write for full details to the custodian, Bushy Park homestead, Kai Iwi via Wanganui.

The number attending will be limited to 50 members.

Some Whale Species in Danger of Extinction

By M. C. Cullen

CONSERVATION, pollution, man's impact on the environment, and the world's wildlife were all considered at the UN Conference on the Human Environment at Stockholm in June. The International Whaling Commission was asked to impose a 10-year ban on the hunting of whales. The whale had become at the conference the symbol of all the endangered species of wildlife in the world.

NEW ZEALAND has had a long history of whaling and in 1840 up to 500 men were employed in the industry. Whales can be considered to be native animals, as most of the whaling here has been from shore stations at sites all over New Zealand. The last three shore stations were at Whangamumu, Great Barrier Island, and Tory Channel.

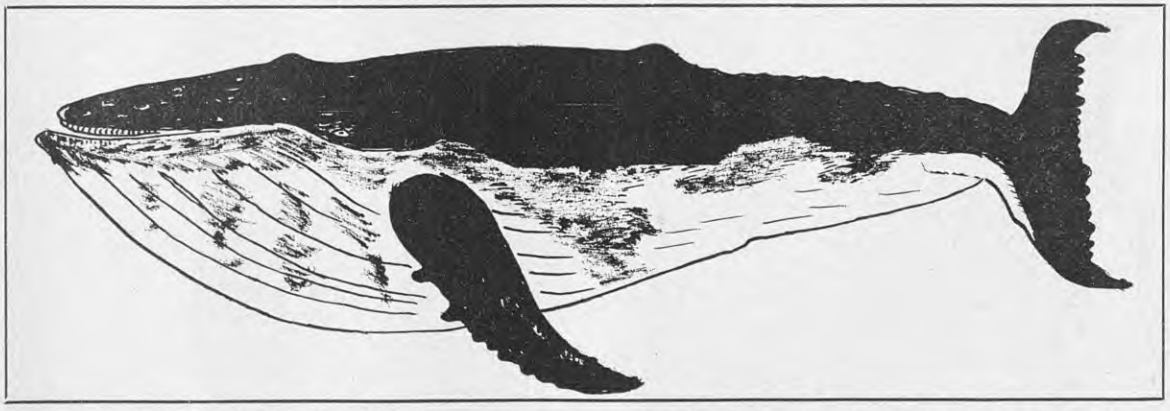
Mr H. F. Cook, of Whangamumu, used a very ancient method to catch his humpback whales. A rope was slung between buoys where the whales were known to swim. Netting was suspended below and the whales were entangled to become easy prey. The harpooners struck from rowing boats. Catches were small, the largest annual one being 19 whales.

Mr J. Perano evolved a unique method of harpooning by gun which only stunned the animal. It was later killed with a 1½-lb explosive before it regained consciousness. He used fast motor boats capable of 20 knots and caught mainly bull humpbacks. The average catch was 94 whales a season, and they were caught as they moved through Cook Strait from the Antarctic in winter.

Humpback the Main Species

The humpback whale has been the main species caught in New Zealand and was once the most important commercial whale. When the whalers moved to the Southern Hemisphere in the last century, the humpback and right whales were the first victims. Then, as whaling became more efficient with the invention of the harpoon gun, the blue, finback, and sei whales were caught and reduced to a remnant. The humpback was then caught again in the 1930s owing to the decline in blue whale numbers. In 1963 it became a totally protected whale.

The humpback is an ungainly creature in appearance, being very knobbly. Captain Scammon said in "The Marine Animals of the North-western Coast of North America" (1874) that it was "decidedly ugly". It reaches a length of about 50 ft and it is mainly black



The southern humpback whale (*Megaptera novaeangliae lalandi*). It has very long flippers and is usually covered with barnacles.

and white. The baleen plates are dark grey. When it dives it presents its short back fin in such a way as to give an impression of a hump; hence the name.

Humpbacks are found in their largest numbers in the Antarctic during January, feeding on krill, a small shrimp about 2½ in. long. Swarms of these creatures are the only food of all the whalebone whales. The krill are "filtered" from the sea and swallowed whole without taste.

Breeds Every 2 Years

The humpback breeds every 2 years and gives birth in the tropics after a pregnancy of 11 months. The calf is weaned after 5 months, when it is about 25 ft long. The animal is fully grown in 10 years, though it may breed at 5 years of age.

The future of the large whalebone whales is not bright, as their feeding habits are so specialised. A small ecological change could affect the krill on which they feed, and then they must starve. The smaller, toothed whales and dolphins will eat a greater variety of foods, including fish.

Protection for whales is extremely important when it is known that the Greenland right whale has not yet recovered since it was protected at the beginning of this century and that it is expected to take the sperm whale 50 years to regain numbers.

It would be a great pity if any species of Cetacea was extinguished because of man's greed or his pollution of the oceans.

Successful Year for North Shore Conservationists

IN reporting on the past year's activities to the North Shore Branch at its annual meeting in July the chairman, Mr C. W. Sievwright, commented on the remarkable increase in the public's concern for the environment since the branch was constituted 3 years ago.

"Pollution, litter, threats to natural features, and over-population are now regular items of daily news," said Mr Sievwright. "Disasters such as the *Torrey Canyon*, smog deaths, and seepage of nuclear wastes have brought home to the people at large that man can be his own destroyer."

Mr Sievwright said that the massive opposition to despoliation of unique natural features, so apparent when the Society took up its petition opposing the raising of the level of Lake Manapouri, is likely to be no less apparent when other major conservation causes arise in New Zealand. He quoted the swift public reaction to the proposal to explore for oil off the Poor Knights Islands as an indication of that.

"Even the Government has now reacted to this developing public concern by the appointment of a Minister of the Environment," said Mr Sievwright. "Some who advocated such an appointment had seemed to see it as the solution to the problems which concern conservationists," he continued, "but for myself I see it of little practical value. There is, to my way of thinking, only one way of ensuring that all the worthwhile features of our natural heritage are preserved—that is by a majority of the public being of such persuasion. The power of the ballot box still reigns supreme. No political party will remain in power if it offends the wishes of the majority."

The branch, in Mr Sievwright's opinion, had been quite successful in doing its part over the previous year in making the public more aware of their natural surroundings and conscious of the need for caring for what was left of the original New Zealand. Meetings had attracted an average of 77 members and visitors, the greatest attendance being 120. Field trips, which provided members with an on-the-spot opportunity to learn about the native flora and fauna often took the group into areas remote to the average person. They were consistently well attended, with a record crowd of about 250 visiting Ngataringa Bay with Professor J. Morton.

Membership stood at 509 at 30 September 1971, which, Mr Sievwright explained, made the branch the sixth largest in the country. Financially the year had been successful, a profit of $203 having been made.

Mr Sievwright thanked the committee and members who had actively served the branch.

Shrubs and Trees To Attract Birds

By J. E. Gunson

HOWEVER much some of us are devoted to the forests, we must concede that birds are an essential part of forest ecology and that natural rapid spread of our native forests is impossible without them. It therefore behoves all of us to encourage birds and assist their increase in every way we can; and though provision of shelter and control of pests are helpful, the only really effective way to foster any form of wildlife is to provide a plentiful supply of food all the year round.

As a practical demonstration of the truth of the last statement, visit the new forestry project at Aupouri in the far north, a place where once not one land bird could be seen sometimes for miles, but where native quail and other species are now increasing rapidly as shelter and food-bearing and insect-attracting plants are becoming established on the sand among the young pines.

Continuous Food Supply

If birds cannot get a continuous food supply, they may leave a district permanently or even perish. Winter and early spring are of course the times of scarcity, and some introduced plants which the birds are then often forced to turn to are listed below. It would be parochial to refuse to grow these plants because they are exotics; indeed some of our most useful and attractive small birds are exotics themselves: the silvereye, welcome swallow, spur-winged plover, etc.

We must keep a sense of proportion in this connection. Unfortunately we have few really palatable native fruits, and our birds prefer the introduced ones just as we do. A few native plants bear nectar generously, but in this too many exotics such as the eucalypts excel. However, for most of the year our own endemic species should be sufficient for all our wildlife.

A number of nectar-bearing plants are included in the list below, not so much because nectar is a favourite food of a few of our birds, but because at least 90 percent of them eat insects as part of their diet, and the nectar attracts the insects. Though popularly called berries, most of our succulent native fruits are really drupes, with a thin covering of flesh over a large stone.

Suggested Plantings

Two things must be borne in mind regarding the following list of suggested plantings. Firstly, all flowering plants when growing under natural conditions have their lean and full years of productivity; indeed some of them do not even flower each year. Secondly, as one goes from north to south plants flower and fruit later in the season; so exact times of bearing cannot be given for general use. The species mentioned for each season are often the main, but not of course the only, source of local food supply.

Nectar

Spring: Hinau, kowhai, manuka, rewarewa, tarata, ti kouka.

Summer: Harakeke, kanuka, pohutukawa, rata.

Autumn: Kohekohe, kanono, patete.

Winter: Puahou, puriri, manuka.

Fruits

Spring: Porokaiwhiri, poroporo, titoki.

Summer: Kawakawa, konini, makomako, mapau, matai, nikau.

Autumn: Kanono, karamu, karaka, mahoe, tawa, taraire, totara.

Winter: Hinau, kohekohe, miro.

Exotics for Winter

Nectar: *Banksia* species, *Eucalyptus leucoxylon*, *Grevillea alpina* and *oleoides*, *Protea mellifera*, *Viburnum carlesii*.

Fruit: *Arbutus unedo*, *Eugenia myrtifolia*, *Viburnum japonicum*; leaves of tree lucerne and white clover.

[The Society is not opposed to the planting of suitable exotics for feeding birds, especially winter berry-bearing plants. It is, however, strongly opposed to the introduction of exotics into native bush reserves, which should be maintained as far as possible in their natural state.—*The President.*]

Bird Studies at Kaikoura To Help Rare Chatham Island Robin

THE New Zealand region has two species of robin which, though having some similarities in appearance and behaviour to the British bird, are not in fact even distantly related to the English robin redbreast.

