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*Management and monitoring of shorebirds  
in the Ashley River during the 2008/09 season*

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

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in the Ashley River during the 2008/09 season

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Prepared for:  
Ashley-Rakahuri Rivercare Group, Inc.

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August 2009

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## Summary

Dowding, J.E.; Ledgard, N.J. 2009. *Management and monitoring of shorebirds in the Ashley River during the 2008/09 season*. Unpublished report, Ashley-Rakahuri Rivercare Group Inc., Rangiora. 21 pp.

The Ashley-Rakahuri Rivercare Group was formed in 1999. Its main goal is to protect key shorebird populations in the lower reaches of the Ashley-Rakahuri River. In 2005, the Group became an incorporated society, and in June 2007 received a 2-year grant from the Lottery Environment and Heritage Committee to assist it in carrying out its objectives. This is the fifth annual report from the Group.

The main activities undertaken by the Group in 2008/09 were:

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

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.

A major flood in February 2008 cleared large areas of weed-infested riverbed, and created excellent sites for bird breeding over the 2008/09 season.

Advocacy and liaison initiatives, in the form of media articles, public talks and advertising (including a Screen Vista presentation over 4 months in the local cinema) continued to raise public awareness of shorebirds in the river and of the Group's activities. PowerPoint presentations were given to four schools, a Lotteries Environment and Heritage Committee meeting, two community groups and as part of Conservation Week. Two guided field tours visited the river to observe bird breeding. A successful application was made for funding to publish a children's book about wrybill breeding on a braided river. Continued support was given to the new *BRaid* group, and included visits to Orari and Makarora rivercare groups. The Group also made submissions to, and maintained its support for, the implementation of Environment Canterbury's Ashley-Rakahuri Regional Park plan.

Predator trapping resulted in 30 mammals of four species being caught in 3,980 trap-nights, at a catch rate of 0.75 predators per 100 trap-nights. Hedgehogs were again the most common species trapped, but numbers were down on previous years.

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 summer.

Because of high river levels in October, only one bird survey was undertaken, on 22 November 2008. Bird numbers were typical of recent years, but did not include a large black-billed gull colony which established a week later. Monitoring of the three key threatened species revealed mixed breeding success. Six wrybill pairs nested in the study area; five pairs hatched chicks, but only two or three chicks fledged. A black-billed gull colony arrived in late November, probably displaced by floods on the Waimakariri River, and bred successfully (at least 252 chicks fledged from 337 nests). About 40 pairs of black-fronted terns nested in the study area at three sites, but were only successful at one site, where 15 chicks fledged.

Recommendations for future management include:

- Continue predator control, annual surveys, monitoring activities and banding, focussing on the three key threatened shorebird species
- Continue advocacy initiatives, notably in schools
- Continue full support for the *BRaid* group
- Maintain and improve collaboration with commercial shingle extractors
- Support the implementation of Environment Canterbury's Ashley-Rakahuri Regional Park plan.

# 1 Introduction

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

The Ashley is a medium-sized river located in North Canterbury. From the Ashley Gorge, it flows east and enters the sea about 25 km north of Christchurch. In contrast to the larger snow-fed rivers, the Ashley is fed by rainfall from the foothills and has relatively low flow rates.

The shorebird values of the Ashley are well-recognised. Following surveys of Canterbury rivers in the 1970s, the New Zealand Wildlife Service ranked their wildlife and conservation values; the Ashley was one of five rivers given the highest possible ranking of 'Outstanding' (O'Donnell & Moore 1983). More recently, the Ashley River and estuary were also included in a list of wetland sites of international importance in New Zealand (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 River (except the estuary). 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. Since 2004, the ARRG has received three grants to assist it in carrying out its aims. During 2006/07, the principal sponsor was the Habitat and Protection Fund of WWF-New Zealand. In June 2007, a 2-year grant was approved by the Lotteries Environment and Heritage Committee. The ARRG's activities have been described in the Group's annual reports (Dowding & Ledgard 2005, 2006, 2007, 2008), which outlined the results of bird monitoring, habitat enhancement, predator control, and advocacy each season, and made recommendations for future management. The present report documents the management and advocacy activities and monitoring of birds undertaken by the ARRG during the 2008/09 season

