

## WIND AND WADERS Southland, January, 1969

By *PETER MULLER*

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### INTRODUCTION

In January, 1963, a field study course, the second to be held under the auspices of O.S.N.Z., was staged in Southland and attended by 29 persons, 19 full time and 10 part time. For many years before 1963, the large tidal lagoons and estuaries of the Southland coast had tantalized ornithologists because of their largely unknown value as habitat for waders, terns, and gulls. The course was therefore organized with the objects of (a) exploring the coastal area from Te Waewae Bay eastwards to Toetoes Harbour as fully as possible to assess its ornithological value and the best means of studying it in the future, and (b) to extend the experience of local members to include the birds and places seen during the course.

Bad weather severely restricted the activities of those who attended the 1963 course and part of the programme had to be abandoned, but all areas except Awarua Bay and Bluff Harbour were fully covered and one visit was made to Awarua Bay. The course resulted in a better knowledge of where to go and what to look for along the Southland coast, and subsequent studies, isolated and inadequate as they were, were based on information gained in 1963. By 1967 it was felt by Southland members of the Society that an effort should be made to consolidate and extend the knowledge gained in 1963, and at the council meeting held at the time of the annual meeting in Dunedin, a further field study course, to be held in Southland in January, 1969, was authorized. The dates eventually chosen were January 17 to 24.

### ORGANIZATION

As headquarters for the 1969 course, the Southland committee, ably led by the Regional Representative, Roger Sutton, was fortunate in obtaining the Southland Children's Holiday Camp at Omaui, 16 miles from Invercargill. The camp was ideally situated on an elevated site overlooking the Oreti River estuary and the long sweep of Oreti Beach from the estuary outlet to Riverton. Behind the beach immediately below the camp was a small lagoon which usually held a cross-section of the common local waders and, to the west, a walk along a rocky shore was possible. The camp was about the centre of the section of coastline being studied and none of the study areas was more than about 30 miles distant. The most rewarding wader areas were within half an hour's drive of the camp, although in some cases a boat trip had then to be undertaken. The main building at the camp was divided into men's and women's dormitories by a central dining hall and, in addition, held a number of private rooms. Cabins attached to the camp were also used. Because of the balance of the sexes, it was possible to convert part of the women's dormitory into a lounge and it was there that discussions and slide evenings were held. A feature of the camp was the cuisine, with such local delicacies as venison, toheroa and flounder prominent on the menu. No one complained of feeling hungry although long walks worked up some

healthy appetites. Both catering and housekeeping were efficiently organized by Mrs. Maida Barlow, and the cooking was in the capable hands of Mrs. Margaret Peterson, enthusiastically assisted by Miss Denise Lobb. That Mrs. Peterson's efforts were specially appreciated was apparent when northern participants in the course clubbed together to make her a presentation on the final evening of the camp.

### PROGRAMME

As originally planned, the programme provided for a leisurely first day of familiarization, with a visit to the top of Bluff Hill to view the area as a whole followed by an intensive course in wader identification and number assessment at one of the main roosting areas on the Oreti River estuary. The next day was to be devoted to a comprehensive census of wading birds in the area between Toetoes Harbour and Riverton Harbour. Once the whereabouts of the birds had been established, it was planned to allow those attending the course to visit areas of their own choice as far as possible. A stormy day alternative of an ornithological assessment of an exotic forest at Pebbly Hills, near Mātaura, was also scheduled. In the event, the weather forecast for the Southland coastal area for the week-end of January 18 and 19 suggested that it would be wise to put the census forward to the Saturday, and this was done. The wisdom of this course was soon apparent, for Saturday, January 19, proved to be the best day of the week and the census was conducted in perfect weather. On the following day, strong north-westerly winds presaged a cold front which passed over with little rain just before midday. The front was followed by gale-force south-westerlies, and winds from this quarter persisted in varying strength until Wednesday, January 22. The final day of the course, Thursday, January 23, was again fine and calm, and the participants dispersed in perfect weather on the following day.