By G. E. Coster,
Wildlife Service,
Department of Internal Affairs

THE mainland species is divided into three subspecies—North Island, South Island, and Stewart Island—of which the last two are much alike. All have a dark, slaty grey upper plumage with lighter undersides; but the North Island bird is smaller than its South Island relative and has a white breast, light streaks on its upper surface, and a mottled throat, whereas the South Island robin has a lemon-yellow breast and a yellowish white abdomen and lower tail coverts. The Stewart Island subspecies is slightly darker than the South Island subspecies.

The other full species—the Chatham Island black robin—is, as its name implies, entirely brownish black. This robin, which has the dubious distinction of being one of the world's rarest birds, was first discovered in 1871 on Mangere Island and adjacent Little Mangere Island, in the Chathams group. Now it is confined to the scrub and coastal forest of Little Mangere Island alone, where the

Wildlife Service photo

Little Mangere Island, showing the scrub and coastal forest habitat of the black robin.

estimated number of birds is between 60 and 70.

Population Vulnerable

Though this population has apparently been able to hold its own and remain fairly constant at least since 1936, it is vulnerable on two fronts: firstly, because of its low numbers and, secondly, because its survival depends on a very small and isolated habitat from which it has not been possible to banish the spectre of human interference. One fire on the island could wipe out the species overnight.

The disturbingly real possibility of the untimely extinction of the Chatham Island robin has caused considerable concern to the Wildlife Service of the Department of Internal Affairs. As yet it has not been possible to buy and reserve Little Mangere Island, but, with Mangere Island having recently been created a reserve (its purchase was made possible through a large contribution from the Royal Forest and Bird Protection Society), from which all browsing mammals have now been removed (latest reports indicate that revegetation is proceeding very satisfactorily), it is hoped eventually to extend the range of the robins to this and possibly other islands.

The main task facing the Wildlife Service is to find ways of increasing the numbers and range of the birds without prejudicing the delicate balance of the present population. Three methods have been considered, and trials on robins elsewhere will have to be made before any attempt is made to manage the fragile remnant on Little Mangere. (Difficulties associated with the isolation, rugged terrain, and delicate forest floor of the island preclude a lengthy study. Simply to walk is both difficult and destructive because of the high density of petrel burrows.)

Transfer of Eggs

The first method is a transfer of eggs from robin nests on Little Mangere Island to the nests of tomtits (a closely related species) on Mangere Island. It certainly has the advantage of causing minimum disturbance to the Little Mangere population (the birds involved there would lay again), but creates certain other problems.

Among these problems are finding the nests of both species at the right time and the fact that tomtits frequently nest in sites where egg

Wildlife Service photo by C. R. Veitch

The South Island robin.

transfers would be difficult. Moreover, if tomtits successfully reared robin chicks, the question would arise of disturbances to robin behaviour producing a race of birds unable to breed normally or able to hybridise. For these reasons this scheme has been given no further consideration.

The second method is to release captive-bred birds on Mangere Island and other islands. Because of the difficulties surrounding the breeding of small, insect-eating birds in captivity (which would require the same number of birds as a direct transfer) and because it would be necessary to be sure that aviary-bred stock could adapt to wild conditions, this method might be tried only after a second wild population has been established.

Transfer of Birds to Mangere Island

The third method, easier and more likely to succeed than the first and less expensive and risky than the second, is a direct transfer of a few birds to Mangere Island. Before it can be started, however, the numbers and

breeding success of the Little Mangere robins must be determined so that an estimate can be made of how many juveniles or adults could be removed and still permit the population to maintain itself.

Habitat Requirements

The birds' habitat requirements and how satisfactorily they are met on Mangere Island and the effect the dense sea bird colonies have on insect production on the two islands must also be known. In addition, the best time for capture and release must be ascertained and consideration given to such associated factors as time of pairing, breeding, and highest mortality and the period of peak condition in the birds and the sexing of juveniles.

Finally, it must be determined what, if any, the effects would be on population levels of a mixture of robins and tomtits. The existing tomtit population on Mangere Island may pose a threat to introduced robins; therefore a careful study of populations of these two species as they occur both together and separately is very necessary.

All these problems are heightened by the difficulties touched on earlier of conducting an intensive study on Little Mangere Island itself. There are, however, some limited opportunities for direct study. If a sufficiently large proportion of the birds was colour banded, valuable information could be obtained from observations made on a single visit either during or following the breeding season. Nevertheless, before any studies on Mangere or Little Mangere take place, research will be concentrated on mainland and island robin populations to make the most use of the unavoidably short visits which can be made to Little Mangere.

Study Site

In May of last year Dr J. A. D. Flack, a scientist of the Wildlife Service, who is primarily responsible for the overall planning and development of New Zealand robin studies, began such a research programme in an area of some 300 acres of scrub on the north-east bank of the Kowhai River at Kaikoura. This locality is for several reasons particularly suitable as a study site.

Situated between about 200 and 400 ft above sea level, it is probably at the lowest altitude of any region outside Fiordland containing mainland robin populations; and though some exchange does occur, it is more or less isolated from other robin communities by encircling farmland. Because of the low growth of the vegetation the task of observing birds and finding nests is made fairly easy, and the simple relief of the country greatly assists general movement and the making of transects.

The prime aim of Dr Flack's study is to assess production, mortality, and movements within the population and relate this information to the problems of conserving the black robin. The main technique used at present is individual colour banding, and about 200 birds have so far been marked in this way. Most have been later observed, often over many months, and the data recorded have enabled an increasingly clear and accurate picture to be built up of the territorial boundaries, breeding, and general activities of a large number of birds.

Pertinent Facts Emerge

Already, some pertinent facts have come to light. It has been found, for instance, that the breeding capacity of the robins may be reduced by certain behaviour which occurs between juveniles and between adults and juveniles. This may well be accentuated in smaller, more restricted areas such as on Little Mangere Island, where the removal of juveniles could result in more fruitful breeding. It has also been discovered that the breeding season of the Kaikoura population begins in mid July and ends in February—an unusually long period. Much valuable practical knowledge and experience of safe and efficient methods of trapping and handling has been gained as well. Naturally, there is still much to be learnt and to provide the degree of certainty needed in this project, studies have to be, and will be, extended over a long period.

The robin population at Kaikoura has survived both direct and indirect modification of its habitat through land clearance, farming, and flood control and the introduction of exotic mammals. The greatest density of robins occurs in an area easily accessible to the public, which makes the population a public amenity; and its closeness to Wellington,

Wildlife Service photo by J. A. D. Flack

Kowhai River, Kaikoura. The robin population being studied occurs in the scrub in the centre foreground.

Christchurch, and the University of Canterbury Edward Percival Marine Laboratory in Kaikoura means that intensive studies can be made of robins and other birds. Indeed, except for those on a few island reserves, no other robin population sharing these features exists in New Zealand.

Unique Area

For both scientific and aesthetic considerations this unique area must continue to remain unspoilt. Three organisations—the Royal Forest and Bird Protection Society, the New Zealand Ornithological Society, and the Wildlife Service — have been involved in varying degrees in its presentation.

The area is owned by the Marlborough Catchment Board, which has plans to convert it from native to exotic forest to help meet the costs incurred by the flood relief programme. This, with engineering works for a proposed drainage scheme, could be extremely harmful to the robins, depending on where the works were carried out and the methods used.

To preserve most of the robin population would involve setting aside only a small acreage from the cutting and planting programme (with no additional costs to the scheme), and the Wildlife Service has made this submission to the Marlborough Catchment Board. The service has also suggested a series of precautions to the board which would enable the drainage scheme to proceed with the least damage to the robins' habitat.

First Study of Kind

The present study at Kaikoura is the first of its kind for this country. Apart from providing essential information for the future management of the Chatham Island black robin, it is also producing broader insights into more general problems associated with native birds, which in turn could mean more effective management of both mainland and island populations.

It is presumptuous to assume that the future of any species will always be bright. The South Island saddleback appeared to be doing very well on the southern Muttonbird Islands,

(where it was confined) south of Stewart Island, until the sudden and unexpected arrival of the black rat so reduced its numbers that it reached the brink of extinction. That the story had a happy ending is now past history. The Wildlife Service, by transferring birds to other rat-free islands in the area was able to save the saddleback, which is now in a most encouraging position.

The North Island saddleback faced a more subtle threat to its survival; not from rat plague, but from its vulnerability in being confined in a range to a single island—Hen—in the north. Realising the consequences should rats strike there, the Wildlife Service again made transfers of birds to neighbouring islands to safeguard against this possibility.

There are close parallels between the dangers which faced the saddleback and those which are facing, or could face, the Chatham Island black robin. The saddleback transfers were a complete success and there appears to be no reason why this method should not produce equally gratifying results if it is eventually applied to black robin. To that end, experimental transfers are being made of small numbers of robins into new habitats on the mainland and on a number of islands.

Obituary

Mrs D. J. Brown

Members of the Wanganui Branch of the Society recently mourned the loss of one of their most devoted and respected members, Mrs D. J. (Joan) Brown, who died on 10 August.

Mrs Brown, who had not kept good health in recent years, had served for 3 years as secretary of the Wanganui Branch and also the Bushy Park subcommittee, resigning only in 1971 to travel abroad for a holiday in England. She returned to New Zealand earlier this year.

The Society was well represented at the funeral.

Frank Bodley

Among the obituaries recorded at the annual meeting in June were those for two stalwarts of the Society who, though they did not serve on the executive, had in their time done a great deal for the Society in their districts.

The death of Frank Bodley in Rotorua was sudden and a shock particularly to Wellington members, who remember him so well for his field activities for the Society. It was a fitting tribute that at his Rotorua funeral a bird song was played during the service.

John Barton

The death in Nelson of John Barton was equally sudden. He will be best known to members of the Society for his organisation of the Collingwood camp, but to us at headquarters he will be remembered also for his courageous and spirited defence of the beech forests. If we can save the beech forests from clear felling and conversion, it will be a fitting memorial to John Barton.

