

DISPERSAL OF NEW ZEALAND GANNETS.

By P. A. S. Stein and K. Wodzicki.

During the past four seasons, 1685 gannet chicks have been ringed in New Zealand—557 at the Plateau gannetry near Cape Kidnappers by F. H. Robertson and K. Wodzicki, and 1128 at Horuhoru, in the Hauraki Gulf, by P. A. S. Stein. The following notes are a preliminary account of 44 recoveries made up to the time of writing. The recovery data for these birds are recorded in Tables 1 and 2 and illustrated in figures 1 and 2.

Recoveries of ringed birds in Australia show that within a few weeks of leaving the nest many of the young birds reach New South Wales, while others find their way to Victoria and even to South Australia.

All the fledglings from the two breeding stations may not follow the same route to Australia. Seventeen of the chicks have been recovered in New Zealand during the period when their companions were making for Australia. The eight from Horuhoru have all been picked up on the east coast of the North Island, but of the nine Plateau recoveries, five have been on the west coast. Two of these, it is true, were north of Auckland, and one had been away from Kidnappers for over a year. The other two, however, were near Cook Strait, as if some birds on their journey to Australia first fly south and then west through Cook Strait.

RECOVERIES IN NEW ZEALAND.

The Plateau fledglings found on the east coast have all been between Cape Kidnappers and the Firth of Thames. The one nearest home was 19441, found at West Shore, Napier, only 20 miles away, a few days after its departure. Last year 15486 managed to travel 50 miles to Portland Island before it died, and 15351 reached Ohope Beach in the Bay of Plenty, 250 miles away. It was sick when found and died soon afterwards. This season there was a further report of a ringed gannet near Tauranga, but the finder buried the corpse without examining the ring. The other recovery was in 1951 when a sick chick was caught at Kereta in the Firth of Thames. It was 450 miles from home and had been ringed two months before it was found. This bird also died soon after it was picked up.

Only a few fledglings have been seen leaving the Plateau at Cape Kidnappers, but all of them have flown away to the north-east, and have continued in that direction until they were out of sight. Over a hundred have been seen departing from Horuhoru in their initial flight. The direction of the wind usually had little effect on the direction of flight. Once they were clear of the island, all but six have flown away on courses between north-west and north-north-west. Most of the birds flew for nearly a mile before they crash-landed in the water. A few, by accident, have landed nearer Horuhoru, while they were still clearly in sight. They have continued to paddle towards the north-west. None has been able to take completely to the air again, but several have been able to flap along for a few yards before sinking back on the water and resuming paddling. Several on the point of departure from Horuhoru, have fallen from the cliffs and, after hitting the water, have paddled away to the north-west without attempting to fly.

Thirteen miles east of Horuhoru, at the Coromandel colonies, four young birds were seen departing from Bush Island, twelve from Motutakapu and one was found paddling a short distance to the north. All 17 travelled north-west.

Some, however, must eventually have moved to the south. In the autumn of 1954, four to five-months-old gannets have been reported fishing near Miranda in the Firth of Thames, and one was seen in the Waiheke Passage, flying south-west. Three were recovered in the Firth. The first, No. 19734, was found on 19th January, 1954. The chick had been dead for some days. It was ringed on the 9th and would not have been far enough advanced to fly away before the 20th. We must assume that it fell from North Cliff, where it was reared, and drifted 20 miles across the Gulf