In the past, the river has provided breeding habitat for large numbers of black-fronted terns (*Sterna albobrostrata*) and thousands of pairs of black-billed gulls (*Larus bulleri*). Both species have declined in number on the Ashley, but the number of gulls in particular has fallen substantially (Dowding & Ledgard 2005). The Ashley is one of the most northern on which wrybills (*Anarhynchus frontalis*) breed, following a southward contraction of the core breeding range of the species over the past century (Riegen & Dowding 2003). These three key species have been the main focus of management activities of the ARRG; all are endemic, have declining populations, and are considered threatened.

The New Zealand threat ranking scheme has recently been revised, and now includes categories and criteria that are thought to provide a more accurate reflection of threat status (Townsend *et al.* 2008). Following the introduction of the new scheme, the threat categories of all New Zealand birds were reviewed in late 2008 (Miskelly *et al.* 2008). This has resulted in changes to the threat status of some of the shorebird species breeding in the Ashley River. Some of these changes result from the introduction of new categories, and some from recent information that indicates actual changes in status. The main changes for shorebird species breeding in the Ashley River are shown in Table 1.

Table 1 Changes in threat status of shorebird species recorded in the lower Ashley River study area, resulting from the changed ranking scheme and the 2008 review of bird threat categories (Miskelly *et al.* 2008)

| Species            | Threat status 2005    | Threat status 2008    |
|--------------------|-----------------------|-----------------------|
| Pied oystercatcher | Not Threatened        | Declining             |
| Black stilt        | Nationally Critical   | Nationally Critical   |
| Pied stilt         | Not Threatened        | Declining             |
| Banded dotterel    | Gradual Decline       | Nationally Vulnerable |
| Wrybill            | Nationally Vulnerable | Nationally Vulnerable |
| Spur-winged plover | Not Threatened        | Not Threatened        |
| Black-backed gull  | Not Threatened        | Not Threatened        |
| Black-billed gull  | Serious decline       | Nationally Endangered |
| Black-fronted tern | Nationally Endangered | Nationally Endangered |
| Caspian tern       | Nationally Vulnerable | Nationally Vulnerable |

No species in Table 1 has improved in status, and four have deteriorated. The black-billed gull is now recognised as being in rapid decline and is ranked Nationally Endangered, and the banded dotterel is now clearly in decline and has Nationally Vulnerable status. The pied oystercatcher and pied stilt were previously classified as Not Threatened; while they are still relatively numerous (and not yet considered Threatened), numbers are known to be falling, and both species are now included in the new Declining category.

*The banded dotterel is declining and is now considered Threatened (Nationally Vulnerable)*