Fund Advocated To Acquire Native Forest for Reserves

A SPECIAL fund for acquiring native forest for reserves, similar to the $1,000,000-a-year fund for establishing coastal reserves announced in the Budget, has been advocated by the Director-General of Forests, Mr A. P. Thomson.

Speaking to members of the New Zealand Institute of Foresters in Rotorua recently he mentioned that in the absence so far of such a fund the Forest Service is pursuing two new methods of acquiring land:

The first is to enter into long-term leasing agreements with the private owners of native forests.

The second, which is an even more radical concept, is to exchange on a value for value basis parcels of timber in State exotic forests for areas of native forest which urgently need to be reserved.

Is N.Z. Prepared for a Major Oil Spillage in the Sea?

*By H. F. Heinekamp**

THE problems of major oil spillages in the sea and the consequent havoc and despoliation they cause to the environment have greatly increased in recent years and are becoming even greater as more and more oil and oil products are transported by larger and larger vessels. The problems multiply as oil is sought and obtained from continental shelf areas beneath the sea and the risks of blow-out and leakage increase. During the past 6 years or so oil pollution has caused considerable havoc among sea birds in various parts of the world. The three major disasters were:

- In March 1967 the wreck of the *Torrey Canyon* off the south coast of the British Isles caused the spillage of 110,000 tons of oil, which resulted in 8,000 oiled birds, mostly guillemots and razor-bills, being washed ashore.
- In 1969 an oil blow-out off the coast of California at Santa Barbara released 21,000 gallons of oil per day for 12 days into the ocean. The resulting oil slick in the Pacific Ocean was 800 miles long. Near Santa Barbara 400 western grebes perished, but it is thought that, in addition, the oil slick caused the greatest mortality of pelagic birds ever known.
- In 1971 the *Arizona Standard* and *Oregon Standard* collided in San Francisco Harbour, California, with the result that 840,000 gallons of oil were spilt. John Smail, of the Point Reyes Bird Observatory, estimates that 10,000 birds, mainly western grebes and guillemots, were killed.

Pollution from Unknown Sources

Oil pollution from unknown sources also causes bird disasters. In 1969, 8,000 common scoters and 11,000 eider ducks were washed up on the Dutch Friesian coast, and in 1970, 14,000 oiled birds, mainly guillemots, razor-bills, and puffins were washed up on the coasts of Scotland and north-east England.

So far New Zealand has escaped this kind of disaster, though shipwrecks have been occurring since the coming of the European. One needs only examine a map on which these wrecks are charted to realise that the possibility of a major oil spillage such as has occurred overseas is very real indeed. Furthermore, if oil resources are discovered off our coasts, the risk of a blow-out similar to that of Santa Barbara must be taken into account.

Are we in New Zealand organised and prepared to deal with the thousands of oiled birds that could result from a major oil spillage? The Society believes it should be, that New Zealand should keep up to date with overseas research and information, and that contingency plans to meet such a situation should be ready.

Overseas Experience

Overseas experience has shown that oil companies responsible for oil pollution will assist in the interest of maintaining good public relations. For example, in San Francisco the Standard Oil Company supplied 22,500 gallons of mineral oil without charge, for use in cleaning oiled birds, and paid US$900 per day for food and medicine. More volunteer workers were available in both Britain and the United States than could be used. The same kind of assistance would probably also be available in New Zealand.

Apparently most oiled birds must be destroyed and it is even debatable whether or not any birds at all should be rehabilitated and returned to sea. Of the 8,000 victims of the *Torrey Canyon* disaster fewer than 100 were returned to the sea after a long rehabilitation. However, one positive aspect of these disasters is that we gain experience. From diaries kept by students of the University of California a manual to assist in dealing with these situations has been prepared and much valuable information has been accumulated at the Point Reyes Bird Observatory, San Francisco. In Britain the Seabird Rehabilitation Research Unit of Newcastle University has been set up and one of their projects is a study of the water-repelling properties of bird feathers. Much more research is necessary.

* Nelson Section.

Atiamuri Power Station Is To Acquire a Verdant Landscape

LATE last autumn the land around Atiamuri power station in the south Waikato trembled to the noisy pummelling of bulldozers and great earth-moving machines, and as a result fresh grass now carpets the reshaped land. These changes were the first steps to be taken as part of a $27,000 face lift for this somewhat "plain Jane" hydro-electric development.

AS it lies alongside State Highway 1, Atiamuri is one of the country's most easily seen power stations. The average number of motor vehicles travelling daily between Atiamuri and Taupo in 1969 was assessed at about 1,120; the figure today would undoubtedly be higher.

The station was commissioned in 1958, when people were less appreciative of environmental values than now. The site was almost undeveloped, with parts of its surroundings inaccessible to the public. Nevertheless it was not left entirely without amenities. A highway rest and picnic area is established just down stream of the dam and a boat ramp gives limited access to the lake.

Integrating Station and Surroundings

What has now been started, however, is a substantial landscape development which will eventually integrate the Atiamuri power station as a whole into its surroundings. The result will make it easier for the public to reach the non-operation parts of the site—the lake, lake fringes, and river—and make the whole area visually more attractive.

The Atiamuri power station is a publicly owned utility forming part of the electricity-generating network administered by the Electricity Department. Near it are extensive areas of production forest owned by New Zealand Forest Products Limited, and the station is within the boundaries of land administered by the Taupo County Council. All three organisations have a part to play in the landscape development now begun, as, in concept, the scheme extends beyond the power station boundaries.

A proposed wilderness area, on the opposite side of the river from the highway, will form a visual backdrop to the dam and also extend down river to the highway bridge. Native vegetation is to be re-established on the existing forest fringe and is expected to become almost self-maintaining.

The wilderness area will become a sanctuary for native birds, an area for wilderness camping, and a suitable destination for short hikes from the highway rest.

More Access to River

Proposals for the present highway rest and picnic spot will enlarge and develop this area between the natural physical boundaries of the river and the highway. Access to a large stretch of river bank will result and the two highway views of the concrete dam and power house will be enhanced.

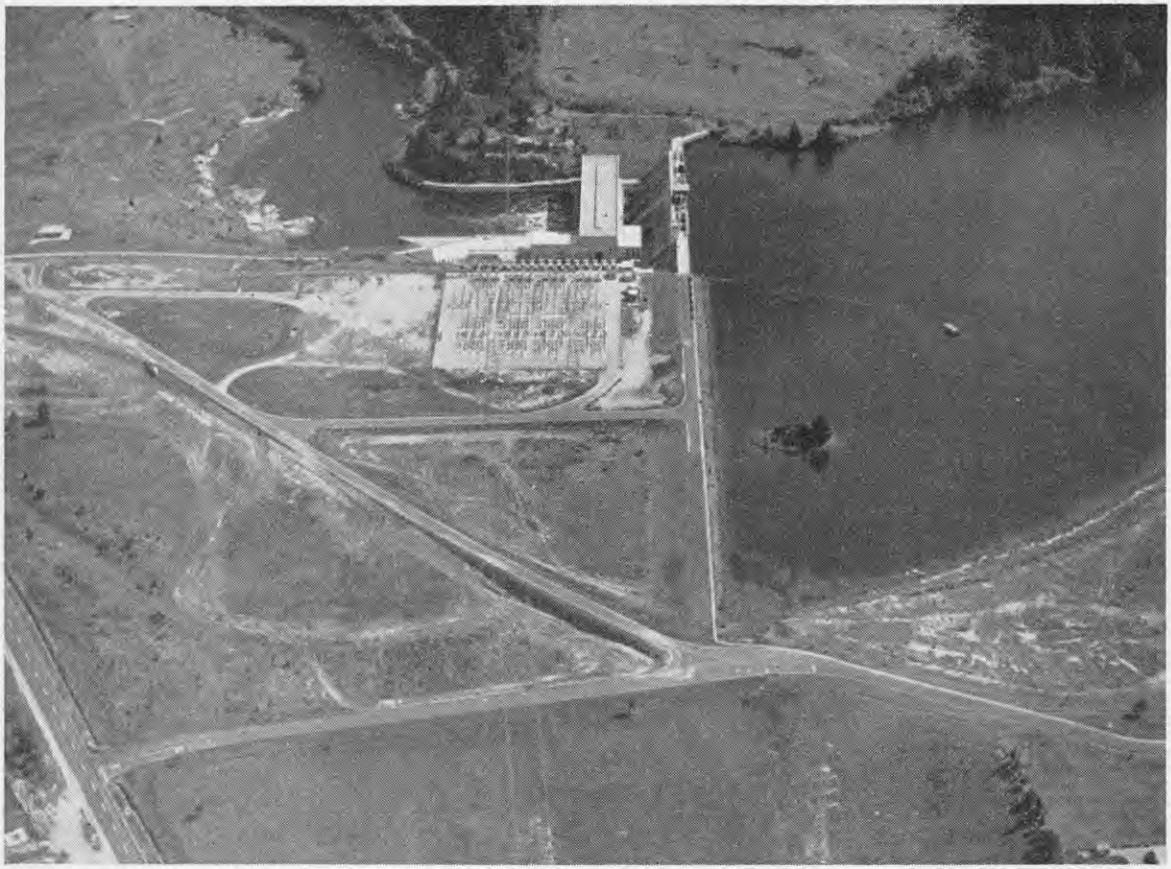
More shelter and containment are provided for in proposals for the two village areas, where power station staff and forestry workers live. Trees will be planted and the central grassed space will become parkland, which will give stronger identity and linkage to the built-up area.

A children's play area to serve both villages has been suggested. This would be an adventure playground rather than the conventional fabricated swings-and-roundabouts type.

Holiday Venue

Increased use of Lake Atiamuri as a holiday venue is envisaged in proposals for the large lake shore area already set aside as a reserve. As well as extensive planting for shelter and beauty, camp ground and caravan park facilities and chalet accommodation have been suggested. Thus planned, the reserve would be a major access point on the lake.