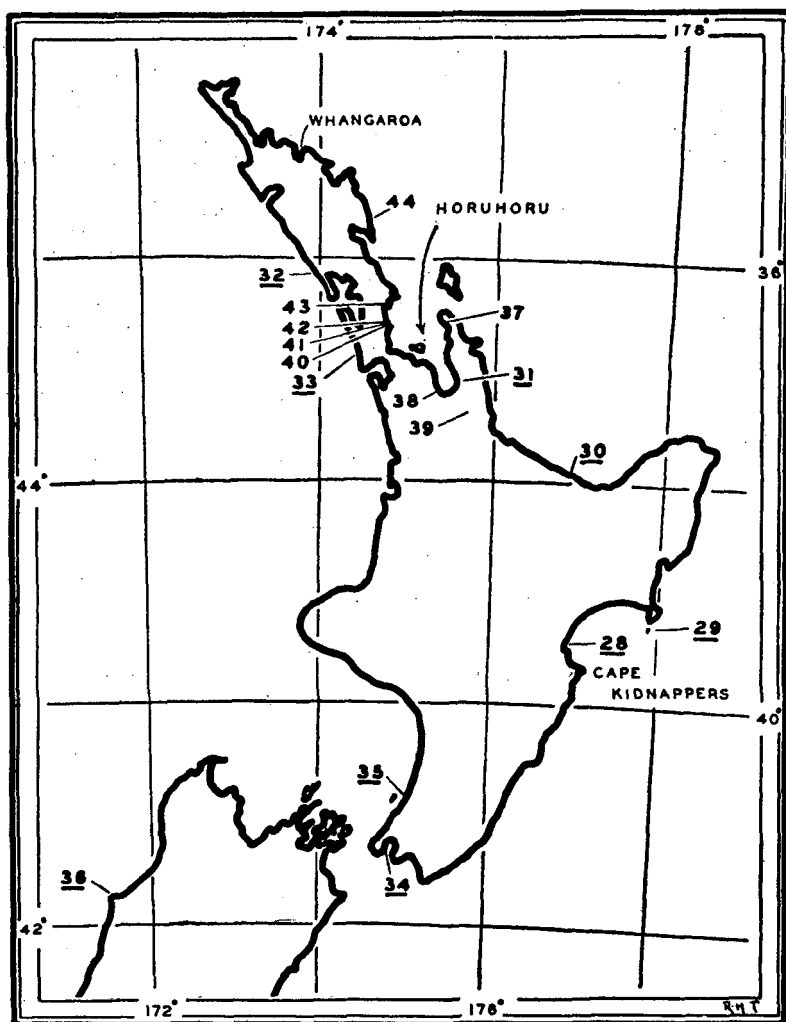


FIG. 1.

Recoveries of Gannets in New Zealand. Numerals underlined (28-36) indicate recoveries from Plateau, Cape Kidnappers, and other numerals (37-44) indicate recoveries from Horuhoru (Table 2).

to where it was found at Otautu, near Colville. At Whakatiwai, 20 miles south of Horuhoru, a chick was washed ashore, and only a dried leg with ring 19907 remained when it was found, 12 weeks after leaving the island. After a fierce northerly gale which had lasted for two days, 19877 was found at Onahu, half-way along the Thames-Paeroa highway, many miles inland. All the other recoveries of Horuhoru birds and sight records of fledglings in New Zealand have been north and west of Horuhoru.

On 4th April, 1954, at the Noises—a group of small islands about 12 miles west-north-west of Horuhoru—G. J. H. Moon and R. B. Sibson saw ten young gannets, making both deep and shallow dives for fish. Twenty miles further north-west, in the area between the Whangaparaoa Peninsula

and Kawau Island, there are two sight records and four recoveries, all within 35 miles of Horuhoru. An angler fishing at the mouth of the Matakana River on 18th February 1954, caught with his line gannet 19898, 11 days after it had left home. It was not very interested in flying, and when released simply paddled away again. A few days earlier, G. J. H. Moon had reported nine young gannets making shallow dives in this area. One of them was close enough for him to see that it had a ring on its leg.

After the fierce gale at the beginning of March, 1954, two chicks, 20092 and 19678, were picked up dead near Manly; and a week later 19918 was found at Orewa. These birds had left Horuhoru between four and seven weeks before they were recovered.

At Tutukaka Harbour, another 20 miles to the north, gannet 15704 took refuge on 28th February, 1953, having travelled the 80 miles from its home in five days. It had been shot in one wing and was cared for by R. S. Mackenzie. It stayed in Tutukaka Harbour throughout March, fishing by floating on the surface and dipping its head under water. It made many attempts to fly. It soon could travel along the surface of the water at nearly flying speed, but it did not succeed in becoming airborne. In early April it departed, and was last seen over a mile off-shore, flapping its way north.

