



## 2020 Ashley-Rakahuri Annual Bird Survey

### Introduction

The Ashley Rakahuri Rivercare Group (ARRG) has an unbroken 21-year history of annual bird counts – running 19km from the Okuku junction to State Highway One. For the last 3 years we have also included the 2km section from SH1 to the top of the estuary and have counted the birds in 1km stretches of the river. This counting method has now been standardized across Canterbury. The graphs (other than that for the black-billed gulls) and numbers in this report show data that excludes the lowermost 2km of the river.

On 21 November this year we had 22 active participants in 4 groups on the usual river reaches – starting at about 9am. In the early afternoon 2 surveyors did the 2km down to the estuary. There was a weak to moderate northwesterly wind, cool conditions, and river flow of about 8 cumecs at the Ashley gorge (Figure 1). There had been a small flood of 50 cumecs on 8 November, this was enough to wash away some black-fronted tern nests near Groyne 9 and near Cones Road bridge – but the birds would have had time to re-nest before the survey.

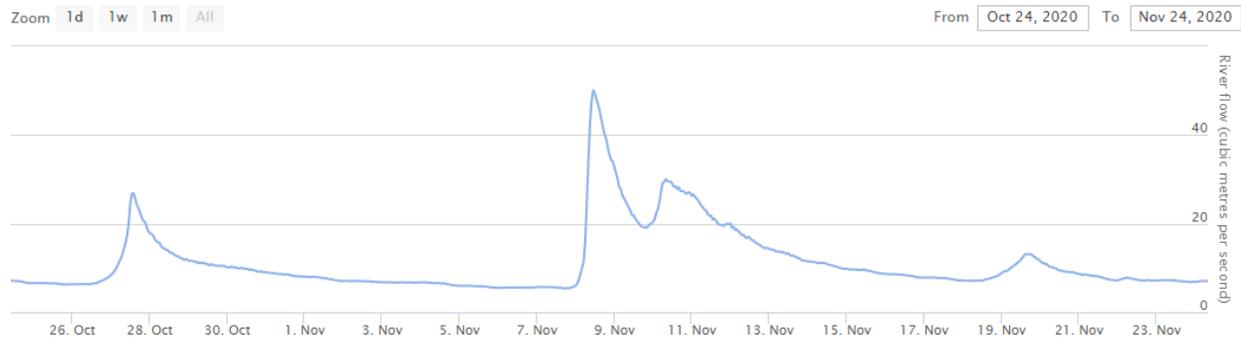


Figure 1. River flow at Ashley gorge

This year most participants had radios, although a few were faulty or had insufficient battery life. Radios improve communication considerably and should lead to less double counting.

For the past 3 years we have counted black-billed gulls in colonies using drone photographs – this year the day before the survey. This leads to considerably more accurate numbers, and almost inevitably higher ones than would have resulted from a land count.

## Overall Numbers and Bird Locations

The 6 key braided river bird species that we are most concerned about are wrybill, banded dotterel (BD), black-fronted tern (BFT), southern pied oystercatcher (SIPO), pied stilt (PS) and black-billed gull (BBG). Numbers since 2000 of the former 5 species are plotted on Figure 2 and Figure 3 with BBG on Figure 4 – as the BBG numbers tend to overwhelm those of the other species when plotted on a graph. Some observations:

1. The total of wrybill, BD, BFT, PS and SIPO was 376 compared with 1004 last year and 461 in 2018. Last year was however an exceptional year with bird numbers doubtlessly strongly influenced by floods in the Waimakariri.
2. 2020 was the third equal worst year on record (with 2002) for these species – with the worst year being 2001 (285 birds). This result no doubt partly reflects the regrowth of weeds since the July 2017 1 in 10-year flood. In July-August this year ARRG (with ECan funding) cleared weeds from 40 ha of islands. This should have given enough space for colony (BFT and BBG) and territorial nesters. Perhaps the overall weedy nature of the river is a deterrent to the birds, and no doubt there are other local and external factors at play. Nesting conditions may have been better on the Waimakariri this year, and possibly food is a factor.
3. Black-billed gulls do not appear to have been affected by any adverse conditions – note that Figure 4 shows the 2018 colony that was just below the SH1 bridge at the time of the survey. This got washed out and the birds moved several kilometres upstream soon after the survey.
4. This season weekly bird counts have been done by GD between Cones Road and SH1 - Figure 6. The last bar on this figure shows results from the annual survey, and with the exception of BD, numbers are very similar to the previous count a week before which was done with a lot of zigzagging and back and forwarding.
5. Figure 7 shows the kilometre by kilometre locations of the key species in the years 2018, 2019 and 2020. Of note are –
  - Quite large numbers of birds, especially PS and BFT, eastward of SH1. This is a single channel reach with little bare gravel and trees close to the river – in reaches with similar conditions elsewhere along the river there are few braided river birds. This whitebait season there has also been a lot of disturbance in the area. Presumably the bird numbers here are due to food supply in the estuary and tidal part of the river. Perhaps lower numbers higher up the river this year could be partly due to poorer food supply there this year?
  - The relatively high number of birds, especially PS, north of where Smarts Road joins Tulls Road. This is an area of recent gravel extraction where Taggart cleared a large area of weeds. This is also where the BBG colony is.
  - Large bird numbers near Cones Road – this has been a favoured area for BD nesting this year and there is a small BFT colony. There has been less human disturbance than usual here this year, and there has been a quite large area of bare gravel.
  - Best bird numbers, with the greatest species variation, were off Groyne 2 (near the airport). This is the best-preserved section of braiding along the river and has been the favoured section for wrybill nesting for some time.