How this area is in fact finally developed will be decided, of course, by the Taupo County Council. Suitable proposals have been



The naked, somewhat undeveloped look of the Atiamuri power station site shows up in this aerial view taken soon after work had begun on reshaping the area. At top left is the picnic area, which is to be extended and improved by plantings for beauty and shelter. Other development work is planned for the lake shore area, a small part of which is seen at lower right, and for the forestry and electricity staff villages, which are to the right, beyond the area of the photograph. The short length of road diagonally across the lower left-hand corner is part of State Highway 1.

put forward for the sake of completeness of the master plan for the development.

This plan is the work of a young landscape architect, Mr H. G. Evans, who is also supervising its implementation while working for the Electricity Department at Hamilton. Mr Evans's plan is based on a major design report which he compiled during studies at Lincoln College for a diploma in landscape architecture.

Comprehensive Investigation

The study was comprehensive in its investigation of the Atiamuri environment, delving into the history of Maori occupation of the region and early European settlement besides such important facets as the district's geology, soils, vegetation, climate, and land uses.

To be successful a landscape development of such scope as that at Atiamuri is best allowed to happen gradually. The abrupt upheaval caused by the heavy earth-moving machines was an essential part of the plan, but their intrusion was only temporary.

Now the land has begun to settle comfortably into its new form. Natural vegetation through the area will be encouraged to propagate and spread at its own pace. Some tree planting has already been done and much more is planned for the next few years.

After that it will be perhaps 10 or 15 years before the full effect of the changes to the Atiamuri landscape begun last autumn can be seen and appreciated.

Blind Children Revel in Snow on Ruapehu

By Lorna M. Fell

A LOOK at a recent page in the visitors' book at the Society's lodge at Ruapehu would show an unusual page, for attached to it is a page of Braille signatures put there by a group of pupils from Homai College for the Blind, Manurewa, Auckland.

IT was my privilege, as a staff member of the college and as a member of the Society, to join the children on this adventure and learn with them the pleasures of life on a mountain and the sheer fun of snow.

The children saved the money to pay for their trip by various work projects—sweet and cake stalls at school, sale of pottery they had made, etc. They planned their own menu, their activities while at the lodge, and their timetable. The party consisted of eight pupils, the senior Braille class at Homai, their classroom teacher, Mrs Tolladay, and three other staff members.

Braille Maps

They set out from Homai equipped with Braille maps of their route to the mountain and a further Braille map of the immediate surroundings of the lodge. At that time, all the geographical names were just places, but by the end of the trip they were all part of an actual experience.

On the way south they visited Wairakei, Taupo (where they swam in the hot pools), and Turangi, where they explored all the models at the Ministry of Works Publicity Information Bureau.

Snow in sheltered places beside the lodge was quickly discovered with much enthusiasm and it was a tired, but very excited group of children who explored all the facilities of the lodge. Bunks and sleeping bags were a novelty; as was the ice inside the window panes the next morning.

They spent their first morning exploring Car Park 4, and with snowballs, snow fights, sliding on plastic, and breaking through iced-over streams the range of activity was almost unlimited. Up to the Bruce they went for more ambitious gliding on really steep slopes, investigating plants growing through the snow, and then back to the lodge for a very late lunch, a short rest, and then a fascinating 2 hours with Mr Spannagal, one of the rangers, who came to the lodge with his son, Kim, and

The Homai College children outside the Society's lodge on Mount Ruapehu.

Fun in the snow with snowballs.

told the children all about volcanoes, life on a mountain, and, best of all, skiing.

This talk was arranged through the courtesy of Mr R. Mazey, the chief ranger, and it was more of his men, with ski instructors and staff from the ski shop, who made the children's second day on the mountain such a memorable one.

Day's Skiing

Up to the Bruce shortly after 10 am. they were taken to be fitted with boots, skis, and poles, and then the thrill of gliding through the air on a chair-lift on a warm, sunny winter's day. The attentiveness and co-operation of so many skilled people gave the children amazing confidence and they achieved more in 2 hours than many sighted children would in several lessons. Up and down the rope-tow they went, with scarcely a thought about falling. With reluctance they said goodbye to their patient instructors, whose efforts had really made their day, and returned to the lodge to eat and rest a little before setting out to explore the lodge surroundings and the Chateau.

The highlight of the trip—on skis on the Ruapehu slopes.

Though a comprehensive first-aid kit was taken on the trip, the only item required was anti-burn cream for the sun!

I am sure that these eight children will always remember their stay in the lodge, which enabled them to have practical experience of life on a mountain and such fun in the snow.

The Routeburn Walk

THE last issue of N.A.C's "Airline Review" carried an interesting article on the walk over the Routeburn Track. In view of the inquiries on the subject we had from members we asked N.A.C. for permission to print part of the article.

We were offered the blocks, but as they were colour blocks, we could not use them. Finally N.A.C. reprinted a copy of the article for each member of the Society, which is enclosed with this issue.

Little Plant Used To Stabilise Roadside Banks

THE stability of roadside banks in the Upper Buller Gorge, on State Highway 6 between Eight Mile Creek and Inangahua Junction, today owes much to a little plant, *Lotus pedunculatus*, which grows naturally in the area.

LANDscape officers of the Ministry of Works were faced with the planting of 20 acres of cut and fill banks after the highway had been realigned and widened. On the advice of Dr K. F. O'Connor, then of the Grasslands Division of the Department of Scientific and Industrial Research, at Lincoln, they chose *Lotus pedunculatus* as the plant to be sown on the banks.

Lotus pedunculatus is a leguminous herb with clover-like leaves and an extensive root system which binds the easily eroded rocky soil exposed on the banks after the highway has been widened.

Ecology Not Upset

As it grows freely in the area, its introduction to the newly formed highway slopes means that the roadside ecology will not be upset, and as taller competing plants find their way naturally to the sites occupied by the lotus, it will gradually become recessive and finally die out.

In the meantime it will have built up the nitrogen level in the soil through its root nodules. This nitrogen will then be available to other emerging plants.

The first experimental sowings were carried out on fairly flat areas in 1967. After these results were evaluated, dry methods of broadcasting the seeds were tried on a large scale, but these were not completely successful, and a switch to a wet mixture was decided after the Inangahua earthquake of May 1968, in which a major sowing was lost.

In the spring of 1971 a contractor using a hydro-seeder treated 20 acres of steep cuttings with a special mixture formulated for this situation. The lotus seed was mixed with bentonite, mulching agent and adhesive, in a large tank filled with water. To this was added fertiliser, containing nitrogen, phosphorus, and a trace element (molybdenum) plus lime.

Immediately before application rhizobia bacteria were added to the mixture for the purpose of inoculating the seed in preparation for germination; the young plants will use the bacteria for "fixing" nitrogen from the atmosphere and enriching the soil as a result of the process.

Banks Covered

Now, a year later, the banks are covered with the little herb, except for a few localised washouts, and lichens and mosses have crept in with some not-so-welcome patches of grass. Woody plants such as konini, kamahi, tutu, and beech seedlings, have also appeared in places, all by natural introduction.

Landscape staff are confident that the newly seeded areas will develop to a mature plant cover of the type in neighbouring areas and that a balanced ecological relationship will be built up.

As the result of the success of the lotus, the landscapers are interested in trying it on similar banks in the Rahu Saddle and near the summit of the Lewis Pass on the highway between Westport and Christchurch.

Book Review

"Fiat Book of Common Birds in New Zealand"

A companion book has just been released for the "Fiat Book of New Zealand Trees". It is on birds and illustrates 43 commonly seen birds both native and introduced. For each bird there are listed the field characteristics, the distribution and habitat, and breeding notes. The birds are all illustrated in colour. The authors are Janet Marshall, F. C. Kinsky, and C. J. R. Robertson.

A. H. and A. W. Reed. $1.75.

Notes from Branches and Sections

NORTH SHORE BRANCH

A Northcote university lecturer in zoology, Mr F. F. Jenkins, who has made several years' study of the rare New Zealand bird the saddleback, was the lecturer to an audience of over 60 at the June meeting of the North Shore Branch.

Mr Jenkins's particular interest in the saddleback comes from his studies in animal communication. He found that the saddleback colony on Cuvier Island was particularly suited to his needs. Being a large bird, it is fairly easy to observe and handle; it is almost flightless, moving mainly in short hops, so that it can be easily followed as it moves through its bush domain; it is quite tame, allowing close approach for observation and recording; and it has long legs particularly suitable for banding for identification purposes.

Taking advantage of these peculiarities and by dint of much persistence and patience, Mr Jenkins has charted the territories of each adult bird on Cuvier Island over the last 3 or 4 years. He has also recorded their territorial calls—their proclamations over the areas which they maintained as their own. He has had these calls analysed on a sonograph and displayed the resultant pictorial "music" to show the audience at the branch meeting the similarities and differences of the calls of birds from various parts of the saddleback territory.

These and the tape recordings of various saddlebacks vividly illustrated how dialects exist in bird calls. Various specimens of the same species have decided variations in the notes they produce.

Mr Jenkins illustrated with coloured slides how some birds communicate from one to the other by various postures. Scents and light (as in glowworms) were other means of communication between animals dealt with by the speaker, who pointed out that only man and other mammals had extensively developed sound as a means of communication in their groups. But animals used sounds only to convey feelings; they had none of the ability of man to translate sound into words.

Interesting facts about the saddlebacks mentioned by Mr Jenkins included observations that they formed pairs early in life and stayed paired throughout their lives, though that did not mean that they remained faithful to a single spouse. There was indeed a good deal of wife swapping! They were attracted to dead wood, where they found the huhu grubs, wetas, and other insects that formed much of their diet. Indeed they could properly be called the New Zealand woodpecker, as their pecking at decaying timber could be heard some distance away.

Though they moved as closely knit family groups during the day, they dispersed at night to roost in separate holes in trees. This occurred even with birds only a few days out of the nest.

The saddleback was a most interesting bird, quite apart from its beauty of a saddle of coppery hue which contrasted with the blue-black body; the light orange wattles at the base of the beak added further charm.

