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BIRDS OF THE WASHDYKE LAGOON AREA, SOUTH CANTERBURY

By P. M. SAGAR

ABSTRACT

A count was made of birds in the Washdyke Lagoon, South Canterbury, monthly from January 1966 to December 1972. Thirty-five species were seen regularly and a further eleven species were rare visitors. Numbers are correlated with seasonal movements and breeding cycles. Previously published observations, recorded here, show a reduction in the number of breeding species since the late 1940s. As increased urbanisation may affect bird populations, a continued monitoring programme is warranted.

INTRODUCTION

Several papers of extensive ornithological observations on coastal New Zealand areas have already been published (e.g. Wodzicki 1946; Andrew 1967; Tunnicliffe 1973). However, with the exception of the Waikanae estuary (Wodzicki 1946), these observations were made in areas of large bird concentrations atypical of the New Zealand coastline as a whole. This study deals with a small shallow-water lagoon, the Washdyke Lagoon, typical of coastal southern New Zealand. Cunningham (1947) visited Washdyke Lagoon and thought it worthy of a regular study.

The results of this survey are found to show species composition, numbers and seasonal fluctuations from January 1966 to December 1972. Previously published sightings have been recorded where relevant. Nomenclature follows the *Annotated Checklist.*

STUDY AREA AND METHODS

Washdyke Lagoon Wildlife Refuge (44°22'S, 171°15'E) (Figure 1) is situated inside the Timaru City boundary and occupies about 150 ha. The eastern boundary is formed by a 120 m wide greywacke shingle beach which rises 3 m above mean high tide. Volcanic basalt rockpools extend 50 m offshore to the southeast. A 3 m high stop-bank forms

the western boundary whilst an access road to the north separates the lagoon from a series of shallow brackish ponds. Steep clay cliffs, 15 m high, form the southern boundary. A freezing works beyond the cliffs discharges waste into a bay immediately south of the rockpools.

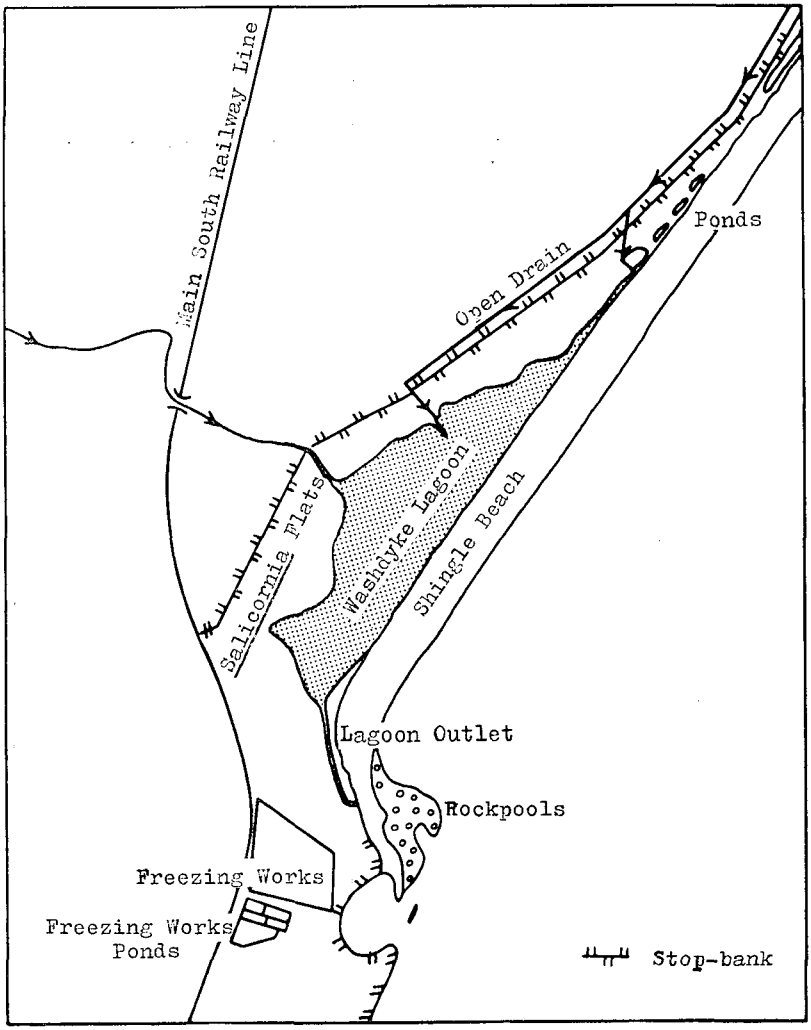

Figure 1. Washdyke Lagoon area, showing localities referred to in text

The lagoon is fed by outflow from the brackish ponds and from a large open drain which discharges fresh-water at two sites along the western side. High seas occasionally flow over the shingle bar into the lagoon.

