

---

*Management and monitoring of shorebirds in the  
Ashley-Rakahuri River during the 2009/10 season*

---



In 2009, the Ashley-Rakahuri Rivercare Group won the Canterbury-Aoraki Conservation Award

**Ashley/Rakahuri Rivercare Group, Inc.**

---

Management and monitoring of shorebirds  
in the Ashley-Rakahuri River during the 2009/10 season

---

A report by:

JE Dowding & NJ Ledgard

Prepared for:

Ashley-Rakahuri Rivercare Group, Inc.

---

December 2010

---

## Contents

Summary	4
<hr/>	
1 Introduction	5
<hr/>	
2 Study area and methods	6
<hr/>	
2.1 Study area	6
2.2 Habitat enhancement	6
2.3 Walkway creation & 4WD track maintenance	6
2.4 Predator control	6
2.5 Monitoring	6
2.6 Meetings	6
3 Results	7
<hr/>	
3.1 Habitat enhancement	7
3.2 Predator control	7
3.3 Advocacy	8
3.4 Spring bird survey	8
3.5 Shorebird breeding	9
4 Discussion	12
<hr/>	
4.1 Habitat enhancement	12
4.2 Predator control	12
4.3 Advocacy	13
4.4 Spring bird counts	14
4.5 Shorebird breeding	14
4.6 Creation of Ashley-Rakahuri Regional Park	15
4.7 Funding	15
5 Conclusions	15
<hr/>	
6 Recommendations	16
<hr/>	
7 Acknowledgements	17
<hr/>	
8 References	18
<hr/>	

## Summary

Dowding, J.E.; Ledgard, N.J. 2010. *Management and monitoring of shorebirds in the Ashley-Rakahuri River during the 2009/10 season*. Unpublished report, Ashley/Rakahuri Rivercare Group Inc., Rangiora. 20 pp.

The Ashley-Rakahuri Rivercare Group was formed in 1999, and became an incorporated society in 2005. Its main goal is to protect key shorebird populations in the lower reaches of the Ashley-Rakahuri River. This is the sixth annual report from the Group.

The main activities undertaken by the Group in 2009/10 were:

- A survey of bird species in the lower river in November
- Control of mammalian predators at sites with concentrations of nesting shorebirds
- Monitoring of bird breeding success
- Maintenance of riverbed signs to alert the public to bird breeding areas
- Enhancement of public facilities in parts of the river not used by shorebirds
- Advocacy and liaison with schools, special interest groups and the general public

Activities were focussed on management to assist the breeding of the three most threatened species in the river, namely wrybill, black-billed gull and black-fronted tern.

Advocacy and liaison initiatives, in the form of media articles (four in local papers), public talks and advertising (including in the local cinema) continued to raise public awareness of shorebirds and of the Group's activities. PowerPoint presentations were given at two schools, a community group (as part of Conservation week) and two U3A groups. Three guided field tours visited the river to observe bird breeding. The Group was part of an Ellerslie Flower Show exhibit, at which it was video-interviewed. Continued support was given to the BRaid group – this included presentations to a braided river workshop and a field visit to assist the Lower Waitaki River Management Society. A definite highlight of the year was the Group's winning of the Canterbury/Aoraki Conservation Award.

Predator trapping in the Ashley-Rakahuri river resulted in 27 mammals of six species being caught in 3,981 trap-nights, a capture rate of 0.68 predators per 100 trap-nights. There has been a steady decline in the total numbers of predators caught since trapping began in earnest in 2004; this is almost entirely due to a decrease in the number of hedgehogs being caught annually.

Enhancement of public facilities in parts of the river not used by shorebirds focussed on native vegetation planting of a riverside walkway, maintenance of the 4WD track, and assistance with the selection of swimming hole sites in the summer.

One spring survey of the lower Ashley-Rakahuri was undertaken, on 21 November 2009. With the exception of the black-billed gull (no large colony in 2009), core species numbers were generally above average, and within the expected range. On 27 December 2009, a survey was undertaken of part of the upper Ashley-Rakahuri in Lees Valley, where a black-billed gull colony was located.

As in 2008/09, 6 pairs of wrybills attempted to breed in the lower Ashley Rakahuri river study area. They had a successful season, fledging 5 chicks between them. The presence of two large black-billed gull colonies in the lower Waimakariri River meant that few of that species attempted to breed in the Ashley-Rakahuri in 2009; for those that did, productivity was low. In spite of higher-than-usual numbers of black-fronted terns being recorded in the November survey, only 28 pairs were found nesting; they had a moderately successful season, with productivity of about 0.50 chicks per pair.

The Group is looking forward to working in close association with the Ashley-Rakahuri Regional Park, the plan for which is due to be implemented in July 2010. We consider that the Park concept is vital to ensuring a long-term future for the birds.

A 2-year grant from the Lottery Board's Environment and Heritage Fund came to an end in 2009. To date, no new major funding source has been identified, and if this situation continues some of our normal activities may have to be curtailed.

