Some Notes on the Sea-Birds and Shore-Birds of the Inner Hauraki Gulf

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The narrow isthmus on which Auckland stands, deeply penetrated by creeks and inlets, and the inner Hauraki Gulf with its many islands and estuaries, are frequented by great numbers of shore-birds and sea-birds, both for breeding and feeding. The region under discussion is situated between other areas which are well-known for the richness of their bird life. Manukau Harbour, to the south-west, and the Firth of Thames, to the south-east, are unrivalled in New Zealand for the number and variety of waders *(Charadriiformes)* which feed on the eutrophic ooze of their tidal flats. To the north are the numerous outer islands of the Hauraki Gulf on which besides penguins, gulls, terns, shags and gannets, twelve species of petrels *(Procellariiformes)*, some in immense numbers, are known to breed. This is a remarkable concentration for so small an area of ocean and indicative of waters rich in plankton. Many birds from these areas habitually forage in the inner Hauraki Gulf; and under the stress of weather even the more oceanic petrels and shearwaters may enter Rangitoto Channel or Tamaki Strait. For example, driven by a summer gale from the north-east flesh-footed shearwaters have been noted, somewhat incongruously flying over the suburbs of the isthmus from the Pacific to the Tasman.

Man too has found the isthmus with its productive climate and fertile soil an ideal habitat, so that now this narrow strip of land carries a population of 400,000. Urbanisation has inevitably reduced the numbers of some species which once bred in swamps, on crater lakes and on the beaches or, like the gray-faced petrel, on headlands and cliff-tops. The brown teal *(Anas chlorotis)* has gone completely. The numbers of banded dotterel *(Charadrius bicinctus)*, red-breasted dotterel *(C. obscurus)* and variable oystercatcher *(Haematopus reischeki)* now nesting within fifty miles of Auckland are very small but a few breeding pairs linger on quiet stretches of beach. Otherwise the bird life of the coast remains rich. Some species, notably black-backed and red-billed gulls, the pied stilt and probably the white-faced heron have benefitted from pakeha civilisation. By scavenging on man's waste the gulls appear to be surviving the winter in greater numbers than formerly. Even so there is still a heavy mortality of young black-backed gulls in their first autumn, many evidently dying of starvation when left to fend for themselves. Despite scavenging, the population seems to have outstripped the food supply. Before the coming of the pakeha the eggs of gulls and terns from colonies on easily accessible rocks were taken by moa-hunter and Maori and certainly were an important item in their diet. The eggs and young of the gannet were also taken, so that man was a controlling factor in the population of these birds. With the coming of protection these birds appear to have recovered their former numbers and with some species indeed the population may be at saturation point.

The white-fronted tern *(Sterna striata)*, of which the population runs into many thousands, is by far the commonest of the sea-birds which breed around the Waitemata and on the inner islands. The numbers decline in winter, when many are in south-east Australia, as has been shown by ringing. Though few Caspian terns *(Hydroprogne caspia)* breed in our area, hundreds move in while the breeding season elsewhere is finishing and stay over the winter. Ringing has proved that some of these birds come from farther north, e.g. Kaipara; but one first-year bird which was recently recovered, bore a ring which had been put on

at Palliser Spit. The majority of local black-backed gulls *(Larus dominicanus)* come from a large colony estimated at 1500 pairs, which is situated on the lower western slopes of Rangitoto. Small numbers of red-billed gulls *(Larus scopulinus)* breed around the inner islands. A great post-nuptial influx is well on the way by the end of January. In mid-winter the numbers in upper Manukau alone may exceed 20,000. Some of these move south from the great colonies at the Three Kings and Mokohinau. Ringing may prove that others have a southerly origin.

Only three petrels breed within the limits of our area, none of them in large numbers. Gray-faced petrels *(Pterodroma macroptera)*, the mutton-birds of the north, barely survive as breeders on the mainland, but a few pairs still occupy some of the less accessible islets. They are winter-breeders, and are present in New Zealand waters throughout the year, though seldom seen close inshore.

White-faced storm petrels *(Pelagodroma marina)* which reappear offshore in August continue to breed at the Noises. Where they spend the winter is unknown, but it may be in warmer waters well to the north of New Zealand. A few diving petrels *(Pelecanoides urinatrix)* may still attempt to breed on the islets just off the north coast of Waiheke. Though the migrations of petrels are outside the scope of this essay, it is perhaps worth mentioning that a few giant petrels *(Macronectes giganteus)* summer in the Hauraki Gulf and winter numbers in Waitemata seem to reach a peak in August or September.

