

THE BIRDS OF GREAT BARRIER AND ARID ISLANDS

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Great Barrier Island, the largest island lying close off the North Island of New Zealand, is approximately fifty miles north-east of Auckland City. The island is some twenty miles long from north to south, some twelve miles across at its widest portion and has a total area of 74,000 acres. Arid Island is a small island ($1\frac{1}{2}$ miles by 1 mile) which lies three miles due east of the Whangapoua Beach, its southernmost tip extending to only $1\frac{1}{2}$ miles from Great Barrier Island.

This paper covers the observations recorded during two official visits. The first visit, to both islands over a period of 10 days in June 1957, was made by the authors to check on the status of Brown Teal on Great Barrier and the North Island Weka on Arid Island. The second, by B. D. Bell and D. V. Merton for 14 days in December 1960, was only to the Great Barrier to make a further check on Brown Teal and to record resident and migratory waders. (The pronoun "we" used in connection with the 1960 observations refers to these, and not the two authors). On this occasion we had about two hours ashore after dark on Saddle Island (Grey Group), a small offlying island, on December 8th. The unpublished observations of several observers are included, and prior published material summarised to give a full picture of the birds of these two islands.

Both islands are hilly and in places very rugged. They have both suffered modification by bush felling and farming. Great Barrier was affected very early by the felling of kauri (*Agathis australis*). Kirk (1867) records that the kauri on the western coast had been largely milled and also that the puriri (*Vitex lucens*) and kanuka (*Leptospermum ericoides*) had become scarce in some districts owing to their being cut for posts and firewood. In 1889 Weetman recorded that "farming had been well established in the south, 'Owena' (*Awana*), Harautanga (*Harataonga*), Whangapoua River, Tapuwai, Fitzroy Harbour and Port Abercrombie." Also the same authority recorded the current activities of gum-diggers.

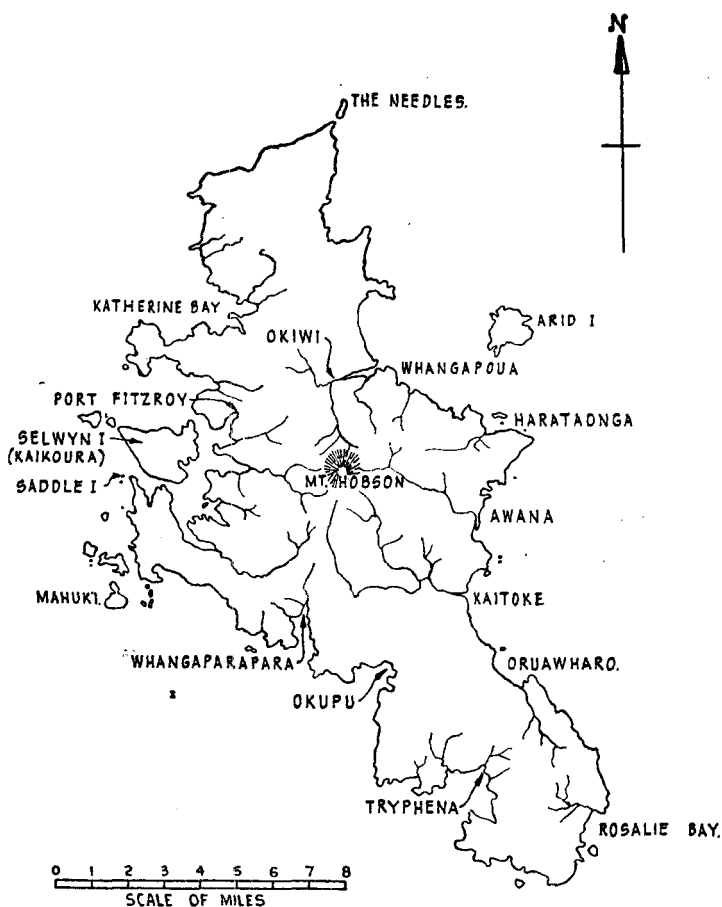
To-day farming has extended a little further inland, but not greatly beyond these areas. Development is retarded by high overhead costs and the conservative nature of the islanders. Farming is a mixture of dairying and sheep and cattle grazing. At least half the island remains in bush, scrub and second growth, and cannot be very different from when Hutton visited it in 1867 except for the effect of repeated burning over the years. The Forest Service now has the large central block reserved and is undertaking a kauri regeneration project. This has meant a prohibition of burning over much of the island in recent years, which has undoubtedly proved beneficial. The northern four or five miles of the island support the only remaining portion of uncut bush.

Hutton and Kirk (1868) described the vegetation of Arid Island as possibly more like that of Little Barrier than of Great Barrier. This island has been partly cleared and has been grazed by cattle for some years so that the remaining bush is very open.

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Great Barrier has suffered from the introduction of exotic animals which have an effect on the birds but to a lesser degree than on the mainland. Fallow deer (*Cervus dama*) are present in small numbers on Kaikoura Island. Goats (*Capra hircus*) are spread about the main island and are especially numerous in the northern bush. Wild pigs (*Sus scrota*) have a rather "patchy" distribution. Feral cats (*Felis catus*) are present and rats (*Rattus ? spp.*) are abundant both about the settlements and in the bush. Rabbits (*Oryctolagus cuniculus*) are present in considerable numbers behind Whangapoua Beach and Katherine Bay, and in small numbers throughout the island; and rabbit droppings were found even on the summit of Mount Hobson. Buddle (1936) recorded rabbits on the largest island in the Junction Group. Fortunately both opossums (*Trichosurus vulpecula*) and mustelids are absent. On Arid Island rats (*Rattus sp.*) are numerous and have been present since before 1867 (Hutton and Kirk).

Hutton (1868) drew attention to the absence of the Kiwi and



rails but it is possible that he overlooked the latter. His record of only one species of duck is also strange and it may be that the early settlers and bushmen had reduced the Brown Teal, a very vulnerable species, to a very low level by the time he visited the island so that he did not record it. What we found the most striking was the change in the status of some species since Hutton's day. The apparently complete disappearance of the Robin and Tit seems inexplicable; likewise the virtual disappearance of the Whitehead and Bellbird from Great Barrier while both persist, the Bellbird in good numbers, on the adjacent Arid Island.

As almost no concerted effort has been made over the years to study the birds of Great Barrier Island, it is not surprising that one or two interesting findings were made. The discovery of a colony of Black Petrels and the present high population of the rare Brown Teal must indeed be the highlights. However, strong populations of Banded Rail, Kaka, Kingfisher and Fernbird are also notable. The reported presence of Kokako is worthy of further study. The relatively accurate counts of resident and arctic migrants will be of value to studies of these species elsewhere. Finally the records of the establishment of the White-faced Heron and Myna will provide further evidence in the spread of these species.

CLASSIFIED LIST OF SPECIES

As a rule the "Checklist of New Zealand Birds" has been followed for the scientific nomenclature. All place names can be found on New Zealand Topographical Map 1:63360 (1 inch to 1 mile), Sheets N.30 and 31 and N.35 and PT.36. It was found necessary to use the following local place names.

The Needles refers to the Aiguilles Islands and not to only the extreme rock stacks.

Sugarloaf — a conical-shaped peninsula at the north end of Oruawharo Bay.

Walter Blackwell's Creek — a stream north of the Sugarloaf.

Tom Blackwell's Creek — a creek running parallel to the Tryphena - Kaitoke Road to Tryphena.

Sugarloaf Creek — a creek south of the Sugarloaf.

Saltwater Creek — a creek running north into the southern end of Oruawharo Bay.

Mine Bay — a bay south of Miners Head at the north-western end of the island.