Recommendations for future management include:

- Continue predator control, surveys, and monitoring, focussing on threatened shorebird species
- Continue advocacy initiatives, notably in schools
- Continue support for the 'BRaid' group
- Maintain and improve collaboration with commercial gravel extractors.
- Support Environment Canterbury's Ashley-Rakahuri Regional Park plan.

# 1 Introduction

The South Island's braided rivers are a unique habitat of outstanding importance to endemic wildlife (Cromarty & Scott 1996, Dowding & Moore 2006). In particular, they provide breeding habitat for a range of shorebird species, some of which depend largely or entirely on braided rivers for their survival. Braided rivers typically have large areas of bare, mobile shingle, multiple channels, and variable flows (O'Donnell & Moore 1983). However their ecological values are being increasingly degraded; most rivers have been invaded by weeds and introduced mammalian predators, and their values are further threatened by a wide variety of human activities, notably manipulation of flows.

The proportion of braided rivers bird species that are either threatened or at risk is particularly high; as noted by Dowding & Ledgard (2009), of 10 shorebird species that breed in these rivers regularly, no fewer than 6 are now classified as threatened, 2 are at risk, and only 2 are considered not threatened.

The Ashley-Rakahuri is a medium-sized river located in North Canterbury. Its upper reaches are located in Lees Valley; from there, it passes through a narrow gorge north of Oxford, and then flows roughly east across the plains to enter the sea about 25 km north of Christchurch. In contrast to the larger snow-fed rivers, the Ashley-Rakahuri is primarily fed by rainfall from the foothills and has relatively low flow rates.

The shorebird values of the Ashley-Rakahuri are well-recognised. Following surveys of Canterbury rivers in the 1970s, the New Zealand Wildlife Service ranked their wildlife and conservation values; the Ashley-Rakahuri was one of five rivers given the highest possible ranking of 'Outstanding' (O'Donnell & Moore 1983). The river and estuary were also included in a list of wetlands of international importance in New Zealand by Cromarty & Scott (1996).

The Ashley-Rakahuri Rivercare Group (ARRG) is a community group formed in 1999 to assist with management of the lower reaches of the Ashley-Rakahuri river. Its main aims are to protect shorebirds and their habitat in the riverbed, to monitor breeding success, and to promote these activities to the wider public. In 2005, the Group became an incorporated society. Activities undertaken by the Group since 2004 have been described in a series of annual reports (Dowding & Ledgard 2005, 2006, 2007, 2008, 2009), which outlined the results of bird monitoring, habitat enhancement, predator control, advocacy, and made recommendations for future management.

Since 2004, the ARRG has received three major grants to assist it in carrying out its aims. The most recent has been a 2-year grant from the Lotteries Environment and Heritage Committee, approved in June 2007. A partial extension was granted through to 01 December 2009. The present report documents the management activities and monitoring of birds that were undertaken during the 2009/10 season.

In the past, the river has provided breeding habitat for significant numbers of black-fronted terns (*Sterna albobriata*) and thousands of pairs of black-billed gulls (*Larus bulleri*). In recent decades, the number of gulls in particular has declined substantially (Dowding & Ledgard 2005). The Ashley is one of the most northerly on which wrybills (*Anarhynchus frontalis*) breed, following a southward contraction of their core range over the past century (Riegen & Dowding 2003). These three key species are all endemic and classified as threatened, and continue to be the main focus of the ARRG's management activities. However, the banded dotterel (*Charadrius bicinctus*) is now also threatened; it has a good population in the Ashley-Rakahuri river, and is likely to receive increasing attention in future.

## 2 Study area and methods

### 2.1 STUDY AREA

The study area consists of an 18 km stretch of the lower Ashley-Rakahuri river, from its confluence with the Okuku River to the State Highway 1 bridge. It was described in detail in the Group's first report (Dowding & Ledgard 2005).

### 2.2 HABITAT ENHANCEMENT

In previous years, a combination of physical hand-pulling and machines (contracted from Taggart Earthmoving Ltd) has been used to remove weeds from specific sites in order to create potential bird breeding areas (see previous reports). However, experience has shown that there is no guarantee that birds will use such sites; in addition, the cost of mechanical clearing is a significant drain on the Group's limited resources. As a result, hand-clearance of weeds is now undertaken mainly as a Group team-building and advocacy exercise.

### 2.3 WALKWAY AND 4WD TRACK MAINTENANCE

The planting of native species, particularly alongside the Mike Kean Walkway continued over the 2009 winter, with weed control carried out around plants already established. On the 4WD track, which runs along the berm area on the north bank between the end of Rossiter's Road and the Makerikeri River, signs were re-instated and maintenance was carried out where holes had become too deep or willows had fallen across the track.

### 2.4 PREDATOR CONTROL

A range of traps was used to target mammalian predators (mainly cats, mustelids, and hedgehogs). They included cage traps, Bushby tunnel traps, Timms traps, PossumMaster traps and DOC 200 and 250 traps. Traps were first set on 07 September 2009 at sites with a history of use by nesting birds. As the three key bird species occupied territories, traps were added or moved between sites. Traps were baited with a range of baits, usually salted rabbit or hen eggs, and checked once or twice a week. The last traps were removed on 10 January 2010.