When the lagoon was visited more than once a month the maximum count for each species was recorded. All counts were made from the shingle bar, from which there was a clear view of the lagoon and disturbance to the birds was avoided. The ponds to the north were not included in the count, as vegetation provided too much cover for birds.

The flat nature of both the terrain and vegetation enabled a direct count of all birds to be made. For the purpose of the count, the lagoon was divided into four areas. Approaching the lagoon from the south stops were made at specific points and counts made of all birds within a given area. Birds moving into or out of the area during the count were not included in the total count for that species. This resulted in the total counts probably being under-estimates of the actual numbers present. Returning along the high water mark counts were made of offshore seabirds and birds associated with the rockpools. The results (Table 1) are the counts, for each month, from the four lagoon areas, the sea and the rockpools for the 7 year study period.

RESULTS AND DISCUSSION

The Giant Petrel *(Macronectes giganteus)* was most frequently observed in the bay into which freezing works waste was discharged. Cape Pigeons *(Daption capensis capensis)* were sometimes seen settled on the ocean 100 to 300 m offshore.

Of the three shag species recorded, the Black *(Phalacrocorax carbo novaehollandiae)* and Little Shags *(P. melanoleucos brevirostris)* frequented the drain outlets, while Spotted Shags *(Stictocarbo punctatus punctatus)* either swam offshore or loafed on the beach. Whilst Black and Spotted Shags were seen throughout the year Little Shags only occurred in small numbers, except during their breeding season (September to February).

White-faced Heron *(Ardea novaehollandiae)* have been visiting the lagoon in greater numbers since 1970. They frequented the northern end, where the ponds drained into the lagoon. The White Heron *(Egreta alba modesta)* was a regular winter visitor, and commuted between the lagoon and the ponds at the nearby freezing works.

As the area is a wildlife refuge, waterfowl numbers increased sharply during the April-May shooting season. At other times, waterfowl numbers were generally low, although flocks of Canada Geese *(Branta canadensis)*, 76 in December 1969, and Black Swan *(Cygnus atratus)*, c. 300 on 13 November 1951 (J. M. Cunningham pers. comm.) and 378 in October 1972, were occasionally present. Black Swans were recorded by Pennycook (1951) as breeding in 1949 and 1950, though breeding was not recorded during this study. In March 1976 six Black Swans were observed on nests near the northern end of the lagoon and in June 1976 20 downy chicks were seen on the lagoon (compare my comments on pages 3 and 7). Paradise Ducks *(Tadorna variegata)* visited the lagoon less frequently from 1969 to 1972 (total 198) than from 1966 to 1968 (total 469). This may be due to reduced numbers of this species in the surrounding high country.

Table 1. Total Counts of Birds made at Washdyke Lagoon, January 1966 to December 1972.

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Macronectes giganteus	-	3	1	-	-	1	2	6	2	2	-	-	17
Daption capensis capensis	100+	-	-	-	-	-	-	-	20	1	-	9	130+
Phalacrocorax carbo novaehollandiae	17	32	32	29	14	18	1	7	16	25	18	12	221
Phalacrocorax melanoleucos brevirostris	1	4	15	34	64	63	33	21	1	1	2	5	244
Stictocarbo punctatus punctatus	15	8	9	11	27	2	8	34	14	27	13	11	179
Ardea novaehollandiae	4	4	4	12	8	2	5	2	1	5	1	1	49
Egretta alba modesta	-	1	1	2	5	5	6	5	3	2	-	-	30
Cygnus atratus	127	86	276	728	386	79	25	92	11	593	24	144	2571
Branta canadensis	56	282	811	2213	2300	484	122	73	-	6	-	103	6450
Tadorna variegata	40	29	95	224	76	116	34	19	-	2	1	31	667
Anas platyrhynchos platyrhynchos/ A. superciliosa superciliosa	The most common ducks on each visit, at least 200 present in each month.												
Anas rhynchotis variegata	85	42	100	345	152	153	135	180	90	20	20	88	1410
Circus approximans approximans	8	4	5	9	3	6	5	6	5	9	7	7	74
Porphyrio porphyrio melanotus	1	-	4	-	6	4	2	-	4	-	-	2	23
Haematopus ostralegus finschi	161	126	189	210	195	251	240	209	64	67	6	59	1777

