

Ashburton Rivermouth Bird Monitoring

Report for Year April 2020 – March 2021



Prepared for Environment Canterbury

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1.0 Introduction

This is the fourth report covering regular bird monitoring at the Ashburton Rivermouth and covers the 12-month period, April 2020 to March 2021. These surveys were commissioned by Environment Canterbury (ECAN) to facilitate an understanding of the seasonal abundance of birds at the site, to monitor trends and to inform ongoing wildlife management initiatives.

The Ashburton Rivermouth/Hapua is an important wetland on the mid Canterbury coastline, utilised by a wide range of braided river birds, wetland birds and coastal seabirds. Its relative isolation from other sizeable wetland habitats mean that it attracts a range of migratory and transient wader and waterbird species, as well as serves as the major roosting and/or breeding station for populations of gulls, terns and shags ranging along the adjacent coastline and near-shore waters.

1.1 Study Area

As in the three previous years, the study area (Figure 1.) comprised the shingle spits at the rivermouth, the rivermouth discharge area and lagoon (hapua), and the deltaic braided riverbed area upstream of the lagoon up to a narrow point opposite the northern-most houses. These habitats combine to support a distinctive assemblage of “rivermouth-associated” bird species

Figure 1. *Study Area.*



1.2 Survey Methodology

Counts ($n = 12$) of all riverbed/wetland/coastal birds detected within the study area were carried out once/month between April 2020 and March 2021. All counts commenced 2-3 hours before sunset so that consistent counts of species that occur in maximum numbers at dusk could be made. Species like shags, cormorants, gulls, terns and waders come and go from the rivermouth all day (often moving back and forward from the sea, upriver or dispersing to feed over farmland), but return and congregate into roosts at day's end.

All counts were conducted by the author, using 10x42 Kowa or Zeiss binoculars and a Nikon 20-60x80 spotting scope. A Cannon camera with 200x zoom was used for photographing large bird flocks and incidental species records. Census techniques were the same as previous years and followed those outlined in Howes & Bakewell (1989). They replicate methods used in surveys of other Canterbury wetlands, eg; the Avon-Heathcote Estuary (Crossland 2013), Lake Ellesmere/Te Waihora (Crossland *et al.* 2018), Lake Forsyth, Brooklands Lagoon, Rakaia Rivermouth, etc. Counts were made of the majority of birds present from six observation points (five on the cliff top and one in the centre of the delta – yellow dots in Figure 2), with additional birds picked up by either following a standardised survey transect through the study area when the river was fordable (yellow line on Figure 2) or by additional cliff top observation points. Scans were made of roosting, rafting or feeding congregations of birds and involved counting individuals wherever possible, with block counting in multiples of 10 in large concentrations exceeding 2000 individuals. Very large flocks of Spotted Shags were photographed and later counted via enlarged images on a computer.

Figure 2. Survey observation points (yellow dots) and transect route (yellow line).



1.2 Data Gaps

At a site like the Ashburton Rivermouth, where the occurrence of many birds is transient (ie; moving along the coast or moving up and down the river), and where feeding, roosting and breeding conditions can change rapidly as a consequence of fluctuating river flows, tidal inundation, human disturbance, etc, bird numbers can rise and fall more rapidly than is usually the case on larger, more settled habitats like coastal lagoons and estuaries. This survey involved a single bird census per month and the results provide reliable information on the seasonal abundance of monitored bird species. However, inevitably the gap between surveys will mean that uncommon species that arrive and depart between survey dates will be missed, as will spikes in abundance of regular species that occur between visits.

1.3 River flows and Habitat Condition

The following is a summary of habitat condition on each of the 2020-21 surveys. River flow was measured at State H/W 1 by ECAN and is given as a 4:00 PM mean discharge figure.

30 April 2020 *8.097 m³/s* *5768 birds* *23 species*

Mouth closed to sea. Full lagoon, Many clean islands on delta.



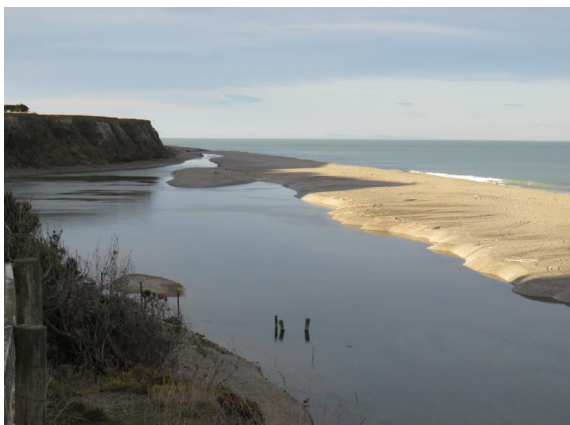
22 May 2020 *7.437 m³/s* *5645 birds* *25 species*

Full lagoon extending upstream. No mudflats. Mouth at extreme north end of lagoon. Many delta islands.



17 June 2020 *6.370 m³/s* *11,554 birds* *23 species*

Lagoon at mid level. Many open shingle islands and some mudflat at delta.



21 July 2020

7.471 m³/s

11,109 birds

18 species

Very high lagoon level. No mudflats exposed. Lagoon open to sea at far northern end.



19 August 2020

6.761 m³/s

7413 birds

19 species

Lagoon at medium level with shingle & mudflat delta islands. Mouth beyond northern cliff.



23 September 2020 *16.52 m³/s*

581 birds

18 species

High lagoon. No mudflat and delta islands mostly inundated.



22 October 2020

9.593 m³/s

498 birds

25 species

Mouth beyond cliffs, lagoon high with limited habitat available.



19 November 2020

14.33 m³/s

599 birds

25 species

High lagoon level, limited habitat.



22 December 2020

7.325 m³/s

1240 birds

24 species

Mouth open and continuing to migrate north. Lagoon full with water flowing through. Mudflats and open shingle on delta.



29 January 2021 *9.303 m³/s* *7632 birds* *27 species*

Lagoon very high and open to sea. No mudflats and limited open shingle habitat on delta.



