

BIRDS IN TAURANGA DISTRICT.

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A summary of the birds which have been noticed in Tauranga and its surroundings, within a radius of about ten miles, during a few years' residence, is given below. The area thus covered fronts the open sea of the Bay of Plenty as a long, gently curving stretch of sandhill-backed sea coast—bare of rock, cliffs or bluffs, save where Mt. Maunganui rises abruptly about 800 feet at the eastern outlet of Tauranga Harbour. The sandhills retain a loose, low covering of native growth, supplying little cover, and are seldom more than 50 feet in height, or further than 100 to 200 yards inland. They are one of the best places locally to run across the pipit and the banded dotterel.

Opening out behind this coastline, lies the great circle of Tauranga Harbour, roughly 100 miles in circumference, following its numerous narrow inlets. There is a vast extent of mudflat at low tide. The mudflats merge imperceptibly into small areas of freshwater swamp in many places, where shallow valleys break the generally somewhat raised and cliff-like shoreline. Draining has now changed much that was formerly swamp, to farmland, possibly reducing a former vast bird population of such species as the fern bird, banded rail, pukeko, ducks, bittern, etc., as well as others no longer present. Few species of waders have been so far noted, nor do their numbers appear large at any season.

Rolling country and low hills composed of volcanic pumice soil rise from the shores on all sides, excepting for the outermost portion of a long spit connecting Mt. Maunganui to the mainland and separating the north-eastern portion of the harbour from the sea; so that in many places there are stretches of steep cliffs, 50 feet or more in height, backing the tide flats, and flat ground is reduced to a minimum, except for small areas of rush and scrub swamp, or cleared swamp.

Low scrub and fern possibly covered this gradually rising country formerly; now it is almost wholly cleared and given over to farming, with shelter belts and plantations of exotics, as well as large areas of invading gorse. Native growth has retreated to stray patches on the steeper ground, the rugged peak of Mt. Maunganui, the sea cliffs and the swamps.

Five to six miles to the east of the harbour this type of country runs into a still heavily wooded range, rising about 1000 feet and forming a kind of out-thrust northward from the Oropi Plateau. To the south the lowlands rise more gradually through a long, slow ascent of ten miles or so, hills and dales slowly giving place to deep stream gorges filled with bush, intersected by areas of farmed tableland, till there is a final blending with the dense forests of the Oropi, reaching in the direction of Rotorua, or the high range of the Kaimais towards Matamata.

To the west the rolling country continues in a long sweep around the harbour shores to gradually mingle with the forested foothills of Te Aroha Mountain, and the distant Coromandel Ranges towards Waihi, which enclose the Bay of Plenty like a wall in this direction. There is, however, one marked break, where the rather barren and heath-covered spur of the Minden Hills runs down sharply from the direction of the Kaimais to within a bare mile of the sea at Te Puna. It is generally within the boundary of this latter spur, the fringing range to the east, and the verge of the Oropi-Kaimai forests, that most observations have been made.

There are no natural lagoons, ponds or lakes in this area; though there are a number of sluggish tidal streams, and one fair-sized tidal river (the Wairoa), which rise in the hills to the south and east. Round the outlet of the Wairoa River at Te Puna lie some of the most extensive swamp stretches remaining close to Tauranga, where the bittern still appears to be fairly common. Viewed from the hill tops, the district resembles a gently sloping bowl open to the north and the sea.

Despite this seeming shelter from the landward side, and especially from the colder quarters, prevailing winds are from the west to south-west, often very cold and of great strength.

Wind is almost continuous the year round; heavy gales and storms from the north and east are frequent. At the latter times certain species of petrel and other birds are not infrequently stranded in large numbers, partly upon the open coastline, but sometimes on the inner harbour shores as well. It is several years, however, since numbers of birds were noticed stranded inside the harbour. Locally at least these strandings of birds would seem to depend on some other factors besides storms. During 1948, for example, though there was much heavy wind and stormy weather from the north and east during May, only very few sea birds were noticed dead on the open coast around Mt. Maunganui; either in May or for some time previously. Two years ago at the same period, and with much the same weather conditions (though east winds were somewhat stronger and longer continued unbroken) strandings of dead petrels were very heavy.

