

GODWIT ALIGHTING AT A HIGH TIDE ROOST AT KARAKA,  
FEBRUARY 28, 1952. The small bird in the foreground is a knot.

D. A. Urquhart photo.

## STATUS OF GODWIT IN NEW ZEALAND.

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Regarded as the most numerous of the migrant waders that visit New Zealand, the eastern bar-tailed godwit (*Limosa lapponica baueri*) has aroused considerable interest in the popular fancy of the general public by reason of its remarkable journey between New Zealand and the sub-arctic regions of the Northern Hemisphere. It arrives in this country in the spring and departs in the autumn. Formerly it was on the shooting list and for that reason it was the best known of the waders that inhabit our shores. It became totally protected in 1941.

The first record of the godwit in New Zealand is almost without doubt that of the renowned explorer, Captain James Cook, who stated in his journal of the first voyage, on Saturday, November 11, 1769, when he was at Mercury Bay, that there were "pretty plenty of Wild Fowl, such as Shags, Ducks, Curlews and a Black bird, about as big as a Crow, with a long sharp bill of a colour between Red and Yellow." He saw these birds on the sand banks in that locality. The name "curlew" is one that is applied commonly (although erroneously) to the godwit, especially by sportsmen, and there is little doubt, taking into account the date of the observation and the habitat that it was the godwit that Captain Cook recorded. His reference to the black birds about as big as a crow is to oystercatchers. The first specimens of the godwit collected in New Zealand apparently were those obtained, about 1840, by Percy Earl, at Waikouaiti, north of Dunedin.

### MIGRATION.

The evidence regarding the actual route taken by the godwit on its migration to and from New Zealand is far from satisfactory, though one point seems clear, that it follows a much more direct line than has been suggested in many of the references to its journey. According to Bent, it passes through the Commander Islands, Japan, China and the Philippines on its way from its breeding grounds in north-eastern Siberia and western Alaska. He includes the Malay Archipelago, Samoan and Fiji Islands, New Zealand and Australia and probably other islands of Oceania as its winter range. In the Malay Peninsula itself (as distinct from the Malay Archipelago), the bar-tailed godwit is a rare bird, in fact, no more than a straggler, as Robinson and Chasen (1936) have records of only two specimens, one obtained in November (year not given) and the other on September 24, 1912, when a single bird was secured from among large flocks of other waders. It is recorded as not uncommon (merely a winter visitor) in the Philippines, according to Delacour and Mayr (1946) and this information is repeated word for word by Delacour (1947) when dealing with the birds of Malaysia. Mayr, *Birds of the South-West Pacific*, (1945), states that it is the common godwit of the South-West Pacific, occurring throughout the area as far east as Tonga and Samoa.

Bull, writing of waders in the South-West Pacific, especially those in the Russell Islands (1948), shows that the small population of the godwit there is a changing one, and, discussing migration, expresses his belief that the New Zealand migrant waders move over a front well to the east of the Solomon Islands; the few godwits he saw in the area he classed as stragglers while the knot (*Calidris canutus*) another common migrant in New Zealand, was unrecorded. He found that the "Solomon Islands migratory wader avifauna bears a resemblance to that of Australia rather than New Zealand."

Bull's contention is confirmed if the known facts are considered. The bar-tailed godwit in Australia, although regarded as a common bird, is not found, according to the authorities consulted, in flocks of thousands as it is in some parts of New Zealand, but in small flocks, often not even a hundred. It is likely that the birds that reach Australia and Tasmania are those that take a more westerly migratory route, possibly through the Malay Archipelago and New Guinea, thus accounting for the scarcity of this bird in the more tropical countries on this route, while the many

thousands which come to New Zealand obviously must take a more easterly direction, as Bull has indicated, probably passing through the Pacific Islands north of New Zealand.

A significant observation, mentioned by Bull, is that of Flying-Officer E. F. Dodson, who wrote: "Godwits appeared in large numbers on the mudflats round Suva on March 29th. They may have been there up to two days before that, and they were all gone the next day." At that time of the year, the godwit would be on passage from New Zealand. It seems reasonable to assume, on the available evidence, that the great mass of godwits and (knots) that visit New Zealand, take a more direct north-south route across the Pacific to and from the southern coast of Asia than has hitherto been supposed; observations by competent field workers in the Pacific Islands should throw light on this belief.