### 2.5 MONITORING

Monitoring of wrybills, black-billed gulls, and black-fronted terns was carried out as described by Dowding & Ledgard (2005), and began this season in September. Most monitoring effort was concentrated in the core study area between Groyne 2 and the Marchmont site. Breeding success (productivity) for each of these species was recorded as the average number of chicks fledged per pair within the study area. Productivity was also estimated for a sample of banded dotterels and pied oystercatchers.

Each year, two bird surveys are attempted in spring. In 2009, the October survey was cancelled due to high river flows, with the second survey being carried out on 21 November, when twelve people took part. In addition to the lower Ashley-Rakahuri river survey, another was undertaken by eight members in the upper river on 27 December; this covered the 9 km of riverbed between the two road bridges in Lees Valley.

### 2.6 MEETINGS

During the 2009/10 season, the Group held meetings in the Waimakariri District Council's meeting rooms at Rangiora on 05 August (AGM), 11 November, and 13 May. Average attendance was 14 members.

## 3 Results

### 3.1 HABITAT ENHANCEMENT

#### **Walkway creation and 4WD track**

The Mike Kean Walkway, which was officially opened on 23 April 2007, is now accepted by the public, and getting increasing use. Although there is still occasional vandalism of walkway structures, it is now achieving its objective of providing a walking and dog-exercise area in sight of the riverbed, but far enough from it to prevent disturbance to the birds. The 4WD track continues to get reasonable use, acting as a good alternative to driving in the riverbed itself. Both the walkway and the 4WD tracks are likely to be extended when the Ashley-Rakahuri Regional Park plan starts being implemented in mid-2010.

#### **Weed clearance**

One small island off Groyne 1 was cleared of weeds by 14 members on 14 July 2009. The large flood in early 2008 had stripped vegetation from large areas in the riverbed, and much of that clear area remained at the start of the 2009/10 season. During the season however, those areas were significantly reduced by weed reinvasion.

### 3.2 PREDATOR CONTROL

In total, 27 potential predators were trapped in 3,981 trap-nights. Predators trapped consisted of 17 hedgehogs, 3 cats, 3 stoats, 2 weasels, 1 ferret and 1 rat. Cat and stoat numbers were down from the previous season (7 and 5 respectively), with hedgehog numbers the same, after a significant drop the previous year (39). Details of trapping periods, trap-nights and captures at each site are shown in Table 1.

Table 1 Results of predator trapping in the Ashley River, 2009/10 season. Locations are shown in Figure 1. Trap-nights are not corrected for sprung/occupied traps.

Location	Trapping period	Trap-nights	Captures					
			Cat	Stoat	Weasel	Hedgehog	Rat	Ferret
South bank Groyne 1 - 2	20/08/09 – 10/01/10	1060	0	1	1	4	0	0
North bank Bridge – G2	22/08/09 – 10/01/10	1515	2	2	0	7	0	1
Railway	29/08/09 – 30/01/10	653	0	0	1	5	1	0
Golf Links - Marchmont	26/09/08 – 28/01/09	753	1	0	0	1	0	0
<b>Totals</b>		<b>3981</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>17</b>	<b>1</b>	<b>1</b>

The overall capture rate in 2009/10 was 0.68 predators per 100 trap nights.

### 3.3 ADVOCACY

During the 2009/10 breeding season, the public was made aware of the Group's activities in the riverbed by:

- Four articles in local newspapers - *Northern Outlook* (26 & 30 September 2009), *North Canterbury News* (29 September 2009) and *Hurunui News* (03 October 2009).
- A nightly ScreenVista presentation for 4 months in the Rangiora cinema (August-November 2009).
- Talks/visits to special interest groups, usually with PowerPoint presentation included:
  - ~ Conservation Week evening (21 September 2009)
  - ~ Wairakei and Rangiora Borough schools (10 December 2009 & 02 February 2010)
  - ~ U3A Rolleston (09 March 2010) and U3A Pegasus (21 June 2010)
  - ~ Lower Waitaki River Management Society (05 December 2009)
- Field visits onto the riverbed as part of Conservation Week (20 September – 40 people; 22 September – 20 people), and to show local District Councillors (05 December – 16 people)
- Being part of Bush Telly's exhibit at the Ellerslie Flower Show in Christchurch (09-14 March 2010): an ARRG member was video-interviewed on the Group's activities
- Customised Corflute signs in managed riverbed areas (September 2009 – January 2010).

The Group has also been actively involved in the running of BRaid, a group which aims to improve the ecological welfare of all braided rivers in Canterbury. Members of the ARRG are currently Chairman and Vice-Chairman. BRaid meetings were held on 29 August 2009, 05 February 2010, and 28 May 2010. In conjunction with the Department of Conservation (DOC) and Environment Canterbury, BRaid also co-hosted a 1-day workshop on braided river ecosystem management on 07 May 2010; at that meeting two ARRG members spoke on Group activities and Ashley-Rakahuri river bird surveys over the last 40 years.