NORTHERN BLUE PENGUIN (*Eudyptula minor novaehollandiae*)

Reported by Hutton (1868) as very numerous. Hayson (1954) records one washed ashore and remarked on the suitable habitat around the coast. We considered this species still very numerous. In 1957 a dead bird was found on the Awana Beach. On Arid Island their calling could be heard throughout the night. On the evening of the 19th August, 1959, one was seen swimming near the Whangaparapara wharf and later they could be heard calling from other parts of the harbour. In 1960 they were seen in Ports Fitzroy and Abercrombie and outside Man of War Passage. Dead birds were seen at Medlands Beach and Shoal Bay.

PETRELS

Hutton (1868) listed several species of petrel but gives no breeding data and many of the records are obviously from the seas about Great Barrier. Oliver (1956) also gives Great Barrier as the area where several species have been recorded e.g. Cape Pigeon, Black-bellied Storm Petrel, but these are incidental records and we have referred only to the possible breeding species. To-day, however, it is necessary to mention the concentrations of Wandering Albatrosses, Giant Petrels and Cape Pigeons seen at sea over four days from 18 to 21 of August, 1959, when en route to Cuvier Island. Although the activities of the whaling station at Whangaparapara had finished for the season it could have been largely responsible for the large number of these birds in the surrounding waters. No definite effort was made in 1957 to visit any of the small islands around Great Barrier to determine the species breeding in the area. However, inquiries were made of local people to establish a basis for future work in this quarter. In 1960 B. D. Bell and D. V. Merton accepted the offer of a trip to Saddle Island one evening and this gave us our only opportunity to determine the breeding species on any outlying islet.

FAIRY PRION (*Pachyptila turtur*)

Recorded breeding on Saddle Island by Sladden (Falla 1934) but not by subsequent observers. Fleming found feathers in January 1934 but no other sign. We saw no sign of this species in 1960.

FLESH-FOOTED SHEARWATER (*Puffinus carneipes hullianus*)

Fleming (1934) recorded their coming around the boat and diving for bait off Peter Island. Mr. J. Medland reported having seen them off Oruawharo Bay. P. Stein (*pers. com.*) recorded as few as 24 off the Needles with immense numbers of Fluttering and Buller's Shearwaters (see Buller's Shearwater). This species could be the late breeding species recorded by local people from the Needles and Mr. Dick Wii considered this so when questioned about the "muttonbirds" from that area in 1960.

BULLER'S SHEARWATER (*Puffinus bulleri*)

Falla (1934) queried the possibility of a breeding station off Great Barrier. Stein (*pers. com.*) recorded 20,000+ off the Needles in summer (1956-57). We suspect that these large concentrations which have been recorded off several islands are a form of behaviour during the summer months and that breeding is confined to the Poor Knights.

SOOTY SHEARWATER (*Puffinus griseus*)

In 1960 (December 13th) three storm-wrecked corpses were found on the Whangapoua Beach. They had probably been present for a month or two.

FLUTTERING SHEARWATER (*Puffinus gavia*)

Falla (1934) lists Saddle Island as a breeding station. It was found breeding there by Fleming in 1934 and Buddle in 1936. Stein (*pers. com.*) recorded 10,000+ off the Needles (see Buller's Shearwater). In 1960 we found them breeding on Saddle Island, chicks being found in the burrows on December 8th. These were in down with the primaries just breaking their sheaths. Compared with the same species in Cook Strait the adults handled were consistently smaller. One adult was measured and the following data obtained:— bill 34.3, wing 205.5, tarsus 42, mid-toe 45, tail 63 (*measurements in millimetres*).

BLACK PETREL (*Procellaria parkinsoni*)

In 1960 the consistent reports of petrels breeding in the vicinity of Mount Hobson caused us to spend a night at the summit on December 9th and this proved most rewarding. A female (Serventy 1956) Black Petrel was found in a burrow just below the summit and the measurements taken:— bill 40 (depth 18, width 18), wing 355, tarsus 56.5, mid-toe 78, tail 111 (*millimetres*). This bird was covering a leaf-lined nest chamber but no egg was present. After dark more petrels began coming in and were very noisy. A rough estimate of the population judging from the birds flying in would be 200+ pairs on Mount Hobson and radiating ridges. Birds became noisy again at 2 a.m. as they began to depart.

Mr. R. Cooper reported "petrels" breeding from "the Drum" (a peak to the south of Mount Hobson) and Mr. Dick Wii reported large black petrels breeding on Cooper's Castle. We heard them flying overhead on several evenings from various places, e.g. Claris Aerodrome, Oruawharo and Shoal Bay. At Claris the birds appeared to be flying towards Te Ahumata. It is considered that this peak and other high points on Great Barrier are possibly used by this species.

GREY-FACED PETREL (*Pterodroma macroptera gouldi*)

Hutton and Kirk (1868) visited Arid Island in December 1867 and made the following comment in their paper:— "It is the place where the Maoris always land when they come to eat Mutton-birds. These Mutton-birds, or Oii, as they call them, are a kind of petrel, of a dark brown colour, belonging, we suspect, to the genus *Puffinus*. We were not able to procure a specimen, the season being too far advanced, and saw nothing but feathers lying about where the Maoris had been eating them. These birds live in holes which they burrow into the soft hillsides. We were informed by the natives of the Great Barrier that formerly they used to be very numerous, but that latterly they had become scarce, having been killed off by rats." It is obvious from the above that the species concerned was in fact the Grey-faced Petrel. The Maori name is that used for this species and the breeding season conforms. We found burrows in use in 1957 but were unable to reach a bird. Falla (1934) included the Great Barrier in his general breeding distribution for this species. Fleming (1934) and Buddle (1936) found them breeding on Saddle Island. Buddle also found some burrows on Anvil Island which he took to be these although he was unable to find a bird. We found it breeding on the Sugarloaf and skulls picked up here were identified by E. G. Turbott. The local people told us of several islands where "muttonbirds" nest and from the dates given we suspect that they are this species:— Junction Island, Pitokuku Island, islands off Palmers Point (north of Palmers Beach), islands north of Waikaro and also on a promontory on the main island adjacent to these. On Saddle Island on December 8th, 1960, no adults were coming ashore, but one fully fledged chick with a few wisps of down adhering to its feathers was found.

[MOTTLED PETREL (*Pterodroma inexpectata*)

A petrel with a "ti-ti" cry, attributed to this species was heard calling at night, especially rainy nights, during December at Whangaparapara and Port Fitzroy by Fleming (1938). The cry is so similar to that of the following species that confirmation is needed.]

[COOK'S PETREL (*Pterodroma cooki cooki*)

Miss L. and Mr. M. Mabey reported having heard a bird passing overhead on summer evenings in the vicinity of the Whangapoua Beach, calling "ti ti ti ti." It is most likely that it was this species flying to the breeding ground on Little Barrier.]

DIVING PETREL (*Pelecanoides urinatrix*)

Found on Saddle Island by Fleming (1934) and breeding there by Buddle in 1936. On Saddle Island in 1960 adults were coming ashore in large numbers. Chicks were present in burrows. They were feathered but still covered with a heavy down that was disappearing only from on the head and wings.

GANNET (*Sula bassana serrator*)

Hutton (1868) recorded this species as breeding on Mahuki Island, and all subsequent observers have recorded it. The latest published estimate of population was 300-350 pairs in the 1946-47 season (Fleming and Wodzicki 1952). The stack off the south east end of Arid is also given as a roost for this species but breeding has not been recorded. Stein's counts made at the colony from 1954 on, show the actual population is between 800 and 1,000 breeding pairs (*pers. com.*). Birds on Mahuki could be seen from the air as we flew over in 1957 but we did not visit the colony. They were constantly seen all around Great Barrier in both 1957 and 1960.