23 February 2021 *4.165 m³/s* *6652 birds* *28 species*

Lagoon medium-high with mudflats and open shingle delta islands.



19 March 2021 *4.876 m³/s* *10,591 birds* *28 species*

Lagoon re-filling but expansive shingle delta islands remain with small extent of mudflat.



2.0 Key Findings

Thirty-five river/wetland/coastal bird species were recorded in 2020-2021 compared to 33 species in 2019-2020, 30 in 2017-18 and 34 in 2018-19.

Species richness averaged higher than previous years with an average 23.6 species recorded per visit, compared to 20.5 in 2019-20, 21.9 in 2018-19 and 19.2 species in 2017-18.

Count totals ranged from 498 - 11,554 birds, compared to 520 to 10,044 birds in 2019-20, 2812 - 9386 in 2018-19, and 1253 - 13,583 in 2017-18. More than 10,000 birds were recorded in three of the twelve months (June, July and March).

The most abundant bird species were **Spotted Shag** (max. 9980 in July), **Grey Teal** (max. 1330 in May), **Black-backed Gull** (max. 890 in June) and **Black-billed Gull** (up to 410 in July).

A review of the checklist leaves the total number of bird species recorded at 78, but several have changed status. The list now stands at 38 resident species, 17 seasonal/regular visitors and 23 vagrants or irregular visitors (see Appendix 2).

3.0 Species Accounts

3.1 Cormorants and Shags

As with other years, three cormorant and two shag species were recorded in 2020-21: **Black Cormorants** (max. 3) were recorded in seven of the 12 months, absent only during spring.

Pied Cormorant numbers were much higher than in previous years with a max. count of 24 in March, twice the highest count in previous years. They were present during eight months and exceeded 10 individuals in five months. They were also absent during spring but can be expected to follow a colonisation pattern at coastal sites elsewhere in Canterbury and eventually breed here. In addition to the usual night roost overlooking the lagoon at the end of Hakatere Drive they have now also begun roosting in macrocarpas overlooking the delta on the northern side. This mirrors typical nesting habitat elsewhere in coastal Canterbury.



Figure 3. *Pied Cormorants roosting at a new site - in macrocarpas overlooking the delta, and at the regular Hakatere Drive road-end site.*

Spotted Shag abundance reflected previous years but had more extremes. Peak counts of 9280 in June, 9980 in July and 9770 in March were all record-breaking highs, but conversely low season counts (comprising mainly juveniles while adults were away on Banks Peninsula breeding) were at record lows – just two birds in September and seven birds in October. Factors around breeding success and autumn-winter feeding availability on Banks Peninsula are the likely causes of this.



Figure 4. *Spotted shag flocks coming into to roost just before dusk (May 2020)*

Otago Shags (max. 4) were recorded in eight months, absent only from September to December. Most birds observed were juveniles.



Figure 5. *Two juvenile bronze morph Otago Shags stride through the Spotted shag roost, pushing their smaller congeners aside (August 2020).*

3.2 Herons and Spoonbills

2020-21 data													
species	30/04/2020	22/05/2020	17/06/2020	21/07/2020	19/08/2020	23/09/2020	22/10/2020	19/11/2020	22/12/2020	29/01/2021	23/02/2021	19/03/2021	
White-faced Heron	2	2	1	0	0	0	1	1	0	1	0	1	
Royal Spoonbill	1	0	0	0	0	0	0	0	0	0	2	7	

Comparative 2019-20 data

2019-20 data													
Species	30/04/2019	22/05/2019	20/06/2019	18/07/2019	23/08/2019	28/09/2019	29/10/2019	28/11/2019	21/12/2019	18/01/2020	27/02/2020	25/03/2020	
White-faced Heron	0	0	1	0	0	0	1	1	0	1	1	1	
Royal Spoonbill	0	0	0	0	0	0	0	0	1	0	0	9	

Comparative 2018-19 data

species	23/04/2018	17/05/2018	22/06/2018	21/07/2018	24/08/2018	14/09/2018	26/10/2018	22/11/2018	17/12/2018	29/12/2018	3/01/2019	12/01/2019	29/01/2019	19/02/2019	26/03/2019
White-faced Heron	0	0	1	0	2	1	1	1	3	0	1	1	1	0	1
Royal Spoonbill	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0

Comparative 2017-18 data

species	24/04/2017	20/05/2017	17/06/2017	26/07/2017	17/08/2017	22/09/2017	21/10/2017	21/11/2017	23/12/2017	19/01/2018	27/02/2018	13/03/2018	26/03/2018
White-faced Heron	2	0	1	0	0	2	1	1	1	3	1	1	1
Royal Spoonbill	0	0	0	0	0	0	0	0	0	0	4	0	0

White-faced Herons (max. 2) were recorded in seven of the 12 monthly surveys and the birds probably comprised a resident breeding pair – although no young birds were observed this year.

Visiting **Royal Spoonbills** were present in January (1 bird), Feb (2 birds) and March (9 birds).



Figure 6. Royal Spoonbills from a group of nine roosting on a delta island with cormorants and Grey Teal..

3.3 Waterfowl

Much higher numbers of waterfowl were recorded in 2020-21 than in the previous three survey periods. The highest count (1393 birds of six species in May 2021) is much higher than maximum counts of 469 in 2019-20, 448 in 2018-19 and 303 in 2017-18. **Grey Teal** were exceptionally abundant, being present each month with highest totals of 1330 in May and 901 in June. Other species occurring in sizeable numbers were **Canada Goose** (max. 242) and

Mallard/Grey (max. 157). Uncommon visitors included a lone **Mute Swan** in June; up to 3 **Black Swans**; up to 12 **New Zealand Scaup** from November to March; and maximum counts of 22 **Paradise Shelduck** and 8 **New Zealand Shoveler**.