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Haematopus unicolor	1	3	5	2	6	9	1	9	6	5	-	2	48
Charadrius bicinctus	122	99	96	167	137	88	63	64	19	45	25	44	969
Anarhynchus frontalis	3	-	1	-	-	-	-	19	6	14	1	1	45
Limosa lapponica baueri	13	3	8	-	-	-	-	-	3	70	1	3	101
Himantopus himantopus leucocephalus	807	1286	809	382	348	394	193	94	70	342	154	397	5276
Larus dominicanus	The most common gull on each visit, at least 400 present in each month.												
Larus novaehollandiae scopulinus	846	524	1126	801	721	675	638	705	342	313	386	371	7448
Larus bulleri	21	47	94	36	56	65	67	53	11	4	-	2	456
Chlidonias hybrida albostriatus	4	8	35	42	55	27	2	1	-	6	-	-	180
Hydroprogne caspia	11	15	2	-	-	1	-	12	1	4	2	6	54
Sterna striata	28	18	20	48	4	12	4	1	-	15	31	5	186
Halcyon sancta vagans	-	-	-	5	8	7	7	2	-	-	-	-	29

Gorby (1959) reported 400+ Paradise Ducks on 18 March 1958. Shoveller Ducks *(Anas rhynchotis variegata)* were regularly present in small flocks and Mallard/Grey Ducks *(A. platyrhynchos platyrhynchos, A. superciliosa supersiliosa)* bred in the vegetation surrounding the lagoon. Mr. J. M. Cunningham (pers. comm.) noted " probably 200 ducks mostly mallard " in the flooded lagoon on 13 November 1951.

Harriers *(Circus approximans gouldi)* were often flushed from bird carcasses on the shingle beach.

Pukeko *(Porphyrio porphyrio melanotus)* were never common and the last (4) were seen in March 1968.

South Island Pied *(Haematopus ostralegus finschi)* and Black Oystercatchers *(H. unicolor)* frequented the lagoon outside of their breeding season (September to February). Favoured feeding sites were the rockpools and the muddy areas at the south of the lagoon. Although Pennycook (1951) recorded the South Island Pied Oystercatcher as breeding none were recorded during this study.

Three or four pairs of Banded Dotterel *(Charadrius bicinctus)* regularly bred along the inner shingle bar (September to November) and flocks were common at other times. " Rather few . . . less than 12 " were seen on 13 November 1951 by Mr J. M. Cunningham. Wrybills *(Anarhynchus frontalis)* occurred mostly from August to October, all in breeding plumage and presumably migrating to their riverbed breeding areas. Bar-tailed Godwits *(Limosa lapponica baueri)* were irregular summer visitors. They were always flighty and did not settle for long. Pied Stilts *(Himantopus himantopus leucocephalus)* occurred in large numbers (507, March 1968), especially from January to March when many juveniles were present. Mr J. M. Cunningham noted " a few stilts, less than 50 " on 13 November 1951. A small breeding colony (10 to 15 pairs) was present alongside the ponds north of the lagoon. Pennycook (1951) also recorded this species as breeding.

Large flocks of loafing Southern Black-backed Gulls *(Larus dominicanus)* and Red-billed Gulls *(L. novaehollandiae scopulinus)* were common. The Southern Black-backed Gulls loafed on an area of *Salicornia* at the south end of the lagoon and were often seen flying over the freezing works. Red-billed Gulls loafed on the shingle beach and were often seen in the running water at the north end of the lagoon. Small flocks of Black-billed Gulls *(L. bulleri)* commonly fed around the lagoon margin. Mr J. M. Cunningham (pers. comm.) saw " 100 or so " Black-billed Gulls on 13 November 1951 with " a few " Red-billed Gulls. Black-fronted Terns *(Chlidonias hybrida albostriatus)* were normally seen alone or flying in small groups along the shoreline or over the lagoon. Occasionally they were in a flock of White-fronted Terns *(Sterna striata)*. Pennycook (1949) recorded a Caspian Tern *(Hydroprogne caspia)* breeding colony (55 birds, 80 eggs on 4 October 1947) on the shingle bar near the lagoon in 1947 and 1948. However, all nests were washed away by high seas in 1948, and although some birds renested these were also washed away. Although Caspian Terns