Turbott (1951) has disposed conclusively on his own observations and those of Watt, of the legend that has grown up in New Zealand of the supposed mass departure of the godwit from Spirits Bay, a fanciful story that captured the imagination of the public. He has shown on his own evidence and that of A. H. Watt, that the godwit probably departs from different points and not from one particular point; nor does it normally leave or arrive in very large flocks. A perusal of records by members of the Ornithological Society and others, shows that the godwit reaches New Zealand from the Northern Hemisphere about the end of September and during October, and leaves again in March and April; it departs from some South Island areas in February, making its way northward, as there is evidence of migratory movements passing through Auckland district estuaries in March. A considerable number fail to migrate and spend the austral winter in New Zealand. Falla (1936) has stated that he considered it likely that none of the birds of the year leave with the April migrants, as the flocks that remain for the southern winter seem to consist almost entirely of birds completing a post-juvenal moult.

#### HABITAT.

In New Zealand the godwit is found on mud and sand flats in tidal harbours and lagoons and along estuarine rivers; occasionally it may be seen on wet grasslands and salicornia bordering coastal lagoons and lakes. Very little information has been placed on record as to the actual food of the godwit in this country: Buller inferred that it consisted of aquatic insects, marine worms, small molluscs and crustaceans, adding "that the objects, however, which they select must be very minute, for on opening their stomachs it is usual to find only a mass of comminuted matter having the appearance of mud or slime." There appears to be no other record of the examination of stomach contents of this bird in New Zealand, but the Handbook of British Birds (1940), describing the food of the closely-related European bar-tailed godwit (*Limosa lapponica lapponica*) states that on winter quarters and on migration it comprises sandhoppers, shrimps, small crabs, Annelida, small Mollusca, small fish fry and insects, including Lepidoptera, Coleoptera and Diptera (mostly larvae). There is little reason to believe that the food of the godwit in New Zealand differs to any extent.

It is somewhat astonishing to find practically no reference to the godwit in the early literature of the birds of New Zealand, except of a most casual nature; the Transactions of the New Zealand Institute are almost a barren field and on that account there is a lack of information relating to the numbers of this species in this country at the beginning of European settlement and subsequently.

Mr. A. S. Wilkinson, who knew the Takaka district as a boy, can recall, towards the end of last century, that the mudflats there were alive with shore birds, there were thousands where there are hundreds today. Mr. J. Henderson, a godwit shooter of many years' experience in Auckland district estuaries, states that in the heyday of shooting, as many as fifty guns operated in Manukau Harbour, many of them pot-hunters, some of whom sold godwits to hotels for the making of soup. These pot-hunters

shot into the packed flocks at high tide from 40 gallon oil drums sunk into shellbanks. He has known as many as 62 birds collected after one shot. The real sportsman, who confined his shooting to flying birds, was lucky if he bagged twelve birds in a day. Mr. G. J. Moffet, of Invercargill, writing with forty years' experience of Southland estuaries at the time the godwit was given total protection, 1941, states that it had decreased 75 per cent. as compared with the position forty years earlier. He blames intensive shooting and shortage of food on account of competition from the introduced black swan.

Amazing statements are often made about the presence of "millions" of godwits in New Zealand. There is not the slightest substance of fact in these assertions, as anyone who has seriously studied the numbers of godwit here soon realises. According to all the available information, it is doubtful at the present time if the summer population of the godwit in New Zealand exceeds 200,000 birds.