## Comments on Individual Species

### Wrybill

Ten wrybill were counted this year, this is considerably fewer than the 27 last year and less than the average since 2000 of 13. One bird seen between kilometres 3 and 4 had not been previously monitored this year. Only one wrybill was seen east of Cones Road when there were 2 nests in this area (at Marchmont and Smarts) this year. The Marchmont birds have not been seen since the small flood of 8 November. This should not have affected the large chick that they were guarding, but maybe it has been predated.

Most of the wrybill were seen in kilometres 6 to 8. None were found in the vicinity of Groyne 1 where a pair were successfully raising a chick just before the survey – however a few days later one was seen in this area showing chick guarding behaviour.

Last season 9 pairs of wrybills were seen on territories, this year there had been 8 pairs seen. Many of the 27 wrybill seen in the 2019 survey are likely to have been displaced by floods from the Waimakariri, and did not nest on the Ashley.

### Banded Dotterel

The 133 BD counted this year was well down on the 323 last year and the average of 209. However, the northwest wind perhaps caused BD to be under-counted. Several times birds were seen up close, keeping low and not making noise when they would normally be expected to fly when approached. With this behaviour, and sometimes quite widely spaced surveyors, some birds would be missed. **Error! Reference source not found.** shows evidence for this undercounting – there was an unexpected drop in BD numbers eastward of Cones Road from the week before the annual survey when numbers of other species remained very much the same or slightly higher. Tightening up of survey procedures, leading to less double counting, could also cause numbers to drop. The way BD circle around out of their territories when disturbed makes them prone to double counting.

Several BD chicks were seen in the survey, but perhaps not as many as should be expected. Early in the season a number of BD nests were found and monitored, most of these were not successful. One was lost to a small fresh and one to a harrier – caught by trail camera.

BD were most common in the few kilometres downstream from the Okuku junction and near Cones Road.

### Black-fronted Tern

The 65 counted this year was the fourth lowest on record, 2005 (26), 2004 (28) and 2001 (44) had the lowest numbers. In 2019 there were 296 counted. BFT numbers were the most reduced of the key species compared to 2019. Numbers do seem to have increased slightly eastward of Cones Road in the few days after the survey – with some more nests having been made.

This looks to be a very poor breeding season for BFT – although there is still time for some to nest. At the time of the survey nesting seemed to be taking place only in 4 locations – very close to the Cones Road bridge (only a handful of nests), on the Smarts island where Taggart cleared weeds (2 clusters of maybe 3

nests each) and probably a few nests immediately above the estuary. Prior to 8 November there had been a good colony off Groyne 9 – with around 20 nests mainly on an island that ARRГ had cleared of weeds this year. Some of these nests were abandoned prior to the small flood of 8 November, some were washed away in the flood, and some were abandoned at this time despite not being flooded. The reason for the abandonment is not known – although there had been 4wd and motorbike activity through the colony despite signage. During the day the vehicles weren't causing abandonment, but at night they could well have done. These birds have had time to reneſt in this area after the flood, but have not done ſo.

Figure 5 shows that eaſtward of Cones Road BFT numbers have dropped ſteeply ſince late September. The birds were here, but decided to neſt elsewhere. Reasons for this are not understood, there appears to be enough bare gravel for them to neſt – areas that ARRГ has cleared and others – including a large naturally clear area near Groyne 4 where there was a big BFT colony in 2019. Perhaps the answer has to do with food ſupply. Birds have been captured on trail cameras bringing worms to neſts, not the more uſual whitebait.

### Black-billed Gull

On 18 November 1820 were counted from drone photos at or near the colony on Smarts iſland. – with juſt a few elsewhere along the river – mainly near the eſtuary. This is the ſecond hiġheſt number on record – after 2019 when there were 4097. On 11 November there had been 2846 at the Smarts ſite, but numbers are following what now ſeems to be an eſtablished pattern – maximum numbers occurring around a week after inception of the colony, then many birds leave the area.

Neſts have yet to be counted, but there are perhaps in exceſs of 1000.