BLACK SHAG (*Phalacrocorax carbo novaehollandiae*)

Fleming (1934) recorded seeing several in Port Fitzroy and Hayson (1954) recorded one from the same area. In 1957 we saw one bird at Port Fitzroy and another at Arid Island. In 1960 four were seen at Whangapoua Estuary and one was seen at each of the following localities, Kaitoke, Sugarloaf and Saltwater Creeks and Shoal Bay. The total number on the island must be rather small.

PIED SHAG (*Phalacrocorax varius*)

Recorded by Hutton (1868) as abundant. Both Fleming (1934) and Buddle (1936) recorded a colony (c. 20 nests C.A.F.) on the coast near Flat Island and reported them as common about the coast. In 1938 Fleming recorded a roost of 25 birds between Whangaparapara and Port Fitzroy. In 1957 they were still numerous about the coast and one was seen in the landing bay on Arid Island throughout our stay there. Stein (*pers. com.*) reports a colony of c. 30 nests at north end of Bowling Alley Bay and a small colony behind the islands at the east end of Harataonga Bay. In 1960 odd birds were seen about the coast and small concentrations were recorded on Selwyn Island outside Man of War Passage 6+, Oruawharo Bay 6, and Sandy Bay 10.

WHITE-THROATED SHAG (*Phalacrocorax melanoleucos brevirostris*)

Fleming (1938) recorded this species in the Whangaparapara to Port Fitzroy area. In 1957 we saw this species in almost all localities visited. One was seen at Arid Island. In 1960 only ones and twos were seen but they were present on most streams; in fact without exception all those seen were on fresh or estuarine water. Of thirteen seen only one was the white-breasted phase.

WHITE HERON (*Egretta alba modesta*)

Johnson (1948) recorded one from Tryphena in May of that year. L. C. Bell (1949) was told by several people that four birds were seen in different parts of the island in the previous summer (1948-49).

Several residents informed us that this species is occasionally seen. Miss Lesley Mabey and Murray Mabey stated that one was seen two or three times a week for a period of two years at the Whangapoua Estuary, either in 1950-51 or 1951-52.

BLUE HERON (*Egretta sacra sacra*)

Recorded by Hutton (1868) at Port Fitzroy. Fleming (1934) recorded one near False Head and two at Cliff Island, and in 1938 recorded them between Whangaparapara and Port Fitzroy. In 1957 we saw single birds at Port Fitzroy, Whangaparapara and on the Whangapoua Estuary and two at Tryphena. In 1960 one was seen at Port Fitzroy and Whangaparapara and two at Tryphena.

WHITE-FACED HERON (*Ardea novaehollandiae*)

Mr. S. Hailes (Okiwi) reported seeing three or four unusual herons during the previous year or two on various occasions. Although he did not know the bird his description of the plumage and behaviour left little doubt that it was this species.

BITTERN (*Botaurus stellaris poiciloptilus*)

Recorded by Hutton (1868) as rare and not seen by him. Similarly L. C. Bell (1949) did not record this species but was told there were a few in the Kaitoke Swamp. In 1957 we saw two birds on Walter Blackwell's Creek and another on Saltwater Creek. The Mabeys stated that the bird was very numerous in the swamp behind Whangapoua Bay. We saw one there in 1960 and also on this visit saw two and heard at least three others in the swamp formed by the backing up of Sugarloaf Creek. 2+ were heard at Kaitoke.

BLACK SWAN (*Cygnus atratus*)

L. C. Bell (1949) reported that there are sometimes a few at Whangapoua and Kaitoke. Several residents told us that they are occasional visitors.

BROWN TEAL (*Anas castanea chlorotis*)

This species was not listed by Hutton (1868) who commented particularly on the fact that the Grey Duck was the only duck on the island. In 1949 L. C. Bell recorded about 60 Brown Teal but remarked that he did not consider this anywhere near the total population. On a shorter visit in August 1953 he recorded 41 as follows:

At Harataonga he found a pair with a nest containing five eggs in it, with another rat-eaten egg about eight feet away. The nest was on top of the creek bank in long grass about four feet above the water. At Awana he counted 17 including four young. At Tryphena he saw 22 including three broods of six, three and one, when he examined the creek during the middle of the night, whereas none had been seen either at dusk or dawn. Hayson (1954) made reference to them and their nocturnal feeding.

In considering this species it must be appreciated that prior to 1949 this bird was not recognised as protected and was heavily exploited by the local residents. However, since this was pointed out to them by Mr. L. C. Bell on his first visit, they have shown a remarkable co-operation with protection measures. This has undoubtedly assisted the increase of the teal and has been complementary to the habitat changes discussed below.

To the extent that the Brown Teal feeds almost exclusively at night, spending the daylight hours loafing in sheltered creeks, an accurate

census presents a difficult problem. It appears also that the breeding season is far more extended than would appear from the available literature; circumstantial evidence appears to bear out the statements of various residents that the birds nest from May to November. It is thus probable that an unknown proportion of females were on the nest when we were on the island. In fact, in 1957 we gained the impression that males and juveniles formed the majority of some of the flocks we saw.

Our enquiries and discussions with the residents, and our own observations, suggest that the flocks are very sedentary at their loafing places. Mr. Cooper told us that around Port Fitzroy at least, the birds have increased steadily over the past twenty years or so, despite a fair amount of predation by cats and dogs. We believe that this may be related to the taking over of this part of the island by the Forest Service and the subsequent spread of gorse (*Ulex europaeus*) and manuka (*Leptospermum scoparium*) and restrictions on burning throughout much of the island. Mr. Mason says that, in the Oruawharo Bay district, up to the time when shooting the birds for food ceased and for a year or two afterwards, the birds were not common, but that the increase in the past four or five years has been spectacular. We were also informed by several people that the former practice of burning swamp vegetation has more or less ceased. The increase of this species has been paralleled by an increase in both numbers and range of the Banded Rail, though this species also is subjected to predation by cats and dogs. Even the present population of Brown Teal could not maintain its numbers in the face of shooting on the scale apparently carried out up to about 1949, but we believe that the reversion to scrub and second growth of the Forestry block has permitted a steady increase in an area where nesting and loafing habitat exceeded the feeding grounds, and that the consequent surplus maintained a constant influx into the areas where shooting prevented a similar increase until a later date. The cessation of shooting, combined with the regeneration of swamp vegetation, then permitted an even greater increase than on the west coast, as the pasture and beaches provide a much greater area of feeding grounds.

Our estimate of the total numbers of Brown Teal on Great Barrier is based on the assumption that the flocks are, as suggested, sedentary. From our own counts of flocks on creeks visited, and from second-hand estimates or counts on certain other creeks, we have attempted to estimate the populations of the eastern and central parts of the island. In attempting to estimate the populations of other areas, we were compelled to judge the carrying capacity from topographical maps. All our estimates were discussed with residents familiar with the areas concerned; the few disagreements with our estimates were unanimous in considering them too low. Added to the probability, if not certainty, that a fair number of females from the flocks counted were away nesting, this makes us reasonably certain that our estimate of 640-700 birds in 1957 is a conservative one.

Although the residents are now protection-minded in relation to this species and human predation is negligible, there is a certain amount of predation by cats and dogs, as well as casualties caused by motor vehicles, collision with fences and telephone wires, etc. Opinion was unanimous, however, that the birds are not only holding their own but are on the increase. This is borne out very conclusively by the

counts made in 1960 when the total number seen equalled the number estimated in 1957. It has been shown by L. C. Bell (1957) that, where the proper conditions are available, the birds will colonise new areas. We would suggest that Great Barrier Island would be a good locality to carry out a more extended field study of Brown Teal populations, using banding methods to make a more accurate census and to obtain an insight into mortality, survival, movements to and from feeding-grounds, etc.

Localities and counts made during the visits are as follows:—

Port Fitzroy area: In 1957 only about six birds seen, but Mr. Cooper reported them to be numerous on his property, and concurred in our estimate of at least 50 birds. In 1960 one was seen and others heard.