Five species of shags nest near Auckland. Pied shags *(P. varius)* usually choose to nest in trees which are growing out from vertical sea-cliffs. While there are typical colonies on the islands, an exceptional colony has now flourished for seven years on Lake Pupuke. Here breeding goes on continually, the nests being in exotic trees which are growing out of the water around the edge of the lake. Pied shags from Waitemata often fly over the isthmus to feed in upper Manukau. The shaggery on L. Pupuke is mixed and also includes a few pairs of the elusive little black shaw *(P. sulcirostris)* and many little shags *(P. melanoleucos)* a dimorphic species. Both white-throated and white-bellied phases are well represented in this colony. As a general rule, like pairs with like, but occasionally obvious 'hybrids' are seen at the colony. In winter, flocks of little black shags appear on Orakei Basin and in the shallow waters of estuaries, where they round up fish by the mass-diving tactics which are characteristic of this species. Persecution has made the black shag *(P. carbo)* rather secretive about its nesting; but it remains common, and an autumn influx indicates successful breeding somewhere. At the Noises and around the north-east corner of Waiheke there are thriving colonies of spotted shags *(Stictocarbo punctatus)*, a more southerly species, here at the northern limit of its range.

During recent years at least twenty species of arctic waders have been recorded near Auckland. Half of these may be expected annually. The remainder are occasional stragglers, but wider coverage by an increasing number of critical observers has proved that several arctic waders reach New Zealand much more frequently than was formerly suspected. The most numerous are in order of abundance: bar-tailed godwit, knot, turnstone, Pacific golden plover, sharp-tailed sandpiper, red-necked stint. Also small numbers of long-billed curlew, whimbrel, curlew sandpiper, and pectoral sandpiper probably occur as annual migrants. The tidal flats of the Auckland isthmus are also the northern terminus of thousands of pied oystercatchers, pied stilts and wrybills, which after breeding start to leave the South Island about Christmas and the New Year. Though wrybills breed in the South Island—actually within a remarkably limited area—they spend eight or nine months of the year in the north. Flocks of banded dotterels which winter near Auckland may also partly originate in the South Island. Even during the summer, flocks of S.I. pied oystercatchers *(H. finschi)* and wrybills *(Anarhynchus frontalis)* remain. These flocks are composed of non-breeding juveniles. The evidence seems to indicate that these two species do not breed till their second or third years. The same is true of pied stilts *(H. leucocephalus)* of which non-breeding flocks are always present during the breeding season. The origin of these birds is unknown. They are not bred locally and certainly come from

farther south; perhaps only from the Waikato or the volcanic plateau, possibly from the South Island.

There is a difference of something over three hours between the Tasman and the Pacific tides. When the tides are very big, it is not unusual to see flocks of godwits and knots flying across the isthmus. Thus, as the rising tide on one side drives them off the banks, they are able to rest and feed on the other side where the tide is falling. These flights, as thousands of birds in long successive lines pass over Mt. Albert and Avondale or Otahuhu and Papatoetoe—the narrow necks where tradition says the Maoris once 'portaged' their canoes—can be most impressive. These flights are most noticeable in February and March when godwits and knots reach peak numbers near Auckland; for the isthmus serves as a funnel through which many northbound migratory waders, some of which may have summered as far south as Foveaux Strait, must pass and where they pause before starting on the long oceanic flight to their arctic breeding grounds. Less impressive but none the less characteristic of the isthmus are the daily foraging and roosting flights of the two common gulls. Shags of various species and Caspian terns may often be seen in the sky over Auckland.

A few white herons *(Egretta alba)* presumably from Okarito usually winter near Auckland appearing in April or May and departing in the spring. The numbers in 1957 and 1958 were exceptional and point to an irruption from Australia. White herons seen near Auckland in summer must be non-breeding juveniles. During recent years royal spoonbills *(Platalea regia)* have been occurring much more frequently. The bulk of the breeding population from Okarito winters at the Manawatu estuary, but as the numbers increase that estuary is proving too small to support them and royal spoonbills are regularly wintering in northern New Zealand. Non-breeders have been present near Auckland during the last two summers. If these royal spoonbills are not Okarito-born, they must be invaders from Australia.

Pied stilts and white-faced herons *(Ardea novae-hollandiae)* are examples of birds which by swift and vigorous colonising, have increased most conspicuously in the last half century. To the south and north of the isthmus, stilts now nest in damp paddocks which once were swamps deep in raupo, flax and kahikatea. Breeding has now been reported even from Waiheke and Ponui. Since pakeha ornithology began in New Zealand the banded dotterel has been considered the commonest wader in the country, but there are now solid grounds for believing that the pied stilt outnumbers it. A winter census in 1959 showed that about 7000 stilts were present in Manukau alone, and the population of the whole isthmus probably exceeded 10,000. The remarks of Sir Walter Buller on the status of the pied stilt near Auckland in the nineteenth century are of most interesting relevance.

Since the first white-faced heron was reported near Auckland in 1948, the success of this enterprising species in occupying an empty ecological niche has been nothing less than phenomenal. The bird is now breeding freely where a decade ago it was unknown and winter flocks of more than twenty birds are not unusual in estuarine surroundings. White-faced herons have now spread to the inner islands where they will compete along the shore with the less adaptive blue reef heron *(Egretta sacra)*. Another Australian bird, the coot *(Fulica atra)* appears to be increasing rapidly in the South Island. It will be interesting to see if coots which have been present on L. Pupuke for more than a year are the forerunners of another successful invasion.