were present in small numbers during their breeding season (September to January) none were known to have nested during this study. This was probably a result of high seas washing over the shingle bar at least once a year. The White-fronted Tern breeding colony recorded by Pennycook (1948) probably met with the same fate, as it too was not recorded during this study. The White-fronted Terns seen were probably from the large breeding colony at the Opihi river mouth 13 km to the north. During the breeding season these birds were often seen flying north with small silver fish in their bills.

At least one Kingfisher *(Halcyon sancta vagans)* was regularly seen at the rockpools from April to July.

Passerines:

Only the presence of these species was recorded. Skylarks *(Alauda arvensis arvensis)* occurred both on the beach and on the *Salicornia* flats. Greenfinches *(Carduelis chloris chloris)*, Chaffinches *(Fringilla coelebs gengleri)* and Yellow Hammers *(Emberiza citrinella sylvesteris)* fed along the inner shingle bar, while mixed flocks of Goldfinches *(Carduelis carduelis britannica)* and Redpolls *(Acanthis flammea)* fed on the seeds of marram grass which grew on the shingle bar. Starlings *(Sturnus vulgaris vulgaris)* foraged in the *Salicornia* and wrack-zone.

Rare visitors:

An Australian Bittern *(Botaurus stellaris poiciloptilus)* was flushed from some raupo in March 1966. Two Grey Teal *(A. gibberifrons gracilis)* were seen on the lagoon in April 1972. Subsequent sightings of flocks up to 18 birds suggest that numbers of this species are increasing in the area. Spur-winged Plovers *(Lobibyx novaehollandiae)* were seen in March 1966 (5) and May to October 1971 (2); none have been seen since. Pearce (1972) recorded a Black-fronted Dotterel *(C. melanops)* in May 1972, and I recorded another in May 1975. This species may become a more frequent visitor if the population breeding at the Opihi riverbed (Pierce 1971) expands. A Greenshank *(Tringa nebularia)* was seen at the lagoon from 6 to 10 May 1967 (Keeley & Sagar 1967). A Turnstone *(Arenaria interpres interpres)* in winter plumage fed along the seaward lagoon shore in December 1967. Crockett (1961) recorded a Red-necked Phalarope *(Phalaropus lobatus)* in a pond north of the lagoon. In April 1971 two Arctic Skuas *(Stercorarius parasiticus)*, one light and one dark phase, were seen chasing White-fronted Terns. One dark phase bird also was seen in April 1972. On both occasions the terns were forced to regurgitate what appeared to be fish.

CONCLUSIONS

The status of some birds at Washdyke lagoon has changed since the late 1940s. Black Swan, South Island Pied Oystercatcher, Caspian Tern and White-fronted Tern no longer breed there and no new breeding species have been recorded. There was also a decline in

the numbers of Pukeko and Paradise Duck during the period of this study. However, species new to Washdyke Lagoon include Spur-winged Plover and Black-fronted Dotterel. With the recent urbanisation of land surrounding the lagoon more changes are probable and this study will serve as a record of the status of the birds from 1966 to 1972 with which future records may be compared. More data are now needed on the distribution of birds on the lagoon and their specific food and feeding habits.

Appendix 1: Sightings of bird species new to the lagoon since 1972.

Sharp-tailed Sandpiper *(Calidris acuminata);* 10 on 16 November 1973.

Pectoral Sandpiper *(C. melanotos);* 1 in February 1973 (Child 1973).

Welcome Swallow *(Hirundo tahitica neoxena);* small flocks (c. 10) in May 1974 and May 1975. The distribution of this species is expanding in South Canterbury, and more sightings at the lagoon are probable.

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P. M. Sagar,
9 Matai Crescent,
Timaru.

Present address:
Zoology Department,
University of Canterbury,
Christchurch.