It was a great pity that this lovely bird had been unable to withstand the predatory instincts of introduced cats and was now to be found only on a few off-shore islands. Fortunately recent transfers of reasonable numbers of saddlebacks from Hen Island had allowed the species to establish itself on other islands offering suitable habitats. The birds' survival was assured for some time provided cats and other predators could be kept from these island refuges.

WELLINGTON BRANCH

Next year is the Society's Fiftieth Jubilee year, and to celebrate the event the Wellington Branch will be holding a weekend camp at a new holiday camp complex at Forest Lakes, near Otaki. The weekend is planned for 10-11 March 1973 and we will welcome any member who wishes to come, particularly those from our neighbouring sections at Wairarapa, Horowhenua, and Manawatu.

Full details are available from Mr P. Rider, 20 Salek Street, Kilbirnie, Wellington 3.

WAIKATO BRANCH

Anniversary Weekend Camp

Members are reminded of the camp to be held at Coromandel during Anniversary weekend 1973. Cabin accommodation for 24 people has been booked at Simpson's Holiday Camp at a cost of $4.50 per person, which covers accommodation for 3 nights, 26, 27 and 28 January, and use of all camp facilities; members are to provide their own meals.

The main feature of the weekend will be a climb to the summit of Mount Moehau, but various other less strenuous activities will be arranged to suit all ages. Caravan and tent sites are also available.

If you are making your own accommodation arrangements, but wish to join in the weekend's activities, would you please send in your name to assist with the organisation. This should be a most enjoyable weekend; so make your booking, sending a deposit of $2 per person, as soon as possible to Mrs G. Garvey, 56 Fairfield Road, Hamilton; telephone 56-752.

Mount Te Aroha Summit Project

The branch committee is co-operating with the N.Z.B.C. and the Te Aroha Rotary Club to improve the area around the TV transmitter building on Mount Te Aroha by planting native alpine and subalpine species. An attempt to re-establish the indigenous flora destroyed when the station was built is a first priority, but as the area is now more exposed and windswept, plants from the volcanic plateau and other mountain areas will be used to provide an interesting and attractive feature for

the increasing numbers of tourists visiting the mountain. A small trial planting has already been made, but the major work will be left until after the hot weather. All species introduced will be recorded on a master plan. If any member can help with suitable plants or working bees, please ring Mrs Leonie Garvey, 56-752.

Mamaku Forest

Our Society has for the past year been campaigning to save more areas of the steeper gully and gorges from being clear felled and then planted in exotics. In this we have been successful. We now have a large area reserved and other areas of good quality indigenous forest where no felling will be done.

We have made submissions to the Forest Service, New Zealand Forest Products, the Hauraki Catchment Board, Matamata County, and Members of Parliament and have given talks to interested organisations. In all meetings we have been courteously received. A small committee of fine people from Okoroire worked with us and together our efforts made progress. The response from the public was tremendous. We feel that the authorities will be more careful in the future. It is possible that a new forest park of 50,000 acres will be created. This will take in all the forest from State Highway 5 above Fitzgerald Glade to the high country on the Kaimais.

Rangitoto-Ranginui Range

A meeting was held in August in Otorohanga to discuss the formation of a 50-square mile forest park on the Rangitoto-Ranginui Range. This meeting was convened by the Otorohanga Rotary Club.

Many organisations were represented, including the Forest Service, Waikato Valley Authority, South Auckland Conservation Society, Deerstalkers' Association, our Society, and local farmers.

As this bushclad range is at the headwaters of the Waipa River, it is a very important area for flood control. Milling has been carried out for a number of years and erosion is becoming increasingly evident on the steeper sidelings.

The Rotary club is continuing investigations on this range under the leadership of Mr F. L. Phillips. Our committee is being kept in touch with developments and wishes to support the Rotary club in every way possible in its aim to preserve the bush on all steep slopes and to have the area designated as a forest park.

Coming Events in Districts

Auckland Branch

25 November (postponement date, 2 December): Barbecue at Huia. Bus leaves C.P.O. (rear) at 1 p.m. Book with Mrs Allan (phone 584-979). Cost: $1.50 adults, 75 cents for children.

11 March: Enjoy a day on the harbour, visiting Motuihi for a swim and then on to Motutapu to inspect historic sites. Miss Janet Davidson, archaeologist, Auckland Museum, and Mr Sanders, of the Hauraki Maritime Park, will attend. Write to Mrs I. Thompson, 83 Michael's Avenue, Ellerslie, and send $1.50 for each adult booking and 75 cents per child.

15 February: Annual "Get Together".

Timaru Section

3 December: Trip by private cars to Mount Cook National Park to view alpines flowering in Hooker Valley.

15 February: Slide lecture: "New Zealand Birds of the Sea and Shore", and "Rocky Shore Communities". Arranged by Mr F. Oldman.

17 February: Visit to albatross colony; seal and penguin colonies; points of interest on Otago Peninsula. Numbers visiting albatross colony are limited; no limits for other points of interest. Members interested to advise secretary by 1 December.

21 March: Forest and Bird Week to mark Fiftieth Jubilee of founding of the Society. Details to be advised later.

All evening meetings will be held in St. Mary's Church Hall unless otherwise stated in advertisements. Reminders will appear in the "Timaru Herald" 2 days before outings or evening meetings. Evening meetings have been extended to summer months. A silver collection is taken at each meeting.

For information or transport ring: Mr F. B. Ross, chairman (85-421) or Mrs H. W. Washbourn, secretary (88-425).

THE JUNIOR SECTION*

Compiled by Wellington Branch

IN the series of ecological articles published in this section during the last 2 years we have dealt with territory ranging from the high mountain country to forest and swamp and coastal and urban environment. In this issue we look at estuaries and inlets.

THERE is always something worth while to look at in an estuary or inlet, where there is usually good bird habitat providing food and shelter and where a wide range of birds can be seen in suitable localities.

The backing up of the estuary waters as the incoming tide builds up pressure on the river mouth often floods an extensive marsh area and creates a lagoon or ponding. When the tidal waters recede, large areas of sea grass, sand, and mud flats are exposed. These are often the home of burrowing mud crabs and crustaceans.

It is surprising how few little flounder are trapped by the outgoing tide. If you wade quietly along the sandy river flats, dozens of little flounder scurry away through the water, just little fellows perhaps an inch or two long; yet when the tide recedes quickly they instinctively go with it into the deeper water. Perhaps some do get trapped and provide a tasty morsel for a foraging bird.

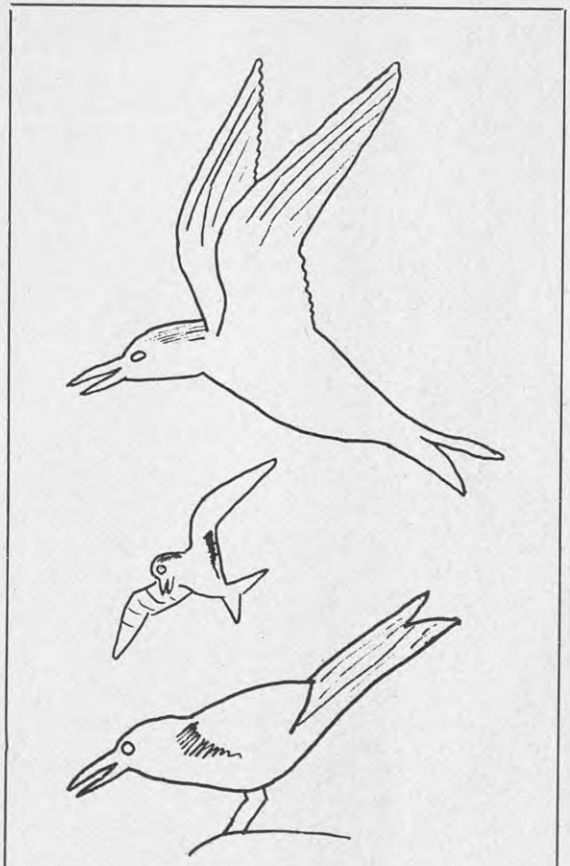
Estuary Plants

Some of the estuary plants have to survive being covered with brackish water during the high spring tides, and the sea grasses are often exposed. to periods of cooking in the hot summer sun during low neap tides.

A common estuary plant is glasswort. Its name comes from the old-time use of the soda-rich ashes of this plant in glassmaking.