Until relatively recently on the Ashley we have had a BBG colony about every ſecond year, but ſince 2016 a reaſonable local colony has been an annual feature. Figure 4 does not ſhow the 2016 colony in a dairy farm paddock juſt ſoutheaſt of the SH1 bridge.

### Pied Stilt

This was the moſt abundant ſpecies on the river this year – although the total number at 141 was ſtill leſs than the average of 163. This was the 10<sup>th</sup> worſe year on record for PS.

Stilt numbers increaſed ſignificantly in the lower half of the river ſince Auguſt - Figure 5. In the ſurvey annual they were ſeen to be moſt abundant near the eſtuary, at Smarts, Tulls and near Groyne 2. None at all were ſeen in kilometres 1 to 3 downstream from the Okuku junction. Their behaviour in moſt places ſhowed that they were neſting.

### Pied Oystercatcher

Twenty-seven SIPO were counted this year, down significantly from 2019, but essentially the same as the long-term average of 28. SIPO and PS are the least threatened of the braided river birds and nest in several other environments.

They were seen sporadically along the river. As with BD, they are early nesters and most of them probably had chicks. Two dead adult SIPO were seen off Groyne 9, they had perhaps been shot.

### Black-backed Gull

Fourteen SBBG were counted, this compares with the long-term survey average of 11. All but one of these were seen between kilometres 12 and 19. In the previous twelve one person counts of this area this year, the average seen was 4, so this years annual survey result does not represent an increase in SBBG. These birds are a major predator of braided river bird eggs and chicks on other rivers such as the Waimakariri and Waiau – where they nest in large colonies. They also nest at the Ashley estuary, but for reasons unknown, they are quite rare further up the river. In the last 15 years only 1 SBBG nest has been found in the Ashley riverbed.

### Black-fronted Dotterel

Seven were seen between kilometres 13 and 17 (Marchmont to Toppings). This compares with a maximum of 5 seen in the same area in the weekly surveys. A further bird was seen east of SH1. Black-fronted dotterels have been increasing in abundance in the last few years (only 1 counted in 2019) and have been seen further upstream as time goes by. They are usually found in sandy or muddy backwaters which aren't classic braided river habitats. For years they have been well known in the Waipara river and are quite common in the Opihi. These rivers are degraded and channelized braided rivers and increasing numbers in the Ashley may not be a good sign.

### Spur-winged Plover

Twenty-one were counted in 2020, this compares to a long-term average of 41. This species is highly erratic in distribution, sometimes occurring in large flocks, sometimes with only a few individuals. The maximum seen in a survey since 2000 was 149.

### Water Birds

Ducks, shags, Canada Geese, white-faced herons and paradise ducks are found along the river but are not specifically braided river birds. They actually prefer deeper water channels that run along the edges of the fairway close to trees – and thus are maybe an indication of the degradation of a braided river. In the Opihi, an extremely channelized and degraded river, the average ratio of braided river birds (wrybill, BD, BFT, PS and SIPO) to these river birds in the 4 years of surveys was 1.2. In the Ashley for the past 3 years this ratio has been 4.4, 6.5 and 3.4 respectively. The total of these birds counted this year was 111.

Figure 8 shows the distribution of these birds, with pie charts scaled the same as in the previous maps. Shags (predominantly little shags) and ducks were most abundant near the estuary and in the single channel river for a few kilometres upstream of it. Further upstream paradise ducks predominated. Early this year when the river was drying up, shags, herons and even royal spoonbills were quite abundant further up the river where they were fishing in drying sections of the river.

#### Other

Twenty-four harriers were counted this year, but it appears that some double counting has occurred as more than one person in each group was counting them – despite instructions for one person per group to do this. Numbers from previous years are unreliable as these birds are generally seen only in the distance. Harriers are a major predator of braided river bird chicks on this river, and perhaps also of eggs. One was captured by a trail camera raiding a BD nest this year.

One Caspian tern was seen east of SH1. No unusual birds, which have occasionally been seen in the past, such as white-winged black tern, were observed.