Notes on the principal haunts of the godwit in New Zealand are:—

### PRINCIPAL HAUNTS.

**Parengarenga Harbour:** This vast area of 15,000 acres is one of the principal feeding grounds of the godwit and of other waders in the Far North. Fortunately, it has been well described by Mr. A. H. Watt, of Te Kao, who has personal experience of this district over a period of about forty years, and by Mr. E. G. Turbott, of Auckland, whose published observations should be referred to for full particulars. Mr. Watt, in reply to a personal inquiry, places the summer population of godwits in Parengarenga at about 10,000. "I have not noticed any great increase or diminution in numbers in any year since 1915. The winter population varies considerably from year to year. At present (July 9, 1953) there are several hundreds on the harbour. I have not been out much recently, but I have a reliable report of 'about 500' having been seen a few weeks ago. I am inclined to think there may be a considerable movement of wintering birds within New Zealand. I saw about 1000 godwit here on August 15. They certainly were not all birds that had spent the winter in Parengarenga and it seemed too early for birds from the Northern Hemisphere."

**Kaipara Harbour:** This huge area, stated to have a water frontage of more than 2000 miles, is practically unknown ornithologically. Mr. J. Henderson tells me that the godwit is present there in "countless thousands," stating, from his experience of the area, that it is impossible to estimate its numbers. The 1932 annual report of the Auckland Acclimatisation Society contained a paper entitled "Birds of the Kaipara Harbour," by G. G. Kelly, in which he stated that these birds are evidently (during Easter) "packing up" preparatory to their departure from New Zealand" as he saw them in immense clouds on the coast and near the heads." No recent information as to the numbers of godwits in this vast area is available, and the district is well worthy of more intensive investigation. The population must remain mere conjecture until a systematic assessment can be made.

**Houhora Harbour:** No information.

**Rangaunu Harbour:** A favourite locality about which little information is available regarding numbers of godwit. As many as 2,300 (estimate) were recorded 22/8/53 as wintering birds.

**Whangape Harbour:** No information.

**Hokianga Harbour:** No information.

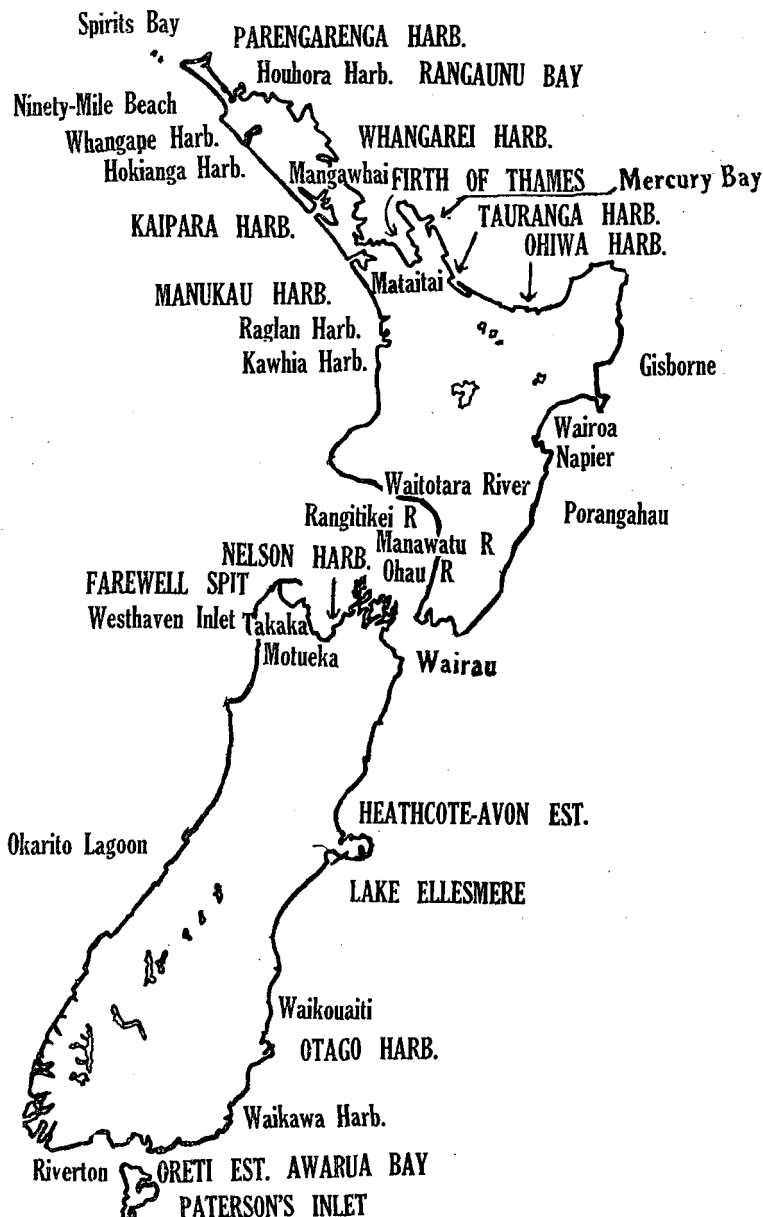
**Whangarei Harbour:** Mr. W. M. Fraser estimated, in collaboration with his son, that the summer population of godwits, 1952-53, was between 5,000 and 6,000, and that 200-300 remained for the winter. W. Sanderson recorded about 300 wintering godwits here in 1939.