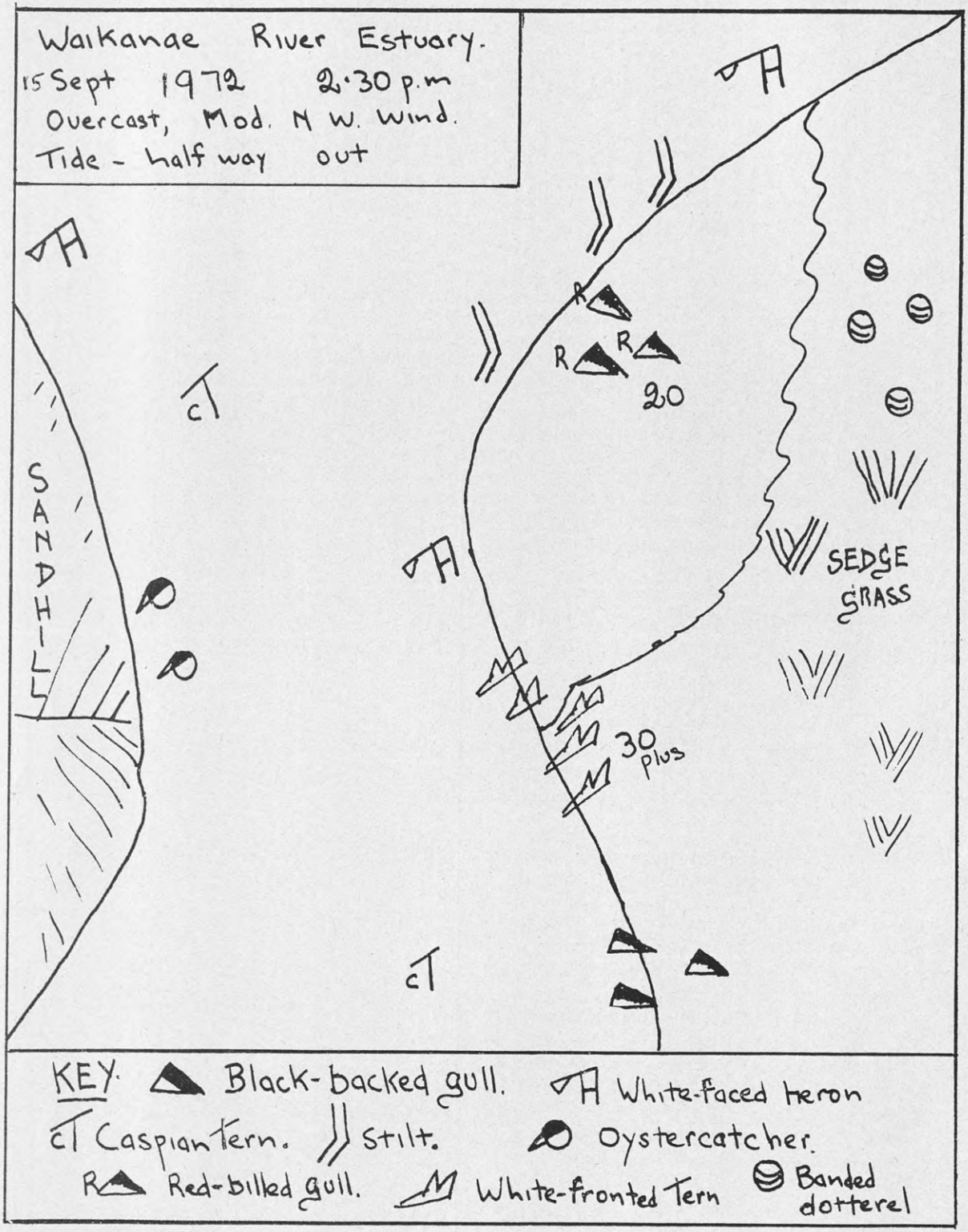
The hardy coastal sedge is sometimes draped with little pieces of driftwood, and the sand convolvulus often creeps out toward the tidal waters.

Birds are attracted to estuaries and inlets because of the abundance of food, and a good list of birds spotted can usually be made. You will see the commoner birds you already know such as the red-billed and black-backed gulls. You may also see the black-billed gull, about the same size as the red-billed, only very much paler in general colouring and, of course, with a black bill. The white-faced heron is a common estuary bird and the white heron or



Terns.

* Sponsored by the J. R. McKenzie Trust.



The use of symbols in ecological sketching.

kotuku finds the estuary water a good feeding ground in winter.

Good Place To See Birds

About 20 miles north of Wellington are Porirua Harbour and Pauatahanui Inlet. The inlet is a good place to see birds, as it has a good road almost all the way around it and this has made the birds used to modern traffic. They take no notice of a parked car and so you can easily get ideal bird watching on a windy day.

Among the big birds, which are easier to see, there are black swans and many ducks (mostly mallard and a stray Canada goose; he probably came up from the South Island on a southerly gale and cannot find his way back again). On a partly submerged log three or four black shags dry their wings, and a group of white-throated or "little" shags occupy a line of telephone posts across one bay; they are always there, perhaps "listening in" on the local gossip.

White-faced heron.

There are white-faced herons wading in the shallows and a group of half a half a dozen stilts nervously calling to one another. A Caspian tern patrols the estuary, diving in for his food and coming up with a little herring gripped in his large red bill.

Kingfishers sit on vantage points and swoop down when something moves on the mud.

There is an area raised slightly above the mud flats which used to be a "go-cart" track, but was later excavated for the Kapuni natural gas pipeline. This area is a favourite place for banded dotterels, and a small group can be seen poking about among the shell debris and wet areas. They are always on the move, quickly running to have a look at a likely food morsel or when disturbed flying strongly to a less occupied place. Plump and solid little birds they are, with a couple of chestnut bands across their breasts.

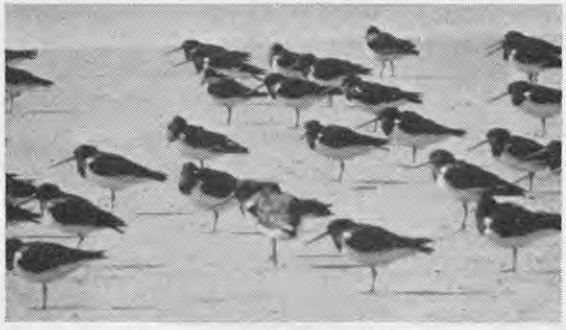
You will see, therefore, that there is a collection of birds each filling his place in an ecological pattern.

Pied stilt.

Reclaimed Area

The Pauatahanui Inlet is an arm of Porirua Harbour, and at the southern end of the harbour there has been extensive reclamation and filling. This reclaimed area will soon be used for light industry. With modern town planning it could be an attractive locality with an interesting beach frontage and wading birds and sea birds to look at, or it could become the handy dumping ground for building or engineering left-overs.

In the first two or three articles of this series black and white drawings were included, but this practice was not continued with later articles. Sometimes we are short of space, but usually we lacked an artist. However, if you want to sketch a locality and have insufficient time or ability to draw birds, symbols can be used; provided you always use the same "key", it is a much quicker way to draw. Sometimes speed is essential; there may be something obviously going to disturb your birds—a boat, a dog, or a person walking. In a minute all your birds are recorded on a rough sketch.



Southern pied oystercatchers.

Red-billed gull.

Add essential information—locality, date, time, weather, and tidal conditions—and you have a record to compare your future observations with later.

Books To Read

Books to read (and perhaps get as presents or buy at Christmas) are:

"New Zealand Birds", by M. F. Soper.

"Plants of New Zealand Coast", by Lucy B. Moore.

"Seashore Life of New Zealand", by Eric Heath and R. K. Dell.

This is the final article of the ecological series. We hope they have stimulated your interest in our birds and our plants and in the general observation of the ecology of our country. Remember it is your country: look at it, respect it, enjoy it, and keep it in good order for future young New Zealanders to grow up in.

What Kinds of Birds Can You See in the Garden?

ANY girl or boy who watches birds—and the garden is a good place to begin—can observe their habits. But to see all there is to observe, the watcher should be careful to avoid any sudden movement and to walk quietly. A sudden movement of an arm is sure to frighten any bird close at hand.

IF you talk to the birds as you would to another girl or boy—but quietly of course—they soon come to know your voice. By being kind to them, by putting out food for them, especially in the colder months, you will be surprised how quickly they respond. But be careful the household cat is not there to pounce on the unwary for a meal.

Food placed outside for birds should be put out of reach of cats. If you make a hanging basket of wire netting and attach it suspended to a branch, the birds can feed there fairly safely. Apple cores and peelings, suet, and bread all provide food for several kinds of birds. A weak mixture of sugar and water—a dessertspoonful of sugar to a cup of water—placed in a basin and hung in a tree will soon attract the little blight birds or white-eyes. A bird bath (on a pedestal) is also a great attraction and it is fun to watch the birds having a bathe.

If you really become interested in the ways of birds, you will soon be extending your watching to parks and the countryside and will be seeing kinds of birds which you had never seen before. To identify them you should observe carefully their size, the manner of their movement on the ground, in the trees, or in the air, their voices, whether they feed on the ground or in the trees, or if they swim on the water of a lake or river.

Different Habits

Different kinds of birds have different habits and these are just as important to observe as the colour of their plumage in telling you what kind of bird you are watching. The best way is to make a careful mental note of all these points or, better still, to write it down right away in a notebook.

When you really become excited about the birds you see you will want a pair of field glasses and if you humour Dad, these could be forthcoming. Once you get the field glasses and watch birds through them you will see such a lot of interesting habits that you did not see before and you will get heaps of fun.

Of course, any nests found should not be

disturbed; from a distance you can watch through your glasses the parent birds sitting on or feeding the young ones, and you will be amazed at the many interesting habits they have that you never suspected. Having gone this far you will have the birds as your friends.

What kinds of birds can you see in the garden—that is, a garden that has at least a few shrubs and trees in a neighbourhood where there is similar vegetation?

Every girl and boy should know the house sparrow, as he is sure to be with you; he has a patterned back in shades of brown, the male with a black bib, the female without one, and a heavy conical bill. The dapper looking, chunky house sparrow is in striking contrast to the slimmer, sleeker hedge sparrow, a bird that keeps itself very much out of the way, but it is often seen in town gardens if you look for it. It moves about quietly in the shrubbery, more like a mouse than a bird, without any bright colours, a faint bluish tinge on the head and a thin bill.

Blackbirds and Starlings

You are sure to have the blackbird in the garden; the male is really black and the female dark brown. And you know how to tell the blackbird from the starling, which also is likely to visit your garden. The starling usually goes in flocks or small parties and is a very bustling kind of bird, very alert when hunting for grubs on the lawn. On the other hand, the blackbird is much more casual in his movements and usually hunts on his own, more often in the shades of the shrubbery, where he digs vigorously with his bill in his search for insects and small creeping things.

One of the easiest birds to identify is the song thrush, with its beautifully spotted breast and rather upright stance. Its song, too, usually uttered from a prominent perch, is clear and strong, with the phrases repeated two or three times. The song of the blackbird is much more mellow and melodious and is sung much more leisurely.

Another bird you are almost sure to find in the garden is the chaffinch. It is about the size of a house sparrow, but with a peculiar, dainty half walk, half hop way of progressing. The male has a bluish head and a chestnut breast, whereas his mate is sombrely clad in grey, but both have prominent white markings on the wings.

A pretty bird in the garden is the goldfinch, at once recognisable by its red forehead and cheeks combined with a distinct black and white marking on the head and a splash of yellow on the wings. It sometimes visits gardens even in populous areas, especially if flowering plants have been allowed to seed.

All of these birds have been brought to New Zealand. They are natives of the British Isles and Europe. When the early settlers came to this country, they brought some of their familiar birds with them. That was over 100 years ago.

