

morning of December 5 they all left, but returned at noon. On December 6 they left again, returning at 2 p.m., one chick being missing. On December 7 they did not leave, but did so each day subsequently until December 18, when they left altogether. The chicks were then making a slight squeak. On March 29 two adult and four young stilts came. They were very tame and worked over the usual ground, even going through the same hole in the fence. Obviously it was the same family, the fourth chick having joined up again with the family.

There is no proof that it was the same birds which nested each year. The only good evidence in favour of this is that no other definite pairs came to this area. The young birds could easily have been banded but I had nothing with which to do this. I will watch for the old pair and four others next season.

BREEDING OF RED-BILLED GULL.

A PRELIMINARY CENSUS OF MOKOHINAU COLONY.

By C. A. FLEMING, Wellington.

Mokohinau, the most isolated of the island groups of the Hauraki Gulf, has long enjoyed the reputation among Auckland ornithologists of being the chief breeding colony for Red-billed Gulls (*Larus novae-hollandiae scopulinus*) in the greater part of the North Auckland peninsula. Between Cape Colville and North Cape there are, to my knowledge, some dozen rocks on which the species breed, or has bred at times, but it is very doubtful if any of these exceed a few hundred pairs of breeding birds. At the Three Kings, however, breeding has been reported and the numbers of birds seen in the close vicinity shortly after the breeding season (February, 1934) suggests that that colony might approach the size of the Mokohinau one. In the Bay of Plenty there are further colonies.

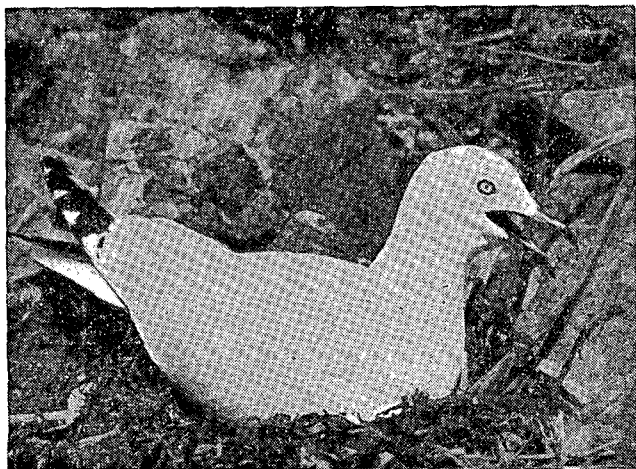
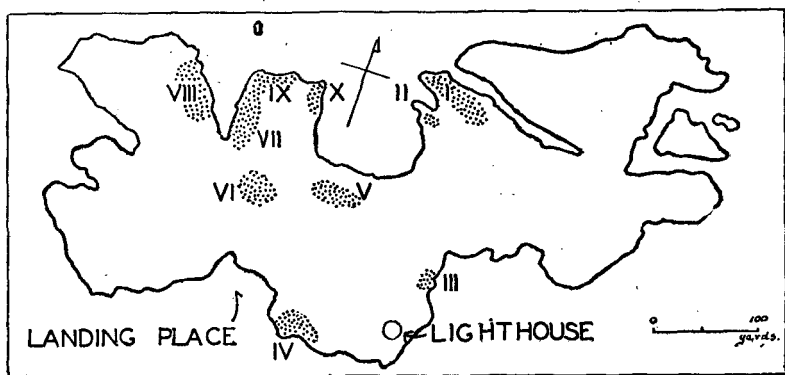


Photo: A. S. Wilkinson.

BROODING RED-BILLED GULL
Panting in heat of sun, Kapiti Island.

During a visit to Mokohinau from October 11-18, 1944, other work prevented my giving adequate time to the breeding gulls, but it is thought worth while to submit the information obtained until a more precise survey is available. The behaviour pattern during this week entailed pelagic feeding during the daylight hours by a large proportion of the population. Such birds flighted in to the breeding places on Burgess Island from all points of the compass in parties of up to a hundred from about 4 p.m. until after dark. Red-billed Gulls seen in the vicinity of the Poor Knights, some 40 miles to the north, in December, 1938, used to flight towards the Mokohinau Group in the evening. During the night the maximum number of gulls was ashore, and before daylight the exodus of feeding birds began. About a third of the birds, at a rough guess, remained on the nesting sites during the day, mainly building nests, robbing their neighbours' nests, and indulging in courtship activity. The first eggs were seen on October 12 in Group I. (of attached map); 17 nests had eggs and five had clutches of two. This was in a group of hundreds of completed nests and none were seen in other groups for some days. It should be noted that this was the largest (by count), as well as the earliest to lay, of the ten groups of nests on the island. Eggs increased rapidly during the week. One clutch of three was seen.