The area traversed consists chiefly of country where one would expect to find introduced birds predominating, and save for water birds, whose territory has been scarcely invaded, this would appear to be generally so. Listing species which have been only found dead, with the living species, 43 native and 17 introduced species have so far been observed with more or less certainty. Only 12 of the natives are truly land birds. All observations have been made without the aid of a telescope or field-glass.

Song Thrush (*Turdus ericetorum*).—Very common. Once or twice has been heard fully an hour after dark pouring out its song. Caterpillars eaten include those of the white butterfly which may be readily picked off some low-hanging leaf from the ground. The thrush makes the major portion of the bird music in the winter season, and even in spring its notes at times dominate all others.

Blackbird (*Turdus merula*).—Common. Small numbers sometimes seen feeding on the mudflats and *Zostera* beds at low tide. When all other fruits fail in autumn, it clears hawthorn, barberry and karamu of nearly all their berries. Occasionally specimens with white markings are noticed.

Starling (*Sturnus vulgaris*).—Considerable periods may pass in any given locality without a starling being seen. It has a strong liking for nesting in the dry pumice soil banks on busy roads or railway lines. Parties feed frequently on the mudflats at low tide.

Indian Myna (*Acridotheres tristis*).—From 1937 till recently only one or two odd specimens had been seen at long intervals. But during the last year or more it is increasing greatly in numbers and spreading, and now pairs and parties up to six are met with frequently in the town and Otumoetai areas. It seems to fancy a eucalyptus plantation for nesting round Otumoetai. Though noticed in greatest numbers during the warmer season some are usually to be seen the whole year round.

Grey Warbler (*Pseudogerygone igata*).—Fairly common; but it appears to travel to some degree, as long periods will pass without one being seen or heard in the locality; then its soft note will suddenly be heard once more. It is frequent about settlements in winter and spring, but is seldom seen or heard in summer and autumn.

White-breasted Tit (*Petroica macrocephala toitoi*).—A pair recorded in the high bush around Oropi (1000ft.) about 10 miles from Tauranga. It has never been seen in the town or settled areas.

Hedge Sparrow (*Prunella modularis*).—Common in the settled parts; usually met with singly or in twos and threes. It is most common in spring when its song is continually heard in hedges and brush. During summer and autumn it is rarely met with and scarcely heard; but becomes more noticeable again in winter. At this time it tends to frequent gardens as though seeking tiny scraps of food.

Skylark (*Alauda arvensis*).—Very plentiful in the open grassland and paddocks, singing from late autumn till the next summer fairly commences, after which it is usually quiet for a few months. It commences its song well before there is a trace of light in the sky, during spring at least.

Pipit (*Anthus novaeseelandiae*).—Not very common, and seldom more than a pair seen at a time. It is fairly frequent in the low scrub and grassland away from the cultivated areas, also in the sandhills bordering the coast, where it is often the only small bird to be seen. A good place to see it at almost any time is along the shingle of the railways, or in their immediate surroundings. It seems to have a preference for dry, arid situations locally—some area of dry bank or shingle which it can probe for such chance insects or spiders as inhabit these situations.

Fern Bird (*Bowdleria punctata*).—In the large areas of shore and fresh water swamps, or partial swamp, remaining around Tauranga, this little bird is still plentiful and is thriving. Though scarcely showing a trace of itself beyond a moving twig or stalk, individuals will often come within a couple of feet if one is sitting quietly in the reeds. Even the close proximity of main roads to its haunts does not appear to disturb it in the least, as it may be seen slipping about like a mouse in the scrub quite unconcernedly while buses and lorries tear past a few yards away. Apparently it has a feeling of perfect safety as long as it is out of sight. It is heard most frequently in winter and spring, sometimes the "utick" call predominating, at others the softer one; but it appears to keep rather quiet in the warmer season, or perhaps moves to more remote parts of the swamp and rush beds. Unless swamps are completely cleared it seems in no present danger of extinction locally.