2020-21 data												
species	30/04/2020	22/05/2020	17/06/2020	21/07/2020	19/08/2020	23/09/2020	22/10/2020	19/11/2020	22/12/2020	29/01/2021	23/02/2021	19/03/2021
Mute Swan	0	0	1	0	0	0	0	0	0	0	0	0
Black Swan	0	1	1	0	0	0	0	0	0	3	0	0
Canada Goose	83	4	18	8	25	0	13	10	0	6	242	5
Paradise Shelduck	4	5	4	0	2	4	2	0	5	22	2	3
Mallard/Hybrid	102	49	136	105	36	9	22	15	21	17	105	157
NZ Shoveler	4	4	0	2	0	3	8	7	0	0	7	6
Grey Teal	172	1330	901	223	25	4	47	11	19	73	118	324
NZ Scaup	0	0	0	0	0	0	0	9	12	11	4	3
Total	365	1393	1061	338	88	20	92	52	57	132	478	498

Comparative 2019-20 data

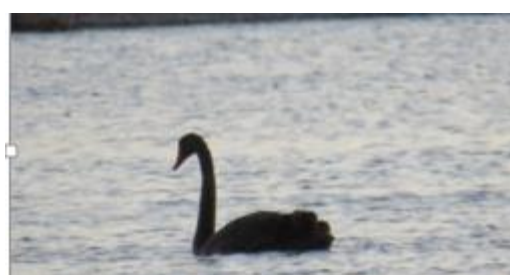
2019-20 data												
Species	30/04/2019	22/05/2019	20/06/2019	18/07/2019	23/08/2019	28/09/2019	29/10/2019	28/11/2019	21/12/2019	18/01/2020	27/02/2020	25/03/2020
Black Swan	3	3	3	0	0	0	0	0	0	0	0	0
Canada Goose	0	64	104	58	4	13	6	14	2	0	190	44
Paradise Shelduck	0	0	2	0	0	3	4	0	0	0	2	51
Mallard/Grey Duck	47	145	195	111	23	14	35	8	7	15	145	157
NZ Shoveler	3	0	7	2	0	0	2	1	4	0	1	4
Grey Teal	58	74	129	113	2	20	23	19	2	2	28	213
NZ Scaup	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	111	286	440	284	29	50	70	42	15	17	366	469

Comparative 2018-19 data

species	23/04/2018	17/05/2018	22/06/2018	21/07/2018	24/08/2018	14/09/2018	26/10/2018	22/11/2018	17/12/2018	29/12/2018	3/01/2019	12/01/2019	29/01/2019	19/02/2019	26/03/2019
Black Swan	0	0	0	0	0	0	0	0	0	0	0	4	3	3	3
Canada Goose	247	97	1	0	4	22	24	22	0	0	10	10	0	85	254
Paradise Shelduck	2	0	0	0	0	2	9	2	0	0	0	0	0	0	11
Mallard/Hybrid	107	65	18	75	16	12	24	10	12	4	2	8	6	48	73
NZ Shoveler	0	0	0	0	0	4	2	0	0	0	0	0	0	0	0
Grey Teal	92	8	0	2	2	4	4	1	3	0	0	0	11	10	87
NZ Scaup	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
TOTAL	448	170	19	77	22	44	63	38	15	4	12	22	20	146	428

Comparative 2017-18 data

species	24/04/2017	20/05/2017	17/06/2017	26/07/2017	17/08/2017	22/09/2017	21/10/2017	21/11/2017	23/12/2017	19/01/2018	27/02/2018	13/03/2018	26/03/2018
Canada Goose	65	131	176	0	3	7	2	15	32	55	135	262	155
Paradise Shelduck	0	0	0	0	0	2	0	4	0	0	0	2	0
Mallard/Hybrid	22	158	47	37	22	14	17	24	17	2	25	29	62
NZ Shoveler	0	0	2	0	0	0	0	0	0	0	0	0	0
Grey Teal	4	0	78	4	2	0	0	0	4	0	0	3	4
TOTAL	91	289	303	41	27	23	19	43	53	57	160	296	221



Figs 7 & 8. Mute Swan and Black Swan (June 2020).



Figure 9. Part of a very large flock of Grey Teal present in May 2020.



Figure 10. Four birds from a small party of New Zealand Scaup present over summer-autumn (Dec 2020).



Figure 11. A pair of New Zealand Shoveler (Oct 2020). Small numbers were seen amongst the Grey Teal flocks.

3.4 Birds of Prey and Skuas

One to two **Swamp Harriers** were recorded in seven of the monthly surveys, suggesting a pair residing in the wider environs of the rivermouth.

Only one **Arctic Skua** was seen on the 2020-21 surveys – one bird in February 2021, although the species is likely to be a regular (undetected) visitor through summer-autumn.

2020-21 data												
species	30/04/2020	22/05/2020	17/06/2020	21/07/2020	19/08/2020	23/09/2020	22/10/2020	19/11/2020	22/12/2020	29/01/2021	23/02/2021	19/03/2021
Swamp Harrier	2	0	1	1	0	0	0	1	0	1	1	1
Arctic Skua	0	0	0	0	0	0	0	0	0	0	1	0

Comparative 2019-20 data

2019-20 data												
Species	30/04/2019	22/05/2019	20/06/2019	18/07/2019	23/08/2019	28/09/2019	29/10/2019	28/11/2019	21/12/2019	18/01/2020	27/02/2020	25/03/2020
Swamp Harrier	1	1	1	0	0	0	0	1	0	0	0	2
Arctic Skua	0	0	0	0	0	0	0	3	0	3	0	0

Comparative 2018-19 data

species															
	23/04/2018	17/05/2018	22/06/2018	21/07/2018	24/08/2018	14/09/2018	26/10/2018	22/11/2018	17/12/2018	29/12/2018	3/01/2019	12/01/2019	29/01/2019	19/02/2019	26/03/2019
Swamp Harrier	2	2	1	1	1	1	0	1	1	0	0	1	0	2	0
Arctic Skua	0	2	0	0	0	0	0	0	0	0	0	3	0	0	1

Comparative 2017-18 data

species														
	24/04/2017	20/05/2017	17/06/2017	26/07/2017	17/08/2017	22/09/2017	21/10/2017	21/11/2017	23/12/2017	19/01/2018	27/02/2018	13/03/2018	26/03/2018	
Swamp Harrier	0	2	1	0	1	1	1	1	1	1	1	1	1	
Arctic Skua	0	0	0	0	0	0	0	0	0	1	0	0	0	



Figure 12. A migratory Arctic Skua (photographed in Christchurch), similar to one seen at the Ashburton Rivermouth in February.