BURGESS ISLAND, MOKOHINAU.

Showing groups of nesting Red-billed Gulls in October, 1944.

The counts of birds present, and the time of day are;—

I.—1,050 birds (8 a.m.); II.—250 birds (8 a.m.); III.—50 birds (8 a.m.); IV.—75 birds (11 a.m.), 200 birds (6 p.m.); V.—150 birds (11 a.m.); VI.—25 birds (11.30 a.m.); VII.—580 birds (11.30 a.m.); VIII.—25 birds (11.30 a.m.); IX.—280 birds (noon); X.—200 birds (noon). Total, 2,685.

At Mokohinau red-billed gulls breed only on Burgess Island, where ten groups of nests on headlands and cliff tops were recognised for census purposes. It was not practicable to visit these in late evening or early morning when numbers were highest. Counts were made by sitting hidden at a vantage point till the birds had settled, of every bird present at times between 8 and 12 a.m., on different mornings for different groups. Checks on the same colony on successive mornings gave differences up to 10%. On the other hand, a 6 p.m. count of Group IV. (which was only 75 birds strong at 11 a.m.) gave a total of 200, and birds were still coming in. At the times of counts immense flocks were dotted over the

surface of the ocean, and it was felt that more birds were at sea than on shore. In view of this, and as less than half the nests had eggs at the time of the counts, a conservative estimate of the total gull population is put at three times the actual morning count, which totalled 2,685 individuals. The general order of magnitude of the Mokohinau population, thus assessed, between 5,000 and 10,000 birds, is probably correct, i.e., it is to be numbered in thousands rather than in tens of thousands.

Among the thousands of gulls seen in the vicinity of the islands, two only were in immature plumage, and these were feeding at sea, and not noted on the breeding grounds.

Servicemen who had spent much time at the island, reported that the gulls leave the vicinity of the Mokohinau Group in March, and, more definitely, that they are totally absent until the last week of August, and that most appear in early September. They stated that the evening assemblages were less spectacular in October than they had been during late September, and were surprised at the low census figures I obtained. When the gulls first appear they do so from the open ocean to the east, so that a return to pelagic feeding, after a winter spent, in part at least, on the coasts and in tidal harbours, may introduce the breeding season. An account of observations on the seasonal movements of the red-billed gull near Auckland by P. C. Bull, was published by this society in its Bulletin No. 1, year 1941-42.

FURTHER RECORD OF *PTERODROMA LEUCOPTERA* FROM MURIWAI.

By P. C. BULL, Auckland.

On January 27th, 1946, in company with Mr. R. B. Sibson, I visited Muriwai, and found, together with other species cast up on the beach, a single specimen of *Pterodroma leucoptera*. As this bird differs slightly from the previous specimens found at Muriwai (Bull, 1943) it is, perhaps, worthy of discussion.

Unfortunately, this more recent specimen had been lying on the beach for some days so that it was not possible to determine either the sex, or the colour of the feet. Most of the feathers were still adhering and measurements of the wing and tail could be taken as well as those of the culmen and tarsus.

Although many of the feathers of the underside of the manus were lost, those remaining suggested a brownish black shade considerably darker than in *P. cookii*. In addition, the dark areas on either side of the breast are linked by a narrow line of clouded feathers. In both these particulars it agrees with the condition described for the Cabbage Tree Island population by Hindwood and Serventy (1941) but differs from that of the specimens found at Muriwai in 1942.

This tendency to agree with *Pterodroma leucoptera leucoptera* is also indicated in Table I, which compares the measurements of the recent Muriwai specimen with the mean values given by Hindwood and Serventy for the Cabbage Tree Island population and those of my own for the 1942 Muriwai series.