Tui (*Prothemadera novaeseelandiae*).—A few of these aggressive birds may be met with around the town and cultivated areas at any time of the year, provided there are some suitable nectar-bearing flowers. When the kowhai is fully out six to twelve birds may be seen often on a good-sized tree. Strong favourites are single camellias, albizzia, bluegum, redgum, puriri and kowhai. On the camellias a bird will often sit till it has exhausted every bloom of its nectar, and strews the ground with a carpet of its discards. Occasionally one has been seen running up the trunks of trees catching spiders or insects. It probably nests in or about the town area. Sometimes approaching starlings or blackbirds are quickly hunted away from a feeding tree. The species is one of the commonest heard and seen in the bush country nearest to Tauranga, but in such localities good nectar-bearing flowers are not abundant, and there is a total want of wild kowhai. It is not remarkable that it spends much of its time in the inhabited area.

Bellbird (*Anthornis melanura*).—Not quite so indifferent to man's presence as the tui, for although fairly common in the hill forests some ten miles from Tauranga, it seldom appears in town or settlement. Single birds, or small parties, have sometimes been met with on wattles (*Acacia*) a few miles from Tauranga; but only one or two have been seen closer.

Silvereye (*Zosterops lateralis*).—Common locally in bush and settled country but is seen most frequently and in largest numbers during winter and spring. During summer and autumn it is much less frequently seen and usually in smaller parties. In the winter season it is one of the most noticeable and persistent, seeking scraps around houses, and will take all it can get of bread, meat and fats. One among a big party met with in scrub about Christmas (1947) caught and beat soft for eating a fair sized cicada. It nests frequently even in busy parts of the town area. Privet berries are a great favourite with it in early winter.

Pied Fantail (*Rhipidura fuliginosa*).—The most persistent and common of the native birds in the settled areas; as well as in such portions of the native bush so far visited. Nearly all the year round one or two, at least, may be seen. During the heat of summer and in autumn it disappears mostly from the town and open country, presumably retreat-

ing to the bush and scrub regions where food is plentiful. But winter and spring finds it once more plentiful around settlement, fearlessly entering rooms to search every corner for possible food supplies. No black fantails have been seen locally.

Sparrow (*Passer domesticus*).—Abundant. Much of its food seems to be drawn from the large areas of *paspalum* in autumn; and the *Poa annua* of lawns, when all else fails in winter, though it is one of the most numerous and persistent seekers of scraps in the latter season, taking meat, fat, bread and fruit refuse, which hardly any of the other finches have been observed to do. During the pohutukawa season large parties busily explore the flowers (for thrips?) as long as any are available; though it does not appear to take much notice of the similar flowers of bluegum or redgum or other large, open, nectar-rich blooms. Sometimes parties may be seen feeding on the mudflats when the tide is out. Holes and crevices of any kind in houses seem just as favoured for nests as trees, and the fibrous trunks of palms are well liked.

Goldfinch (*Carduelis carduelis*).—After the sparrow this is the most abundant and generally met with bird of the finch family throughout the whole year. Very large flocks are commonly met with during winter and spring, and even during summer and autumn when other finches, save the sparrow, are seldom visible. Smaller bodies are frequent wherever there is a patch of thistle, or other favourite food plant. It has a great fondness for the ripe seeds of planes (*Platanus*) and once a good-sized party was observed feeding on the ripe spores of bracken. The gardener has hard work to preserve any marigold (*Tagetes*) seed from its ravages when the seeds are approaching ripeness. The goldfinch and to a lesser extent the sparrow, are almost the only finches which have been noticed eating these seeds.

Yellowhammer (*Emberiza citrinella*).—A very abundant local bird; equalling, or even exceeding the goldfinch, and all other finches save the sparrow, in numbers along roadsides and in paddocks during the winter season. It is much less constant in numbers than the goldfinch throughout the year. Large parties feed about the fields in winter and spring, but they are very quiet, and only an odd bird or a pair may be seen occasionally during summer and autumn.

Greenfinch (*Chloris chloris*).—Less common in the cultivated country than the former three. During winter and spring, however—and also much more occasionally in summer and autumn—little parties frequent the open country and paddocks, often in association with sparrows or other finches; and it cannot be called a rare bird. It has a strong fancy for the partially-ripened seeds of the smaller spurge or milkweeds (*Euphorbia* sp.) and a patch of these plants is always a likely place to find it. Pine seeds are an important food supply.

Chaffinch (*Fringilla coelebs*).—Rare and occasional during summer and autumn in the town and cultivated country, it becomes more plentiful in winter, and is quite commonly seen and heard during spring; but it is unusual to see it in parties of more than two or three. On a few occasions considerable bodies have been seen in the paddocks. It often appears with the sparrow, and like it, not uncommonly seeks scraps and crumbs in winter.