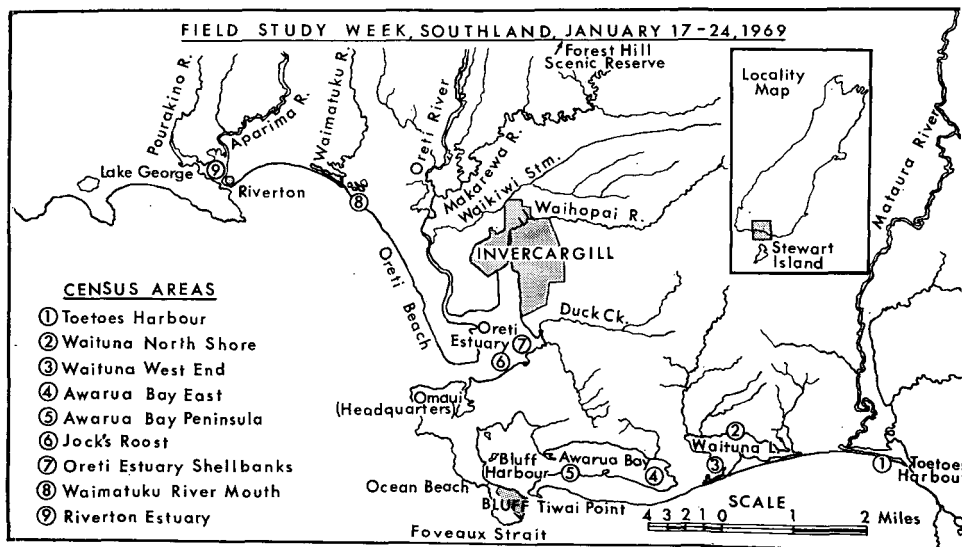
While the programme was disrupted to the extent that the winds prevented the use of boats on all but two or three days, outdoor activity was never brought to a standstill and most people were able to get to all the favoured wader localities. That the stormy day alternative, the exotic forest assessment, was not carried out indicated that conditions on the coast never became impossible, although the high winds on some days made effective use of binoculars and telescopes difficult. On the other hand, in windy weather it was usually possible to approach roosting flocks and individual birds more closely than would have been tolerated by the birds in calm conditions. High winds accompanying high tides (up to 9.3 ft.) also meant that the birds were driven well up on the roosts, making observation easier than during calm weather coupled with smaller tides.

In addition to field trips to the main wader areas covered in the census, a number of other visits were made to places of ornithological interest. The trip to the top of Bluff Hill (860 ft.) was made, although not at the start of the week as planned, but if members did not get a preview of the areas they would later visit, they had the opportunity to view the site for the aluminium smelter to be built on Tiwai Point in Bluff Harbour. Disposal of effluent from this plant is expected to result in some limitation of wader habitat in Awarua Bay, and perhaps further east, but the extent of the modification can be only a matter for speculation at this stage.

Twelve non-Southland members made a day excursion to Stewart Island on Wednesday, January 22, and were rewarded with a good selection of sea birds, bush birds, and waterfowl. A small party visited Lake Hauroko, Fiordland National Park, the same day. An island in this lake is the site of the recently-discovered Maori burial cave. On Tuesday, January 21, all those attending the course visited the aviary of Mr. and Mrs. S. L. Lobb, of Gorge Road, where they were entertained at morning tea. In addition to a colourful array of exotic birds, the aviary contains Keas (*Nestor notabilis*) raised in captivity.

Later that day, a beach patrol was undertaken at Oreti Beach to obtain specimens for subsequent identification. The patrol brought forth a Short-tailed Shearwater (*Puffinus tenuirostris*), a Sooty Shearwater (*P. griseus*), a Broad-billed Prion (*Pachyptila vittata*), a Fairy Prion (*P. turtur*), a Southern Diving Petrel (*Pelecanoides chathamensis*), and a Black-browed Mollmawk (*Diomedea melanophris*). These and other specimens were dealt with by F. C. Kinsky in an evening lecture on the identification of beach patrol specimens. Other evening lectures were given by R. B. Sibson (wader identification), J. Mackintosh (rare flora and fauna of Solomon Island), and Mrs. M. L. Barlow and R. R. Sutton (study of the Spur-winged Plover (*Lobibyx novaehollandiae*) in Southland). In addition one evening was given over to discussion of possible identification of two puzzling birds discovered at Lake Hayes. The discussion was chaired by R. B. Sibson and others taking part were Dr. R. A. Falla, F. C. Kinsky and Dr. R. F. Smith.

During the week two parties visited the Forest Hill Scenic Reserve, 20 miles north of Invercargill, and obtained good views of Brown Creeper (*Finschia novaeseelandiae*) and Rifleman (*Acanthisitta chloris*). One section of the programme that created more than usual



interest was a demonstration of bird trapping methods. Many of the traps displayed were designed and built by S. L. Lobb, of Gorge Road, and used by him at his banding-station. Mist nets and traps for small passerines, drop and clap traps used in the Spur-winged Plover study (also designed and built by S.L.L.), and an Australian trap for water-fowl used by the Southland Acclimatisation Society were on display.