3.5 Waders

Ten wader species were recorded in 2020-21, comprising seven native species and three Arctic-breeding species. Seasonal patterns were text book and numbers exceeded 100 birds each month between October and February.

2020-21 data													
Species	30/04/2020	22/05/2020	17/06/2020	21/07/2020	19/08/2020	23/09/2020	22/10/2020	19/11/2020	22/12/2020	29/01/2021	23/02/2021	19/03/2021	
SIPO	2	1	3	28	0	15	68	12	18	21	16	1	
Variable Oystercatcher	0	2	0	2	2	2	2	2	4	4	2	1	
Spur-winged Plover	4	3	2	4	8	10	8	6	18	6	8	17	
Banded Dotterel	0	2	2	0	6	8	27	50	72	30	54	2	
Black-fronted Dotterel	2	0	0	2	5	2	6	6	7	4	10	4	
Wrybill	0	0	0	0	0	0	1	3	7	3	0	0	
Bar-tailed Godwit	0	0	0	0	0	0	1	0	1	0	0	0	
Turnstone	0	1	0	0	0	0	1	10	9	13	11	0	
Pectoral Sandpiper	0	0	0	0	0	0	0	0	0	0	0	1	
node F-I Hybrid Stilt	0	0	0	0	0	0	0	0	0	1	0	0	
Pied Stilt	6	2	10	12	20	28	35	21	45	37	36	17	
TOTAL	14	11	17	48	41	65	149	110	181	119	137	43	

Comparative 2019-20 data

2019-20 data													
Species	30/04/2019	22/05/2019	20/06/2019	18/07/2019	23/08/2019	28/09/2019	29/10/2019	28/11/2019	21/12/2019	18/01/2020	27/02/2020	25/03/2020	
SI Pied Oystercatcher	0	0	25	16	25	12	15	12	49	63	2	2	
Variable Oystercatcher	2	2	3	4	2	2	2	3	0	0	1	0	
Spur-winged Plover	12	9	5	55	4	4	14	6	13	15	12	4	
Banded Dotterel	2	0	0	0	1	18	16	33	20	43	26	67	
Black-fronted Dotterel	7	0	1	4	2	4	2	0	2	0	3	2	
Wrybill	0	0	0	0	0	1	0	6	3	0	0	0	
Turnstone	0	0	0	0	0	1	3	4	3	16	3	0	
Pectoral Sandpiper	0	0	0	0	0	0	0	1	0	0	0	0	
Pied Stilt	9	19	0	6	6	14	37	44	4	25	14	13	
TOTAL	32	30	34	85	40	56	89	109	94	162	61	88	

Comparative 2018-19 data

species	23/04/2018	17/05/2018	22/06/2018	21/07/2018	24/08/2018	14/09/2018	26/10/2018	22/11/2018	17/12/2018	29/12/2018	3/01/2019	12/01/2019	29/01/2019	19/02/2019	26/03/2019
SIPO	2	6	12	15	6	22	14	6	17	8	7	17	48	7	1
Variable Oystercatcher	11	9	6	4	2	4	4	4	4	2	2	2	2	2	2
Spur-winged Plover	8	12	8	2	10	10	4	6	8	8	21	4	9	19	27
Banded Dotterel	13	2	2	0	0	8	12	8	28	29	63	43	54	63	15
Black-fronted Dotterel	4	2	2	2	2	5	2	2	2	2	3	2	0	2	1
Wrybill	0	0	0	0	0	0	4	0	0	0	1	1	0	0	0
Turnstone	2	0	0	0	0	0	3	3	3	1	1	1	2	4	0
Pied Stilt	19	2	0	3	10	25	15	6	7	5	9	17	12	21	32
TOTAL	59	33	30	26	30	74	58	35	69	55	107	87	127	118	78

Comparative 2017-18 data

species	24/04/2017	20/05/2017	17/06/2017	26/07/2017	17/08/2017	22/09/2017	21/10/2017	21/11/2017	23/12/2017	19/01/2018	27/02/2018	13/03/2018	26/03/2018
SI Pied Oystercatcher	1	0	0	2	5	5	4	5	7	7	7	1	2
Variable Oystercatcher	0	0	1	0	0	2	0	0	3	2	3	4	4
Spur-winged Plover	0	6	57	40	6	5	2	5	8	20	4	2	5
Banded Dotterel	1	0	4	0	2	2	2	17	43	9	6	12	14
Black-fronted Dotterel	0	2	0	0	2	1	1	4	4	3	3	5	2
Wrybill	0	0	0	0	0	0	0	3	0	0	2	0	0
Turnstone	0	0	0	0	0	0	0	1	2	2	0	0	0
Pied Stilt	0	2	22	7	4	2	4	22	17	8	11	8	25
TOTAL	2	10	84	49	19	17	13	57	84	51	36	32	52



Figure 13. Part of a flock of 68 South Island Pied Oystercatchers (SIPO) in Oct 2020 – a new record count.

Breeding waders included 15+ pairs of **Pied Stilt**, 10+ pairs of **Banded Dotterel**, 2+ pairs of **South Island Pied Oystercatcher**, 1-2 pairs of **Black-fronted Dotterel**, 1 pair of **Wrybill** and 1 pair of **Variable Oystercatcher**.

Post-breeding flocking peaked at 181 birds in December (compared to a peak of 162 in Jan 2020). Highest counts for various native species included 72 **Banded Dotterel**, 68 **South Island Pied Oystercatcher**, 45 **Pied Stilt**, 18 **Spur-winged Plover**, 10 **Black-fronted Dotterel**, 7 **Wrybill** and 4 **Variable Oystercatcher**.



Fig. 14. (above) Juvenile Wrybill feeding on the delta (Dec). **Fig. 15.** (below) nesting Pied Stilts (Oct).