‡ **Redpoll (*Carduelis cabaret*).**—A small party of what appeared to be this species was seen some years ago moving across an area of open paddocks high up in the hills (about 900 feet) to the east and south of the harbour. The identification is a little doubtful, as the birds were seen to settle for a few moments only. The small size and red spot, however, seemed distinctive.

Shining Cuckoo (*Chalcites lucidus*).—Despite an abundance of several species of caterpillars and grubs during the summer season to tempt it, over a period of ten years not more than one or two have been met with annually, and only once were a pair seen, in a valley near Te Puke.

Pigeon (*Hemiphaga novaeseelandiae*).—Not uncommon in the hill bush and forest areas ten miles or more from Tauranga to the east and south. Once or twice during the last ten years single birds have come down into the lowlands—even once into Tauranga itself—seeking puriri berries, etc., and stayed periods of a few months or more. One was noted taking ripe guavas freely during such a visit, but as the visits are rare and the visitors few, the amount of damage done to orchards could only be small, unless the orchards were situated on the edge of the bush.

Kingfisher (*Halcyon sanctus*).—A common bird inland as well as round the shores of the harbour, and occasionally to be seen fishing from the rocks of Mt. Maunganui almost on the open coast. At nearly all seasons a string of solitary birds may be found sitting patiently on power lines crossing the mudflats; or by some tiny pool left by the retreating tide, waiting to pounce on any stray small fish or crabs. The latter seem especially favoured, as a nest a mile from the shore showed little save their remains below it. Another favourite appears to be the freshwater crayfish, judging from the refuse of a nest passed high up in the hills, and it pays much attention to cicadas in summer. Nests are frequent wherever there is a dry bank a few feet high; the presence of incessant traffic—even trains—appears no deterrent. One day a loud crash drew attention to a dazed kingfisher clinging to a window sill, yet still pecking determinedly at a big spider crawling in safety on the inner side of the glass. Apparently it had seen the spider from above through the glass, attempted to pounce on it and ended up half-stunned. Single birds have been seen driving away blackbirds in headlong flight.

Morepork (*Ninox novaeseelandiae*).—Often heard, even where cover is sparse, though its numbers do not appear to be large. Long periods may elapse in any locality without one being seen or heard. It gives at least two other fairly marked calls besides the more familiar “morepork,” one a screech, the other resembling “keo.” All three may be heard the year round, though sometimes one call seems to predominate, sometimes another. It is as common and at home in the settled country as it is in the bush. Sometimes a damp rainy night draws it into unusual activity, but on many such nights it has been remarkably silent.

Harrier (*Circus approximans*).—Not uncommon in most of the open country, frequenting also large vacant stretches of ground in the town area. It is unusual, however, to see more than two at a time. A favourite haunt is the belt of swamp and rush covered meadows around the tidal shores.

Bush Hawk (*Falco novaeseelandiae*).—One or two, presumed to be this species from the size and swift flight, have been met with on the outskirts of bush near the summit of the hills east of the harbour. Another was picked up dead on the shore of the upper harbour near Tauranga some years ago.

Pheasant (*Phasianus colchicus*).—Generally distributed wherever there is good cover around the town and farming areas. Not very abundant at present; it is quite unusual to see more than two or three at a time. Single birds are more general, and after considerable periods pass without one being met with. It seems to retreat, or keep very close and quiet in winter; as in 1947 none was seen from May to September. It appears to do a good deal of harm to crops of seeds and potatoes in some places, so it must be holding its own in the more secluded parts despite the number of enemies destroying the chicks.

Australian Quail (*Syncoicus ypsilophorus*).—Small parties are occasionally met with in low cover over the district, but it is much less common than it was some years ago, when parties were raised daily in rough ground in the town area. Much burning and clearing of late may have destroyed many. In 1947 it was only seen about half a dozen times. It has a fancy for the seeds of rushes and sedges, and a usual place to raise some is in the drier parts of the shore rush beds. Cover is kept more closely than by the Californian quail, and it is rare to meet any exposed to view in the open.