## Figures

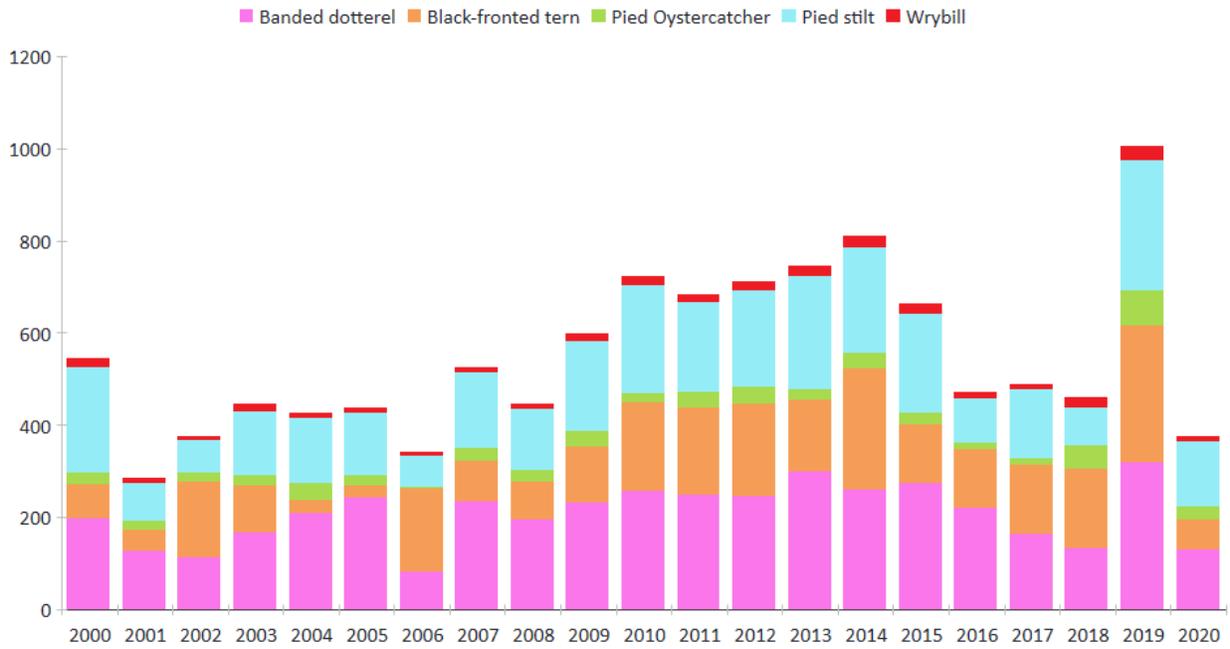


Figure 2. Annual bird count results, key braided river species, 2000 - 2020

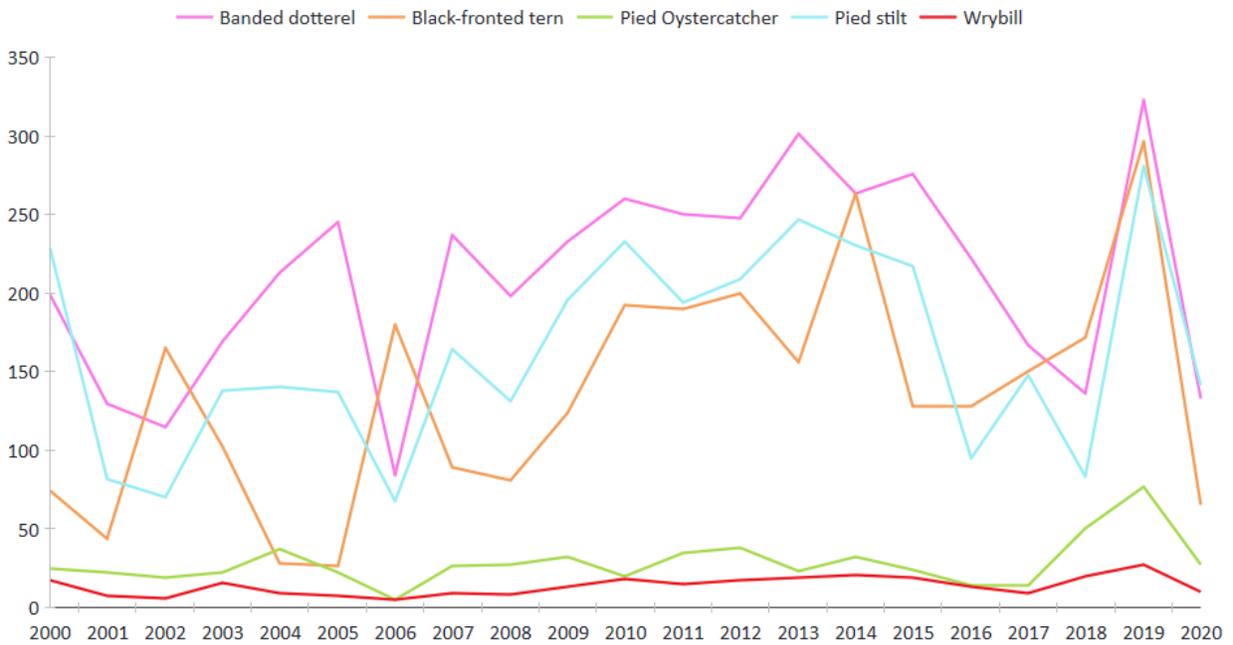


Figure 3. Annual bird count results, key braided river species, 2000 - 2020

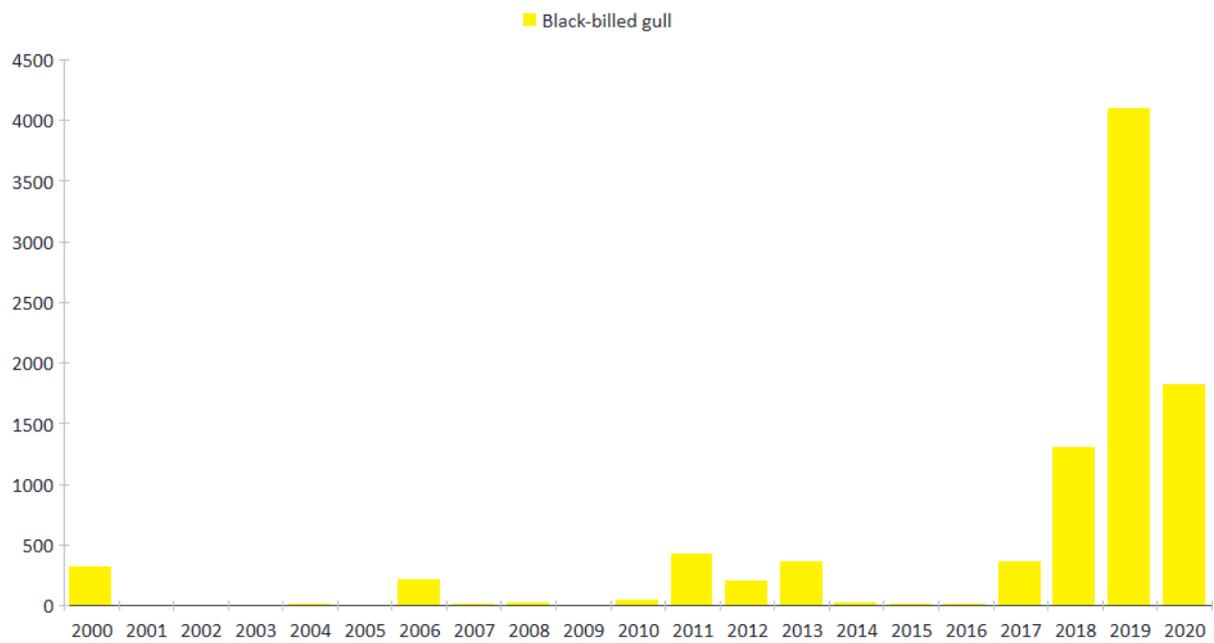


Figure 4. Annual bird count results, black-billed gulls, 2000 – 2020

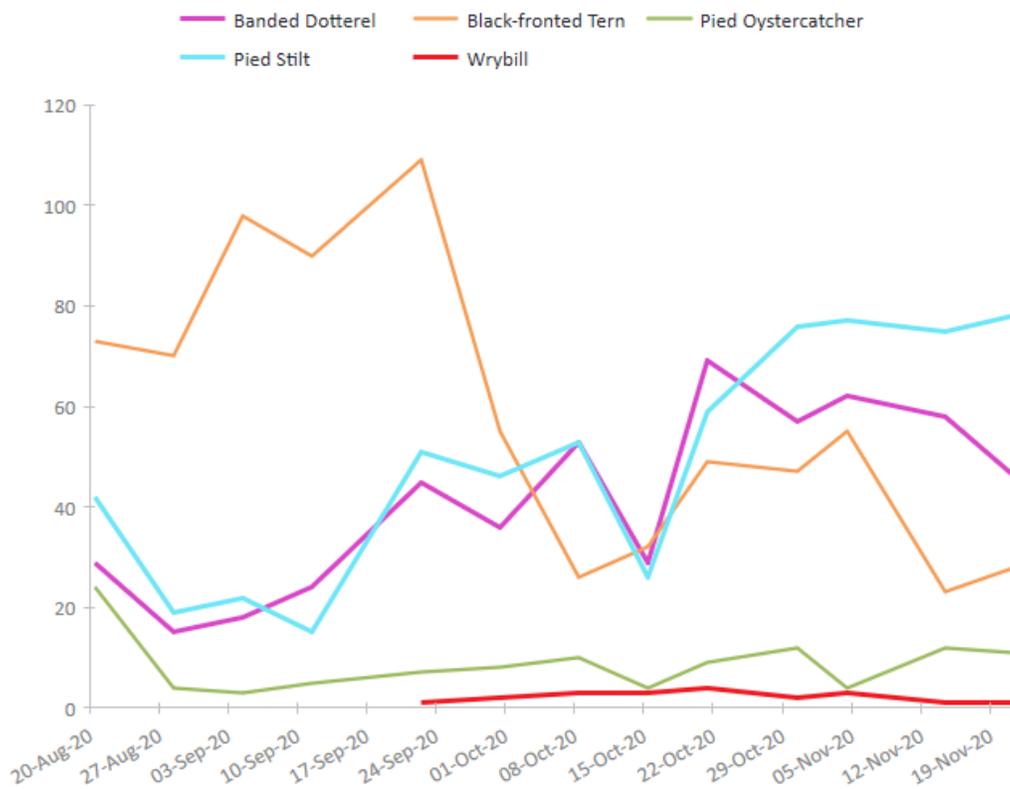


Figure 5. Key species counts - Cones Road to SH1, 2020, weekly surveys

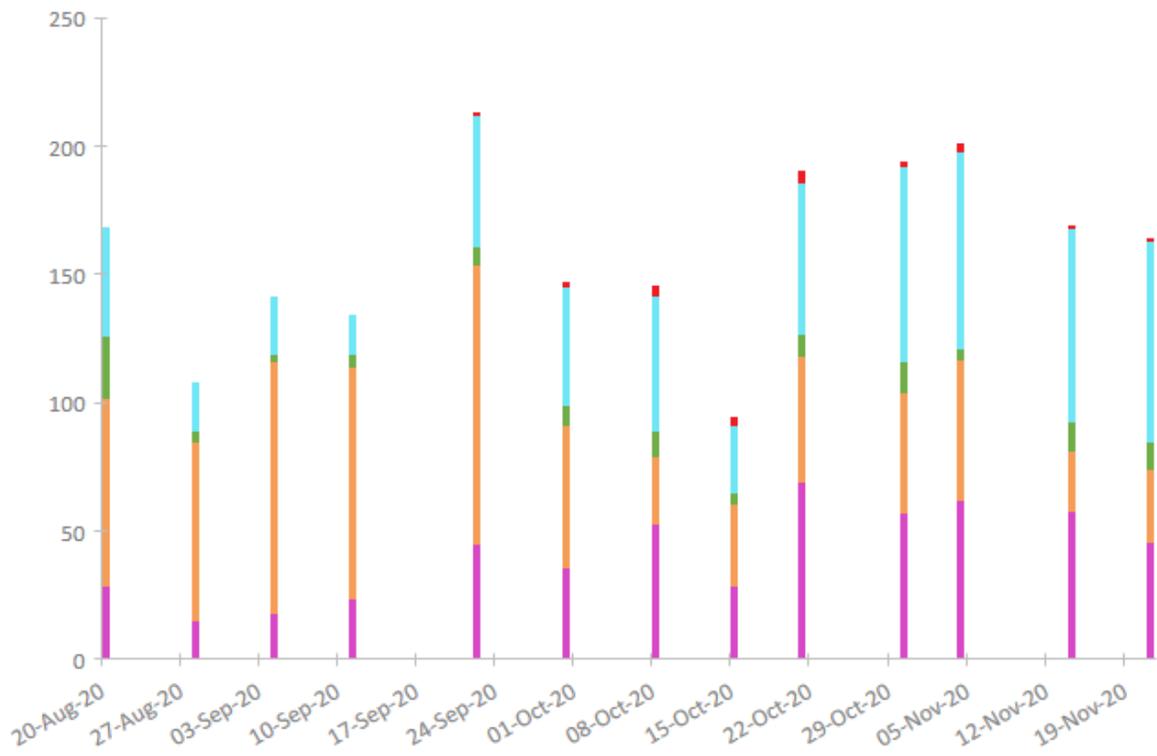


Figure 6. Key species counts - Cones Road to SH1, 2020, weekly surveys

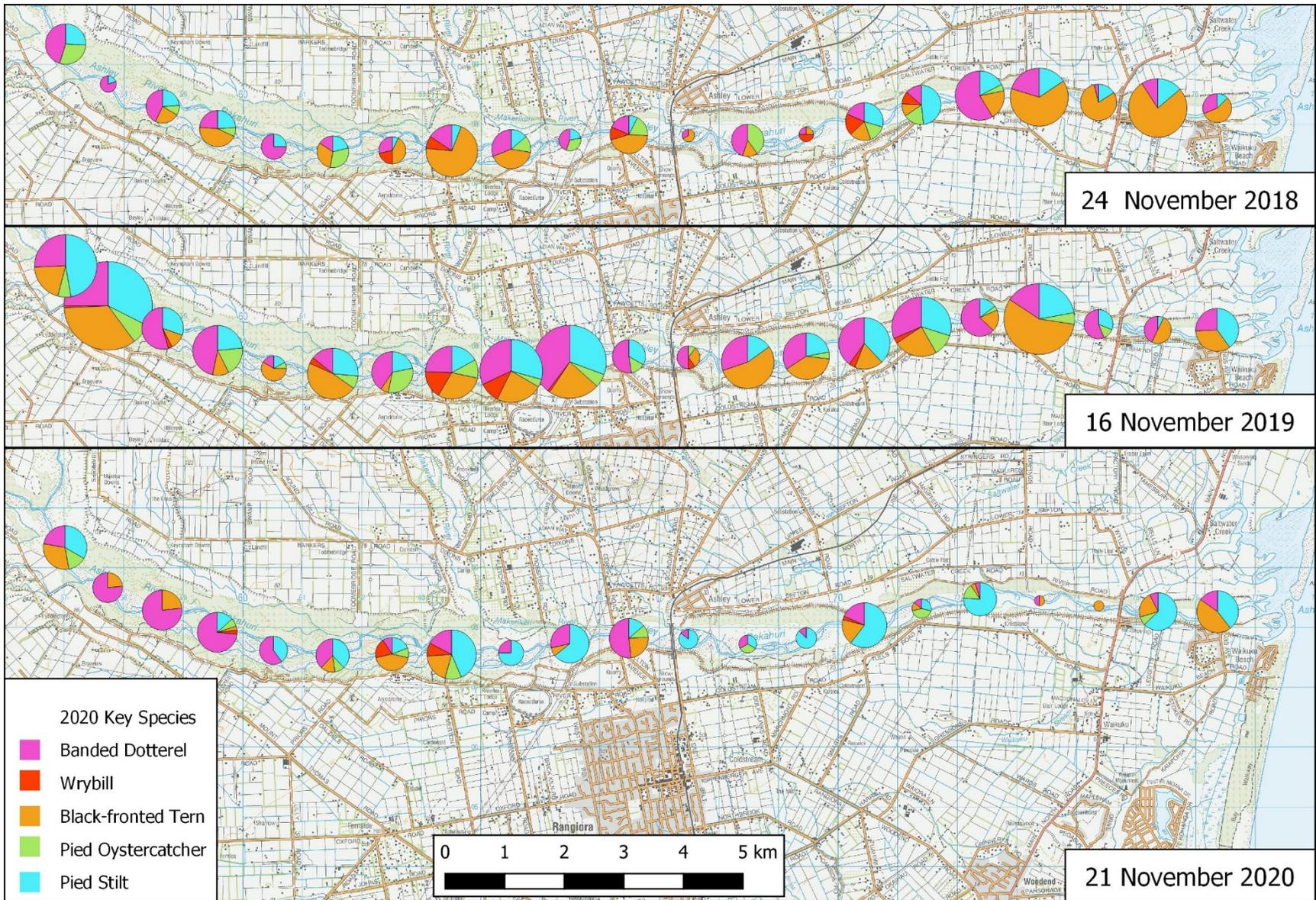


Figure 7. Key braided river bird locations, 2018, 2019, 2020