During 2009, the Group remained involved in planning for the Ashley-Rakahuri Regional Park, the plan for which becomes operational in mid-2010.

A definite highlight for the ARRG was its winning the 2010 **Canterbury-Aoraki Conservation Award**, the premier conservation award in the region. The Award trophy is being displayed in the local DOC office (*see cover photo*) and the Rangiora library.

In addition, a weekly email update was sent to all Group members during the breeding season.

### 3.4 SPRING BIRD SURVEYS

As noted above (section 2.5) high river flows prevented a survey being carried out in October. Results of the survey undertaken on 21 November 2010, are shown in Table 2, with results of earlier counts shown for comparison.

**Table 2** Results of the bird count undertaken in the Ashley-Rakahuri river in November 2009. Counts from the previous two years, plus the 10-year mean, are shown for comparative purposes

	2009	2008	2007	10-year mean
Black shag	6	9	10	7
Little shag	17	0	4	5
SI pied oystercatcher	32	27	26	24
Variable oystercatcher	0	0	0	0
Pied stilt	196	131	164	143
Black stilt	1	1	1	1
Banded dotterel	213	198	237	190
Wrybill	13	8	9	10
Spur-winged plover	39	11	116	51
Southern black-backed gull	19	10	12	14
Black-billed gull	6	16	13	64
Black-fronted tern	124	81	89	83
Caspian tern	0	0	0	1

### 3.5 SHOREBIRD BREEDING

There were no major floods during the 2009/10 breeding season, and flooding had no significant impact on productivity of any of the species monitored.

#### Wrybills

Banded birds are identified by their colour-band combinations, bands are recorded left leg first and top to bottom (possible colours are: O=orange, R=red, B=blue, Y=yellow, G=green and W=white). M=metal, UB=unbanded.

#### Breeding pairs

Six pairs of wrybills attempted to breed in the study area during the 2009/10 season.

##### 1. Male: OW-RW Female: B(O)-YO

These birds have become increasingly secretive and difficult to monitor, particularly the female. They nested in the Groyne 2 area in October, probably towards the north bank and slightly upstream, but the nest was not found. This first breeding attempt must have failed, and the pair appeared to be preparing to re-nest in mid-November. They were showing defensive behaviour by later in November, but repeated searches failed to find the second nest. Defensive behaviour continued in December, and B(O)-YO was finally seen with a small chick in late December. It had fledged by 29 January, when it was seen with OW-RW.

Outcome: One chick fledged.

##### 2. Male: UB Female: YO-RO

This pair was first seen in early November, out from Groyne 2 and close to pair 1. They were a new pair in the study area, and their behaviour suggested they may have been first-time breeders. They had a 2-egg nest by 17 November, but on a number of subsequent visits in November and December the nest appeared unattended, in spite of the fact that both birds were usually foraging

nearby, and normally defended the nest. The eggs failed to hatch and the nest, although still present on 22 December, was clearly abandoned. The birds remained in the area until 05 January, but there was no evidence they attempted to re-nest.

Outcome: No chicks fledged.

3. Male: UB Female: UB

This was another new pair, first seen downstream of Groyne 2, and towards the north bank of the river, on 15 September. Unlike most unbanded wrybills, they were very agitated and flighty at that time, and hard to approach. However, their behaviour did suggest that they either had a nest or soon would. They were seen with one small chick (2-3 days old) on 12 October, and this chick was still present (with the adult male) and close to fledging on 12 November, when it was banded OR-M. It had fledged and was still present on 24 November. There was no attempt at a second brood, and the whole family had left the territory by 03 December.

Outcome: One chick fledged.

4. Male: WO-M Female: WO-WY

This pair were not seen in September or early October, but had a 2-egg nest in the centre of Big Island by early November. Whether this was their first clutch for the season was not clear, but it was late for a first nest from established breeding birds. The nest was found hatching on 03 December; both eggs hatched and the adults were found about 150 m downstream of the nest site and showing chick behaviour by 08 December. This behaviour continued throughout December, and WO-M was seen at the downstream end of Big Island with a single juvenile on 13 January.

Outcome: One chick fledged.

5. Male: UB Female: WO-GO

These two birds were seen foraging quietly in the Railway territory on 12 October, but showed no evidence of breeding at that time. By early November, they had a 2-egg nest on a mid-stream island. The nest hatched during the last week of November, and the single surviving chick was metal-banded on 03 December. It was colour-banded on 11 December, and although it was only about 7-10 days from fledging at that point, it was not seen again. The female was seen (with an unbanded male – possibly her mate) about 3 km upstream in the Racecourse area in late December.

Outcome: No chicks fledged.

6. Male: UB Female: UB

This pair had a 2-egg nest on the true left of the main channel, just downstream of Toppings Road, by the second week of October. The nest hatched in early November, and both chicks were metal-banded on 24 November. They had both fledged by 03 December.

Outcome : Two chicks fledged.

Overall result: Six pairs fledged five chicks, for productivity of 0.83 chicks fledged per pair.