Californian Quail (*Lophortyx californicus*).—Much the commoner quail in numbers. Good-sized parties are frequent in plantations and lower cover. The whole party will often be found perching in the branches of a tree. It is more frequently seen in the open, and parties are sometimes met with feeding on quiet areas of the mudflats at low tide. Possibly it moves about freely, as often not one is to be seen in a given spot for long periods.

Reef Heron (*Demigretta sacra*).—One or two may be seen fishing around the harbour shores. It is unusual to see more than a pair together but sometimes parties up to six have been noticed—especially in the region of Mt. Maunganui, where there is a small nesting place on an off-shore rocky islet. No nests have been noticed elsewhere. Occasionally birds may be seen fishing from rocks at Mt. Maunganui almost among the open sea breakers.

Bittern (*Botaurus poiciloptilus*).—Not common, but single specimens have now and then been noticed in flight, or standing in rod-like silence in and around the areas of shore swamp. It has been seen most frequently around the marshy outlet of the Wairoa River at Te Puna. Possibly it is not uncommon actually as there are still large extents of swamp and marsh to hide it, and it is adept at hiding.

Pukeko (*Porphyrio porphyrio*).—Very common in and around all areas of swamp or rush-covered low-lying paddocks, and parties of old birds and young have frequently been disturbed in ditches crossing the latter type of country very close to settlement. The young chicks plunge under water for a few feet when disturbed, till they feel they are out of view. The old birds, however, seem almost oblivious to disturbance; parties feeding unconcernedly in wet meadows, passed by the busiest traffic all day long and fully exposed to view.

Banded Rail (*Hypotaenidia philippensis*).—Possibly a common bird locally, appearing to favour the salt-marshes. It is so wary and keeps so well out of sight, however, that it is rarely seen, and even less often heard. Now and then stray birds, or even two or three together, may be caught feeding on the mudflats, but at the slightest warning they will be back like a flash into the reed-beds. One damp, showery day in late summer six were seen together feeding on the mudflats, the most ever seen at once. On such damp sunless days it appears to take more to disturb it when it is out in the open; though it does not seem to mind the close presence of noise and traffic provided there is cover. One of its principal haunts is a few feet from a main highway on the town outskirts. It seems to dislike taking to flight, as one, caught one day on a road bordered by dense grass hindering its passage, ran a hundred yards or more before it rose in slow flight back to the cover of the swamp.

Banded Dotterel (*Charadrius bicinctus*).—Not nearly as common or persistent a species about the harbour areas as the stilt the whole year round. Sometimes small parties are seen running about in the sandhills or on the mudflats, and then for long periods (in summer or winter) not a bird will be seen. Possibly it merely moves around the district and so escapes observation. Parties of more than ten or a dozen have not been seen; but sometimes there will be a large number in total scattered widely over an area of mudflat. Matapihi Arm, with its rich areas of weedbeds, seems one of the most frequented spots. It appears to nest in a number of places in the open coast sandhills, especially where a small stream runs out. It seems to have been rather scarce this season (spring, summer, autumn, 1947-48) and only one or two birds have been met with in the sandhills near Mt. Maunganui, while none has been seen on such areas of mudflat as have been visited.

‡ **Wrybill (*Anarhynchus frontalis*).**—One or two birds met with on the mudflats or on the open coast appeared to be this species, but as none could be seen close enough to be fully certain of the bill, or even of the general colouration, it is only suggested as a possibility. Those noted seemed a little tamer in general, and to allow a closer approach, than

the banded dotterel, and to be slightly smaller, with only one partial dark marking on the throat. Nothing further could be distinguished with the naked eye.

Godwit (*Limosa lapponica*).—This bird occurs on the harbour flats in some numbers during the summer and autumn months. None has been met with at other seasons beyond a single specimen which frequented a quiet area of mudflat, for several days at least, in early September, 1947. Usually it makes a first appearance in numbers about Christmas, and large parties are fairly frequently met thereafter in favoured spots for a month or six weeks. It is more sparse from then on till about April, a small party being seen on a sandspit late in the latter month, 1948. Generally it seems to disappear earlier. A particularly favoured locality is a long sandspit on the western side of Tauranga marking the entrance of the Waikareao Arm into the main harbour area; here it collects almost daily in the period when it is most common.

Pied Oystercatcher (*Haematopus* sp.).—Only one bird has been met with for certain locally. This was three or four years ago at the mouth of a small freshwater creek on the open coast near Mt. Maunganui.