**Mangawhai:** Between 500 and 700 were seen by Fleming on November 24, 1940, though it appears that the normal population here is much less.

**Manukau Harbour:** This extensive area is under observation by many members of the society, and it is possible to estimate the summer population

of godwit fairly accurately, about 10,000 would be a reasonable figure, judging from the published records. On 24/6/53 a count by members gave 4,830 as the number wintering there.

Mataitai, Clevedon: Thanks to the enterprise of H. R. McKenzie and others, this area is well documented and can claim a summer population of up to 1,500, with up to 80 wintering at times.



PRINCIPAL HAUNTS OF GODWIT IN N.Z.; largest concentrations in areas indicated by capital lettering.

Firth of Thames: This is a favoured godwit locality and Auckland and Clevedon workers have put in much field work here. Estimates of several thousands are given for summer and about 1,290 for a winter count from Kaiaua to Thames (June 24, 1951) and of c 1,900 on 2/8/53.

Tauranga Harbour: Information about this large tidal area is rather sparse; the bird occurs in large flocks but the numbers given by observers appear to be quite inadequate. Up to 450 have been recorded in winter for the northern area and up to 50 for the eastern.

Ohiwa Harbour: P. H. Batley had this area under observation for some years; he has given 2,000 (March, 1940) as his highest count, and 500 plus as a winter population (August, 1951).

Raglan Harbour: I saw a small flock of 16 here, 20/1/35, but this area should hold a larger number; no recent information is available.

Kawhia: The largest number for this extensive area is 200 plus, on 25/2/51, but that would be for a small portion only. No comprehensive information is forthcoming.

#### AUCKLAND DISTRICT.

	Summer.	Winter.
Parengarenga .....	10,000	300
Houhora .....	?	?
Rangaunu .....	?	2,300
Whangarei .....	6,000	300
Whangape .....	?	?
Hekiangi .....	?	?
Kaipara .....	thousands	?
Manukau .....	10,000	4,830
Mataitai .....	1,500	80
Firth of Thames .....	sev. thous.	1900
Tauranga .....	?	?
Ohiwa .....	2,000	500
Kawhia .....	200	?
Raglan .....	?	?

On these figures and making liberal allowance for the areas from which no statistics are available, there could be 100,000 godwits in the Auckland district (including Northland) but that represents practically the total population of the North Island; south of the Auckland province, its numbers in the North Island are negligible.

#### REST OF NORTH ISLAND.

(Taranaki, Hawke's Bay and Wellington.)

In the North Island, south of Kawhia Harbour on the west coast, and the Bay of Plenty on the east coast, there are few areas suitable for godwits and the few there are are of very restricted size. Not many birds are found at the mouth of the larger rivers, the numbers on the whole are negligible. I have personally visited almost every known area and probably no more than 1,000 birds are found along the length of coast, and certainly not more than 2,000. Actual counts of birds are (my own counts, maximum, except where stated):—