Of the international migrants, **Turnstones** were recorded in May (1 bird), and then again from October to February (max. 13 in January). Single **Bar-tailed Godwits** were seen in October and December; and a **Pectoral Sandpiper** was observed in March.



Figure. 16. *Pectoral Sandpiper (March 2021)*

3.6 Gulls

Numbers of **Southern Black-backed Gulls** appear to be rebounding after a cull at the nearest colony upstream 2-3 years ago. Counts of 890 in June 2020 and 480 in February 2021 were higher than any monthly totals since 2017.

Between 270 and 410 **Black-billed Gulls** were present from July to September but no breeding took place and numbers fell sharply to 78 in October and 26 in November. In December, a total of 233 were present, including 121 gathered on a small mid-channel island below the caretakers hut. These looked like they were preparing to nest but the site was very low-lying and easily washed over by freshes. They were gone by the next survey on 29 January 2021. Post-breeding flocking numbers were relatively low with a max. 233 in December, but <50 in most other months. **Red-billed Gulls** were present in all twelve months and were the dominant small gull from April to June, in August, and then again in February and March. The highest count was 338 in August 2020 – closely comparable to max. counts of 370 in July 2019 and 364 in July 2018.



Fig. 17. *Black-billed Gull courtship behaviour and possible nest building in Dec were quickly erased by a fresh.*

2020-21 data												
Species	30/04/2020	22/05/2020	17/06/2020	21/07/2020	19/08/2020	23/09/2020	22/10/2020	19/11/2020	22/12/2020	29/01/2021	23/02/2021	19/03/2021
Black-backed Gull	18	172	890	227	58	46	80	32	6	99	480	82
Red-billed Gull	94	164	180	84	338	16	21	4	16	40	71	116
Black-billed Gull	67	2	10	410	270	359	78	26	233	42	21	12
TOTAL	179	338	1080	721	666	421	179	62	255	181	572	210

Comparative 2019-20 data

2019-20 data												
Species	30/04/2019	22/05/2019	20/06/2019	18/07/2019	23/08/2019	28/09/2019	29/10/2019	28/11/2019	21/12/2019	18/01/2020	27/02/2020	25/03/2020
Black-backed Gull	43	76	198	190	301	72	119	36	63	25	18	114
Red-billed Gull	395	173	148	370	102	36	26	69	13	18	51	267
Black-billed Gull	244	3	14	48	986	3240	642	101	8	19	4	27
TOTAL	682	252	360	608	1389	3348	787	206	84	62	73	408

Comparative 2018-19 data

species	23/04/2018	17/05/2018	22/06/2018	21/07/2018	24/08/2018	14/09/2018	26/10/2018	22/11/2018	17/12/2018	29/12/2018	3/01/2019	12/01/2019	29/01/2019	19/02/2019	26/03/2019
Black-backed Gull	108	143	294	71	259	74	52	83	41	19	35	26	7	36	80
Red-billed Gull	111	116	232	364	27	99	35	183	83	123	n.c.	92	95	93	106
Black-billed Gull	119	6	2	216	4498	7130	7182	4770	2544	1902	n.c.	1650	1514	433	35
TOTAL	338	265	528	651	4784	7303	7269	5036	2668	2044	35	1768	1616	562	221

Comparative 2017-18 data

species	24/04/2017	20/05/2017	17/06/2017	26/07/2017	17/08/2017	22/09/2017	21/10/2017	21/11/2017	23/12/2017	19/01/2018	27/02/2018	13/03/2018	26/03/2018
Black-backed Gull	230	46	123	508	201	262	143	14	13	4	191	224	392
Red-billed Gull	32	11	20	18	21	21	22	20	17	24	110	88	77
Black-billed Gull	258	5	36	1264	3430	459	8798	7008	6290	3910	39	141	140
TOTAL	520	62	179	1790	3652	742	8963	7042	6320	3938	340	453	609

3.7 Terns

White-fronted Terns were recorded in ten out of twelve months but did not attempt breeding in 2020-21. The highest count was a mere 24 birds in December. The absence of sizeable post-breeding flocks can probably be attributable to birds flocking at this year's breeding sites on other Canterbury river mouths. **Caspian Terns** were recorded in ten of the monthly surveys with the annual passage of birds migrating from the Invercargill breeding colony to wintering grounds in Pegasus Bay being picked up in March (19 birds counted). **Black-fronted Terns** were the most abundant tern species present in 2020-21, with a large post-breeding flock (265 birds) observed in May. Successful breeding took place over spring with c.30 pairs nesting – mostly on islands just upstream of the delta.



Figure. 18. Nesting *Black-fronted Terns* (Nov).

2020-21 data												
Species	30/04/2020	22/05/2020	17/06/2020	21/07/2020	19/08/2020	23/09/2020	22/10/2020	19/11/2020	22/12/2020	29/01/2021	23/02/2021	19/03/2021
Caspian Tern	0	4	4	7	1	1	1	1	1	0	5	19
White-fronted Tern	3	12	2	0	0	1	5	5	24	6	23	6
Black-fronted Tern	17	265	3	0	2	5	32	69	47	48	24	3
TOTAL	20	281	9	7	3	7	38	75	72	54	52	28

Comparative 2019-20 data

2019-20 data												
Species	30/04/2019	22/05/2019	20/06/2019	18/07/2019	23/08/2019	28/09/2019	29/10/2019	28/11/2019	21/12/2019	18/01/2020	27/02/2020	25/03/2020
Caspian Tern	4	0	4	4	1	0	1	0	1	3	4	2
White-fronted Tern	7	0	0	0	0	1	1	43	0	1048	66	59
Black-fronted Tern	2	0	0	2	0	4	10	6	4	42	25	33
TOTAL	13	0	4	6	1	5	12	49	5	1093	95	94