The northernmost reports in New Zealand come from Whangaroa, which is 160 miles from Horuhoru. Here T. M. Roberts, who is engaged in deepsea fishing, has for some years recorded the numbers of young gannets passing north. They travel singly, or in twos, and never in the company of adults. On some days none are sighted. In 1954 the figures for February and March were:—

Date 1954	No. of young Gannets	Date 1954	No. of young Gannets
16 Feb.	1	8 Mar	3
20	2	10	1
22	1	13	4
23	1	14	1
25	2	15	1
28	2	20	1
1 Mar.	1	25	2
2	1	30	1
5	1	31	2

These birds may, of course, have come from any of the breeding stations on the east coast of the North Island. In previous years the birds have flown steadily without stopping to feed; this year a few of them have been seen catching piper on their way north.

These records suggest, therefore, that during the late summer and autumn many of the fledglings from both Kidnappers and Horuhoru make their way along the east coast towards North Cape.

Two of the Plateau birds found on the west coast were north of Auckland and may have travelled round the North Cape too. In May 1952, 15423 was found dead at Muriwai four months after it had been ringed, and in April 1953, 15892 was found near Dargaville three months after ringing.

Some young birds from the Plateau, however, make their way along the east coast south. On April 6, 1952, at the Pahaua River mouth, East Coast, about 150 miles south of Plateau, R. H. D. Stidolph observed young gannets flying south, some in company with adults—of six birds in one party, two were young; another of five had two young and in another instance three young were flying together. Three recoveries suggest that some birds travel through Cook Strait. In 1954, 19413 was found with a broken wing at Wellington, and in 1951, 15291 was picked up after a storm at Packakariki. In each case the bird was recovered in April, three months after ringing. The third bird, 15364, was found at Cape Foulwind in September 1953, but it had been ringed in January 1952 and nothing is

known of its wanderings in the many months that followed its departure from the Plateau.

RECOVERIES IN AUSTRALIA.

Twenty-two birds have been recovered in New South Wales—11 from Kidnappers Plateau and 11 from the Hauraki Gulf. In addition, five Horuhoru chicks have found their way further south. When the recoveries are tabulated in geographical order from north to south, it becomes apparent that the Kidnappers birds are recovered in warmer seas than are the chicks from Horuhoru. The 27 recoveries are spread over 10 degrees of latitude, from 28° S. to 38° S. If this is divided into three zones, as follows: (1) north of 30°; (2) from 30° to 34°; (3) south of 34°; we find that there are four Kidnappers birds in the northern zone and seven in the central one. The Horuhoru birds have three in the central zone and 13 in the southern. While 11 birds ringed at Plateau (39°39'S) made landfalls from 28° S. to 34° S., 16 ringed at Horuhoru (36° 43' S.) spread over latitudes from 30° S. to 38° S.

In the northern zone, one bird was found on 29th May 1952 and this year three birds were found between 25th April and 29th May. All were recovered three or four months after being ringed. After it had been tangled in a fishing line, 19418 was released without the ring being removed.

It was in latitude 31° S. that the first two ringed gannets were recovered in March 1951, two months after they had been banded at

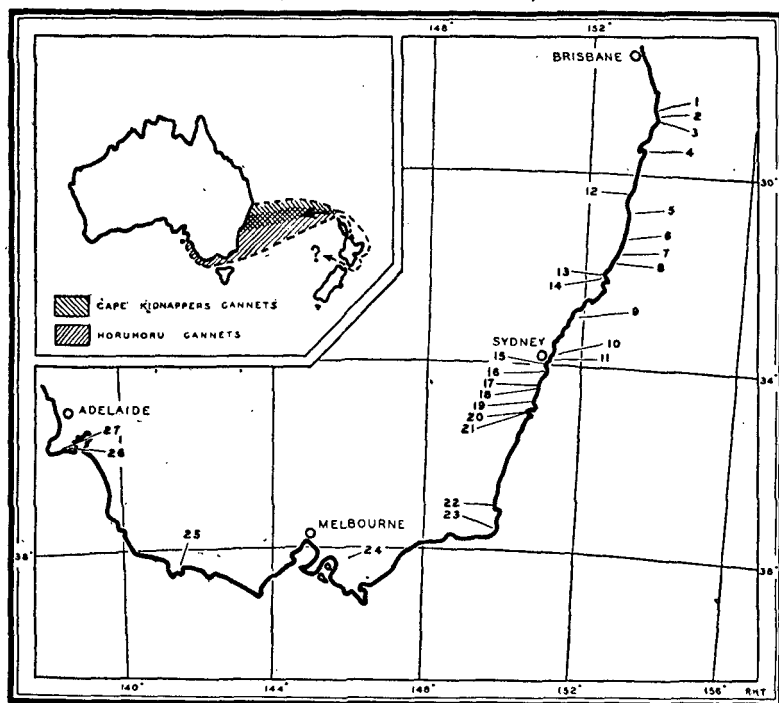


FIG. 2.