## 2 Study area and methods

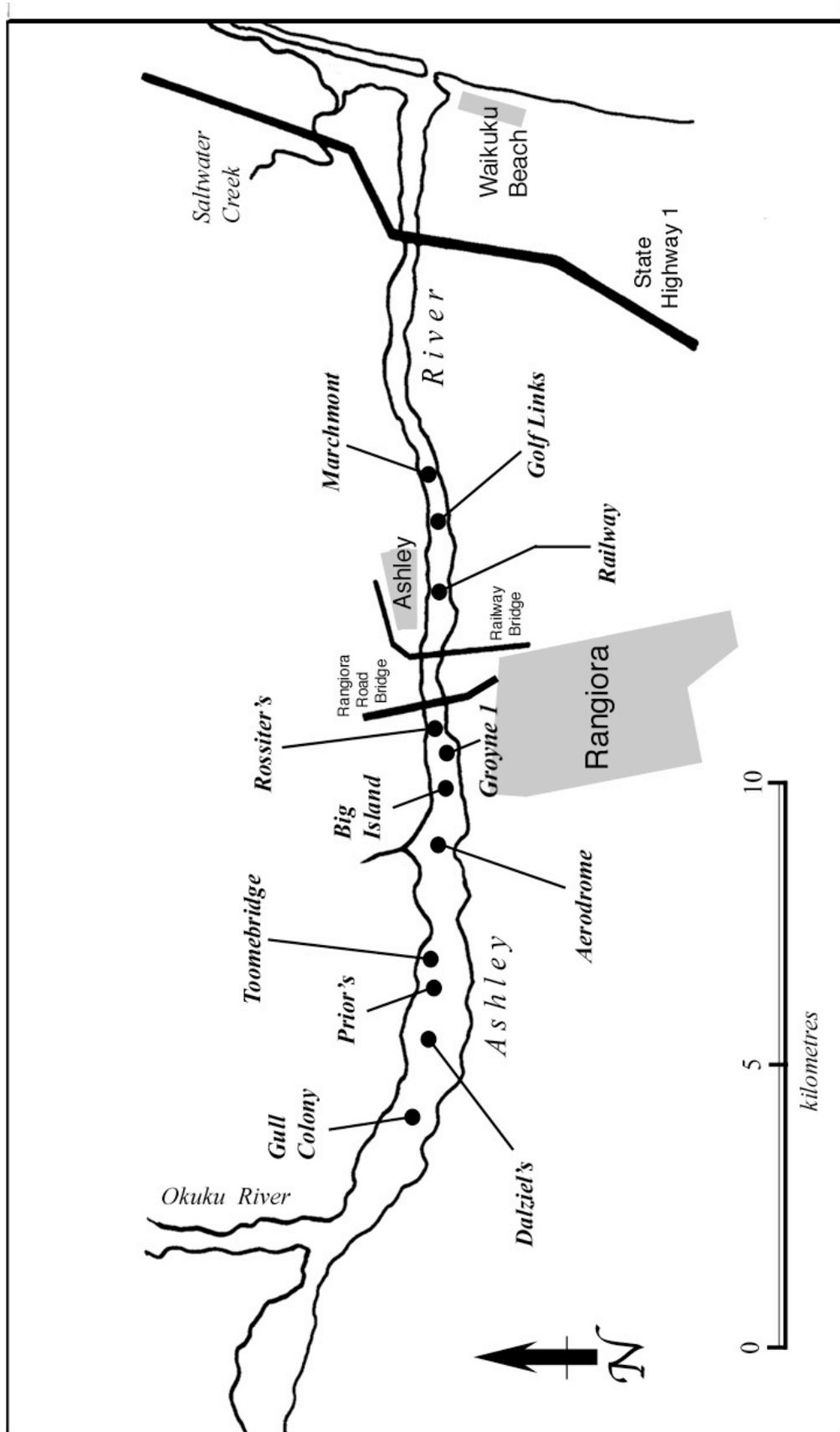
### 2.1 STUDY AREA

The study area consists of an 18 km stretch of the lower Ashley 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). A sketch map of the area is shown in Figure 1.

### 2.2 HABITAT ENHANCEMENT

In previous years, Taggart Earthmoving Ltd has been contracted to remove weeds from specific sites in order to create potential bird breeding areas (see previous reports). No such work was required in 2008. A very large flood in early February 2008 (*c* 1100 cumecs) considerably widened and changed the braided component of the river, resulting in many large, weed-free areas. A smaller flood in late August (see Appendix 1) cleared debris from the first flood.

Figure 1 Sketch map of the study area in the lower Ashley River. Significant bird localities are shown with solid circles and are labelled with territory names.