There is little precise information about the food of birds in New Zealand. This could be a worthwhile study. The interest of the problem is simply illustrated by the quite different feeding habits of three species of terns, which occur about the isthmus. White-fronted terns range some miles out to sea and usually outnumber the other seabirds in the 'swirls' which form over shoaling fish. The other birds of the swirls may be gannets, shearwaters of two or three species, red-billed gulls, a few black-backed gulls, the odd giant petrel, and, clepto-parasitic on the terns, some Arctic skuas *(Stercorarius parasiticus)*. Caspian terns find most of their food in the tidal shallows and up the creeks which small numbers of white-fronted terns may penetrate mostly in autumn. Caspian terns also readily visit

coastal lagoons and freshwater lakes. These are the true hunting-ground of the white-winged black tern *(Chlidonias leucopterus)* which is predominantly an insect-eater and therefore does little foraging over salt water. A three-acre pool of flood-water over grassland has sustained one of these marsh terns over an Auckland winter. Another example is provided by the larger waders. The feeding habits and habitats of oystercatchers, stilts and godwits seem to indicate that while there is some overlap in their diets, each species has its own preferences from the varied menu of the tide-line.

In a general survey such as this, there will be inevitable omissions and some topics which may deserve more detailed treatment will receive but scant mention. The harrier, kingfisher, pipit and fernbird are examples of eurytopic species which may breed not only on the saltings or seacliffs of the isthmus, but also far inland into the hills and mountains. The pipit perhaps has the greatest altitudinal breeding-range of any New Zealand bird, but some black-backed gulls have deserted the coast for breeding and now nest high in the Southern Alps. In winter especially, mixed flocks of the introduced finches and buntings which have done so well in New Zealand, occur commonly on the coast. The use of the sea-shore and the saltmarsh by these birds is a study in itself.

SUMMARY

Type of Habitat:	Examples:	Breeding Birds:	Feeding Birds:
Freshwater Lake	L. Pupuke Western Springs	Pied Shag, Little Black Shag, Little Shag (both phases), Bittern, Gray Duck, Pukeko, (?Big Black Shag)	Shags (4 species) Bittern, White Heron, White-faced Heron Gray Duck, Pukeko, Caspian Tern, Coot (v. rare).
Muddy creek with mangroves	Whau, Purewa, Tamaki, Turanga, Wairoa	Banded Rail	Gannet, Shags (4 species) White Heron Banded Rail Wrybill (in autumn) Caspian Tern (at all seasons) White-fronted Tern (in autumn)
Saltmarsh & shallow lagoons with salicornia, samolus, plagianthus, etc.	Estuaries of Whau, Tamaki, Turanga, Wairoa	Banded Rail Gray Duck	Bittern (in autumn), White-faced Heron Gray Duck, Banded Rail Pied Stilt, White-winged Black Tern (occ.) Caspian Tern.
Tidal flats with sandy beaches and shell-banks	Estuaries of Whau, Tamaki, Turanga, Wairoa, Hobson Bay, Kawakawa Bay	Banded & Red-breasted Dotterel, Pied Stilt, Variable Oystercatcher, Caspian & White-fronted Tern (much reduced and seldom now succesful).	Blue Heron, White-faced Heron, White Heron, Little Egret (occ.), Royal Spoonbill (occ.), Gray Duck, Arctic Waders (Godwit, Knot, Turnstone, Golden Plover, etc.), Pied Stilt, Black Stilt (occ.), S.I. Pied Oystercatcher, N.I. Variable Oystercatcher, Wrybill, Banded & Red-breasted Dotterel, Gulls (2 species).
Inshore waters: Cliffs with pohutukawas, Islets, Wharves.	Waitemata Hr. Tamaki St. Crusoe Is. Rocky Bay Sisters, Frenchmn's Cap	Little Blue Penguin, Grey-faced Petrel, Pied Shag, Little Shag, Blue Heron, Black-backed Gull, Red-billed Gull, Caspian Tern (odd pairs), White-fronted Tern (big colonies).	Little Blue Penguin, Giant Petrel (regular in winter), Flesh-footed & Fluttering Shearwater, White-faced Storm Petrel, Wandering Albatross, Cape Pigeon (occ. in winter), Shags (4 spp.), Gannet Gulls (2 spp.), White-fronted Tern, Caspian Tern, Arctic Skua (in summer).
Offshore waters: outer islets beyond Waiheke & Rangitoto	Noises Horuhoru Tarakihi	Little Blue Penguin, Grey-faced Petrel, White-faced Storm Petrel, Diving Petrel, Gannet, Spotted & Pied Shag, White-fronted Tern, Reef Heron.	Little Blue Penguin, Petrels (as above) with Buller's Shearwater & Cook's Petrel (summer), and Black-browed & Salvin's Mollymawk (winter), Gannet, Spotted Shag, Red-billed Gull, White-fronted Tern, Arctic Skua.