Okiwi and Whangapoua Bay: In 1957 a flock of 40-50 reported regularly on Mrs. Williams' property by Mrs. Williams and Mr. Stellin. The latter states that Mr. Garth Cooper regularly sees a flock of 40-50 near his place at Okiwi (possibly the same flock but we do not think so). A flock of c. 20 was reported by the Mabey family on their creek at the north end of the bay. Others may be present in the extensive mangrove and freshwater swamps. We believe the population of this area to be at least 150 birds and perhaps 200. In 1960 fourteen were seen at Mr. Hailes' and Mr. Sanderson reported seeing 60-70 in the autumn. We counted 21 on Mabey's stream.

North Block: In 1957 Miss Wharfe reported seeing c. 12 birds at Katherine Bay, and two birds were seen last year at Mine Bay. We would guess the population of this area to be at least 40 birds. In 1960 we saw 40-50 on the bank of the stream at Motaihere Bay.

Harataonga: In 1957 Mr. Stellin reported seeing about 40 birds here. In 1960 we counted 52+ in this area.

Awana area: In 1957 we saw a flock of 36. Very few could definitely be identified as females, and 40 birds is probably a conservative estimate. In 1960 at least 77 were counted.

Kaitoke Flat: In 1957 Mr. Daly reported a count of 72 birds on Kaitoke stream within recent weeks prior to our visit. However, we saw none. We saw 32 birds on Walter Blackwell's Creek; this is a permanent flock which comes daily to feed on curds thrown into the creek from the milking shed. This would seem to make a definite minimum of 104 birds. In 1960 Mr. Daly had seen 13 on the Kaitoke River the day we came through but again we did not see any. Most of the population of this stream probably lives up in the swamp area. On Walter Blackwell's Creek we recorded 24+.

Oruawharo Bay: In 1957 we saw 80-100 birds on Sugarloaf Creek and 24 on Saltwater Creek on the same afternoon. Mr. Mason agreed that there would be at least 120 birds on these two creeks. In 1960 at least 350 were present on Sugarloaf Creek. The habitat on this stream has improved over the years due to a farm being abandoned and the outlet of the stream becoming blocked. There were 95 on Saltwater Creek. On the bank of this stream D.V.M. found an old nest under an *Astelia*.

Tryphena: In 1957 we saw, and watched for some time, a flock of 27 on Tom Blackwell's Creek. B.D.B. saw one bird in the next stream, but the banks were so overgrown, and parts of the creek so hidden by fallen trees, that time did not permit further examination, though

another flock may have been present (an alternative possibility is that the bird was nesting — doubtful, in view of reports that females sit very close on eggs). Also reported on other streams in this area. Our estimate of 50 birds for *Tryphena* was thought much too low by Mr. Tom Blackwell. In 1960 we counted 38 on Tom Blackwell's Creek and three on the Shoal Bay Stream.

South Coast (from Saltwater Creek around to *Tryphena*): No reports in 1957. In 1960 three adults and three half-grown ducklings were seen on the Rosalie Bay Stream.

Whangaparapara - Okupu: Reported as numerous at Whangaparapara by Mr. McGeady in 1957. No reports for Okupu. Our guess is about 50 birds at least for the coast from *Tryphena* to Whangaparapara. From there to Port Fitzroy, the coast, as seen from the launch, did not appear likely to provide any good feeding grounds. In 1960 local residents reported Teal from both Okupu and Whangaparapara but none was seen.

GREY DUCK (*Anas superciliosa*)

Recorded by Hutton as not numerous. L. C. Bell (1949) reported that occasionally there are a few at Kaitoke. In 1957 we saw one flock of 23 at Awana and another of about eight at Sugarloaf Creek, both flocks in company with Brown Teal. Mr. Mason considered that there are not more than 20 birds in the Oruawharo Bay area. The total population was probably less than 100. In 1960 its numbers were generally higher than those on the earlier visit. At Whangaparapara one was seen, while at Kaitoke six were recorded. However, as with the Brown Teal the largest concentration was in the Sugarloaf and Saltwater Creeks and here at least 40 were seen. The overall population is probably higher than in 1957 but probably not much greater than our original estimate.

MALLARD (*Anas platyrhynchos*)

One female seen on Sugarloaf Creek in 1960.

HARRIER (*Circus approximans gouldi*)

Recorded by Hutton as common. C. A. Fleming (1934) recorded evidence of a harrier on Saddle Island and recorded it on Great Barrier in 1938. It was listed by L. C. Bell (1949) and recorded as plentiful by Hayson. At the present time it is distributed generally over the whole island and some outliers. In 1957 we saw at least one almost every day, but did not consider it specially numerous in comparison with many parts of the mainland. L. C. Bell (1953) recorded it from Arid Island and we saw a single bird on two occasions over Arid Island. In 1960 it was seen regularly throughout but never in large numbers. One was seen over Saddle Island before dusk on our evening visit to that island.

NEW ZEALAND FALCON (*Falco novaeseelandiae*)

None of our informants had ever seen this species and its disappearance since Hutton's day seems likely.

NEW ZEALAND QUAIL (*Coturnix novaeseelandiae*)

Hutton quoted a correspondent from the Bay of Islands who claimed to remember this species as being common on Flat Island at one time but he (Hutton) stated that it was extinct there in 1867 and had been so for several years past.

BROWN QUAIL (*Synoicus ypsilophorus*)

Listed by L. C. Bell in 1949. In 1957 we saw several coveys in the Okiwi-Whangapoua district. Others were reported in the Orua-wharo district. Mr. Brown believes there has been some decrease in numbers. In 1960 we did not succeed in seeing any but heard them calling at Whangapoua, Awana and Kaitoke. They seemed particularly numerous at the latter site.

[CALIFORNIA QUAIL (*Lophortyx californica brunnescens*)

A pair recorded by Hayson (1954). This is the only record of this species from the island and as the bird is unknown to the local people the record needs confirmation.]

PHEASANT (*Phasianus colchicus*)

Listed by L. C. Bell (1949) and Hayson. In 1957 we saw two birds at Whangaparapara and six at Okiwi (all hens). Mr. Brown, a keen pheasant shooter, says they are "patchy" in distribution, and not numerous anywhere. He has not noticed any change in numbers in the last nine years. Mr. Mason says they are common on his property and Mr. Daly reports them as common near the Claris aerodrome. Mr. Barleyman, who has a farm at Kaitoke, claims that pheasants were so numerous that prior to our visit they destroyed an entire crop of newly sown grass. In 1960 they were well distributed through farming and scrub country over the whole island.

BANDED RAIL (*Rallus philippensis assimilis*)

In view of Hutton's particular comment on the entire absence of any species of rail, the very presence of this rail, now so rare in most parts of the mainland, is noteworthy in itself. We were even less prepared to find it so widespread and numerous as it proved to be. L. C. Bell had recorded it in 1949 and stated that it was reported to be increasing. Mr. R. Cooper states that he has noticed a steady increase in both numbers and distribution over the past twenty years or so. We suspect this is to be correlated with the reported cessation of the former practice of burning off the swamp vegetation annually. We saw two birds at Whangaparapara, one at Okiwi, one on two occasions at Awana and heard another at Whangapoua Bay. They are reported to be numerous and breeding at Whangaparapara. Mr. Cooper is quite definite that prior to about twenty years ago they were rarely seen. In 1960 it was reported from Port Fitzroy and Whangaparapara by the Forest Service employees. Two were seen at Whangapoua and one of these flew when surprised. One was seen near Mr. G. Cooper's house at Okiwi where the school master reported them common and mischievous in the garden. One was seen at Awana and several were heard calling about the Kaitoke Flats at night.