### 2.3 WALKWAY CREATION AND 4WD TRACK MAINTENANCE

The planting of native species, particularly alongside the Mike Kean Walkway continued over the 2008 winter, with weed control carried out around plants already established. A flood in mid-August eroded a section of the Walkway, requiring considerable riparian work with heavy machinery to strengthen the bank by laying and roping together willows. This resulted in about 50 newly-planted natives having to be re-located to make way for the machinery. There were also some thefts from established two year plantings. Altogether in the 2008/09 season, about 150 plants were put in as in-fill and establishing a new area.

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 2008 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. During the season, a total of 670 km was travelled by five trappers visiting 32 traps at seven sites. The last traps were removed on 30 January 2009.

*Checking traps at the Groyne 1 site after the establishment of the black-billed gull colony there in November 2008*



### 2.5 MONITORING

Monitoring of wrybills, black-billed gulls, and black-fronted terns was carried out as described in previous reports, and began this season in September 2008. Most monitoring effort was concentrated in the core study area between the Aerodrome and Marchmont sites. Breeding success (productivity) for each of the key species was recorded as the average number of chicks fledged per pair within the study area. Every year, two bird surveys are attempted in spring. The October survey was cancelled due to high river flows, with the second survey being carried out on 22 November. Fifteen people took part, divided into four groups.

### 2.6 MEETINGS

During the 2008/09 season, the Group held meetings in the Waimakariri District Council's meeting rooms, Rangiora, on 04 June, 13 August, 08 October (AGM), 26 November, and February 18. Average attendance was 12 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. Hence, 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 breeding birds.

The 4WD track continues to get reasonable use, acting as a good alternative to driving in the riverbed itself.

#### **Weed clearance**

No areas were cleared of weeds by the Group during 2008/09, because of good pre-season floods (see section 2.2 above). These floods not only maintained the weed-free status of areas cleared previously by commercial shingle removal, but also cleared weeds from large areas of the berm which had previously been heavily vegetated. Consequently, the 2008/09 breeding season started with more good bird-nesting habitat available than had been the case for many years.

### 3.2 PREDATOR CONTROL

In total, 30 potential predators were trapped in 3,980 trap-nights. Predators trapped consisted of 17 hedgehogs, 7 cats, 5 stoats and 1 weasel. Cat and stoat numbers were slightly up from the previous season (4 and 3 respectively in 2007/08), but hedgehog numbers were less than half (39 in 2007/08). Details of trapping periods, trap-nights and captures at each site are shown in Table 2.

Table 2 Results of predator trapping in the Ashley River, 2008/09 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      | Mouse    |
| Aerodrome south bank | 07/09/08 – 28/01/09 | 532         | 2        | 0        | 0        | 6         | 0        | 0        |
| Racecourse           | 29/10/08 – 30/01/09 | 372         | 1        | 0        | 0        | 0         | 0        | 0        |
| Big Island           | 07/09/08 – 30/01/09 | 695         | 2        | 0        | 1        | 5         | 0        | 0        |
| Groyne 1             | 26/09/08 – 28/01/09 | 750         | 0        | 0        | 0        | 2         | 0        | 0        |
| Railway              | 17/09/08 – 28/01/09 | 532         | 0        | 1        | 0        | 3         | 0        | 0        |
| Golf Links           | 01/10/08 – 31/12/08 | 929         | 2        | 4        | 0        | 1         | 0        | 0        |
| Marchmont            | 17/10/08 – 10/12/08 | 170         | 0        | 0        | 0        | 0         | 0        | 0        |
| <b>Totals</b>        |                     | <b>3980</b> | <b>7</b> | <b>5</b> | <b>1</b> | <b>17</b> | <b>0</b> | <b>0</b> |

### 3.3 ADVOCACY

During the 2008/09 season, the public were made aware of ARRГ activities in the riverbed by:

- Three articles in the local *Northern Outlook* newspaper (18 Jun, 13 Sep, and 20 Dec 2008).
- One advertisement in *Northern Outlook* – part of Ashley River promotion (03 Sep 2008).
- An article in Environment Canterbury's *Living Here* in March 2009.
- A nightly Screen Vista presentation for 4 months in the Rangiora cinema (Aug-Nov 2008).
- Talks/visits to special interest groups, usually with PowerPoint presentation included:
  - Rangiora Borough, Ashgrove, St Martins, and Southbrook schools (26 Aug, 05 Sep, 14 Oct and 04 Nov 2008, respectively)
  - Public meeting as part of Conservation Week, plus a river visit (10-14 Sep 2008)
  - Central Otago Forest & Bird, Makarora, plus river visit (06 Dec 2008)
  - Orari River Group, plus river visit (03-04 March 2009)
- Field visit to Ashley River with Environment Canterbury group (20 Aug 2008)
- Lotteries Environment and Heritage Committee meeting in Canterbury Museum, Christchurch (06 Mar 2009)
- Field visits for public to see breeding birds in Ashley riverbed (14 & 21 Jan 2009)
- Customised Corflute signs placed in managed riverbed areas (Sep 2008 – Jan 2009).

The Group has also been actively involved in the formation and running of *BRaid*, a group which aims to improve the ecological welfare of all South Island braided rivers. Members of the ARRГ are currently Chairman and Vice-Chairman. *BRaid* meetings were held on 11 Jul, 29 Aug, 31 Oct and 12 Dec in 2008, and on 13 Feb, 22 May, 29 May and 03 June in 2009.

During 2008, the ARRГ remained involved in planning for the creation of the Ashley-Rakahuri Regional Park; the Group assisted with an Environment Canterbury field inspection on 20 August 2008, and made submissions on the plan.

The Group featured in a children's story on wrybills, written by local author Jane Buxton. This appeared in the School Journal (Part 1, Number 4, 2008). The same author has written a children's book, which will be published before the end of 2009. Funding for both the School Journal story and the book has come from the Lotteries Environment and Heritage Fund.

A weekly email update was sent to all ARRГ members during the breeding season.

*Organised public viewing of the black-billed gull colony, Groyne 1, Ashley River*



### 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 22 November 2008 are shown in Table 3, with results of earlier counts for comparison.

Table 3 Results of the bird count undertaken in the Ashley River in November 2008. Counts from the previous three years are shown for comparative purposes

| Species                         | Nov<br>2008 | Nov<br>2007 | Dec<br>2006 | Nov<br>2005 |
|---------------------------------|-------------|-------------|-------------|-------------|
| Black shag                      | 9           | 10          | 2           | 2           |
| Little shag                     | 0           | 4           | 2           | 6           |
| South Island pied oystercatcher | 27          | 26          | 5           | 22          |
| Variable oystercatcher          | 0           | 0           | 0           | 0           |
| Pied stilt                      | 131         | 164         | 68          | 137         |
| Black stilt                     | 1           | 1           | 1           | 1           |
| Banded dotterel                 | 198         | 237         | 84          | 245         |
| Wrybill                         | 8           | 9           | 5           | 7           |
| Spur-winged plover              | 11          | 116         | 37          | 149         |
| Southern black-backed gull      | 10          | 12          | 5           | 1           |
| Black-billed gull               | 16          | 13          | 213         | 3           |
| Black-fronted tern              | 81          | 89          | 180         | 26          |
| Caspian tern                    | 0           | 0           | 1           | 0           |

Numbers of most species were typical of recent years, but numbers of spur-winged plovers, which have generally been high, were the lowest recorded since surveys began in 2000.

Numbers of black-billed gulls in the study area were low at the time of the survey, but rose dramatically a week later with the arrival at the Groyne 1 site of a colony of about 300 pairs.

### 3.5 SHOREBIRD BREEDING

Locations of shorebird territories are shown in Figure 1.

For the first time for many seasons, none of the key species bred at the Dalziels site, about 2 km above the Aerodrome. This may have been due in part to the abundance of nesting sites available elsewhere in the river, following the floods in 2008.

#### 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

Five or six pairs of wrybills attempted to breed in the study area in the 2008/09 season, but two of them (pairs 1 & 2) involved the same banded female with different mates.