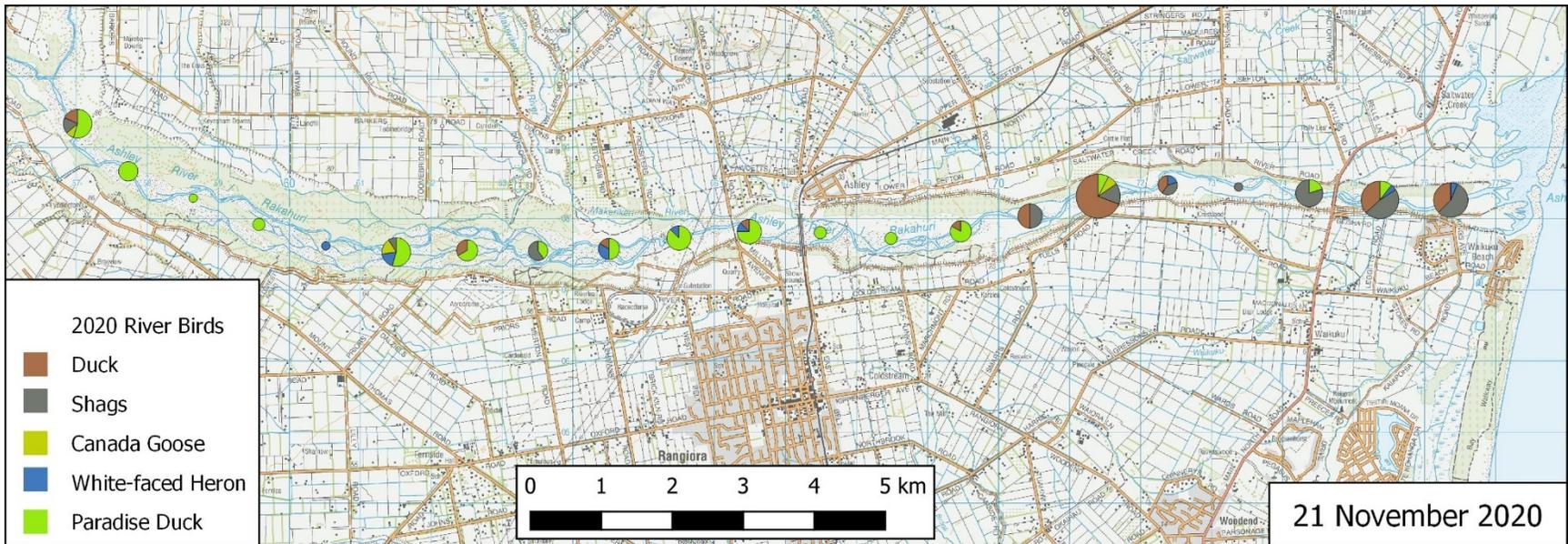


Figure 8. Other river bird locations, 2020

## Tables

### Annual Data (Okuku junction to SH1)

Year	BD	BFT	SIPO	PS	Wrybill	BBG	SBBG	BF Dott	Black shag	Little shag	Black stilt	SW plover	Casp Tern	WF tern	Duck	P. Duck	C Goose	WF Heron	Harrier
2000	199	74	25	229	17	314	26		18	3	0	18	0	0					
2001	130	44	22	82	7	3	0		3	6	0	0	0	0					
2002	115	165	19	70	6	5	11		0	0	0	16	0	0					
2003	169	102	22	138	16	0	10		8	4	0	13	4	0					
2004	213	28	37	140	9	10	27		7	7	2	27	0	0					
2005	245	26	22	137	7	1	3		2	6	1	149	0	0					
2006	84	180	5	68	5	213	5		2	2	1	37	1	0					
2007	237	89	26	164	9	13	12		10	4	1	116	0	0					