NORTH ISLAND WEKA (*Gallirallus australis greyi*)

Thirteen birds were released by Internal Affairs Department on Arid Island on 22/10/51. Our visit to Arid Island was primarily to investigate the success of this liberation. We found them to be so timid that on our traverse we saw only two birds and heard not more than two others scurrying away. In every case the least movement or sound on our part sent the bird running for cover. Neither of us has ever known wekas to be so timid and can only attribute this to persecution by dogs when the stock was being mustered some six months earlier. Numbers could only be estimated by listening to calls from

a hillside in the central valley during the evening. On this basis, we believe that there are at least 20 birds on the island, but doubt very much whether there are as many as 40. P. Stein (*pers. com.*) visited the island in January 1960 and reported wekas easily found. The caretaker of the island, Mr. R. Davies, gave him an estimate of the population as up to 100. This indicates a substantial increase since 1957.

PUKEKO (*Porphyrio melanotus*)

Hutton commented on the absence of this species, but Weetman, only 20 years later, said it was heard but very seldom seen in the swamp at the base of Ahumata. L. C. Bell saw one in 1949. In 1957 we saw two on Walter Blackwell's Creek and four at Awana. Mr. Brown told us there were quite a few at Kaitoke and Mr. Mason reported them present at the back of his property, adding that they do valuable work clearing aquatic weed from his drain ditches. In 1960 there appeared to have been a considerable increase. The greatest concentration was at Sugarloaf Creek where we saw c. 30, including at least one immature bird. Here Mr. G. Mason records having counted 70. Elsewhere it was seen at Okiwi, two; Awana, one; Kaitoke, two; Walter Blackwell's Creek, five; and Saltwater Creek, three. Footprints were common on the track leading along the Kaitoke Swamp on the way to Whangaparapara.

SOUTH ISLAND PIED OYSTERCATCHER (*Haematopus ostralegus finschi*)

In 1957 on the tidal flats at Whangapoua Estuary, we noticed two pied birds with the sharply defined breast pattern of *finschi* among a group of the following species. They also appeared smaller than the others and when flushed the extensive area of white on the backs between the wings was plainly seen by both of us.

NORTHERN OYSTERCATCHER (*Haematopus unicolor reischeki*)

Hutton recorded this species on the east coast. C. A. Fleming (1934) recorded a pair of black birds from Whangapoua. They were also listed from here by L. C. Bell (1949) and Hayson. In 1957 we saw ten birds in one flock on the tidal flats of Whangapoua Bay, four of these exhibiting varying degrees of pied plumage, including two in such perfect pied form that we had to flush them before we could be absolutely certain that they did not belong to the preceding species. The species is reported to occur often on Medlands Beach, Oruawharo Bay, where D.H.B. saw two.

Our summer visit in 1960 gave us a better opportunity to establish the population of this oystercatcher. At Katherine Bay (Kawa) there were five (three blacks and two pied.) The main concentration was on the Whangapoua Estuary and Beach and here there were six or seven pairs. All appeared to have eggs or chicks. We were able to find six chicks (three almost fledged, two half grown and one quarter grown) and a nest with two eggs. The parents of the three larger chicks were pied and black but the chicks were all in the pied plumage. At Kaitoke there were three pairs and a solitary bird. All but one of these were black. One pair (smudgy-black) had two almost fledged chicks which were black and pied. Another pair had one egg. One black, possibly the mate of the solitary bird at Kaitoke Beach, was seen at Medlands Beach and a pair was seen at Shoal Bay. A pair was reported to live at Okupu but we did not see them. It would be safe to say the total adult population would be at least 14 pairs.

GOLDEN PLOVER (*Charadrius dominicus fulvus*)

Six on pools at Whangapoua Spit on 13/12/60.

BANDED DOTTEREL (*Charadrius bicinctus*)

Recorded by L. C. Bell in 1949. We saw at least 30 or 40 birds feeding on the tidal flats of Whangapoua Bay in 1957. In 1960 we counted c. 40 on the Whangapoua Estuary and Beach and found one nest with two eggs. About 20 birds were on Kaitoke Beach and one at Medlands Beach.

NEW ZEALAND DOTTEREL (*Charadrius obscurus*)

Reported by Hutton as common on the east coast. Recorded by L. C. Bell in 1949. In 1957 we counted 8 or 10 pairs feeding along the edge of the Whangapoua estuary. There appeared to be some tendency to associate in pairs and most birds were assuming breeding plumage. In 1960 we saw 20-30 including two almost fledged young at Whangapoua Estuary. All birds were in very pale plumage. Three pairs and a single bird were at Kaitoke Beach.

SHORE PLOVER (*Thinornis novaeseelandiae*)

Formerly present, reported by Hutton at Whangapoua.

WRYBILL (*Anarhynchus frontalis*)

A single bird was seen on the tidal flats at Whangapoua Estuary in 1957.

WHIMBREL (*Numenius phaeopus*)

Miss L. Mabey is quite certain that she has seen among the flocks of godwit a bird similar in size and colour to that species but with down-curved bill. This statement was volunteered without any prompting from us. Whimbrel have been recorded at Mokohinau and Cuvier (1933) and Great Mercury (1962) Islands.

BAR-TAILED GODWIT (*Limosa lapponica baueri*)

Recorded by Hutton on the east coast. C. A. Fleming (1934) saw a great number of birds at a distance at Whangapoua which he took to be godwits. In 1957 the Mabeys estimated that the flocks which spend the summer on the Whangapoua Estuary number 400 to 500 birds but if this is correct it seems strange that we saw no wintering birds. In 1960 we were able to make an accurate census and counted 149 on the Whangapoua Estuary and three on Kaitoke Beach. At Whangapoua they roost on the Spit at high water. Mr. Mabey reported it usual for some to stay over winter.

PIED STILT (*Himantopus himantopus leucocephalus*)

C. A. Fleming recorded two at Whangapoua in 1934 and it was recorded again by L. C. Bell in 1949. D.H.B. saw four birds on Medlands Beach, Oruawharo Bay, and about twelve were seen on the Whangapoua tidal flats. This species appears to be relatively less common than on comparable areas of the mainland. In 1960 at least 12 adults and one chick were seen at Whangapoua Estuary. A nest with five eggs was found on top of a sand dune and several addled eggs were seen about the Spit. There were five adults at Kaitoke Beach and four in the swamp at Sugarloaf Creek.

ARCTIC SKUA (*Stercorarius parasiticus*)

One seen off Saddle Island, pale phase 8/12/60.

BLACK-BACKED GULL (*Larus dominicanus*)

Listed by Hutton (1868) and L. C. Bell (1949). C. A. Fleming (1934) recorded that this species appeared to be breeding near False

Head. In 1957 this species appeared to us to be less numerous than on most parts of the mainland and discussions with residents seemed to confirm this impression. In 1960 we were again surprised by the scarcity of the species, the largest concentration being seven at Tryphena. Nesting appears to be limited to outlying islets and only on the rock stacks off Kaitoke and Oruawharo Bay did we see any possible nesting, by a single pair in each case.

RED-BILLED GULL (*Larus novaehollandiae scopulinus*)

Listed by Hutton. C. A. Fleming (1934) saw adults with flying young at Port Fitzroy. He was told that this species used to nest (some 20 nests) on a rock near Pig Island but gave up after having their eggs regularly taken. Recorded by L. C. Bell in 1949. P. Stein (*pers. com.*) records between 8,000 and 9,000 red-billed gulls at sea between the Needles and Rosalie Bay via Arid Island in the summer of 1956/57. At the same time as few as six Black-backed Gulls were seen.