### PERSONNEL

Thirty-eight members took part in the course, 32 of them for the whole of the period. Full time attenders were: Dr. and Mrs. I. G. Andrew (Palmerston North), Mrs. M. L. Barlow (Invercargill), P. Child (Alexandra), Miss J. Coles (Auckland), Dr. R. A. Falla (Wellington), Miss M. M. Davis (Christchurch), J. Drew (Wildlife Branch, Wellington), Miss J. K. Edgar (Christchurch), Mrs. E. L. Fooks (Auckland), R. Gray (Dunedin), L. E. Henderson (Invercargill), H. K. Jukes (Woodlands), W. M. Jukes (Springhills), F. C. Kinsky (Wellington), O. J. Linscott (Thornbury), S. L. Lobb (Gorge Road), Miss M. A. Miller (Invercargill), Mr. and Mrs. P. M. Muller (Invercargill), Miss M. Neil (Wellington), G. Nye (Christchurch), R. Pierce (St. Andrews), Mrs. S. M. Reed (Auckland), R. B. Sibson (Auckland), Dr. R. F. Smith (Dunedin), J. C. Smuts-Kennedy (Wildlife Branch, Wellington), Dr. and Mrs. M. F. Soper (Arrowtown), R. R. Sutton (Invercargill), L. Woods (Te Anau), G. Woodward (Lower Hutt). Part-time attenders were: C. E. Barlow (Invercargill), R. Houston (Gorge Road), C. McKay (Mataura), I. A. Mathieson (Lumsden), Mrs. O. A. B. Smith (Winton), and P. Sutton (Invercargill). In addition, two members of the National Film Unit, G. Foster and D. Pomeroy, attended for four days and gathered some material on waders for a series which is being made in colour for overseas television distribution on New Zealand nature topics.

### AREA COVERED

For the census, taken on Saturday, January 18, nine parties were formed, each with an experienced ornithologist and a local guide, and sent to the following areas:

Toetoes Harbour (the estuary of the Mataura River at Fortrose).

Waituna Lagoon (two parties, one of which covered the northern shore and Little Waituna on foot, while the other went by boat to the west end to cover the area of the outlet, Walker Bay, Swan Bay and the remainder of the western shore).

Awarua Bay (two parties, one covering the east end on foot and the other crossing the bay by boat to cover the roosts on the peninsula which juts out from Tiwai Point).

Oreti River estuary (two parties, one covering the eastern shore and the shellbanks, and one the southern shore from the area known as Jock's Roost to Mokomoko Inlet).

Waimatuku River mouth (the river outlet and lagoons adjacent to the beach).

Riverton estuary (the estuary of the Aparima and Pourakino Rivers).

Odd groups of waders are to be found at other areas along the Southland coast but the areas chosen for the census were believed to cover the main concentrations of birds as disclosed by the census taken in 1963 and subsequent observations.

TABLE 1

Species	Toetoes Harbour		Waituna Lagoon		Awarua Bay		Oreti R. Estuary		Waimatuku R. Mouth		Riverton Harbour		Census Totals	
	1969	1963	1969	1963	1969	1963	1969	1963	1969	1963	1969	1963	1969	1963
Black Shag	2	-	12	10	1	2	43	6	13	1	11	22	82	41
Pied Shag	2	2	-	1	-	1	-	-	-	1	5	12	7	17
Little Black Shag	-	-	-	3	-	-	-	-	-	-	-	-	-	3
White-throated Shag	20	2	16	13	17	6	14	11	-	1	35	3	102	36
Stewart Island Shag	-	6	-	1	5	1	3	-	-	-	3	-	11	8
Spotted Shag	-	20	-	-	-	-	-	-	-	-	-	-	-	20
White-faced Heron	27	-	29	35	15	27	226	106	30	2	58	88	385	258
Bittern	-	1	-	2	-	-	-	-	-	-	-	-	-	3
Royal Spoonbill	-	-	1	-	-	-	-	-	-	-	-	-	1	-
Canada Goose	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Black Swan	-	-	302	231	-	3	966	1098	57	42	-	121	1345	1495
Paradise Duck	-	-	-	-	-	-	-	-	4	-	9	-	13	-
Grey Teal	-	-	-	-	-	-	-	-	-	3	3	3	3	3
Grey Duck	19	-	11	98	-	4	-	6	-	3	1	24	31	135
Mallard	1	-	157	57	-	-	-	47	11	-	1	56	170	160
Shoveler	-	-	5	-	-	-	-	-	-	-	2	-	5	2
Pukeko	-	-	-	-	-	-	-	-	4	-	-	-	4	-
S.I.P. Oystercatcher	452	152	78	203	453	204	2150	3768	98	-	1088	650	4319	4957
Black Oystercatcher	10	4	3	8	-	-	-	-	-	-	2	-	13	14
Spur-winged Plover	31	-	50	23	9	13	91	-	124	4	17	9	322	49
Grey Plover	-	-	2	-	-	-	-	-	-	-	-	-	2	-
Golden Plover	-	-	24	18	43	4	45	81	-	-	-	-	112	103
Banded Dotterel	54	31	46	317	77	177	243	557	-	11	-	-	420	1093
Black-fronted Dotterel	-	-	-	-	-	-	-	-	-	1	-	-	-	1
N.Z. Dotterel	-	-	-	-	-	2	3	-	-	-	-	-	3	2
Wrybilled Plover	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Long-billed Curlew	-	-	5	16	-	-	-	-	-	-	-	1	5	17
Bar-tailed Godwit	126	96	106	125	3460	850	3560	2606	-	-	200	231	7452	3918
Hudsonian Godwit	-	-	-	-	-	-	1	-	-	-	-	-	1	-
Greenshank	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Terek Sandpiper	-	-	2	-	-	-	-	-	-	-	-	-	2	-
Turnstone	-	27	260	141	114	93	480	1037	-	-	9	6	863	1304
Knot	-	-	1	51	100	50	87	-	-	-	-	-	188	101
Sharp-tailed Sandpiper	-	-	4	35	10	-	10	3	-	-	-	-	24	38
Curlew Sandpiper	-	-	-	3	-	-	-	-	-	-	-	-	-	3
Red-necked Stint	-	-	14	9	1	-	7	-	-	-	-	-	22	9
Pied Stilt	75	45	230	325	36	94	128	158	58	35	110	230	637	887
Pomarine Skua	-	-	5	-	-	-	-	-	-	-	-	-	5	-
Arctic Skua	-	-	-	-	-	-	-	-	-	-	1	-	1	-
Black-backed Gull	455	250	82	1085	770	100	220	116	500	-	70	135	2097	1686
Red-billed Gull	-	1	-	-	5	-	50	46	10	-	150	300	215	347
Black-billed Gull	400	500	322	456	100	230	1000	123	920	-	2700	217	5442	1526
Black-fronted Tern	4	1	13	7	-	2	-	5	3	-	3	28	23	43
White-winged Black Tern	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Caspian Tern	2	3	5	9	-	2	122	25	-	-	6	4	135	43
Little Tern	-	-	-	5	-	-	-	-	-	-	-	-	-	5
White-fronted Tern	55	64	121	110	-	9	504	80	11	-	79	5	770	268