Comparative 2018-19 data

species	23/04/2018	17/05/2018	22/06/2018	21/07/2018	24/08/2018	14/09/2018	26/10/2018	22/11/2018	17/12/2018	29/12/2018	3/01/2019	12/01/2019	29/01/2019	19/02/2019	26/03/2019
Caspian Tern	1	1	5	2	1	1	1	1	3	2	1	1	2	4	1
White-fronted Tern	14	82	0	3	26	1	85	13	26	294	441	104	74	49	6
Black-fronted Tern	32	2	0	2	3	2	2	7	12	4	17	6	24	66	6
TOTAL	47	85	5	7	30	4	88	21	41	300	459	111	100	119	13

Comparative 2017-18 data

species	24/04/2017	20/05/2017	17/06/2017	26/07/2017	17/08/2017	22/09/2017	21/10/2017	21/11/2017	23/12/2017	19/01/2018	27/02/2018	13/03/2018	26/03/2018
Caspian Tern	0	2	14	2	0	0	2	0	4	8	7	25	4
White-fronted Tern	2	5	3	0	4	4	2630	4436	3234	1678	115	133	32
Black-fronted Tern	0	4	4	117	65	23	1	18	30	14	8	3	2
White-winged Black Tern	0	0	0	0	0	0	0	0	0	0	1	0	0
TOTAL	2	11	21	119	69	27	2633	4454	3268	1700	131	161	38



Figure 19. Part of a large flock of 265 Black-fronted Terns present at the Ashburton Rivermouth in May 2020.

3.8 Other Species

Up to three **New Zealand Kingfisher** were recorded in spring, comprising a presumed breeding pair and at least one other bird.

Welcome Swallows were present in all months, with the highest count, 95 in June.

No close inshore observations of seabirds were made in 2020-21.

2020-21 data												
Species	30/04/2020	22/05/2020	17/06/2020	21/07/2020	19/08/2020	23/09/2020	22/10/2020	19/11/2020	22/12/2020	29/01/2021	23/02/2021	19/03/2021
NZ Kingfisher	0	0	0	0	0	0	3	1	0	0	0	0
Welcome Swallow	35	48	95	8	20	66	27	4	4	34	12	2

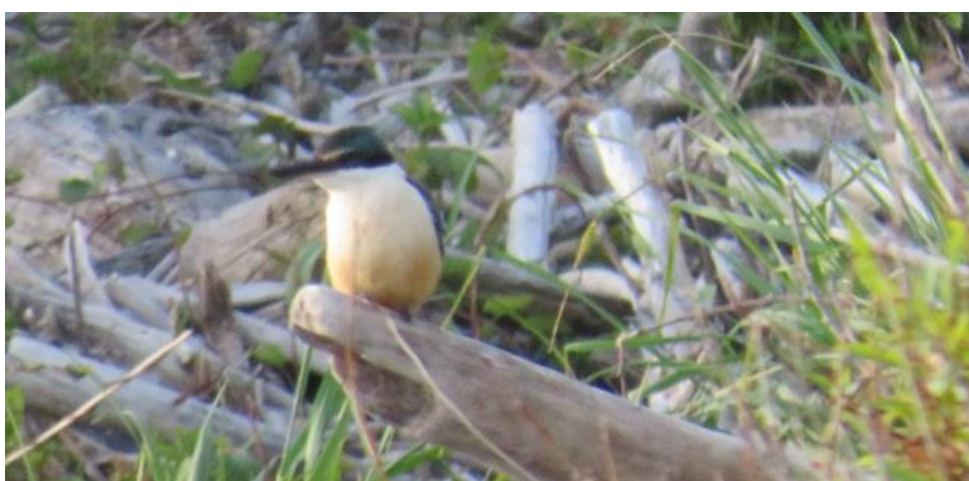


Figure. 20. *One of three New Zealand Kingfishers present in spring.*

4.0 Wildlife Management Recommendations

Signage, protective fencing, local media interest, education, community outreach, stakeholder consultation and simply having conversations with local residents and visitors all seem to be leading to a reduction in wildlife disturbance and habitat destruction. This is likely at least part of the reason why species richness and bird abundance has increased since 2017.

Over 2020-21 the quality of riverbed habitat deteriorated as expansive areas of mud and bare shingle (a positive legacy of recent flooding) has been progressively colonised by invasive weedy vegetation. This will inevitably lead to a decline in habitat extent and condition for many of the rivermouth bird species and also attract a greater mammalian predator presence. If this trajectory continues for another year without a significant flood to “clean out” the riverbed, some active weed spraying or targeted scraping away of vegetation by mechanical means may be appropriate.

Future provision of new bird habitat on the southern side of the lagoon will likely be attractive both to waders and terns, as well as the increasingly abundant and species diverse waterfowl population.

Further population reduction of Black-backed Gull colonies on the immediate upstream part of the riverbed would probably benefit breeding birds at the rivermouth and lower river.

Further efforts to curb habitat damage by off-road vehicles on the lagoon and delta, as well as further efforts to reduce vehicle disturbance along the beach (such as by way of an inner and an outer temporary fence) would be useful. Although vehicle and trail bike activity seemed to be less in 2020-21 than in other seasons, it still occurred fairly regularly. Two examples:-



Two 4WD's ripping up mudflats (April 2020).



4WD approaching too close to the main beach roost – gulls and roosting ducks had already taken flight but fortunately the vehicle did not drive closer to the large shag flock and most of these stayed settled. (Feb 2021).

Acknowledgments

Thanks to Donna Field and Jean Jack at ECAN for commissioning these surveys. Thanks to Tony Gray (ECAN) for riverflow information, and to various folks at ECAN, Ashburton Rivermouth/Hakaterere Huts and the Ashburton branch of Forest & Bird for support, information and conversation.