In 1957 we saw it in small numbers around the coast and, like the preceding species, it seemed less numerous than on the mainland. Mr. Mason, however, reported them to be very common at times, crowding around the sties when the pigs were being fed. On the late afternoon of 19th June a flock estimated at c. 300 was gathering on the Whangapoua tidal flats, being constantly augmented by small groups coming in from the coast. This may have been a communal roost and the flock possibly represented a large part of the total population. In 1960 this species was notably rare. In fact not more than ten birds would have been seen during our stay. This no doubt was because the birds were away at the breeding colonies.

CASPIAN TERN (*Hydroprogne caspia*)

Hutton saw two at Whangapoua. It was recorded by L. C. Bell (1949) and Hayson (1954). In 1957 we saw single birds at Kaitoke and Tryphena. In 1960 they were not in greater numbers. Two were seen at Whangapoua and Kaitoke while single birds were recorded at Kaiaarara and Shoal Bay. From the behaviour described by Messrs. F. Mabey and S. Hailes independently, it is evident that an occasional pair nests at Whangapoua at times.

WHITE-FRONTED TERN (*Sterna striata*)

Reported by Hutton to be abundant. C. A. Fleming (1934) saw adults with flying young at Port Fitzroy. Recorded by Hayson (1954). In 1957 we saw only one bird flying offshore at the north end of the island. Mr. Brown stated that they are numerous at regular intervals and that he had seen the Tryphena Wharf white with droppings from resting birds. In 1960 we saw c. 12 in Port Fitzroy and presumed them to be nesting on a low rock in the middle of the harbour. Mr. R. Cooper reported that they breed annually on this but outside the harbour along the west coast they are more erratic. Apart from these only small numbers were seen elsewhere, Whangapoua Estuary, Kaitoke and Shoal Bay.

NEW ZEALAND PIGEON (*Hemiphaga novaeseelandiae*)

Hutton listed this species without comment. Weetman reported this and the Tui as the most numerous species on the island. C. A. Fleming (1938) recorded it in the bush and L. C. Bell (1949) recorded it and noted it feeding on the nikau (*Rhopalostylis sapida*) berries. It

was recorded again by Hayson. In 1957 it appeared to us to exist in reasonably large numbers. Single birds were often seen in the bush country and we saw one flock of 23 flying high in the area above the hills overlooking Tryphena. Mr. G. Mason told me he had seen pigeons flying from Little Barrier to Great Barrier. In 1960 we found it still well distributed over the main island and it was seen at almost every locality. No large flock was seen as on the earlier visit but this could have been due to the season.

It was listed by Hutton and Kirk from Arid Island and again later by Falla (1933) and L. C. Bell (1953). We estimated the number on Arid Island in 1957 as between 25 and 50. Some were noted eating taraire (*Beilschmiedia Tairairi*) berries but the birds were unusually timid and difficult to approach.

KAKA (*Nestor meridionalis septentrionalis*)

Hutton stated this species was not common. C. A. Fleming (1934) recorded seeing two and hearing others behind Fitzroy. Again in 1938 Fleming reported Kaka abundant and found a nest on the Whangaparapara-Port Fitzroy track. L. C. Bell (1949) reported it not abundant and Hayson (1954) listed it. We saw single birds and pairs at Tryphena, Kaiarara (Port Fitzroy), Mount Hobson and in the bush behind (south of) Rangiwhakaea Bay in 1957. Both Mr. Cooper and Mr. Daly considered them to have increased in recent years. They are to be seen in groups of six and sometimes eight to ten when the pohutukawa (*Metrosideros excelsa*) is in flower at Port Fitzroy and Tryphena. In 1960 we found them still very well distributed throughout the bush areas of the island and we saw them in almost all the suitable areas visited. One was seen to fly from a point south of Harataonga out to Arid Island.

Falla recorded it from Arid Island in 1933. Wilson (1959) records a nest found by Buddle in January 1944. One was seen by L. C. Bell (1953). We saw a flock of five on two occasions and this probably represented the entire population in 1957.

RED-CROWNED PARAKEET (*Cyanoramphus novaeseelandiae*)

YELLOW-CROWNED PARAKEET (*Cyanoramphus auriceps*)

Both species were reported as common by Hutton. Of our various informants in 1957 only Mr. Leroy (Port Fitzroy) claimed to have identified both species on the island. Mr. Little, who knows both, has only seen Red-crowned and this was the only species identified by other informants. We did not see either species on the main island. However in 1960 we saw one in the distance on Mount Hobson and heard another in the same area.

L. C. Bell (1953) identified the birds seen on Arid Island as Red-crowned, as does Stein (*pers. com.*). In 1957 we heard parakeets in two places and saw two. These unfortunately flew between us and the sun so that we could not determine the species.

SHINING CUCKOO (*Chalcites lucidus*)

Listed by Hutton. Fleming (1934) saw a young bird being fed by Grey Warblers and again in 1938 saw Grey Warblers feeding young cuckoos which had left the nest. In 1960 this species was heard calling throughout the island. It appears to be a common summer migrant.

LONG-TAILED CUCKOO (*Eudynamis taitensis*)

Listed by Hutton. Mr. Cooper told us that this species was

formerly fairly common in the north block but it is now rarely seen there. Mr. Mason stated that it was present in his district each season and could be heard calling throughout the night. It would be interesting to know what species it is parasitizing in the apparent absence of Whiteheads.

MOREPORK (*Ninox novaeseelandiae*)

Recorded by Hutton (1868), L. C. Bell (1949) and Hayson. In 1957 we heard birds calling at Oruawharo Bay and at Port Fitzroy. Heard at Arid Island where the population is perhaps five or six pairs. In 1960 it was heard calling from all localities and is obviously relatively abundant.

KINGFISHER (*Halcyon sanctus vagans*)

Recorded by Hutton. Fleming records finding a nest with five hard-sat eggs in 1938. In 1949 L. C. Bell reported it abundant. In 1957 we found this species to be very abundant in most parts of the island, particularly on the east coast where it was usual to have four or five in sight at one time. On Arid Island it was recorded by Falla (1933) and L. C. Bell (1935). We saw it there a few times but it was not common.

In 1960 this species was most numerous and I cannot recall seeing a higher population elsewhere. The only area they were not present was the sand dune country. Almost every road cutting had either occupied or old nest burrows. Those occupied were in all cases too long to determine the stage nesting had reached. However, one was being built on 14/12/60. Five nests in use were seen in road cuttings and one in a stream bank. One interesting site was found in the end of a log in the middle of the bush on the track to Mount Hobson. Considering no active effort was made to find nests, the recording of seven gives some indication of the density of this species.

BROAD-BILLED ROLLER (*Eurystomus orientalis pacificus*)

The Checklist (1953) records the occurrence of this species on Great Barrier Island in 1935.

RIFLEMAN (*Acanthisitta chloris*)

Recorded by Hutton at Harataonga, a place we did not visit in 1957. We saw no sign of the species, neither on our brief trip into the bush behind Rangiwahakaea Bay nor on the trip to Mount Hobson.

SKYLARK (*Alauda arvensis*)

Recorded by L. C. Bell (1949) and as common by Hayson. In both 1957 and 1960 it was fairly common in all suitable habitat on Great Barrier. Fairly numerous on Arid Island, but less so than the pipit.

FANTAIL (*Rhipidura fuliginosa*)

Reported by Hutton to be common. Recorded as the commonest species by L. C. Bell (1949) and as abundant by Hayson. We saw it in all localities visited in normal numbers. Recorded by Hutton and Kirk, Falla (1933) and L. C. Bell (1935) from Arid Island, where we found it in similar numbers to the mainland. In 1960 it was most abundant throughout but the density tapered off over 1500 ft. on Mount Hobson. On 12/12/60 a pair was seen feeding three young away from the nest.

