REPORT ON GREAT BARRIER ISLAND, JANUARY 1972

A group of seven members of the OSNZ and one visitor spent from 25 until 30 January 1972 camping on Great Barrier Island for the purpose of covering as much of it as possible for the Mapping Scheme. The island breaks into nine squares and original plans allowed one week there, but unfortunately cyclone " Carlotta " intervened so that crossing had to be postponed by three days. However, by working consistently throughout, eight squares were covered reasonably thoroughly.

As is well known, Great Barrier Island is the stronghold of the Brown Duck and considerable flocks of these were seen, up to 200 on one occasion, more particularly at dawn and dusk when they are active. They occur mainly in the swamps on the eastern side of the island between Whangapoua and Medlands Beach, but odd ones are seen almost anywhere on the island from time to time.

The Black Petrel breeds on the slopes of Mount Hobson (highest point 2,038 ft (621 m)) and probably on other peaks of lesser height. It is more plentiful here than on Little Barrier, and the population was estimated at about 300 - 400. This is considerably more than the 50 pairs stated by Bartle (1967) but he has since said (pers. comm.) that he wishes to revise his estimate more in line with ours. The night of 26 January was spent on top of Mt Hobson. The first Cook's Petrel was heard calling at 8.25 p.m.; although these were seen and heard in flight, none was found on the ground and we surmised their burrows, if any, must be situated lower, as on Little Barrier Island. Just after 8.30 p.m., Black Petrels were heard clacking in their burrows and then seen flying in. The clacking was at times positively deafening, but in spite of it sounding so close, it was no easy matter to track it down to a particular burrow. Those on the surface became silent on being approached. Four burrows were located with birds in them, one with a 3-day chick, three on eggs. The bird with chick bore a band which we later discovered was put on by J. A. Bartle in December 1966 when the bird was found in a burrow in the sameplace, very close to the summit. Eight new birds were banded that night, two of them in one burrow with egg, so presumably a pair. The clacking noise continued until just after dawn, whereas the calling of Cook's Petrel faded away soon after mid-night. The Black Petrel also has a two-note call which was heard from the burrow and also from one bird while being handled. Another sound heard from them resembled a cooing noise. Four of the banded birds were weighed and their bills and wings measured:—

	Weight	Bill Length	Wing Length	
K 2114	675 g	41 mm	345 mm	
K 2120	625	41	370	
K 2121	900	40	353	presumed
K 2122	780	44	365	pair

It is interesting to note that the heaviest bird was by no means the largest.

The Mt Hobson area is now State Forest property and the bush is being allowed to regenerate naturally. There are practically no large trees, except for one or two Kauris, possibly 50-60 years old, because the early settlers first cut out all timber and the later firewood trade took a heavy toll. Forestry management includes measures to keep down the goat population and at present no exotics are being planted. Regeneration appears good, and there are several species endemic to Great Barrier; e.g. *Leptospermum sinclairi, Coprosma dodonaefolia* and *Olearia allomi.* The forest is podocarp and mixed broadleaf, and contains many berry-bearing and nectar-producing trees, including seven species of Rata (*Metrosideros* spp.). Nevertheless, tuis and pigeons are by no means plentiful, and bellbirds were neither seen nor heard. It is possible that many trees are as yet too young to produce large crops of berries. Rats are plentiful and robbed the party of food at night.

A large part of the island consists of second growth Manuka *(Leptospermum scoparium)* and Kanuka *(Leptospermum ericoides)* which is periodically burned off. The commonest species is easily the Kingfisher and the general impression is of a paucity of bird life, particularly in the bush areas.