Appendix 1

Ashburton Rivermouth

Bird Counts 2020-2021

Species	30/04/2020	22/05/2020	17/06/2020	21/07/2020	19/08/2020	23/09/2020	22/10/2020	19/11/2020	22/12/2020	29/01/2021	23/02/2021	19/03/2021
Black Cormorant	2	3	2	0	2	0	0	0	1	0	2	2
Pied Cormorant	13	14	7	2	0	0	0	0	8	11	14	24
Little Cormorant	1	2	0	0	1	0	2	1	2	2	1	1
Spotted Shag	5133	3550	9280	9980	6590	2	7	292	660	7096	5379	9770
Otago Shag	1	3	1	4	2	0	0	0	0	1	1	4
White-faced Heron	2	2	1	0	0	0	1	1	0	1	0	1
Royal Spoonbill	1	0	0	0	0	0	0	0	0	0	2	7
Mute Swan	0	0	1	0	0	0	0	0	0	0	0	0
Black Swan	0	1	1	0	0	0	0	0	0	3	0	0
Canada Goose	83	4	18	8	25	0	13	10	0	6	242	5
Paradise Shelduck	4	5	4	0	2	4	2	0	5	22	2	3
Mallard/Grey Duck	102	49	136	105	36	9	22	15	21	17	105	157
NZ Shoveler	4	4	0	2	0	3	8	7	0	0	7	6
Grey Teal	172	1330	901	223	25	4	47	11	19	73	118	324
NZ Scaup	0	0	0	0	0	0	0	9	12	11	4	3
Swamp Harrier	2	0	1	1	0	0	0	1	0	1	1	1
SI Pied Oystercatcher	2	1	3	28	0	15	68	12	18	21	16	1
Variable Oystercatcher	0	2	0	2	2	2	2	2	4	4	2	1
Spur-winged Plover	4	3	2	4	8	10	8	6	18	6	8	17
Banded Dotterel	0	2	2	0	6	8	27	50	72	30	54	2
Black-fronted Dotterel	2	0	0	2	5	2	6	6	7	4	10	4
Wrybill	0	0	0	0	0	0	1	3	7	3	0	0
Bar-tailed Godwit	0	0	0	0	0	0	1	0	1	0	0	0

Turnstone	0	1	0	0	0	0	1	10	9	13	11	0
Pectoral Sandpiper	0	0	0	0	0	0	0	0	0	0	0	1
Hybrid Stilt	0	0	0	0	0	0	0	0	0	1	0	0
Pied Stilt	6	2	10	12	20	28	35	21	45	37	36	17
Arctic Skua	0	0	0	0	0	0	0	0	0	0	1	0
Black-backed Gull	18	172	890	227	58	46	80	32	6	99	480	82
Red-billed Gull	94	164	180	84	338	16	21	4	16	40	71	116
Black-billed Gull	67	2	10	410	270	359	78	26	233	42	21	12
Caspian Tern	0	4	4	7	1	1	1	1	1	0	5	19
White-fronted Tern	3	12	2	0	0	1	5	5	24	6	23	6
Black-fronted Tern	17	265	3	0	2	5	32	69	47	48	24	3
NZ Kingfisher	0	0	0	0	0	0	3	1	0	0	0	0
Welcome Swallow	35	48	95	8	20	66	27	4	4	34	12	2
TOTAL	5768	5645	11554	11109	7413	581	498	599	1240	7632	6652	10591

Appendix 2

CHECKLIST to the BIRDS of the ASHBURTON RIVER MOUTH/ HAPUA HAKATERE and environs

(5th update to April 2021)

Compiled by **Andrew Crossland**

Sources:

McArthur, N. & M. Bell. 2016. Ashburton River/Hakaterere shorebird habitat management strategy. Wildlife Management International, Blenheim.

O'Donnell, C. F. J. 2000. The significance of river and open water habitats for indigenous birds in Canterbury, New Zealand. *Report UOO/37*. Environment Canterbury, Christchurch. Unpublished report.

O'Donnell, C.F.J. & S.M. Moore. 1983. The wildlife and conservation of braided river systems in Canterbury. *Fauna Survey Unit Report No.33*. Wellington, New Zealand Wildlife Service, Department of Internal Affairs.

O'Donnell, C.F.J.R. Ashburton River Report

A. Crossland pers. obs. 1986 - 2019

S. Butcher pers. coms.

D. Geddes pers. coms.

Classified Summarised Notes/OSNZ records

BirdingNZ.net/ebirdNZ

Key

Origin:

w = wetland/coastal species

Maximum numbers (2000s):

***** over 2000 (abundant¹)

<i>t</i>	= terrestrial/non wetland species	****	over 500 (abundant ²)
bold	= native or endemic sp. or sub.sp.	***	over 200 (very common)
<i>italics</i>	= Australian visitor	**	over 50 (common)
std font	= human-introduced (exotic)	*	10 - 50 (less common)
<u>underlined</u>	= northern hemisphere migrant	#	< 10 (uncommon)
Status:			
R	= resident - present all year round		
Rb	= resident and breeding		
RS	= non-breeding resident with seasonal population influxes		
RbS	= breeding resident with seasonal population influxes		
V	= vagrant or irregular visitor		
S	= seasonal or regular visitor		

SPECIES RECORDED 1980 to 2021

Penguins

1. **Little Blue Penguin** (*Eudyptula minor*) w V #

Petrels

2. **Giant Petrel sp.** (*Macronectus sp.*) w V #

Gannets

3. **Australasian Gannet** (*Morus serrator*) w S #

Cormorants and Shags

4. **Black Cormorant** (*Phalacrocorax carbo novaehollandiae*) w S #
5. **Pied Cormorant** (*Phalacrocorax varius varius*) w S *

- | | | | |
|----|--|------|-------|
| 6. | Little Cormorant (<i>Phalacrocorax melanoleucos brevirostris</i>) | w S | # |
| 7. | Little Black Cormorant (<i>Phalacrocorax sulcirostris</i>) | w V | # |
| 8. | Spotted Shag (<i>Stictocarbo punctatus punctatus</i>) | w RS | ***** |
| 9. | Otago Shag (<i>Leucocarbo chalconotus</i>) | w S | # |

Hérons and Allies

- | | | | |
|-----|---|-------|---|
| 10. | White-faced Heron (<i>Ardea n. novahollandiae</i>) | w RbS | # |
| 11. | White Heron (<i>Egretta alba modesta</i>) | w V | # |
| 12. | Royal Spoonbill (<i>Platalea regia</i>) | w S | # |