PIED TIT (*Petroica macrocephala toitoi*)

Hutton listed this species but gave no indication, as to its

abundance. Of all our informants, in 1957 only Mr. D. Stelling thought he had seen it but we found it difficult to believe that the species could be present at all on the island without being widespread throughout the vast areas of scrub and second growth. There is so much habitat of the type wherein one would expect to find this species in numbers that its apparent disappearance since Hutton's visit is not easy to understand.

Listed from Arid Island by Hutton and Kirk but not by subsequent observers.

NORTH ISLAND ROBIN (*Petroica australis longipes*)

Hutton recorded this species as common. None of our informants knew it despite large areas of what appeared to be suitable habitat. The disappearance of this species, too, is difficult to understand.

FERNBIRD (*Bowdleria punctata*)

Recorded by Hutton at Kaitoke swamp where there is still much suitable habitat. Recorded by L. C. Bell (1949). We saw one bird south of Kaitoke at Oruawharo Bay and another to the north at Awana in 1957. In 1960 we recorded this species from the swamp behind the Whangapoua Estuary, Kaitoke Flats and Swamp from the track from Whangaparapara to Okupu and from the road from Okupu to Kaitoke. In all areas it appears abundant.

WHITEHEAD (*Mohoua albicilla*)

Reported by Hutton to be very common. (A small flock was recorded by Hayson). It was not known to any of our informants on Great Barrier, though persisting in small numbers on Arid, where Falla listed it in 1933 and L. C. Bell in 1953 saw one. A flock of about six was seen twice during our stay there in 1957.

GREY WARBLER (*Gerygone igata*)

Reported common by Hutton. Fleming saw warblers feeding young cuckoos in 1931 and 1938. Reported by L. C. Bell as the second commonest species and again as abundant by Hayson in 1954. In 1957 and 1960 we heard songs everywhere and saw a number of birds. Numbers appeared to be normal on Great Barrier and Arid Islands. On Arid, it was recorded by Falla (1933) and L. C. Bell (1953).

SONG THRUSH (*Turdus ericetorum*)

A dead young bird was found by Fleming (1934) on Saddle Island. Recorded by L. C. Bell (1949) and as common by Hayson. It was fairly numerous except in heavy bush during our two visits in 1957 and 1960. One was seen on Arid Island.

BLACKBIRD (*Turdus merula*)

Recorded by L. C. Bell in 1949 and as common by Hayson. We found it generally distributed and fairly numerous in both 1957 and 1960. On Arid it was recorded by Falla (1933) and L. C. Bell (1953). We saw a female and heard one other bird.

HEDGE SPARROW (*Prunella modularis*)

Recorded by L. C. Bell in 1949 and seen by us at Port Fitzroy, Kaiaara and Oruawharo Bay in 1957. Two were seen in the bushed gullies on Arid Island. In 1960 it was seen and heard throughout in similar numbers to what would be expected on the mainland.

PIPIT (*Anthus novaeseelandiae*)

Reported by Hutton to be common and Hayson as very numerous.

In 1957 we found this still so in all suitable habitat. Hutton and Kirk listed it from Arid Island and also L. C. Bell (1953). It was numerous around the coast and on rocky outcrops on the hills during our stay. In 1960 we found it still well represented throughout.

STITCHBIRD (*Notiomystis cincta*)

Recorded by Hutton as not uncommon. Now absent.

BELLBIRD (*Anthornis melanura*)

Recorded by Hutton to be abundant. Only 20 years later, Weetman saw and heard a single pair at the head of the Whangaparapara Harbour and remarked they seemed scarce. It was stated by several of our informants to be still present though rare. We neither saw nor heard it on Great Barrier.

It was recorded on Arid Island by Hutton and Kirk, Falla (1933) and L. C. Bell (1953). It is still numerous and was heard constantly throughout the day.

TUI (*Prothemadera novaeseelandiae*)

Reported by Hutton to be very abundant and Weetman 20 years later considered this and the pigeon to be the most numerous species on the island. C. A. Fleming (1938) recorded it as abundant and it was listed by Bell in 1949 and Hayson. In 1957 it was still generally distributed over the islands but apparently not in large numbers. Mr. Mason considers the species to be noticeably less in number than it was 12 years ago. In 1960 we found it to be in good numbers throughout and if anything more numerous than on our former visit. However this may have been because the pohutukawa flowering was attracting them to the more accessible area. This was not the case on the way to Mount Hobson and notwithstanding it was just as numerous.

Listed from Arid by Hutton and Kirk, and Falla (1933). We saw a few on Arid Island where they were noted feeding on kolchokohe (*Dysoxylum spectabile*) berries and nectar.

WHITE-EYE (*Zosterops lateralis*)

Hutton did not see this bird but was informed that it had been on the island since about 1864. It was recorded by L. C. Bell (1949) and Hayson. In 1957 we found it generally distributed though apparently in no great numbers. Falla (1933) listed it on Arid Island and we recorded a single bird there. In 1960 we found it well distributed throughout (including Saddle Island) but apparently only in small flocks or family parties.

GREENFINCH (*Chloris chloris*)

In 1957 we saw one bird at Okiwi and another at Kaitoke. However, in 1960 we found it well distributed on the eastern side of the island and also in the south.

GOLDFINCH (*Carduelis carduelis*)

Recorded by L. C. Bell (1949) and as common by Hayson. In 1957 it was seen in several places but not noticeably abundant. Odd individuals and a flock of about 20 were seen on Arid Island. In 1960 it was present throughout and occasionally a largish flock was seen.

REDPOLL (*Carduelis flammea*)

Not recorded in 1957 although Miss Wharfe reported having seen it. In 1960 we saw a small flock of about six behind the Whangapoua Estuary and a single bird over the Whangapoua Spit. Consider-

ing the amount of what appears suitable habitat this species must be taken as rare.

CHAFFINCH (*Fringilla coelebs*)

Recorded by L. C. Bell (1949). In 1957 we found this species to be common in bush areas. At Whangaparapara it was reported by Mr. McGeady to take *Pinus* seeds from the nursery garden. In 1960 it was common throughout. Falla recorded it (1933) on Arid where we saw one and heard another.

YELLOWHAMMER (*Emberiza citrinella*)

Recorded by L. C. Bell (1949) and from more open spaces by Hayson. In 1957 this species was seen in limited numbers. On Arid, one individual and a flock of four was seen. In 1960 it was seen on the southern half of the eastern coast but only in small numbers.

HOUSE SPARROW (*Passer domesticus*)

Recorded by L. C. Bell (1949) and Hayson. In 1957 present in normal numbers around all habitations. One pair resident near the hut on Arid Island. In 1960 the position of this species was the same.

STARLING (*Sturnus vulgaris*)

C. A. Fleming (1934) recorded it from Saddle Island. Reported as abundant by L. C. Bell (1949) and Hayson. Flocks numbering upwards of 50 birds were seen at Whangapoua, Oruawharo Bay and Kaitoke but compared with the numbers on parts of the mainland, the species does not appear to be particularly abundant.

In 1960 the population was still large and well distributed throughout the island. On Saddle Island a flock of 20+ was feeding on flowering pohutukawa.

On Arid Island, it was recorded by Falla (1933) and L. C. Bell (1953). A flock of 40 to 50 rested near the hut during our visit.

INDIAN MYNA (*Acridotheres tristis*)

In 1960 we saw two mynas flying over the Whangapoua Spit and later saw two (possibly the same birds) in a puriri at Mr. S. Hailes' who told us that a small group had been present for about a year. This probably records the establishment of another introduced species on Great Barrier.

MAGPIE (*Gymnorhina* sp.)

L. C. Bell reported one had appeared after a storm in 1949. Reported by two of our informants (in 1957) to occur but only as stragglers from the mainland.

SADDLEBACK (*Philesturnus carunculatus rufusater*)

Reported by Hutton to be not uncommon. Now absent.