### **Black-fronted terns**

Black-fronted terns bred in loose colonies at several sites within the study area during the 2009/10 season. As in previous years, it was clear that birds moved extensively within the study area early in the season, and areas that had substantial numbers before October were not always used for nesting later (for example, a group of 91 birds was seen near Groyne 1 in late August, but only a few pairs eventually nested in the area). It also seems possible that some of the 124 birds recorded in the November count did not attempt to breed in the study area. Thorough searches in October and November suggested that no terns nested upstream of Groyne 2 (i.e. in

the 7 km of riverbed at the upstream end of the 18 km study area) during 2009/10. However, a few pairs may have nested (probably unsuccessfully) in the lower reaches of the river (Marchmont to SH 1), a section that was monitored less intensively.

Productivity was determined from a sample of pairs nesting in three loose colonies in the central part of the study area. Immediately downstream of Groyne 2, 8 pairs had just begun nesting on 12 October. At least 3 of these nests hatched, but by 08 December only 1 chick remained; this had fledged by 22 December. Five pairs re-nested at the site and fledged 2 further chicks. Eight pairs thinly scattered from the downstream end of Big Island to just below Groyne 1 fledged at least 2 chicks, and possibly a third. At the Railway site, 12 pairs nested on an island near the powerlines, and fledged at least 9 chicks.

Result: 28 pairs fledged 14-15 chicks, for productivity of 0.50-0.54 chicks per pair.

### **Black-billed gulls**

Very few black-billed gulls attempted to breed in the Ashley during the 2009/10 season. A small group of 7 pairs nested at the Railway site, near the powerlines crossing the river; they had fledged 3 chicks by early January, and a fourth by mid-January. About 40 birds arrived at the site in early January (probably following a flood in the Waimakariri River), and 3 pairs laid late nests, which all failed. Two solitary pairs also nested; one was near Tulls Road, and the other well upstream, above Groyne 9. Both these attempts failed.

Result: Twelve pairs fledged 4 chicks (average productivity of 0.33 chicks fledged per pair).

### **Pied oystercatchers**

Breeding attempts by a sample of eight pairs were monitored during the season; these pairs were scattered from Groyne 9 near the upstream end of the study area, down to Toppings Road, just above the SH 1 bridge. Six chicks were fledged, for productivity of 0.75 chicks per pair; two were from a pair near Groyne 3, with one each from pairs at Groyne 6, Big Island, Railway, and Toppings Road.

### **Banded dotterels**

Banded dotterels nested throughout the study area. Nesting had begun by late August, as 2 small chicks were seen on 22 September. As previously, fledging success was recorded for a sample of pairs breeding in the areas that were monitored most frequently. In these areas, 18 pairs fledged at least 13 (and probably 14) chicks, for productivity of 0.72-0.78 chicks fledged per pair.

### **Pied stilts**

Pairs of pied stilts bred throughout the study area, with particular concentrations around Dalziels, Railway, Marchmont, and Toppings Road. Some earlier nesting attempts appear to have been unsuccessful, but from late December onwards many pairs had juveniles or large chicks. Productivity was not assessed, but it was clearly not low.

### **Black stilt**

The black stilt (GK-OW) that has been resident in the study area for some years now was again in his usual area immediately upstream of Dalziels, and paired with a pied stilt. No nest was found, but by 10 December the pair were showing definite chick behaviour, with GK-OW in particular being very aggressive towards observers. This behaviour continued for some weeks, and it seems likely that one or more chicks fledged; however, the presence of two pairs of pied stilts nearby, both also defending chicks, made it impossible to determine outcomes accurately.

## 4 Discussion

The shorebird species in the Ashley-Rakahuri river face three main threats, and the Group's activities continue to be focussed on reducing impacts from these.

1. Most of the key species require a largely bare substrate for nesting, and weed growth in the riverbed results in loss of breeding habitat. In the past, the Group has cleared weeds from small selected sites, and contracted commercial gravel extractors for clearance of other new areas. In recent seasons, winter floods have cleared substantial areas of riverbed, and the need for mechanical or hand-weeding has been minimal.
2. Introduced mammalian predators reduce survival and productivity. The Group undertakes predator control at sites where the three key species breed.
3. Disturbance by people, dogs, and vehicles reduces breeding success. The Group attempts to reduce disturbance by undertaking a range of advocacy and information initiatives, and installing signs on the river during the season.

### 4.1 HABITAT ENHANCEMENT

Given the practical difficulties and cost to the Group of clearing and maintaining large weed-free areas at many sites, and the fact that there is no guarantee that birds will use them for breeding, only one small area was cleared by hand weeding in 2008. The contribution of hand-weeding to the overall cleared area within the Ashley-Rakahuri riverbed is minor, compared to that cleared by floods and shingle extraction. If any weed clearance by volunteer groups is carried out in the future, it will be carried out primarily for team-building and to actively involve the public on the river. The major flood of February 2008 significantly increased the overall weed-free area, much of which remained relatively clear at the start of the 2009/10 breeding season. However, since then weed reinvasion has been rampant, and without a major flood before the 2010/2011 season, suitable bare shingle breeding habitat would have been reduced. Fortunately, such a flood occurred in May 2010. There is currently no evidence to suggest that weed-free nesting habitat is limiting for any species in the Ashley-Rakahuri riverbed.