## RESULTS

The census figures (see Table 1) produced few real surprises. The main surprise was to come later in the week when a flock of 51 New Zealand Dotterel (*Charadrius obscurus*) was found in an area of Awarua Bay, near Cow Island, not covered on census day. Earlier beliefs that migratory wading birds were concentrated in three main areas, Waituna, Awarua Bay, and the Oreti River estuary, were confirmed. Census and pre-census observations disclosed two first records for Southland — Grey Plover (*Pluvialis squatarola*) and Terek Sandpiper (*Xenus cinereus*).

It would be unwise to read too much into any comparison between census figures recorded last January and those recorded in 1963, because in 1963 each area was covered on a different day whereas last January all areas were covered simultaneously. From observations made after the census this year it is obvious that flocks shift fairly frequently, depending on the height of the tide and the wind, and although there was no documented evidence of flocks moving from one census area to another, this undoubtedly happens. Also, there is always the unfortunate possibility of odd flocks or birds being missed, no matter how careful the observations made, because the areas to be covered are so vast.

It was apparent that good high tides are needed for a successful census because the lower tides leave too many roosting areas uncovered and make coverage of the large estuaries and lagoons difficult. The tide on census day was 9.2ft. and on the following day, Sunday, January 19, 9.3ft. It was 9.2ft. again on Monday, January 20, and thereafter the tides became smaller each day to be only 8.0ft. on Thursday, January 23. Although a windy day makes the birds sit tighter, calm weather is needed for a successful census in Southland because of the necessity to use small boats.

Comment on particular species will be found in the species list but, with the reservations mentioned above, some general observations may be of interest. Of particular significance were the figures recorded for White-faced Herons (*Ardea novaehollandiae*) and Spur-winged Plovers, two species known to be on the increase in Southland. The heron tally rose from 258 in 1963 to 385 in 1969, and the Spur-winged Plover count was up from a mere 49 to 322. In neither case would the figures represent a complete count of birds in the particular area because neither bird can be relied upon to occupy high tide roosts and many birds would be scattered over the nearby countryside. The count for Banded Dotterel (*Charadrius bicinctus*) was down sharply from 1093 to 420, but in 1963 a single flock of about 500 birds was seen on the Oreti River estuary and included in the count. No similar concentration of this species has since been recorded.

Of special interest was the dramatic rise in numbers of Bar-tailed Godwit (*Limosa lapponica baueri*) — from just under 4000 to nearly 7500, but the tally of Turnstone (*Arenaria interpres*) was down from 1304 to 863. From the figures it would appear that there have been most satisfactory increases in the numbers of Caspian Terns (*Hydroprogne caspia*) and White-fronted Terns (*Sterna striata*). The Caspian colony on the Oreti estuary numbered but 10 pairs in 1963, while this year about 50 pairs nested while the White-fronted Tern colony in the same area shows an apparent growth from 40-odd pairs in 1963 to some 250 pairs this year. However, 1962-63 must have been a poor year for terns because there were 29 nests and 110 birds at the Caspian colony on 15/12/63, while on the same date there were 184 pairs of White-fronts. In 1967 the White-front colony numbered 366 pairs.