Recoveries of gannets in Australia. Numerals on seaward side (1-11) indicate recoveries from Plateau, Cape Kidnappers, and numerals on landward side (12-27) indicate recoveries from Horuhoru (Table 1). Inset: Diagram showing the northern trend of Plateau birds contrasted with the southern trend of Horuhoru recoveries.

Kidnappers. One, 15275, was dead near Port Macquarie, and the other, 15258, was exhausted and died soon afterwards at Harrington Beach. The following year another was washed up at Smoky Cape, and this year No. 19464 became tangled in a net in the river at Camden Haven. Its ring was not removed, so we may hear of it again. Further south, at Norah Head, 15460 was found late in March, 1953, not long after it had been ringed (2nd February) and 15491, ringed on the same day arrived two months behind its companion at La Perouse, which is 70 miles further south. In June 1954, 19422 was found dead at Kurnell five months after having been ringed.

The most northerly arrival from Horuhoru was 20083, which was found with a broken wing at Nambucca Heads, 240 miles north of Sydney, on 16th April 1954. It had left Horuhoru 10 days earlier, on 6th April. This is not the fastest crossing from Horuhoru to New South Wales (1,500 miles). In 1953, 15785 was washed up in bad weather at Forster, 100 miles to the south, on the eighth day after leaving Bush Island, which is 13 miles to the east of Horuhoru.

TABLE 1

AUSTRALIAN RECOVERIES

A. PLATEAU BIRDS, RECOVERED IN NEW SOUTH WALES

Map Ref.	Ring No.	Date		Locality 28°S. to 30°S.	Lat.S.	Long.W.	Distance Miles	Time between departure and recovery
		*At Gannetry	Recovered					
1	19418	18.1.54.	1.5.54.	Ararawarra	28°37'	153°37'	Approx. 1,800 miles round North Cape	No time recorded
2	15484	23.1.52.	29.5.52.	S. of Cape Byron	28°43'	153°37'		
3	19404	18.1.54.	25.4.54.	Bollina	28°45'	153°35'		
4	19482	8.2.54.	29.5.54.	Cherwell River	29°25'	153°21'		
				30°S. to 34°S.				
5	15409	23.2.52.	-5.52.	Smoky Cape	31°4'	153°4'		
6	15275	15.1.51.	22.3.51.	Port Macquarie	31°25'	152°55'		
7	19464	18.1.54.	11.4.54.	Camden Haven	31°38'	152°49'		
8	15258	15.1.51.	20.3.51.	Harrington Beach	31°50'	152°42'		
9	15460	2.2.53.	28.3.53.	Norah Head	33°9'	151°37'		
10	19422	18.1.54.	16.6.54.	Kurnell	34°	151°15'		
11	15491	2.2.53.	19.5.53.	La Perouse	34°2'	151°12'		

B. HORUHORU BIRDS RECOVERED IN AUSTRALIA

IN N.S.W.

12	20083	4.4.54.	14.4.54.	Nambucca Heads	30°38'	153°2'	1500	10 days
13	15785	26.4.53.	4.5.53.	Forster	32°11'	152°32'	1500	8 "
14	19718	4.2.54.	30.7.54.	Sugarloaf Point	32°28'	152°31'	1500	179 "

34°S. to 38°S.