Black Oystercatcher or Redbill (*Haematopus* sp.).—Occasional small parties of this bird, usually of about half a dozen, have been met with during the last few years at one or two spots on the harbour. A favoured locality is a sandspit at the entrance of the Waikareao Arm. Its stay appears to be brief, lasting only a few days as far as can be judged, and it does not seem to reside permanently on any portions of the harbour area. It has been seen most often in late autumn—about May—but never on the open sea coast.

Pied Stilt (*Himantopus himantopus*).—This is the commonest bird of its family more or less resident in the district. Large parties of fifty or more are sometimes seen—as under stress of weather conditions—but the usual party is generally small, numbering two to a dozen. It appears commonest and most numerous in summer and autumn, becoming much reduced or almost absent during some of the winter months and in the breeding season. No nesting sites have been found on the harbour shores, but a small colony exists at the mouth of a small creek running out on the open coast a few miles east of Mt. Maunganui. It is generally found in association with gull parties along the shoreline or in flooded paddocks after rains, but is always more wary and eager to keep a safe distance when there are any intruders. On the open coast it is unusual to see it save around the mouths of creeks and rivers, though sometimes a small party may be met with far from such situations on the edge of the ocean surf.

Black-backed Gull (*Larus dominicanus*).—Very plentiful, especially within the harbour. Parties frequently come inland to feed on farm paddocks or wherever there is offal and refuse. Young birds in various stages of development usually form a good proportion of the parties, but no nesting sites have been seen locally.

Red-billed Gull (*Larus novaehollandiae*).—It is almost as common as the black-backed gull on the open coast, as on the harbour. Large parties frequently visit the farming paddocks, and find their way to all freshly-ploughed land, or wherever there is a chance of scraps of any kind. There seems little it cannot eat; bread is relished and even fruit or fruit refuse if nothing else offers. It is often seen drinking freely at the outlets of fresh-water creeks and streams, and seems to have a fancy for bathing in such water. Several years ago a fair sized party nested for one season on the ledges of a steep-sided rock mass near the seaward base of Mt. Maunganui. No other nesting sites have been noticed locally on the mainland.

Caspian Tern (*Hydroprogne caspia*).—Occurs nearly all the year, singly, or in twos (which usually consist of an old bird and a young one) around the harbour shores, or on the lower courses of tidal streams. Sometimes one or two birds may be seen on the open sea coast, but it seems to keep mainly to the harbour and its streams. Now and then

groups of six or more have been seen, possibly drawn together by an especially good fishing locality. It is capable of showing itself as aggressive as any gull in attacking invaders of its preserves. Late in the autumn 1948 large parties of 6 to 12 were frequently noticed following shoals of fish on some of the harbour backwaters.

White-fronted Tern (*Sterna striata*).—Large parties are frequently seen skimming gracefully over the open sea coast, or resting in stormy weather on shores and rocks. It appears to nest on some steep, craggy islets offshore from Mt. Maunganui. Though always more wary and ready to take wing, it appears frequently to associate in friendly fashion with parties of the red-billed gull. Except for a single specimen seen resting on a beach in the upper reaches of the harbour, during a storm several years ago, none has been met with on the harbour area.

Buller's Shearwater (*Puffinus bulleri*).—As far as the evidence of dead birds stranded on the shores goes, this is a fairly common species locally along the coasts. During a very heavy deposit of dead birds in December and early January, 1947-48, it seemed to be the most common next to *P. griseus*. It was also fairly frequent during strong easterly weather in late April and May, 1946. Like most of the other species commonly stranded scarcely any have been found dead from January to April. Thereafter till the end of the year or the following January, seems to be the period, locally, that it is cast on the shores, more or less plentifully. In early January, 1948, a worn and battered live bird was found on the open coast near Mt. Maunganui, the only occasion upon which one has been seen alive in the district.

Fluttering Shearwater (*Puffinus gavia*).—A few are usually found dead, whenever some of the former species (*P. bulleri*) are stranded: but it seems much less common as a stranded bird on this coast. The stormy periods of early May, 1946, and early December, 1947, produced the most seen at any one time.