Arapuni Lagoon (Gisborne), 17 Nov., 1952 .....	c150
Muriwai Beach (Gisborne), 18 Nov., 1952 .....	5
Orakai Lagoon (Mahia), 19 Nov., 1952 .....	18
Wairoa Lagoon (Wairoa), 21 Nov., 1952 .....	c 100
Westshore Lagoon (Napier), 23 Nov., 1952 .....	c 135
Coastal Lagoons (Napier), 8 Nov., 1952 .....	126
Porangahau, 1 Jan., 1952 .....	c 65
Lake Onoke (Wairarapa), 30 Oct., 1938 .....	40-50
Waitotara River, 10 Oct., 1946 (W.P.M.) .....	c 30
Wanganui River, 27 Oct., 1952 (J.M.C.) .....	25
Rangitikei River, 12 Nov., 1948 .....	107
Manawatu River, 26 Nov., 1952 .....	c 150
Ohau River, 4 Nov., 1948 .....	21

The godwit is of casual occurrence only at Lake Onoke.

## SOUTH ISLAND.

Wairau Bar, Marlborough: Up to 500 is the maximum number given for this locality by J. Eyles. My own observations here, 3/11/53, in company with Mr. Brian Bell, would confirm this figure.

Nelson Harbour: There are fairly large tidal areas around Nelson; E. F. Dodson has recorded 2,000 to 3,000 appearing in mid-January after a cold spell. Mr. L. Gurr records c 4,000 in summer (1/12/51) on the Wakapuaka mud flats, and "similar numbers" in December and early January, 1952-53. No winter counts are available.

Motueka: No information.

Takaka-Collingwood: I counted c 400 birds in this area October 10-12,, 1946.

Farewell Spit: This vast area probably has the biggest concentration of godwits in the South Island; but unfortunately, there is a sad lack of observers in this part of New Zealand, and definite information as to numbers is lacking. When I visited the end of the Spit on October 16, 1946, I saw a flock of about 750, with equally as many knots, though this was probably an under-estimate. In January, 1953, Mr. M. Small of the Wildlife Service, Department of Internal Affairs, recorded several thousands. The population here must be a considerable one, but in the absence of reliable counts or estimates, it is impossible to give it with any accuracy.

Westhaven Inlet: The only count in this area is that of Mr. Small, in January, 1953, of several hundred.

Okarito Lagoon: Some hundreds was the total given by Sibson (Dec.-Jan., 1939-40). My own figure (Oct. 11, 1949) was about 120.

Heathcote-Avon Estuary: Mr. G. Guy's residence overlooks this estuary and Mr. Guy has unrivalled opportunities of keeping a watch on the godwit population there, which ranges between 2,000 to 3,000 in summer. Up to 500 to 600 have been recorded in winter, 18/5/52 (Sibson).

Lake Ellesmere: This vast expanse is another rather neglected one, ornithologically, apart from the interesting series of wader records obtained there by the late Mr. E. F. Stead. In the Natural History of Canterbury, Stead said godwit and knot "seem to be forsaking Lake Ellesmere to some extent," due in part, he thought, to the "great increase in the numbers of stilts on the lake during the past twenty years." He stated that the stilts "must be serious competitors with the godwit for the available supply of worms, larvae, etc., which form the food of both species." He records godwit as wintering there. Annual reports of the North Canterbury Acclimatisation Society from 1922 onwards refer with monotonous regularity to the fact that the godwit shooting was very disappointing, the birds, much less in numbers than formerly, having disappeared before the opening of the season. No figures are available as to the numbers now inhabiting the district, the reports mentioned above sometimes recording "fair numbers" before the season. The 1939 report stated: "Large numbers of this migrant were observed during December and January, but by the time the season opened on February 1, the local population had apparently moved northwards, preparatory to leaving these shores. During the two weeks' season, one well-known sportsman failed to locate any birds whatever, but towards the end of February, and in March, birds from the south had reached these parts, too late for the shooting season, which closed on February 14."

Blueskin Bay-Otago Harbour: I saw a flock of c 1400 on Blueskin Bay on Nov. 12, 1951; two days earlier I saw about 1,000 on Otago Harbour: assuming that the birds were different flocks, this gives a population of about 2,500 or 3,000.

Waikawa Harbour: On November 8, 1951, I counted 145 godwits on this harbour, but Mr. Moffet has recorded a larger population (see below).