15	19948	21.2.54.	24.4.54.	Port Hacking	34°5'	151°10'	1500	62 "
16	20091	4.3.54.	19.4.54.	Coalcliff	34°16'	150°59'	1500	46 "
17	15674	25.2.53.	30.1.54.	Wollongong	34°26'	150°54'	1500	339 "
18	19652	2.2.54.	27.2.54.	Port Kembla	34°30'	150°54'	1500	25 "
19	19788	24.1.54.	8.7.54.	Werrri Beach	34°45'	150°50'	1500	165 "
20	15774	6.3.53.	23.3.53.	Wreck Bay	35°12'	150°40'	1500	17 "
21	19449	3.2.54.	25.7.54.	Jervis Bay	35°12'	150°40'	1500	172 "
22	19862	24.1.54.	4.3.54.	Twofold Bay	37°5'	149°55'	1500	39 "

IN VICTORIA

23	19719	4.2.54.	1.6.54.	Gabo Is.	37°35'	149°55'	1600	110 "
24	20086	4.2.54.	6.3.54.	Korumburra	38°26'	145°50'	1900	30 "
25	19686	20.1.54.	13.2.54.	Portland Bay	38°20'	141°50'	2200	24 "

IN SOUTH AUSTRALIA

26	19890	24.1.54.	18.2.54.	Port Elliot	35°32'	138°41'	2400	41 "
27	19847	24.1.54.	5.2.54.	Victor Harbour	35°33'	138°37'	2400	12 "

*Note: Date at gannetry gives the ringing date for Plateau birds and the estimated departure date for Horuhoru birds.

TABLE 2

NEW ZEALAND RECOVERIES

A. BIRDS RINGED AT THE PLATEAU, CAPE KIDNAPPERS

Map Ref.	Ring No.	Date		Locality	Lat.S.	Long.W.	Dist. since departure & recovery Miles	Time between recovery
		at Gannetry	Recovered					
28	19441	18.1.54.	6.3.54.	West Shore	39°29'	176°58'	20	No time recorded
29	15486	2.2.53.	17.5.53.	Portland Is.	39°16'	177°51'	50	
30	15351	2.2.53.	22.3.53.	Ohope	37°57'	177°02'	250	
31	15262	24.2.51.	22.4.51.	Kereta	36°52'	175°26'	430	
32	15892	2.2.53.	26.4.53.	Dargaville	35°57'	173°45'	770	
33	15423	19.1.52.	-5.52.	Muriwai	36°41'	174°20'	840	
34	19413	18.1.54.	13.4.54.	Wellington	41°16'	174°50'	230	
35	15291	15.1.51.	12.4.51.	Peekakariki	40°39'	174°56'	250	
36	15364	19.1.52.	8.9.53.	Poulwind	41°43'	171°28'	?	

B. BIRDS RINGED AT HORUHORU

37	19734	? #4.	19.1.54.	Colville	36°39'	175°26'	20	?
38	19907	26.1.54.	17.4.54.	Miranda	37°09'	175°18'	20	?
39	19877	20.1.54.	12.3.54.	Thames Paeroa	37°18'	175°39'	70	46 days
40	19678	20.1.54.	10.3.54.	Starmore Bay	36°37'	174°44'	30	49 "
41	20092	3.2.54.	5.3.54.	Red Beach	36°36'	174°43'	30	30 "
42	19918	7.2.54.	17.3.54.	Orewa	36°35'	174°42'	30	38 "
43	19898	7.2.54.	18.2.54.	Matakana	36°23'	174°44'	40	11 "
44	15704	23.2.54.	28.2.54.	Tutukaka	35°37'	174°32'	80	5 "

*Note: Date at gannetry gives the ringing date for Plateau birds and the estimated departure date for Horuhoru birds.

Two were found just south of Sydney, 19948 (a very old corpse) at Port Hacking two months after the bird had left Horuhoru, and 20091, found at Coalcliff Beach "a week or two" after it had died, may have taken a month on the journey. Then 15674, ringed over a year before, was recovered at Wollongong. It had been away from Horuhoru for eleven months. A detailed description of this bird would have been most valuable, as we are not sure how much change takes place in their plumage from year to year. In 1953, sixteen days after its departure, 15774 arrived at the Aboriginal Station in Jervis Bay. Exhausted and starving, it died the same day. The manager of the Station forwarded a photograph of the chick and a detailed account of its condition.

Two hundred and fifty miles to the south of Sydney, the trawler "Douglas Peter" was fishing four miles off Twofold Bay on 4th March 1954 when 19862 landed on the deck among the fish there. It was ravenous. Five weeks had elapsed since its departure from Horuhoru.