For Southland members, the most notable result of the study week was the realization that wader areas must be covered much more intensively in the future, and at regular intervals, if valid and valuable comparisons are to be drawn from census figures. The

Awarua Bay - Bluff Harbour area in particular warrants further close study. With limited numbers of active members it is difficult to cover every area adequately and in future it may be as well to concentrate on those areas which the study week has indicated will be most rewarding.

Investigations during the study week also disclosed the need for a comprehensive study of the distribution and breeding of the New Zealand Dotterel in the Awarua Bay region. If observations can be made regularly over the next few years, some indication of whether the species is increasing or declining may be obtained.

#### SPECIES LIST

The following species list is by no means exhaustive, but birds of special interest outside the immediate scope of the census have been included.

##### WANDERING ALBATROSS (*Diomedea exulans*)

A single bird was seen by the Stewart Island party from the G.m.v. Wairua in Foveaux Strait on 22/1/69.

##### ROYAL ALBATROSS (*D. epomophora*)

One seen by the Stewart Island party on the return trip to Bluff on 22/1/69. It belonged to the smaller northern subspecies.

##### BULLER'S MOLLYMAWK (*D. bulleri*)

Several seen by the Stewart Island party in Foveaux Strait on 22/1/69.

##### SHY (WHITE-CAPPED MOLLYMAWK (*D. cauta*))

Seen in Foveaux Strait by the Stewart Island party on 22/1/69.

##### SALVIN'S MOLLYMAWK (*D. cauta salvini*)

Seen by the Stewart Island party in Foveaux Strait on 22/1/69.

##### GIANT PETREL (*Macronectes giganteus*)

These birds regularly feed near the offtal outlet at the Ocean Beach freezing works and were seen by nearly all participants in the course during the week. R.B.S. counted 120 on 21/1/69, many of them close inshore; and there were c. 300 on January 23 (R.B.S., I.G.A.).

##### CAPE PIGEON (*Daption capensis*)

Seen both inside Bluff Harbour, up to 8, and in Foveaux Strait by the Stewart Island party on 22/1/69.

##### SOOTY SHEARWATER (*Puffinus griseus*)

Muttonbirds were present in huge numbers in Foveaux Strait throughout the week and were seen by the Stewart Island party and also by parties at Riverton, Oreti Beach, and Waimatuku Mouth. On 20/1/69 the birds were fishing well up the Oreti River estuary opposite Jock's Roost. The "myriads of milling muttonbirds" were subsequently described by R.B.S. as "One of the great bird sights of the world." An experience among the birds is described by R.F.S.: "While proceeding up Riverton estuary on 18/1/69 I noticed an extremely large number of Sooty Shearwaters flying round the mouth of the Aparima River. The birds were obviously feeding on a school of small fish which were within the estuary. We managed to sail into the flock of birds, which were present in incredible numbers. They appeared to be feeding on a small sardine-like fish and were bobbing up all round the boat, some of them actually hitting the

underside of the boat. The flock stretched for many miles and I can only say that there must have been hundreds of thousands of birds."

**SOUTHERN DIVING PETREL** (*Pelecanoides urinatrix chathamensis*)

A few noted by the Stewart Island party in Foveaux Strait on 22/1/69.

**BLACK SHAG** (*Phalacrocorax carbo*)

On census day, 82 were counted, the largest number seen by any one party being 23 at Jock's Roost. Regularly seen by most parties on subsequent days. A group of 20 was seen by R.B.S. at Waituna on 23/1/69.

**PIED SHAG** (*P. varius*)

Only seven were seen on census day, two at Fortrose and five at Riverton.

**WHITE-THROATED SHAG (LITTLE SHAG)** (*P. melanoleucos brevirostris*)

On census day 102 were counted, the largest concentration being 35 at Riverton. A further 20 were seen at Fortrose.

**STEWART ISLAND SHAG** (*P. carunculatus chalconotus*)

Only eight were sighted on census day, five at Awarua Bay and three at the Oreti estuary shellbanks. The Stewart Island party on 22/1/69 saw many in both the pied and bronze phases.

**SPOTTED SHAG** (*P. (Stictocorax) punctatus*)

Several at Riverton on 19/1/69 (R.B.S.). Twenty were reported from Fortrose in 1963.

**WHITE-FACED HERON** (*Ardea novaehollandiae*)

A total of 385 were counted on census day, the largest concentrations being in the Oreti estuary, 125 at Jock's Roost and 101 at and about the shellbanks. These figures are conservative and the increase in the population is almost certainly greater than the comparison with the 1963 figure of 318 would suggest. F.C.K. was intrigued by one bird sitting on a telephone wire!

**BITTERN** (*Botaurus stellaris poiciloptilus*)

None was recorded on census day but one was seen flying across Awarua Bay on 23/1/69. Another single bird was seen at Waituna Lagoon on the same day.