Sooty Shearwater (*P. griseus*).—One of the commonest of locally stranded species; though as far as noted to date this seems to occur principally in the summer season. It was easily the most abundant among the heavy deposits of dead birds during December, 1947, and early January, 1948, when the winds were predominantly east. Dark-coloured petrels coming in at other periods of the year appear to be mainly *P. carneipes*.

Flesh-footed Shearwater (*Puffinus carneipes*).—During the bulk of the season from April or May till the following January, this is the commonest dusky petrel stranded on the coastline. It made a good proportion of the deposits during stormy easterly weather in April-May, 1946, and was also of plentiful occurrence during the winter of 1947. It yields in predominance to *P. griseus* during the summer season. During exceptionally rough and stormy weather specimens of this, as of other species of petrels, may be found on beaches towards the head of the harbour, but generally the strandings do not extend beyond the open coast. It possibly makes a good proportion of the large flocks of dusky petrels often seen skimming low over the surface of the open sea from the slopes of Mt. Maunganui.

Grey-faced Petrel (*Pterodroma macroptera*).—An uncommon species locally, as, even during the best deposits noted, only two or three specimens have ever been found at one time over some miles of coastline. It has been picked up both in summer and winter.

Prions (*Pachyptila turtur* and *P. salvinii*).—A few specimens of these two species have often been picked up among the strandings during winter, spring and early summer. They do not seem more prominent at one time than another; and even the heaviest strandings noted (April-May, 1946 and early December, 1947) to date contained very few indeed. On the strength of present findings *P. turtur* would appear rather the commoner of the two.

Diving Petrel (*Pelecanoides urinatrix*).—Occasionally this little bird has been seen swimming in the harbour close to Mt. Maunganui, or in

the wash around its rocky west and northern shoreline; but it is as a stranded bird that it is most prominent, and all the heavy deposits in winter, spring and early summer have contained a large proportion of this species. This was especially so of the deposits in early December, 1947, when the numbers of its dead were second perhaps to *Puffinus griseus*. In early May, 1946, during very strong easterly weather, it dominated the complete stranding, enormous numbers of this species, almost without others, being cast on the shore for some miles east of Mt. Maunganui over several days. Exactly how far this large deposit extended is not known, as it was not able to be followed out in either direction to its end. But at no time has so large a deathroll of a single species been noted.

Gannet (*Moris serrator*).—A frequent visitor both to the open coast and the harbour, seldom in any numbers; up to about half a dozen have been seen together. The largest parties have been seen mostly on the open coast or near the heads. Long intervals often pass without one being noticed. It is not uncommon to find dead specimens stranded on the open coast.

Black Shag (*Phalacrocorax carbo*).—Not uncommon about the harbour area, but seldom is more than a single bird seen fishing the muddy estuaries of some of the tidal creeks. It is common in the evenings, however, to see large parties flying to some rocky islets close to the eastern heads of the harbour, where there is apparently a roosting or nesting place. These parties separate for feeding during the day.

Pied Shag (*Phalacrocorax varius*).—A much less common bird locally than the last species, but a small group of about half a dozen birds has for years kept closely about the neighbourhood of a rocky reef just inside the Mt. Maunganui heads. Single birds occasionally appear some distance up the harbour or may be seen fishing round the rocky base of Mt. Maunganui. Stray birds seen in passing flights of black shags suggest that some at least roost with the latter species on coast rocks.

White-throated Shag (*Phalacrocorax melanoleucos*).—The common little shag of the harbour area and though often met with on the rocks of Mt. Maunganui close to the heads, it has not been seen on the open sea. It would seem either to have decreased in numbers or moved to other areas lately, as a few years ago moderate-sized parties could be seen daily on shoals and sandbanks in many parts of the harbour. Though single birds are often met with around the harbour or up the tidal streams, parties are not often seen on such parts of the harbour area as have been visited (1948). Blacks, or black with only a trace of white under the chin, seem to predominate in the parties usually. Birds with a fully white underside appear rather uncommon, as are all with more than just the underside of throat and neck white. There was a roost for some years in various large trees near the mouth of the Wairoa River. First it was in a giant pohutukawa, and later several tall eucalypts on a bluff were found to receive a nightly assemblage of some hundreds. The latter situation, at least, seems deserted now due to disturbance.