KOKAKO (*Callaeas cinerea wilsoni*)

Hutton listed this species without any comment but there appeared to be no subsequent records until the presence of a bird on the dividing range between Tapuwai and Katherine Bay was reported to L. C. Bell, though he did not see it himself. Mr. Mason claimed to have seen two birds at Mount Hobson 15 years ago and described them to us. It may still exist somewhere in this area but all other reports pertain to the north block. In 1933 or thereabouts a freshly dead bird with another, presumably its mate, still nearby, was found by an employee of Mr. F. Mabey three miles north of Whangapoua Bay. Murray Mabey told us that his father had said that this was the first

seen for some 25 years. Another bird was seen by Mr. Murray Mabey at the same place late in 1955. We visited the locality with him but neither saw nor heard any sign of the species. After leaving the island a letter was received from Miss L. Mabey dated 24th July, 1957, which informed us that on the previous Sunday her brother and a friend had seen a pair of Kokako near the spot we had visited.

ACKNOWLEDGEMENTS

We wish to record our appreciation for the help given by Mr. D. V. Merton who accompanied B.D.B. in 1960 and who contributed in no small measure to the success of this trip. Also we wish to thank Drs. R. A. Falla and C. A. Fleming who have made available some of their unpublished notes; Mr. E. G. Turbott who made available some unpublished field notes of the late Major G. A. Buddle which are now in his keeping and to Mr. P. A. S. Stein for allowing me to use some of his observations from his wealth of experience about Hauraki Gulf. R.A.F., C.A.F., P.A.S.S. and Dr. K. E. Westerskov also kindly checked the text. Finally I would like to thank all residents of the Great Barrier Island for their hospitality to us on both occasions and their willingness to discuss the birds of the island with us. I would especially like to mention the following: Misses Wharfe (District Nurse 1957) and L. Mabey, Messrs. A. Brown (former Police Constable), R. Little (Forest Service 1957), A. Dean (Forest Service 1960), T. Daly (Ministry of Works), P. McGeady (Forest Service), T. Blackwell, R. Cooper, S. Hailes, F. and M. Mabey, J. Medland, D. Stellin and G. Mason.

ADDENDA TO BIRDS OF GREAT BARRIER ISLAND

Mr. D. V. Merton re-visited the Great Barrier Island between the 8th and 18th of October, 1963. He has some additional information on the birds of the island which he has kindly made available for inclusion at the end of my paper.

PETREL sp.

On the summit of Mount Hobson on 14/10/63 he found that in addition to the Black Petrel, a small *Pterodroma* was circling and calling overhead. Small, freshly cleaned burrows presumably belonging to this species were found but no birds were actually seen on the ground.

WHITE-FACED HERON

One was seen at Oruawharo Bay on 9/10/63 and another at Whangaparapa on 17/10/63.

CALIFORNIAN QUAIL

Two pairs were seen on the road behind the Whangapoua Estuary on 13/10/63. They were also heard calling at Okiwi and Kaitoke.

CASPIAN TERN

One nest with two eggs was found at the mouth of the Kaitoke River on 9/10/63.

MYNA

The birds seen in 1960 have apparently failed to establish as they were not recorded during Mr. Merton's recent visit.

KOKAKO

The most notable of Mr. Merton's finds was a strong colony of Kokako in the Ahuriri River catchment. This valley has a heavily wooded basin of taraire/tawa (*Beilschmiedia tawa*) bush. One bird was observed feeding on the young leaves of mapou (*Myrsine australis*) and the fertile fronds of *Lygodium articulatum*.

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CATTLE EGRET: A SECOND CANTERBURY RECORD

By E. G. TURBOTT, Canterbury Museum

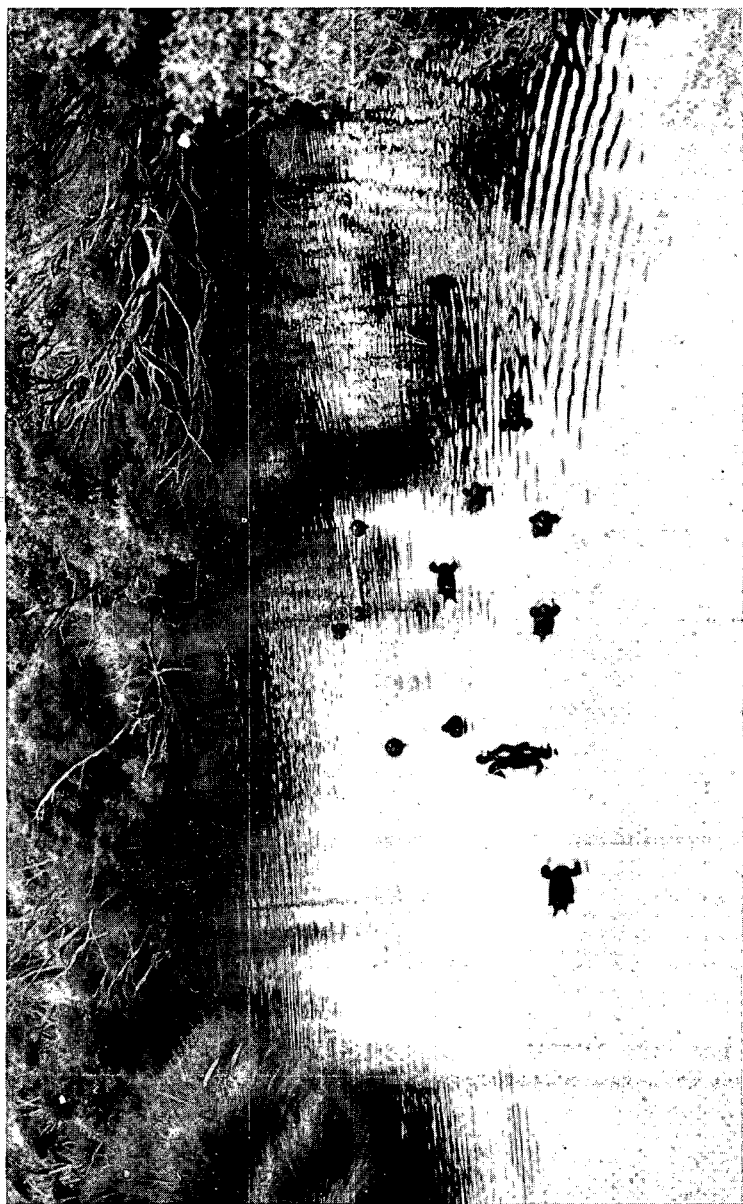
On 1/1/64 Messrs. A. G. McFarlane and J. G. Penniket, of Christchurch, on a visit to the Irwell district (about 25 miles by road southwest of Christchurch on the western shore of Lake Ellesmere) saw a buff-headed white heron, evidently a Cattle Egret (*Ardeola ibis*), with a dairy herd: I visited the farm on 5/1/64, and on this visit the bird was seen in full view feeding in shallow water at the far end of the field from the herd. It was wading in a shallow pool adjacent to the lake edge, and was feeding in the water in company with three White-faced Herons. When the four birds were at last disturbed the White-faced Herons flew off, but the Cattle Egret flew to the end of the field and settled on a fallen log near the cows.

The bird was in breeding plumage — white with orange-buff head and face (except for chin and area surrounding eye), throat, upper breast and dorsal train; the buff coloration formed a V down the sides of the neck and across the throat and upper breast; facial skin pinkish; bill yellow, with a faint dark portion at the tip; feet greenish-grey. The head was strongly crested.



[D. V. Merton

XLV — Brown Teal (female), one of a flock of c. 350 on Sugarloaf Creek in 1960.



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XLVI — The Awana River, showing typical habitat of Brown Teal. The overhanging trees on the right are used for loafing during the day. The teal in the foreground are part of a flock of 75+ recorded in 1960.