**GLOSSY IBIS** (*Plegadis falcinellus*)

Five birds were seen at Horseshoe Bay, Stewart Island, on 8/11/68. Two days later a single bird was seen at Invercargill Airport and on 1/12/68 a flock of nine was feeding on lagoons at Sandy Point, near Oreti Beach. Between 19/12/68 and 29/12/68 a single bird was continuously at Waimatuku Mouth. During the study week, on 22/1/69, R.R.S. and R.F.S. checked all likely lagoons but no birds were sighted. It is likely that the ten seen at Lake Taieri in mid-January had been in Southland during November and December.

**CANADA GOOSE** (*Branta canadensis*)

None was recorded on census day but two were seen on the big lagoon near the mouth of the Waimatuku River on 21/1/69 and again on 22/1/69. Eleven birds (7 + 4) were seen at Waituna Lagoon (R.B.S.) on 23/1/69.



**BLACK SWAN** (*Cygnus atratus*)

Abundant at both Waituna and the Oreti estuary. Census counts totalled 1345, of which 986 were on the Oreti estuary and 265 at Swan Bay, Waituna. Pairs with young were present at the Big Lagoon, Waimatuku Mouth on 21 - 22/1/69.

**PARADISE DUCK** (*Tadorna variegata*)

A pair with seven young was seen on Riverton estuary on census day and a further four at Waimatuku Mouth.

**GREY TEAL** (*Anas gibberifrons gracilis*)

Three were sighted on Riverton estuary on census day and two birds were discovered on a lagoon north of the main entrance to Oreti Beach (R.R.S.) on 22/1/69.

**BROWN TEAL** (*A. castanea chlorotis*)

An adult and five young were seen at Mill Creek, Stewart Island, by the party which visited the island on 22/1/69.

**GREY DUCK** (*A. superciliosa*)

Only 31 were certainly identified on census day, 19 at Fortrose, 11 at Waituna and one at Riverton.

**MALLARD** (*A. platyrhynchos*)

A census count of 170 included 157 at Waituna. The 951 birds recorded under "ducks, unspecified" would probably be largely Mallards and hybrids.

**SHOVELER** (*A. rhynchotis variegata*)

Of the 35 recorded in the census, 30 were counted on the south-eastern shore of the Oreti estuary.

**PUKEKO** (*Porphyrio melanotus*)

Four were recorded at Waimatuku Mouth on census day.

**SOUTH ISLAND PIED OYSTERCATCHER** (*Haematopus ostralegus finschi*)

The census total of 4319 included flocks of 1088 at Riverton, 2150 at the Oreti estuary, 428 at Awarua Bay peninsula and 452 at Toetoes Harbour. At both Toetoes and Riverton it was the predominant wader. Many birds roosting on paddocks or along river beds would be excluded from the census total, but this oystercatcher is one of the most abundant species in Southland.

**BLACK OYSTERCATCHER** (*H. unicolor*)

Of the 13 recorded in the census, 10 were at Fortrose and three at the west end of Waituna lagoon. Others were seen on the rocks at Riverton.

**SPUR-WINGED PLOVER** (*Lobibyx novae-hollandiae*)

Present at all census points, a total of 322 being recorded. The largest group was 124 at the mouth of the Waimatuku River among sandhills. Many birds remain on the paddocks at this time of the year, either in pairs or small flocks. A few join other waders at typical hightide roosts.

**GREY PLOVER** (*Pluvialis squatarola*)

Two birds were seen at Waituna Lagoon by R.R.S., S.L.L., and M.L.B. on 4/1/69, prior to the study week. Two birds seen by I.G.A. and party on census day were probably the same birds. One bird was seen by a party which walked from Awarua Bay to Waituna on 20/1/69. These are first records for Southland.

**PACIFIC GOLDEN PLOVER (*P. dominica fulva*)**

The census total was 112, spread over Waituna, Awarua Bay and Oreti River estuary, making the fourth-largest group of migratory waders. On the Oreti estuary Golden Plovers do not roost with the other waders on spits or shellbanks at high tide. Whether they move on to nearby paddocks has yet to be determined.

**BANDED DOTTEREL (*C. bicinctus*)**

The largest concentration in the census total of 420 was about 200 on the south-eastern shore of the Oreti estuary and about this number of birds was present there on subsequent days of the week. A late-nesting pair with downy chicks was found at Jock's Roost on 21/1/69 (I.G.A.).

**ORIENTAL DOTTEREL (*C. asiaticus*)**

A lone bird seen by M.M.D., the writer, and his wife on 21/1/69 may have been of this species but positive identification was not possible before the bird was disturbed, and it was not seen again.]