Black Swan (*Cygnus atratus*).—Small parties are frequently seen, or heard, flying across the harbour area after dark, and occasionally by day as well. It is rare, however, to come across any feeding or resting on the harbour or in its surroundings, and only single birds have been so met with. It appears to be as much at home on the salt water as the ducks, and most of those seen have been swimming about in the shallows near low tide mark.

Grey Duck (*Anas poicilorhyncha*).—Much the commonest duck, if not the only species living in the swamps and marshes around Tauranga Harbour. Generally in late summer, autumn and winter, large parties come down on to the mudflats and shallow tidal arms to feed; at almost any time of the year a few may be with resting or feeding in such situations. Small parties may be raised the year round from secluded backwaters and quiet stretches of all the marshy creeks and

streams, often very close to busy highways, or on the town outskirts, provided there is heavy cover. It seems to be thriving and to be numerous locally. In spring and early summer it is not at all uncommon to meet old birds and parties of ducklings on the streams, and even in mere ditches crossing rushy paddocks. It is the principal, if not the only, species of duck shot in the lowlands around Tauranga.

Black Teal (*Aythya novaeseelandiae*).—A pair was seen several years ago swimming in a pool on the course of a rocky hill stream about ten miles to the south-east of Tauranga. This is the only record.

Blue Penguin (*Eudyptula minor*).—Common locally, though it has only been rarely met with swimming in the sea close around the base of Mt. Maunganui. Very large numbers are stranded on the beaches in certain seasons, either dead, or in a dazed and helpless condition. The period of stranding is usually December and January, and every year sees a moderate number washed ashore during these months. Now and again the deposit becomes greatly increased, as in December, 1943, when for an unknown distance east of Mt. Maunganui, the open coast was found to bear dead penguins at almost every three to six feet. This deposit was at least seven to nine miles long, and no heavier has been seen. The weather at the time was hot with little wind and practically no rough sea. At other times of the year it is rather rare to find any stranded, though some occasionally appear. Those alive when found are weak and inert, and hardly able or inclined to do anything or to escape. If actually put in the surf they sometimes seem able to swim away. In December-January, 1947-48 the number stranded was rather small; species of petrels greatly predominating in the strandings. The weather was in general considerably more windy than on the occasion of the very heavy deposit mentioned above,

In conclusion, my sincere thanks are due to Messrs. E. G. Turbott, of the War Memorial Museum, Auckland and R. B. Sibson, of King's College, Otahuhu, for advice and help, especially in relation to the identification of stranded specimens.

ROTORUA GULL COLONY.—A number of observations was made during the 1947-48 nesting season by several members whose reports are collated by J. M. Cunningham as follows:—The colony was on the rocky shore and islets opposite the Ward Baths, and on November 18 there were over 400 black-billed gulls (*Larus bulleri*) present. They had about 99 nests, 15% of them being two-egg clutches, the remainder one. Three days later the number had swelled to over 600 birds, and of the nests examined, 28% had two-egg clutches. Although the total nests was not counted, this increase in percentage is consistent with the assumption that the earlier-arrived birds were still laying, completing two-egg clutches, the new arrivals not having commenced to lay of course. Red-billed gulls (*L. novaehollandiae*) were also nesting, the nests being placed indiscriminately amongst those of the black-billed, but there were fewer birds. On November 18 there were 35, with 17 nests, and on November 21 there were 44 birds with 21 nests. There appeared to be no animosity between the two species, and although there were about a dozen immature (yearling) red-billed gulls near the colony, no immature black-billed were seen. (J.M.C., F. Murray and H. R. McKenzie). Mr. M. J. S. Black reported later that this whole colony was robbed, the eggs being taken away in tins by Maoris. The birds then moved east a little way and nested again. These eggs hatched but the chicks were slaughtered by vandals with sticks. Only one juvenile of this colony was seen later. A third attempt was made by a few birds at the original site, and on February 2, 1948, on the mainland there were 13 eggs and 9 chicks, mixed birds of both species. There were others on the islets. On February 20, on the mainland was one chick only, and on islet No. 1, 10 eggs and 26 chicks, nearly all red-billed. On islet No. 2, were two eggs and 17 chicks, nearly all black-billed (so apparently the birds had eventually separated mainly into two specific groups). (H.R.McK.) On this date, the evening tally at the roost was about 250 red-billed and about 750 black-billed. (R. A. Falla, M.J.S.B., H.R.McK.).