Three birds have reached Victoria. Two fishermen found 19719 on the beach four miles south of Gabo Island, near Cape Howe, and it seemed to have been dead for about a week. It had taken 15 or 16 weeks on the 1600-mile journey and it had died although it was in an area with abundant food. Very few gannets go far from the sea. Korumburra is 50 miles from Melbourne and 18 miles inland from Bass Strait. Here 20086, a month after leaving Horuhoru, 1900 miles away, flew into the telegraph wires and broke its neck. Portland Bay, in far-Western Victoria, is 2200 miles from Horuhoru. Here 19686 was swept up on the beach 24 days after it had left home. It was very much alive, but starving, and "nothing but a bundle of feathers."

The two young birds which reached South Australia were of the same age and had been brought up within a few yards of each other on Horuhoru. They left the gannetry on the same day, 24th January 1954, and, after travelling 2400 miles, died within four miles of each other about 50 miles south of Adelaide. But while 19890 took 25 days to reach Port

Elliot, 19847 was picked up dead at Victor Harbour only 12 days after leaving home.

From the records of these 44 birds, many things have been learned about their movements along the coast of New Zealand and about their journey to Australia; but more remains to be learned before a full picture of gannets' dispersal is unfolded. Every new recovery of a ring, together with a description of the appearance of the bird, its condition and locality, forwarded to the Dominion Museum, Wellington, will be of greatest assistance to this study.

ACKNOWLEDGMENTS.

We are greatly indebted to Mr. R. H. Taylor for drawing the maps.

REGIONAL ORGANISERS.

The list of Regional Organisers is now as follows:—

Southland (including Stewart Island)—Mrs. C. A. B. Smith, Home Street, Winton.

Otago—Mr. Brian Ellis, 145 Highcliff Road, Shiel Hill, Dunedin.

Westland—Mr. J. R. Jackson, 49 Milton Road, Greymouth.

Canterbury—Mr. E. W. Dawson, 271 Papanui Rd., Merivale, Christchurch.

Marlborough—Mr. B. D. Bell, 6 Graham Street, Blenheim.

Nelson—Mr. L. Gurr, c/o The Cawthron Institute, Nelson.

Wellington—Mr. Kaj Westerskov, c/o Department of Internal Affairs (Wildlife Division), Wellington.

Wairarapa—Mr. J. M. Cunningham, 39 Renall Street, Masterton.

Manawatu—Mr. E. Dear, Kopane R.D., Palmerston North.

Wanganui—Rev. H. W. Austin, c/o Collegiate School, Wanganui.

Taranaki—Vacant.

Hawke's Bay—Mr. D. H. Brathwaite, 11 May Avenue, Box 360, Napier.

Gisborne—Mr. A. Blackburn, 10 Score Road, Gisborne.

Rotorua-Taupo—Mr. M. J. S. Black, "Savernake," Tarewa Road, Rotorua.

Bay of Plenty—Vacant.

Waikato—Vacant.

South Auckland—Mr. H. R. McKenzie, Clevedon.

Auckland—Mr. J. C. Davenport, 718 Remuera Road, Remuera, Auckland.

North Auckland—Vacant.

Far North (from the Tronson Park northward)—Mr. D. G. McMillan, c/o D.H.S., Kawakawa.

APPOINTMENT OF OFFICERS—The following appointments have been made by the Council: South Island Vice-President, Mrs. L. E. Walker, of 15 Cornwall Street, Vauxhall, Dunedin. (in place of the late Mrs. Tily); North Island Vice-President: Mr. P. C. Bull, of 131 Waterloo Road, Lower Hutt (in place of Mr. H. R. McKenzie who held this position until his election as President); Council Member, Mr. L. Gurr, of the Cawthron Institute, Nelson (in place of Mrs. Walker).

CORRESPONDENCE.

(To the Editor.)

Sir,—I have received a request from Dr. Brina Kessel, University of Alaska, College, Alaska, for information on the starling (*Sturnus vulgaris*) in Australia and New Zealand. Dr. Kessel is concerned with the geographic distribution of the starling and requires some up-to-date information along the following lines: (1) Date and localities of introduction into Australia and New Zealand; (2) present distribution of the starling in Australia and New Zealand, especially in relation to major climatic and vegetational areas. I would be grateful to anyone who could assist me in meeting this request. Any such data may either be sent to me or direct to Dr. Kessel.—I am, etc., E. W. Dawson, Department of Zoology, Canterbury University College, Christchurch.