2008	198	81	27	131	8	16	10		9	0	1	11	0	0					
2009	233	124	32	196	13	2	19		6	17	1	39	0	0					
2010	260	192	20	233	18	41	19		2	6	0	15	0	8					
2011	250	190	35	194	15	425	2		5	13	0	89	0	77					
2012	248	200	38	209	17	202	11		6	11	0	55	0	6					
2013	301	156	23	247	19	364	17		3	19	0	65	1	2					
2014	263	263	32	230	21	23	7		4	5	0	37	0	0					
2015	276	128	24	217	19	13	13		1	6	0	9	0	0					
2016	222	128	14	95	13	9	4		5	8	0	6	0	0					
2017	167	150	14	148	9	361	1		2	3	0	32	5	0					
2018	136	172	50	83	20	16	15		5	8	0	17	0	0	17	52	0	5	2
2019	323	296	77	281	27	4097	11	1	8	17	0	98	1	4	31	54	5	8	6
2020	133	65	27	141	10	1826	14	7	4	10	0	21	0	0	29	34	0	5	24

### 2020 Data - Okuku Junction to SH1

Kilometre	BD		BFT	SIPO	PS	Wrybill	BBG	SBBG	BF Dott	Duck	Black Shag	Little Shag	SW Plover	P Duck	WF Heron	Harrier
1	8		11	5	12	0	0	0	0	0	0	1	0	0	1	1
2	13		3	0	0	0	0	0	0	0	0	1	0	0	0	1
3	23		7	0	0	0	0	0	0	8	0	0	0	0	1	2
4	22		1	2	4	1	0	0	0	0	0	0	5	1	1	2
5	9		0	0	6	0	0	1	0	0	0	0	0	2	0	0
6	8		3	2	8	0	0	0	0	4	1	0	5	3	1	1
7	2		9	2	4	4	1	0	0	10	0	0	0	0	0	0
8	8		9	5	20	4	0	0	0	0	0	1	0	2	0	5
9	3		0	0	9	0	0	0	0	0	0	0	0	0	0	4
10	8		2	0	18	0	0	0	0	2	1	1	4	5	0	1
11	15		7	3	4	0	0	0	0	0	0	0	2	0	0	0
12	1		0	0	6	0	0	0	0	3	0	1	4	6	0	2
13	2		0	2	2	0	0	1	0	0	0	0	0	4	0	2
14	1		0	0	7	0	0	3	4	0	0	3	0	8	0	1
15	7		7	0	23	1	1800	1	0	0	1	0	1	0	0	1
16	1		1	3	2	0	25	5	2	0	1	0	0	1	0	0
17	1		1	3	16	0	0	0	1	0	0	0	0	0	0	0
18	1		1	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0		2	0	0	0	0	3	0	2	0	2	0	2	1	1
<b>Total</b>	<b>133</b>		<b>65</b>	<b>27</b>	<b>141</b>	<b>10</b>	<b>1826</b>	<b>14</b>	<b>7</b>	<b>29</b>	<b>4</b>	<b>10</b>	<b>21</b>	<b>34</b>	<b>5</b>	<b>24</b>

### 2020 SH1 to Estuary

Kilometre	BD	BFT	SIPO	PS	Wrybill	BBG	SBBG	BF Dott	Duck	Black Shag	Little Shag	SW Plover	P Duck	WF Heron	WF Tern	C. Tern
20	2	6	2	17	0	2	0	0	1	0	4	1	0	1	1	0
21	5	15	0	13	0	5	0	1	21	0	5	0	0	2	0	1
<b>Total</b>	<b>7</b>	<b>21</b>	<b>2</b>	<b>30</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>1</b>	<b>22</b>	<b>0</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>1</b>