**NEW ZEALAND DOTTEREL (*C. obscurus*)**

Only one turned up in the census, on the Oreti estuary, but a flock of 51, many of them showing breast colour, was found near Cow Island in Awarua Bay — an area not covered on census day — on 23/1/69 (R.R.S.). A single bird seen near Jock's Roost by R.A.F. on 21/1/69 was said by him to be more highly coloured on the breast and about the face than the northern birds. The single bird seen at the Oreti estuary shellbanks on census day was identified by R.B.S. as a juvenile. On a subsequent visit to the same area (2/1/69), the writer and his wife saw three birds, two of which were resting together near a clump of spartina grass. One of the pair showed distinct orange patches on the breast while the other was speckled on the sides of the breast. Two birds were seen at Awarua Bay east on 19/1/69 (M.M.D.). Seven were seen by the writer and his wife at Jock's Roost during a follow-up visit on 16/2/69.

**LONG-BILLED CURLEW (*Numenius madagascariensis*)**

Five were seen at the west end of Waituna lagoon on census day and smaller numbers in the same area later in the week but none was reported from any other area.

**ASIATIC WHIMBREL (*Numenius phaeopus variegatus*)**

None was recorded on census day but five were seen at Waituna by M.L.B. on 4/1/69 and by R.R.S. on 1/2/69. One was seen at Waituna (R.B.S.) during the study week on 23/1/69.

**EASTERN BAR-TAILED GODWIT (*Limosa lapponica baueri*)**

The census total was an impressive (by Southland standards) 7452, with the largest flocks c. 3000 at the Oreti estuary shellbanks and 2460 at Awarua Bay peninsula. Odd birds were showing colour on the breast.

**HUDSONIAN GODWIT (*L. haemastica*)**

A single bird sighted by M.L.B. on 4/12/68 with the main flock at the Oreti estuary shellbanks was still present on census day.

**TEREK SANDPIPER (*Xenus cinereus*)**

A party led by I.G.A. which covered the north shore of Waituna Lagoon on census day obtained the first record for Southland

of this species. Two birds were seen. A single bird was seen by M.M.D. at Awarua Bay east on 19/1/69.

**TURNSTONE** (*Arenaria interpres*)

Sizeable flocks were present at the main roosts on census day and the total recorded was 863, with the largest concentration, 400+, at Jock's Roost. Close views of these birds were obtained by most members during the week.

**KNOT** (*Calidris canutus*)

A total of 188 was recorded on census day, 100 of which were at the east end of Awarua Bay and 70 at the Oreti estuary shellbanks. A flock of 100 was recorded at Awarua Bay east (M.M.D.) on 19/1/69.

**SHARP-TAILED SANDPIPER** (*C. acuminata*)

A few reach Southland each year but the 24 recorded in the census fell short of the 35 recorded at Little Waituna in 1963. Ten were found at each of Awarua Bay east and the Oreti estuary shellbanks and four along the north shore of Waituna. Five were seen at Awarua Bay east (M.M.D.) on 19/1/69. On 22/1/69 R.R.S. and R.F.S. found two at a lagoon north of the main entrance to Oreti Beach.

**AMERICAN PECTORAL SANDPIPER** (*C. melanotos*)

A single bird seen by J.C. S-K. and party on census day near a lagoon at the mouth of the Waimatuku River was probably of this species. A few have previously been recorded in Southland.

**RED-NECKED STINT** (*C. ruficollis*)

During census week flocks seemed to be smaller than in the previous season, when a record 57 were counted at Waituna Lagoon on 2/12/67 (Barlow, 1968, *Notornis* 15, 3: 219). The census count totalled 22, 14 of which were sighted at the west end of Waituna. However, during a follow up visit to the Oreti estuary on 15/2/69, L.E.H., C.McK., and the writer found a flock of 34 birds feeding on a sandspit from which the tide had just receded. A little further along, six further birds were seen. The birds were feeding voraciously and permitted a close approach and an accurate count. Where were they on census day?

**SANDERLING** (*C. alba*)

Two birds were seen at Waituna Lagoon by the party which walked from Awarua Bay to Waituna on 20/1/69, but they were not seen on census day. A single bird was seen near the outlet of Waituna by R.B.S., M.M.D., M.N., and S.L.L., on 23/1/69.

**[BROAD-BILLED SANDPIPER** *Limicola falcinellus*)

A single bird seen briefly by R.R.S. on census day and again in flight on 23/1/69 was probably of this species.]

**PIED STILT** (*Himantopus leucocéphalus*)

The census count was 637, with the largest group, 212, along the north shore of Waituna. Accurate counts are difficult because only a proportion of the population joins the flocks on the high tide roosts. A late downy chick was found at Jock's Roost on 22/1/69.

**POMARINE SKUA** (*Stercorarius pomarinus*)

Four were seen by I.G.A. during the census, along the north shore of Waituna. Another was seen by F.C.K. at the west end of Waituna. It chased a Spur-winged Plover.

**ARCTIC SKUA (*S. parasiticus*)**

A single bird was seen at Riverton estuary on census day by R.F.S.

**SOUTHERN BLACK-BACKED GULL (*Larus dominicanus*)**

The species was well represented at all census areas except the west end of Waituna and the count totalled 2097. The greatest concentrations of birds, 15000+, however, were at the outlet from the Ocean Beach freezing works and the Invercargill refuse tip, and were not included in the census.