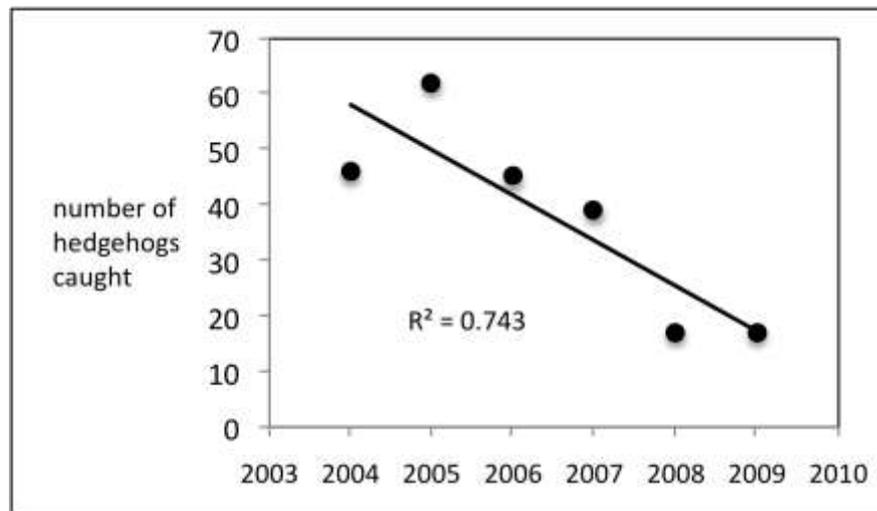
Past gravel extraction has also cleared some areas of weeds, notably in the Racecourse, Golf Course, and Marchmont sections of the river, all of which have been used at times for breeding by some riverbed species. One area which still needs more attention is the 'manicuring' of shingle extraction sites after completion, in order to make them as suitable for the birds as possible. Research elsewhere has shown that breeding success of some species is greater on islands with a reasonable flow of water around them than on areas of the riverbed connected to the mainland. The ARRG, in conjunction with commercial gravel extractors and Environment Canterbury, could do more to create such island habitat.

While the 4WD track continues to attract off-road vehicles, it has clearly not put an end to vehicle use in the riverbed, and restriction of access at key points near sensitive bird-breeding areas needs to continue.

### 4.2 PREDATOR CONTROL

The number of trap-nights in 2009/10 was almost identical to that for 2008/09 (and in fact has varied relatively little over the past 6 seasons), but the overall number of predators trapped continues to decline. Analysis of trapping results for the past 6 seasons shows that this fall is entirely due to a steady decline in hedgehog captures (Figure 2). The total number of other captures (cats, mustelids and rodents) is smaller and has fluctuated, but shows no significant downward trend.

Figure 2 Decline in the number of hedgehog captures in the lower Ashley River, 2004-2009.



Predator numbers commonly peak in late summer and autumn (i.e. after traps in the Ashley are normally closed), as young of the year disperse. In the future, a small number of traps will be maintained during the non-breeding season to determine whether trapping at that time will result in a useful increase in capture rates.

Recruiting and supporting skilled volunteer trappers over a 4-5 month period each season remains a challenge. The small number of trappers available means that a major commitment is required from each of them. The Ashley-Rakahuri Regional Park comes into effect in the middle of 2010, and it is hoped that with it may come some assistance with the predator control effort.

#### 4.3 ADVOCACY

The Group's advocacy initiatives over the past 6 years have resulted in a much higher local awareness of the problems faced by local riverbed birds, and of the Group's activities to protect them. During 2009/10, the number of core advocacy activities remained high (see section 3.3), and collaboration with other agencies increased.

The Group played a significant role in local Conservation Week activities at Rangiora, presenting its PowerPoint address and leading field trips to the river. Further afield, the Group's experiences on the Ashley-Rakahuri river led to an invitation to visit and advise a similar group on the lower Waitaki River. Members of the Group continue to be closely involved in BRaid Inc, a group which aims at bringing about better awareness and environmental management for all braided rivers in the South Island (see section 3.3).

These activities were recognised when the ARRG won the 2010 Canterbury-Aoraki Conservation Award. At the Award ceremony on 19 September 2009, the Group was announced the 'clear winner' among seven other finalists.

A children's book 'Ria the reckless wrybill', written by local author Jane Buxton, is due to be published in September 2010. ARRG members have assisted the author with information about the species, and the Group will assist with the launch. Not only will this book raise the profile of the wrybill nationally, but the Group will receive 25% of all royalty payments.