Besides those already mentioned, the following species were noted: Gannet; Black Shag; Pied Shag; Little Shag; White-faced Heron; Reef Heron; Bittern: Black Swan; Mallard; Grey Duck; Harrier; Californian Quail; Pheasant; Banded Rail; Pukeko; Variable Oystercatcher; Banded Dotterel; N.Z. Dotterel; Wrybill; Godwit; Pied Stilt; Black-backed Gull; Red-billed Gull; Caspian Tern; White-fronted Tern; N.Z. Pigeon; Kaka; parakeets (heard only); Shining Cuckoo; Morepork; Skylark; Pipit; Grey Warbler; Fantail; Song Thrush; Blackbird; Silvereye; Tui; Yellowhammer; Chaffinch; Greenfinch; Goldfinch; House Sparrow; Starling; Myna; White-backed Magpie [for scientific names consult OSNZ Annotated Checklist, 1970].

In the northernmost area, a local resident reported Kokako as being extremely rare. In this part, the bush is in poor condition, overrun with goats and pigs, hence little or no regeneration, the dominant species being Kohekohe *(Dysoxylum spectabile)* and Nikau *(Rhopalostylis sapida)*, with very little Tawa *(Beilschmiedia tawa).* There were also local reports of Fernbird, and Riflemen were seen by two other members visiting the island a week previously. The Welcome Swallow has not apparently reached the island yet. A rather surprising omission is the Dunnock; perhaps further observations will reveal it as present.

Thanks are due to those who took part with me in this project being: D. White, S. Chamberlin, R. Thomas, M. Delamore, P. Miller, L. Claydon (visitor), Mrs W. Mitchell. All worked hard and willingly for the five days which could hardly be described as a holiday, especially for three of the party who, in turn, went down with some kind of 2-day stomach ' bug.'

Seabirds seen on the crossings have purposely been omitted from this report.

We are indebted to the N.Z. Forest Service who provided a camp site, some of our transport, and were most co-operative.

LITERATURE CITED

BARTLE, J. A. 1967. Records of Cook's Petrels and Black Petrels from Great Barrier Island. Notornis 14 (1): 26-27.

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KIWI EGGS LAID AT WELLINGTON ZOO

A blind female North Island Brown Kiwi *(Apteryx australis mantelli)* of unknown age arrived at Wellington Zoo in 1960. In mid-1969 she was shifted to an enclosure measuring 32 by 21 feet (670 sq. ft; 62.5 sq. m) and, since then, has laid eight eggs — the first in November 1969 and the eighth on 15 November 1971. These eggs were irregularly spaced, the intervals between them being 92, 207, 57, 26, 67, 99 and 188 days respectively.

The bird maintains good health, but she is exceptionally small. She weighed 1701 g six days after laying a 374 g egg in 1970; and a series of five weights taken during 1971 and early 1972, which ranged from 1612 to 1719 (mean 1665) g, show her to be about two-thirds the weight of wild females in good condition. Measurements and fresh weights are known for six eggs and these weights average about 22% of her mean body weight (Table 1). The mean weight of 363.5 g for this series of eggs is about 8 g or 2.2% heavier than the mean weight obtained from the calculation $.565ab^2$ (Reid 1971: 246) which, it seems, may understate the weight of fresh kiwi eggs.

When the female laid in February 1970 she was alone in the enclosure — the male had been shifted to a neighbouring pen some time earlier. The other seven eggs, which were laid while she had a male companion, were also infertile.

The egg laid on 15 November 1971 had an internal volume of 342.5 ml. Its fresh weight of 374.7 g decreased by 36.1 g to 338.6 g after 31 days of incubation. This egg was deep-frozen and the shell, albumen and yolk separated. The shell, which weighed 22.3 g, had a volume of 10.5 ml. The albumen weighed 95.1 g and the yolk 221.2 g or 62.8% of the weight of the contents at the time of laying. Romanoff & Romanoff (1949) have shown that during the early period of weight-loss in stored eggs the albumen, as well as losing water by evaporation through the shell, also loses it by diffusion to the yolk which, as a consequence, increases in size. To be meaningful, comparisons of the contents of eggs which differ widely in age should be based on the dry weights of these contents. In a fresh egg, described elsewhere (Reid 1971), yolk comprised 61.1% and albumen 38.9% by weight of the contents. Data in Table 2 compare this egg with the one laid at Wellington Zoo and show that,