**RED-BILLED GULL (*L. scopulinus*)**

The largest number counted in the census was 150 at Riverton estuary and the census total was 215.

**BLACK-BILLED GULL (*L. bulleri*)**

The predominant small gull in Southland. The census total was 5442.

**BLACK-FRONTED TERN (*Chlidonias albostratus*)**

A total of 23 turned up in the census, but most of the Southland population would, of course, be inland at the time of the census.

**CASPIAN TERN (*Hydroprogne caspia*)**

Represented mainly at the breeding colony in the Oreti estuary but recorded also from all other census areas except Awarua Bay and the Waimatuku Mouth, the total being 135. The colony at the Oreti estuary shellbanks was not disturbed for an accurate count on census day because breeding was then at a critical stage. However, an estimate of 120 adult birds was made. An earlier count (29/12/68) showed 47 scrapes, 34 with 2 eggs, five with 3 eggs, two with 1 egg and 1 chick, one with 1 egg and 2 chicks, one with 2 chicks, and four with 2 eggs and 1 chick. On a follow-up visit after the census (1/2/69), the writer found the breeding area deserted but counted 52 juveniles and big chicks being shepherded by adults on a nearby mud-flat.

**ARCTIC TERN (*Sterna paradisaea*)**

A well-preserved corpse was discovered by I.G.A. under rubbish cast up by a high tide near Jock's Roost in the Oreti estuary. This was also a first record for Southland, if an unsatisfactory one. This is not a locality where storm-cast specimens are normally deposited and this leads to the belief that the bird died after reaching the estuary, either in the estuary waters or ashore.

**WHITE-FRONTED TERN (*S. striata*)**

Two breeding colonies were in full swing on census day, one at the west end of Waituna Lagoon, with about 60 pairs, and one on the Oreti estuary shellbanks of 200+ pairs in two distinct groups of about 100 each. F.C.K. estimated 5 to 10 per cent double egg clutches in the Waituna colony. The total count for all areas was 770 adult birds. In spite of a storm combined with a high tide on 19/1/69, the Oreti estuary colony survived and on 1/2/69 there were a good number of well-grown juveniles (some flying) in the earlier group and dozens of downy chicks in the later group. However, on 15/2/69, the writer found the breeding area virtually deserted, although about 60 adults and 6 flying young were still in the same general area. Most of the chicks from the earlier colony would have

been flying at that stage, but the majority of chicks in the later colony would not have reached flying age. Their fate is unknown but there was no evidence of the colony's having been washed out as the nest scrapes were still plainly visible. Only one dead chick was found in the nesting areas.

PIGEON (*Hemiphaga novaeseelandiae*)

Three were seen by L.E.H. at Forest Hill on 20/1/69. Plentiful at Stewart Island on 22/1/69. Eleven flying about Bluff Hill on 23/1/69.

SOUTH ISLAND KAKA (*Nestor meridionalis*)

Blue gums at Stewart Island were "alive with Tuis and Kakas" (R.B.S.) on the day of the Stewart Island visit. R.B.S. commented also that northern visitors were impressed with the tameness of the birds (in general).

LONG-TAILED CUCKOO (*Eudynamis taitensis*)

Two were heard calling near the camp at Omaui, were watched by several people from the verandah of the camp, and were seen flying by L.E.H. Also heard at Forest Hill and sighted once.

PASSERINES

No attempt was made at a census of passerines in any particular area but some records noted in passing are interesting.

SOUTH ISLAND RIFLEMAN (*Acanthisitta chloris*)

Small numbers were seen by both parties that visited the Forest Hill Scenic Reserve. L.E.H. on 20/1/69 saw a single bird, a group of four, and a pair. As no recent reports had been received of Riflemen in this isolated patch of native bush, the sightings were specially interesting.

SOUTH ISLAND FANTAIL (*Rhipidura fuliginosa*)

Six were seen at Forest Hill on 20/1/69.

YELLOW-BREASTED TIT (*Petroica macrocephala*)

Three were seen at Forest Hill on 20/1/69 and two on 22/1/69.

BROWN CREEPER (*Finschia novaeseelandiae*)

Numerous at Forest Hill. Three flocks, each of about 12, were encountered by L.E.H. and party on 20/1/69 and 20 were seen by J.C.S-K. on 22/1/69. Also present in manuka scrub near Omaui camp — family parties; but males still in good voice.

GREY WARBLER (*Gerygone igata*)

Several sightings at Forest Hill by L.E.H., and 10 seen on 22/1/69, also at Forest Hill, by J.C.S-K.

BELLBIRD (*Anthornis melanura*)

Numerous at Forest Hill. Singing well at Omaui.

TUI (*Prosthemadera novaeseelandiae*)

Seven seen at Forest Hill on 20/1/69. Many seen by Stewart Island party on 22/1/69.

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