Waterfowl

- | | | | |
|-----|--|-------|-------|
| 13. | Mute Swan (<i>Cygnus olor</i>) | w V | # |
| 14. | Black Swan (<i>Cygnus atratus</i>) | w S | # |
| 15. | Canada Goose (<i>Branta Canadensis maxima</i>) | w RbS | *** |
| 16. | Greylag (Feral) Goose (<i>Anser anser</i>) | w V | # |
| 17. | Paradise Shelduck (<i>Tadorna variegata</i>) | w RbS | * |
| 18. | Mallard (<i>Anas p. platyrhynchos</i>) | w RbS | ** |
| 19. | Grey Duck (<i>Anas s. superciliosa</i>) | w V | # |
| 20. | Grey Teal (<i>Anas gracilis</i>) | w RbS | ***** |
| 21. | New Zealand Shoveler (<i>Anas rhynchos</i>) | w S | * |
| 22. | New Zealand Scaup (<i>Aythya novaeseelandiae</i>) | w V | # |

Raptors (Birds of Prey)

- | | | | |
|-----|--|-------|---|
| 23. | Swamp Harrier (<i>Circus approximans</i>) | w RbS | # |
|-----|--|-------|---|

Gamebirds

- | | | | |
|-----|--|------|---|
| 24. | California Quail (<i>Callipepla californica brunnescens</i>) | t Rb | * |
| 25. | Ring-necked Pheasant (<i>Phasianus colchicus</i>) | t Rb | # |

Rails/Gallinules

26. **Pukeko** (*Porphyrio porphyrio melanotus*) w V #

Waders

27. **South Island Pied Oystercatcher** (*Haematopus ostralegus*) w RbS *
28. **Variable Oystercatcher** (*Haematopus unicolor*) w S #
29. **Pied Stilt** (*Himantopus himantopus*) w RbS *
30. **Black Stilt** (*Himantopus novaezelandiae*) w V #
31. **Spur-winged Plover** (*Vanellus miles*) w RbS **
32. **Banded Dotterel** (*Charadrius bicinctus*) w RbS **
33. Mongolian Plover (*Charadrius mongolus*) w V #
34. **Black-fronted Dotterel** (*Charadrius melanops*) w RbS *
35. **Wrybill** (*Anarhynchus frontalis*) w S #
36. Pacific Golden Plover (*Pluvialis fulva*) w V #
37. Ruddy Turnstone (*Arenaria interpres*) w S #
38. Red Knot (*Calidris canutus canutus*) w V #
39. Sharp-tailed Sandpiper (*Calidris acuminata*) w V #
40. Pectoral Sandpiper (*Calidris melanotos*) w V #
41. Red-necked Stint (*Calidris rufficollis*) w V #
42. Eastern Bar-tailed Godwit (*Limosa lapponica baueri*) w V #
43. Eastern Curlew (*Numenius madagascariensis*) w V #
44. Siberian Tattler (*Tringa brevipes*) w V #
45. Common Sandpiper (*Tringa hypoleucos*) w V #

Skuas, Gulls and Terns

46. Arctic Skua (*Stercorarius parasiticus*) w S #
47. Pomarine Skua (*Stercorarius pomarinus*) w S #

48. **Black-backed Gull** (*Larus dominicanus*) *w RbS ******
49. **Red-billed Gull** (*Larus novahollandiae*) *w RbS *****
50. **Black-billed Gull** (*Larus bulleri*) *w RbS ******
51. White-winged Black Tern (*Chlidonias leucopterus*) *w V #*
52. **Black-fronted Tern** (*Sterna albobriata*) *w RbS ***
53. **Caspian Tern** (*Sterna caspia*) *w S **
54. **White-fronted Tern** (*Sterna striata*) *w RbS ******
55. Common Tern (*Sterna hirundo*) *w V #*

Pigeons and Doves

56. **Rock Pigeon** (*Columba livia*) *t R ***

Cuckoos

57. **Shining Cuckoo** (*Chrysococcyx lucidus*) *t Sb **

Owls

58. **Little Owl** (*Athene noctua*) *t Rb #*

Kingfishers

59. **New Zealand Kingfisher** (*Halcyon sancta*) *w RbS #*

Swallows

60. **Welcome Swallow** (*Hirundo tahitica*) *w RS ***

Passerines

61. **Skylark** (*Alaudu arvensis*) *t RbS **
62. **New Zealand Pipit** (*Anthus novaseelandiae*) *t S #*
63. **Dunnock** (*Prunella modularis*) *t RbS **
64. **Blackbird** (*Turdus merula*) *t RbS ***
65. **Song Thrush** (*Turdus philomelos*) *t RbS **

66.	Bellbird (<i>Anthornis melanura</i>)	<i>t S</i>	#
67.	Grey Warbler (<i>Gerygone igata</i>)	<i>t RbS</i>	*
68.	South Island Fantail (<i>Rhipidura fuliginosa</i>)	<i>t RbS</i>	*
69.	Silvereye (<i>Zosterops lateralis</i>)	<i>t RbS</i>	***
70.	Yellowhammer (<i>Emberiza citrinella</i>)	<i>t RbS</i>	**
71.	Cirl Bunting (<i>Emberiza cirlus</i>)	<i>t V</i>	#
72.	Chaffinch (<i>Fringilla coelebs</i>)	<i>t RbS</i>	***
73.	Greenfinch (<i>Carduelis chloris</i>)	<i>t RbS</i>	***
74.	Goldfinch (<i>Carduelis carduelis</i>)	<i>t RbS</i>	***
75.	Redpoll (<i>Carduelis flammea</i>)	<i>t RbS</i>	***
76.	House Sparrow (<i>Passer domesticus</i>)	<i>t RbS</i>	**
77.	Starling (<i>Sturnus vulgaris</i>)	<i>t RbS</i>	****
78.	White-backed Magpie (<i>Gymnorhina tibicen</i>)	<i>t RbS</i>	*

78 species recorded 1980 – 2021, including 38 resident species, 17 seasonal/regular visitors and 23 vagrants/irregular visitors.