These birds spread quickly to many parts of the country and now are some of the most numerous birds to be found in New Zealand. Many of the native birds could not cope with the sudden change that took place with the clearing of forest and scrub and draining of the swamps and retreated to areas of vegetation and forest remaining undisturbed.

Native Birds

Only a few kinds of native birds have been able to adapt themselves to town gardens, the most familiar, perhaps, being the white-eye, a rotund little bird much smaller than a house sparrow and at once identified by the white ring around the eye and its chestnut flanks. It flocks in winter and comes freely to town gardens for food. In the breeding season it is very furtive. It has many other names such as silvereye, waxeye, and blight bird.

The fantail, another native known to most people, is a general favourite because of its confiding and engaging ways. In autumn and winter it often comes inside houses to catch flies. Almost all its food is caught in the air and its erratic flight is assisted by the opening and shutting of its long fan-like tail; hence the name. It lives entirely on insects and spiders.

Another small native that is also an insect-eating bird is the attractive grey warbler. It is generally grey, but with a white-tipped tail, which it often spreads out when fluttering in front of leaves to snap up an insect, though much of its food is gathered when it searches the foliage while clinging to the branchlets. Its song is one of the most appealing of all native birds—"cher-ree" (high), "cher-ree" (low), which is repeated high and low several times.

How many kinds of birds have you in your garden? You may have other birds that have not been mentioned here.

ROYAL FOREST & BIRD PROTECTION SOCIETY

of NEW ZEALAND Inc.

(FOUNDED 28 MARCH 1923)

HEAD OFFICE

"Evening Post" Building, Willis Street, Wellington.
Postal Address: P.O. Box 631, Wellington.
Telegraphic Address: "Forestbird".

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SOCIETY'S LODGES AND HOUSES

Tautuku Lodge

Tautuku Lodge is situated on the Lenz Reserve, some 96 miles south from Dunedin and about 20 miles beyond Owaka on State Highway 92.

All bookings must be made through Mrs F. B. Bennett, Papatowai, R.D. Owaka. Telephone 440X.

Fees: Members, adults, 75c per night; juniors, 40c. Non-members, adults, $1.50 per night; juniors, 75c.

Bookings will not be accepted more than 9 months in advance.

A deposit of 50 percent is payable on booking.

Cancellations must be made at least 1 month before booked date. Otherwise there will be no refunds.

Bring with you all food supplies, bed linen, pillow cases, blankets, towels, tea-towels, and personal equipment.

Cooking facilities and equipment are those of a modern kitchen.

The lodge consists of a lounge, kitchen, two bunkrooms (each with four bunks, equipped with spring mattress and foam pillow), a washroom with tub, basin, and shower, and an ablution block containing toilets, basins, and showers.

Turner Cottage

The Turner Cottage, on Stewart Island, is available for renting. The cottage, a one-roomed dwelling furnished for three people, can be obtained at a rental of $2.50 a day.

For details write, enclosing a stamped addressed envelope, to:

Mrs E. Cole, 46 Albert Street, Invercargill.

Bushy Park, Kai Iwi

(15 miles north of Wanganui)

Fine old homestead, lovely grounds, 220 acres of native bush.

Make your own programme. Electric stove, hot water, and other facilities available. Bring your own rations and bedding.

Fees: Members, $2.00 per night; non-members, $2.50 per night; children under 15, half rates.

Custodian: C/o Bushy Park homestead, Kai Iwi, via Wanganui. Telephone 49-734 Wanganui.

The park is closed to daytime visitors on Mondays and Tuesdays.

Ruapehu Lodge

Ruapehu Lodge is available for occupation. To avoid double booking all bookings must be made with the Society's head office, P.O. Box 631, Wellington.

Fees: Winter season (1 June to 31 October), $1.50 per night for all persons of all ages.

Summer season (1 November to 31 May), adult members, $1.25; junior members, 75c; non-members, all ages, $1.50; family groups (summer only), $20 per week. (There is no concession for family groups of $20 weekly in the last week of December and the first 2 weeks of January.)

Bookings: Bookings may be made by members, sections, and branches 9 months in advance. Other organisations may book 6 months in advance.

A deposit of 20 percent (30c per person per night) is payable on application and the remainder within 6 weeks of the date of the trip.

If bookings are not confirmed by the due date, the space may be relet.

Refunds are subject to $5.00 surcharge.

The deposit receipt will be returned with an instructions sheet listing suggested equipment which should be taken on the trip: Tea-towel, torch, sleeping bag, blankets, sheets, and slippers or light shoes. A pillow case is essential.

The wearing of boots inside the lodge is not permitted. No animals or pets are allowed in the park.

Any person occupying the lodge without prior booking must immediately remit the proper fees to the booking officer.

Waiheke Cottage, Onetangi

The cottage has comfortable bunk accommodation for eight people and has electric lighting, stove, refrigerator, and hot water. Adjacent to a 121-acre wildlife reserve, it is an easy walk to shops and the beach. Everything is supplied except linen and food. **No animals permitted.**

Rental: Summer (including Easter and Labour Day weekend), $17.50 per week; $8.00 per weekend.
Winter, $12.25 per week; $5.50 per weekend.

A deposit of 50 percent is payable on booking, the remainder before entry.

Booking Officer: Miss G. Glanville, Flat 6, 2 Maunsell Road, Parnell, Auckland 1. Telephone 73-821.

The Bushy Park homestead in its lovely setting of over 200 acres of native bush on the Kai Iwi hills, near Wanganui. A week's stay at Bushy Park in January for members has been arranged, and this will give participants the opportunity to look over the property leisurely and also to view places of interest in the Wanganui district. (See page 6 for details).

Supplement to the
November 1972
issue of
"Forest and Bird"

Routeburn is easy going—not always—but sometimes. It requires a good standard of fitness to make it completely enjoyable.

GUIDED ROUTEBURN WALK

The accumulation of beauty . . . this magnificent trail . . .

Reprinted from NAC Airline Review

Arthur Feslier, NAC's Public Relations Manager and editor of AIRLINE REVIEW, covered the 23 miles of the Routeburn Walk with the first party of the year. The paragraphs which follow have been taken at random from his notebook:

The south is a resplendent, sparkling place; each time I fly down here I am overwhelmed by the beauty of it, because there can be no island in all the world more replete with nature's lavish generosity than New Zealand's South Island. And this track—so high, so spectacular—is a man-made facility between the Milford road and Lake Wakatipu which in no way disfigures the splendour or immensity of the landscape.

The Routeburn Walk, even on this first, mildly arduous afternoon, has lifted me to a new world—remote, glorious and almost untouched, it seems, by man's hand: It is a splendid experience; I feel truly dwarfed by the gigantic mountains, the rivers, the waterfalls I have passed on this twisting trail.

As I plodded this afternoon up the eight miles (and five hours) from The Divide—proudly labelled as the *lowest* pass on the Southern Alps, 1704 feet—I asked an irrational, unsettling question of a companion: "I wonder what's happening in the world?" I queried. She looked at me with cool blue eyes which, as I learned, have rested on many of the world's most famous places. "Forget it," she said. "Forget the world; it's somewhere back there. Now you are here, on this trial; get the world out of your system." And then, in a most curious reflection of my own thoughts she added, "Never have I seen anything like this . . . . this accumulation of beauty all in one place; and yet so close geographically to all those other and different things your country offers me . . ." She sought for a word as she contemplated the dramatic scenery: "It's all so . . . sublime; that's the word, sublime. It exalts me . . ."

She was right, of course, The Routeburn Walk, clinging as it does to the steep sides of such huge hills, is a pathway *from* the twentieth century. It leads me back to the earth as God made it. Today I feel better for just having walked in this superb environment.

Birds

Along this magnificent and unique trail which climbs through the western rain forest to the clear, wide heights above the bush line where the snows lie thick in winter, I saw more birds in one day than in any place except Stewart Island. (And its welcome elevation lifts the Routeburn 'way above the sandfly belt and yet within the range of numerous gaudy butterflies and dainty moths.) But it is the avian roll

call which delights any Audubonian: a trilling grey warbler; a gentle black and white tomtit; flashing, friendly fantails; echoing bellbirds (which to me sound like tuis) and prideful tuis (which sound like bellbirds); squeaky-winged pigeons, berry-full and corpulent; bobbing rock wrens; swift brown creepers; cheeky bush robins; piping pipits, and kaka, too, with their cries alternately raucous and gently liquid . . . and circling overhead, wide-winged gulls in from the sea; surprisingly, too, the ubiquitous common blackbird. But, unfortunately shattering the quietness of the day, two high-flying Skyhawks in from Ohakea.

At Routeburn Falls hut I was joined this evening by a noble *nestor notabilis,* an elderly fellow, I suspect, who knows a good thing when he sees it and has therefore taken up residence near the hut, aware that the procession of humans passing by will ensure his ample diet for the summer. This squawking kea entertained me energetically with his lively disportings on a flexible trapeze of overhanging branches. Upside down, hanging first by one leg and then by the other, and finally ("Look, Man, no hands") by his sickle-like beak, he sought my appreciation with haughty look from beady eye as he waited the inevitable gift of a scrap of food. Fred, as he is known to Routeburn walkers, is recorded in the visitors' book. Wrote some passing tyro-traveller who—imprudently but invitingly —hung out his laundry overnight :"Some hook-nosed bastard ate my sox!" (As a sidelight on the efficiency of the Routeburn organisation I should mention that each hut is equipped with a "kea-proof" boot box as protection against this New Zealand mountain parrot.)

Comfort

The evenings in the comfortable insulated cosiness of the huts at Lake Mackenzie and Routeburn Falls are times for talking and laughter and the camaraderie which comes from a group effort. The guides, young men of remarkable strength and vigour, routinely call each other by radio to Queenstown base and the other hut, reporting on track conditions, food stocks, weather prospects and if tomorrow's jelly has set yet. And then, inevitably, the conversation is about the history of this trail, of the men who made it and the reasons why, and of its future. The atmosphere in the relative luxury and undoubted comfort of the metal buildings induces a respect for those earlier walkers who knew nothing of the hot showers, the country-style meals, the butane stoves, the relaxing beds, the electric lights and almost all the best facilities of home which have been helicopted to these remote places. Equated with the trials and efforts of the pioneers my 23 miles along the way are an easy path; and, indeed, because I am fit enough I suppose, my pack feels light; even steep climbs and leg-testing descents make me physically relaxed rather than tired; and importantly, I am mentally rested too, rather than concerned about affairs which a few days ago loomed so large . . . . Things fall into perspective among these massive hills.