When I visited Southland estuaries on November 5, 6, 7, 1951, I was much impressed with these areas by reason of their great expanse and

rich feeding grounds for waders. On November 6, on the Oreti estuary, I saw about 1,750 godwits, but that would not be a complete count, as other areas were not visited. In the time available I was able to make only a fleeting visit to the area; much of it, and of the adjoining Awarua Bay, I did not investigate. Fortunately, Mr. G. J. Moffet has placed at my disposal his notes of forty years' experience of these estuaries, gained during the former godwit shooting seasons and also during the duck shooting season in winter. Mr. Rex M. Roys, of Invercargill, also gave much valuable information and assistance. I give Mr. Moffet's notes in full:—

"Head of Awarua Bay: The principal home, 3,000 to 4,000 godwits, extensive feeding grounds, sandy mudflats, also to the east and south of head of bay, in vicinity of Cow Island, where there are further sandy mudflats and lagoons. Resting place at high water for these godwits, extreme south end of Oreti Beach, flight about 4 to 5 miles.

"Stewart Island, head of Paterson's Inlet: Population 1500 to 2000 godwits, about 7,000 acres feeding grounds, mud and sand flats; resting place at high water, the Old Neck Peninsular east of head, flight 12 to 13 miles.

"New River Estuary, also called Oreti Estuary: Population 1,000 to 1,500, extensive mud and sand flats, feeding grounds; high water resting place, extreme south end of Oreti Beach at mouth of estuary, flight from one to ten miles. This estuary is in the vicinity of Invercargill.

"Waikawa Estuary: Population, 10 years ago (1940), 1,000 birds or more, fairly extensive mud-sand feeding ground; high water resting ground, Waikawa sea beach, flight about one mile.

"Aparima Estuary, vicinity of Riverton: Population, 300 to 400 birds, comparatively small mud-sand feeding ground; high water resting place, Riverton beach (sea), flight one mile.

"Godwit arrive in Southland generally about mid-October. After their long flight they are in poor condition. I have seen many of them for the first week or two tumble over on landing through sheer weakness. A month or so later they are in good condition, and towards the end of March are in fat condition, and when shot some often split up the breast on falling on to a hard sandy surface. Twenty-five years ago the open season for shooting godwit was changed from 1 January to 1 February each year. This gave the birds a better chance to survive the many guns as they were then much stronger and better conditioned. Anything up to 20 guns, at weekend shooting at the head of Awarua Bay and the vicinity was fairly common; bags up to 40 and 60 birds were often secured. Up to 20 years ago, in the early part of the shooting season, birds used to mob up and hover over decoys, providing an easy target, and after being shot up the survivors would fly around and repeat this manoeuvre as many as two or three times until the pot-hunter had his fill! Later they appeared to give up this suicidal habit. In rough, windy weather they provided excellent shooting to the good sportsman. I would say that the population of godwit, up to the time they were protected, had decreased by 75% compared with 40 years ago, due to intensive shooting, and shortage of food through the black swan; this introduced bird has increased tremendously in Southland, especially in Awarua Bay and New River (Oreti) Estuary and has apparently upset the balance of nature. They are still protected and are a curse to the many shore birds, viz., godwit, oyster-catchers, plover, turnstones, stilts, etc., that depend on the mud-sand flats for their food supply. viz., worms, crustacea and vegetable matter. Swans do not feed entirely on water plants, they have just about denuded Awarua Bay from end to end of the very young flounders on the breeding grounds. This applies also the New River Estuary (Oreti).

"Despite the opinion that the godwit population has decreased so markedly, it is interesting to note that nowadays many more remain behind during the winter months and consequently miss their long migration flight to their breeding grounds. The general impression was that only the weak or wounded birds stayed behind: this is not borne out by close observation



of the many birds that winter here. Without exception, they appeared to be quite well-conditioned and strong on the wing. The last observation made was only in May 1950 at Sandy Point, about 10 miles from Invercargill (New River Estuary location). Two separate mobs were counted: in one there was 77 and the other 33 birds. In the larger area and more intensive population, at the head of Awarua Bay, one can safely surmise that many more than the numbers mentioned wintered there. Godwit shot about the end of March, partly in their chestnut brown summer plumage, were always in the pink of condition. The white-breasted, winter-plumaged birds varied in this respect. Curlew and knot, invariably associated with the godwit, are now rarely seen.