#### 4.4 SPRING BIRD COUNTS

As in the previous year, high river flows in October allowed only one survey to be carried out in 2009, and this took place on 21 November. Counts of most species were similar to or slightly above the 10-year average, and within the expected range (see Table 2). Among the three key species, wrybill numbers were slightly higher than in 2008; the November count of 13 is very similar to the known 12 birds (6 pairs) monitored throughout the season, and indicates that even the most cryptic species in the riverbed is being detected well in the surveys. The number of black-fronted terns counted was higher than in recent years (and about 50% higher than the 10-year average), but this did not apparently translate into a larger breeding population in the riverbed this season. The number of pairs of black-fronted terns found breeding is often lower than might be expected from the November count; this may be because some short-lived breeding attempts are not detected, and/or because some of the birds counted in the survey are either non-breeders or are breeding outside the study area. The average number of black-billed gulls in the study area is highly skewed by the occasional presence of a large breeding colony (typically of 300-400 birds), and the absence of such a colony in 2009/10 resulted in a November count that was much lower than the average.

Counts of pied oystercatchers, banded dotterels, and pied stilts were higher than average in 2009, but within expected ranges. Apart from the Group's 10 years of annual surveys, we have information from four earlier surveys going back to 1963. Long-term bird population trends in the lower Ashley are therefore now becoming better understood. While national populations of pied oystercatcher, pied stilt, and the three key species continue to decline nationally, the Ashley counts suggest that numbers in the river may have stabilised in recent years. It should be remembered however, that both black-fronted terns and black-billed gulls are highly mobile species, and apparent trends in their numbers at a local level should be viewed with some caution.

#### 4.5 SHOREBIRD BREEDING

##### **Wrybills**

The recruitment of new birds in the river and the presence of 6 pairs within the study area are positive signs. Productivity was also high, with the 6 pairs fledging 5 chicks between them. Low adult survival has been noted in previous reports and remains a concern, and increased emphasis may need to be placed on targeted control of predators of adult birds (i.e. cats, ferrets, and stoats) around wrybill breeding sites.

##### **Black-fronted terns**

The number of terns nesting within the study area in 2009/10 was lower than in some recent years, in spite of a high total count in the November survey. However, this species is known to be mobile and does not show particularly high breeding-site fidelity; changes in the number of pairs breeding in a relatively small area between years are therefore not necessarily a reliable indication of wider population trends. In terms of productivity, the 2009/10 season was a moderately successful one for terns in the Ashley-Rakahuri study area.

##### **Black-billed gulls**

With large colonies in the Waimakariri River, numbers attempting to breed in the Ashley-Rakahuri were inevitably low. The pairs that did establish had a poor season, but were so few that this result will have had little impact on the wider North Canterbury population.

##### **Other species**

Breeding success was recorded for sample populations of 2 other shorebird species. Productivity of both pied oystercatchers (0.75 chicks per pair) and of banded dotterels (0.72-0.78) was above average.

#### 4.6 CREATION OF ASHLEY-RAKAHURI REGIONAL PARK

On July 1, 2010, the Ashley-Rakahuri Regional Park becomes a reality. The Park not only includes the core section of the river in which the ARRG operates (between SH1 and the Okuku river junction), but the plan addresses management to promote successful bird breeding. It is hoped there will be additional funds allocated for this purpose, plus extra rangers on duty to implement the plan. In the Park's mission statement, Objective 5 of Goal 2 is to 'protect the full range of distinctive bird populations and habitats of the lower Ashley River/Rakahuri'. Within Goal 2, one key development is to 'Minimise disturbance during breeding season, including prohibiting motor vehicles in the gravel riverbed between Dalziels and Rossiters Roads from August to late December'.

The ARRG will continue to function much as in the past, but exactly how its activities will integrate with Park management has yet to be ascertained. However, it is most likely that the outcome for the birds will be greater allocation of resources, and hence a more assured future over the long term.

#### 4.7 FUNDING

After reading of the ARRG's activities in the School Journal (Part 1, Number 4, 2008), Wairakei Primary School in Christchurch undertook fund raising, from which they donated \$450 to the ARRG. This money was formally handed over to the Group at the school on 10 December 2009, after a presentation of our PowerPoint address.

Donations such as this are always gratefully received, and are a welcome and practical demonstration of community support for the Group's activities. Nevertheless, for much of its work the Group relies on larger grants, for which it applies as needed. Over the past 2 years, the ARRG's primary funding has come from the Environment and Heritage Committee of the New Zealand Lottery Grants Board. This funding came to an end in 2009. To date, no new major funding source has been found, and if this situation continues some of the Group's activities may have to be curtailed.

## 5 Conclusions

In terms of productivity of the 3 key shorebird species in the Ashley-Rakahuri river, the 2009/10 season has been reasonably successful. Most of the local black-billed gulls bred successfully in large colonies in the Waimakariri River, and the small number that established in the Ashley will have had little effect on the overall outcome at a regional level. Breeding success of wrybills was high, and that of black-fronted terns was moderately high.

The ARRG has continued with its advocacy initiatives, and has liaised extensively with the community and other agencies. These activities have included providing substantial support to the BRaid group, which promotes similar activities on a wider scale. It is pleasing to record that the Group's actions have been recognised, and its profile enhanced, by its winning of the 2009 Canterbury-Aoraki Conservation Award.