Lake Mackenzie hut, even at about 3,000 feet, lies in a valley. And that is the point about the Routeburn Walk—it is high. *Spacious* is the apt word to describe this environment. I sense the altitude rather than acknowledge it, because here at Mackenzie we are surrounded by even higher hills; hills which we cross tomorrow . . . .

Prayer

"Dear Lord, please help me lift my heavy feet; I can put them down all right, but lend me your aid on

A

(A) Lake Mackenzie . . . "surrounded by even higher hills."

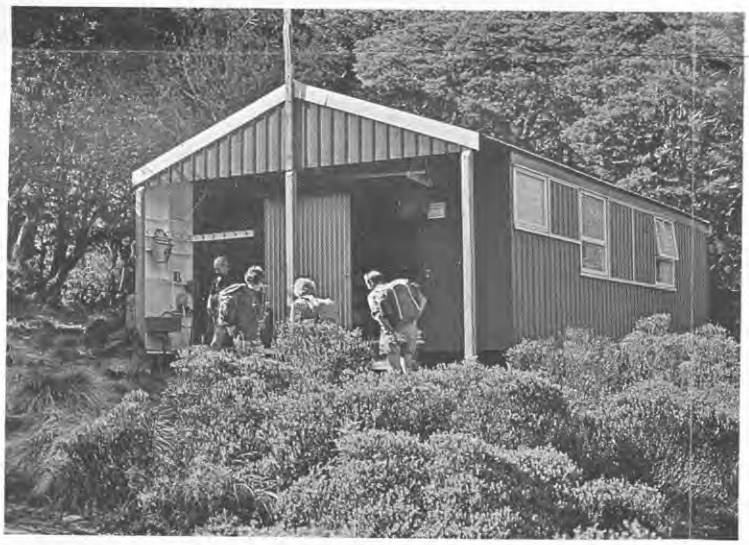
(B) All-metal accommodation provides hot showers, country-style meals, almost every home comfort.

(C) Routeburn is a predominantly high and spacious environment.

(D) The Routeburn Track is clearly defined.

(E) In the far distance the site of Routeburn Falls, where the hut nestles on the bush-covered face of a hanging valley.

(F) Jim Gilkison, 'chef de cuisine' and guide extraordinary.



B

C

D

E

F

the way up." It's a prayful plea from a previous visitor noted in the Mackenzie visitors' book. It raises a point, though: footwear is important. I have shod myself most comfortably in two pairs of woollen socks and the same strong basketball boots, with an extra insole, which carried me over the Milford Track last year. Some people prefer light tramping boots but I liked my basketball footwear. They are ideal.

I awoke this morning to a strange mixture of noise and smells: the raucous, querulous cries of keas joyously cascading down the roof, mingled with the sizzling sound and odour of frying bacon—and the pungency of brewing coffee which in these parts I take strong and sweet and thick with powder-made milk.

Along the way this morning I met two young Canadians —tall, bronzed and speaking beautifully. (I'm sure that Canadians have the finest voices.) We sat at the trail's edge and looked back at Lake Mackenzie now far below. We talked of Canada—which I love dearly—and comparisons were a certainty. Said one, "Your New Zealand mountains beat ours all the way." And the other, "So do your huts; they are excellent and typical of the way you Kiwis care for your wilderness." I sought for something in return. "Well," I said lamely, "we have nothing to compare with Niagara Falls or with Quebec City, or Toronto's City Hall." "True, true; but you are too kind; the comparisons are not valid." I went on my way, up the great winding track suddenly energised by the encounter.

We lunched this day at more than 4000 feet next to a tumbling stream which—I do not exaggerate—glinted in the high, clear air as though it were molten metal. It is bordered by green-brown snowgrass and tough, tough hebes. Suddenly, my mind switched back over decades and I recalled a story my father used to tell me about a fairytale character named Gluck. It was *The King of the Golden River,* a fascinating boyhood story which could have been set right here overlooking the Hollyford Valley in New Zealand. But at the noon-hour with the summer sun so high the turbulent stream was silver, not golden. I should return at sunset because then, I suspect, it becomes as gold.

Question: *Is there any finer hot beverage than billy tea brewed from the snow-fed streams of New Zealand alps?*
Answer: *No.*

Heights

Near Harris Saddle (4,190 feet) I climbed through the last of the winter's clinging snow to Conical Peak and stood there surrounded by a true panorama of such extent, such glittering brilliance that I am incapable of finding words to describe it. The waves of the Tasman Sea washed the distant beach as they broke at Martin's Bay (my next walk, for a certainty) and the encircling mountains about me—and below me—stood out against the sky with every rock, every outcrop, every snow slope etching its detail on my mind. This scramble to the top of Conical Peak is an optional, complimentary extra: a two-hour toiling excursion which proves that working hard for your rewards brings the greatest satisfactions. I know that the name of the place is Conical *Hill;* but anything *that* high, (4970 feet) *that* steep—and so sumptuously scenic—deserves a more appreciative title than *hill.*

Today I have joined an exclusive and entirely privileged minority group: those who have witnessed the exquisite loneliness and loveliness of Lake Harris. This high-level source of the Routeburn River is cradled by the surrounding mountains as though in the palm

Lakes, mountains, trees—and magnificent scenery all the way.

of a mighty hand. It is rich in colour, in unmeasured depth and gentleness—and this shimmering little waterway should be renamed descriptively. Lake Emerald would do nicely. To be truthful, I had never heard of it until I topped Conical Peak and saw it just below, glinting in the sun and tossing back at me its innumerable reflections from a million moving facets. Lake Harris in itself would be sufficient reward for the four-day Routeburn Walk . . .

. . . but its waters become the Routeburn River and tumble down in a series of shimmering and enthusiastic cascades, white, tossing, ebullient and vigorous all at once. The river proves that we have crossed the mountains, for until now all the waters have flowed to the west. But, at Harris Saddle the Routeburn runs east and we are to follow it downwards; down through its meadows—where it flows so gently —and through its gorges—where it is angry and rough in its confining walls and battling against enormous ancient boulders—until we reach Lake Wakatipu and the walk's end, at a little over 1000 feet altitude.

And on this final day, joyously, I am among my birds again: parakeets now, and a robin who lands inquisitively on an outstretched stick, and—unseen, to my regret—a shining cuckoo with his plaintive, repetitive cry. And, also, the flashing sight of timid deer, apprehensive of my approach.

Brevities: Routeburn is a botanist's delight; flowers, shrubs, trees, grasses and lichen grow in profusion; I wish I knew their names and was able to record them all . . . The sound of tumbling water is everywhere along the track; seldom is there silence; but the noise is a *natural* sound, and I like it . . . The track—now over a century old for most of its length—is well-formed, graduated and clearly visible; it would be impossible to become lost, except in unexpected fog or snow . . . The logistics of servicing the two huts by helicopter with everything from pot-cleaners to electric generators is a triumph for Jim Gilkison who conceived the scheme of opening this trail for the ordinary visitor; what he has done is a true example of Kiwi do-it-yourselfness: he has literally opened up a pathway to pleasure for us all . . . Jim mentions that the oldest person to walk the Routeburn was over 80 (he found it tough going) and the youngest about ten; for the fit fifties it is not always as easy as a neighbourhood stroll—but it is infinitely more pleasurable . . . I am intrigued by the high-level mountain tarns; they lie there in their little saucers, surrounded by snow-grass verges, looking brown and placid until I peer into the depths and see a detailed mirror-image of clouds and mountains and rock and snow . . . and my own sunburnt face . . . At night along the way, it's early to bed; but a quiet stroll beforehand reveals that the area is alive with unseen creatures of the night; and a lonesome morepork mournfully calls goodnight . . . Deep in the placid pools of the Routeburn I see trout, almost motionless, almost invisible against the stony river floor . . . We pass a waterfall; elsewhere in the world it would rank high as a destination in its own right; but here, in the immensity of these mountains, it falls eternally, unnamed . . . It's good to know that at night we are well-fed, well-housed in fine company.

Different

Routeburn is different: to compare it with other walks would lead me into the danger of implying that one New Zealand walk is easier or more attractive or more efficient than another. Of the two I have made in the past year—Milford and Routeburn—I can say this: they are complementary rather than competitive; Routeburn is different: to compare it with other walks Milford is predominently in valleys—and attractive; they require I think, an equal standard of fitness to do them without strain. Each is utterly enjoyable. They can be taken separately or joined into one glorious adventure among the New Zealand hills and mountains.

But there *is* something I yearn to do soon. I will go back to the Routeburn and walk that mountain track again, but I will do it the *other way:* from Wakatipu to The Divide. Because this is a two-way trail and I want to relish its challenge from the opposite direction.

Anyway, I *must* get back to my Lake Emerald—surely, the lovliest little lake in New Zealand nestling in an area which—as my friend explained—exalts one with its beauty.

The Season Parties depart from Queenstown on Mondays and Fridays from mid-November until April.

Route Queenstown - Routeburn Valley - Harris Saddle (4190ft.) - Lake Mackenzie - Eglinton Valley - Te Anau - Queenstown (including three nights in mountain cabins).

Transport The complete Routeburn Walk starts and finishes in Queenstown, the track being linked by coach between Queenstown and Divide and between Routeburn and Queenstown.

NAC serves both Dunedin and Invercargill with excellent flights; and frequent coach services leave these cities for Queenstown.

Mount Cook Airlines also serves Queenstown from Christchurch and Dunedin.

Prices are quoted in the free brochure.

Further Information and Free Brochure available from recognised travel agents.
New Zealand Government Tourist Bureau, or from *Routeburn Walk Ltd., Queenstown, New Zealand.*

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