"About 35 years ago, on the New River (Oreti) Estuary, I observed when godwit were very numerous, a huge assembly preparatory to migrating north. It was high water at the time, we were in a launch and ran in amongst them and anchored. They appeared to take little notice of us and were making a great noise and performed all manner of evolutions, flying in battalions in line, corkscrewing and spiralling, in huge V formation, in long lines, suddenly ascending almost vertically and descending somewhat in the same manner! The whole performance was a strenuous one and it appeared as if they were having a try-out of physical fitness for the long migratory flight to the north! It was quite obvious that the stronger and bigger birds were in the van and the whole performance lasted for a good hour or more without rest. They then made for Oreti Beach, near the mouth of the Estuary. Next day again, for a good two hours, at high water, they repeated the previous day's performance. The following day there appeared to be none left. Previous to the two days' activities we were not on the scene and could not say if more of these performances had been carried out. It was a sight to be remembered, as there was possibly 4,000 to 5,000 godwit constantly on the wing during the time they were seen."

Mr. Royes, who also has an inmate knowledge of Southland estuaries, considered that in the winter of 1952 an unusually large number of godwits wintered there. The winter, incidentally, he regarded as the mildest one he could remember. On July 6, at Awarua, he saw one flock of over 200 and another of 53, the latter feeding in a pool of surface water in a pasture. On July 13, he walked from the road entrance at Awarua Bay to Joey's Island, a distance of about four miles, and found the godwit to be as numerous as he had seen it in February. Altogether, he saw 400 to 500 birds.

	Summer.	Winter.
Nelson .....	4,000	?
Motucka .....	?	?
Takaka-Collingwood .....	400	?
Farewell Spit .....	thousands	?
Westhaven Inlet .....	sev. hundreds	?
Okarito Lagoon .....	some hunds.	?
Wairau .....	500	?
Heathcote-Avon Estuary .....	3,000	600
Lake Ellesmere .....	?	?
Blueskin Bay-Otago har. ....	3,000	?
Waikawa Harbour .....	1,000	?
Awarua Bay .....	4,000	500
Oreti Estuary .....	1,500	?
Aparima Estuary .....	400	?
Paterson Inlet .....	2,000	?

The unknown populations of Farewell Spit and Lake Ellesmere would substantially increase the figures indicated above as the total South Island population, though, again making liberal allowance, it is difficult to see how that total could exceed 100,000; probably it is much less.

## CONCLUSIONS.

The result of this inquiry is so incomplete—considerably more information could reasonably have been expected to be available—that it is a great disappointment to the writer. However, as a preliminary investigation of the status of the godwit in New Zealand, it emphasises perhaps more than anything else the scope for field investigations of this wader's haunts. Personal investigation of all districts is the most satisfactory way to ascertain the facts but this entails much travelling and time. As it is, I have visited at one time or another, almost all the principal godwit haunts in New Zealand, though many were seen before I had this inquiry in view.

To those who placed information at my disposal, I wish to express my thanks, especially to Mr. Frank Newcombe, of the Wildlife Division, Department of Internal Affairs, for his valuable assistance in many ways, and to Messrs. Moffet and Royes, of Invercargill, for their information regarding the Southland estuaries. I am grateful, also, to the members of the Ornithological Society, from whose published notes I have gathered much data, and to Mr. D. Urquhart for kindly making available one of his excellent photographs of godwits.

## SUMMARY.

A preliminary investigation of the status of the godwit in New Zealand suggests that its summer population here does not exceed 200,000.

The indications are that its migratory route to and from Siberia and New Zealand are in a much more direct, north to south, movement than has been usually accepted and is not by way of the Malay Peninsula.

Considerably more field work is required to make a more accurate assessment of the numbers of godwit in New Zealand.

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