The Group is looking forward to working in close association with the Ashley-Rakahuri Regional Park, the plan for which is due to be implemented in July 2010. We consider that the Park concept is important – it provides recognition of the natural values of the river, and the potential for increased resources to be put into professional and long-term management of these values. It will support and complement the Group's activities, and should result in a more secure future for the threatened shorebirds in the river.

## 6 Recommendations

- 1 Continue core management activities (predator control, annual bird survey of the study area, and monitoring), focussing on protection of threatened shorebird species.

### *Justification*

Effective predator control must continue if the threatened species (which now include banded dotterels) are to persist in the river. Collection of information through surveys and monitoring is vital, as it informs future management and decision-making, both by ARRГ and by other agencies.

- 2 Undertake a repeat survey in the upper Ashley-Rakahuri river (Lees Valley), preferably covering a wider area than in 2009, and undertake a survey of the section from Ashley Gorge to the Okuku confluence.

### *Justification*

Given plans for a storage dam that may flood Lees Valley, it is important to collect data on the biodiversity values of that area, so that an accurate assessment can be made of the potential impacts of the project. A survey of the section immediately below the Gorge is long overdue; given the likely changes in flow regime below the proposed dam, it is now important for the same reason as the upper river survey.

- 3 Continue advocacy initiatives, notably through newspaper articles, talks to schools and special interest groups, and collaboration with other agencies active in river management.

### *Justification*

Public awareness of the ARRГ's aims and activities has increased, but can only be maintained and improved by continued effort. Collaboration with other agencies strengthens advocacy efforts by all parties.

- 4 Continue support for the 'BRaid' group.

### *Justification*

The 'BRaid' group aims to improve environmental awareness and management on all South Island braided rivers, with the result that more braided rivers receive the same local community-based attention as is presently focused on the Ashley-Rakahuri river.

- 4 Maintain and improve collaboration with commercial gravel extractors.

### *Justification*

Gravel extractors are the major commercial users of the Ashley-Rakahuri river, and have opportunities to create weed-free sites that are suitable for shorebird breeding. The ARRГ is in a position to advise on measures that will enhance these sites.

- 5 Support the implementation of Environment Canterbury's Ashley-Rakahuri Regional Park plan.

### *Justification*

This plan offers the most effective way of achieving the Group's aim of maintaining key shorebird populations long-term in the Ashley-Rakahuri river.

## 7. Acknowledgements

We are particularly grateful for the significant 2-year grant received from the **Lottery Environment and Heritage Committee** of the **New Zealand Lottery Grants Board**, which was the major sponsor of the ARRG in 2007/08 and 2008/09, and was extended through to December 2009. In addition, Wairakei Primary School in Christchurch donated \$450 to the ARRG during the 2009/10 year. Major past sponsors have been:

- Pacific Development and Conservation Trust
- New Zealand National Parks and Development Foundation
- Habitat and Protection Fund of the World Wildlife Fund - New Zealand

The activities recorded in this report would not have been possible without the above support.

Other agencies who have offered special assistance are Environment Canterbury, the Waimakariri District Council and the Department of Conservation. The Group also thanks its members and their friends and families for help with bird monitoring, participation in the spring survey, advocacy, and attendance at meetings. The Group is particularly grateful to the small band of trappers, who weekly maintained many traps over a long season.

## 8 References

Ashley River/Rakahuri Regional Park Management Strategy, 2008.

<http://ecan.govt.nz/publications/General/ashley-river-rakahuri-management-strategy-000708.pdf>

Cromarty, P. & Scott, D.A. 1996. *A Directory of Wetlands in New Zealand*. Department of Conservation, Wellington.

Dowding, J.E.; Ledgard, N.J. 2005. Management and monitoring of shorebirds in the Ashley River during the 2004/05 season. Unpublished report, Ashley/Rakahuri Rivercare Group. 20 pp.

Dowding, J.E.; Ledgard, N.J. 2006. Management and monitoring of shorebirds in the Ashley River during the 2005/06 season. Unpublished report, Ashley/Rakahuri Rivercare Group. 20 pp.

Dowding, J.E.; Ledgard, N.J. 2007. Management and monitoring of shorebirds in the Ashley River during the 2006/07 season. Unpublished report, Ashley/Rakahuri Rivercare Group. 22 pp.

Dowding, J.E.; Ledgard, N.J. 2008. Management and monitoring of shorebirds in the Ashley River during the 2006/07 season. Unpublished report, Ashley/Rakahuri Rivercare Group. 23 pp.

Dowding, J.E.; Ledgard, N.J. 2009. Management and monitoring of shorebirds in the Ashley River during the 2006/07 season. Unpublished report, Ashley/Rakahuri Rivercare Group. 21 pp.

Dowding, J.E.; Moore, S.J. 2006. Habitat networks of indigenous shorebirds in New Zealand. *Science for Conservation* 261. Department of Conservation, Wellington.

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

Riegen, A.C.; Dowding, J.E. 2003. The Wrybill *Anarhynchus frontalis*: a brief review of status, threats and work in progress. *Wader Study Group Bulletin* 100: 20-24.