1. Railway territory. Male: RO-M Female: BO-YO

This pair were present in early October, and had a 1-egg nest on 02 November. A second egg was not laid. RO-M has not been seen subsequently, and is assumed to have died. BO-YO

deserted the area, and by mid-November had moved about 4 km upstream and paired with an unbanded male at the Aerodrome site.

Result: No chicks fledged; male RO-M may have died.

2. Aerodrome territory. Male: UB Female: BO-YO

As noted above, this pair established at the Aerodrome site in mid-November. By 29 November they had a 2-egg nest, which had hatched by 20 December. One chick survived, and had fledged by 14 January. Several attempts to catch it for banding were unsuccessful, with BO-YO warning it constantly.

Result: 1 chick fledged.

3. Aerodrome East territory. Male: UB Female: UB

This was a new pairing; the unbanded female may have been the same bird as present in 2007/08, but the banded male at this site last season (GO-BY) did not return. This pair could have nested early and been washed out, but no nest was found until mid-December. It hatched in the first few days of January, and the family moved gradually downstream, eventually being located just upstream of Groyne 1. The two chicks were colour-banded M-OB and OG-M on 27 and 29 January respectively. Visits in mid-February confirmed that M-OB had fledged; on 15 February, a bird with an orange band on left was seen briefly in the area, but its identity could not be confirmed, and it is not clear whether OG-M did fledge.

Result: At least 1 chick fledged, possibly 2.

4. Racecourse territory. Male: OW-RW Female: UB

This pair had a 2-egg nest by 10 November. The eggs were gone by 29 November, and although chicks were not seen, the behaviour of the adults suggested at least one was present. By 13 December, there were no birds present in this territory, and OW-RW was not seen in the river again.

Result: No chicks fledged; male OW-RW not seen after 29 November.

5. Railway West territory. Male: UB  
Female: UB

Two unbanded birds were seen in this area with a small chick on 13 November. They were still present two days later, but were not seen again, and it appears likely that the chick was lost and the parents deserted the area.

Result: No chicks fledged.



*Female wrybill, Golf Links territory, Ashley River*

6. Golf Links territory. Male: UB  
Female: UB

An unbanded pair was seen at this site in mid-October. No nest was found, but a small chick was present with the two adults on 02 November. Later searches of the area failed to find the chick or adults. By mid-December, this part of the river was drying up, and it is unlikely the chick survived. It is possible that pairs 5 and 6 were the same, with the chick hatching at Golf Links and being moved upstream to Railway. If this had happened, the chick would have been at least 2 weeks old when seen at Railway, and might be expected to have been larger. However, none of

the adults involved were banded, and the question of whether one or two pairs were present in this area cannot be resolved with certainty.

Result: No chicks fledged.

Overall result: 5 or 6 pairs of wrybills fledged a minimum of 2 chicks (and a maximum of 3); productivity was therefore in the range 0.33-0.60 chicks fledged per pair.

### **Black-fronted terns**

Terns nested in three main groups in the 2008/09 season. A group of 12 pairs established just above the SH1 Bridge (near Toppings Road) in late November, and were fenced off by Environment Canterbury staff shortly afterwards to reduce disturbance. The site was not monitored as intensively as those further upstream, but visits in January suggested that no chicks had fledged. A group of 6-7 pairs found at the Okuku confluence in late November did not establish there. The largest group of terns was in the Groyne 1 area, in the vicinity of the black-billed gull colony. Immediately upstream of the colony, at least 14 pairs nested, and fledged at least 7 chicks; downstream of the colony, 12 pairs fledged 8 chicks. Two pairs nested at the Railway site, but fledged no chicks.

Result: About 40 pairs fledged at least 15 chicks, for minimum productivity of 0.38 chicks per pair (but see section 4.5 below).

### **Black-billed gulls**

A black-billed gull colony of over 300 pairs arrived in the Groyne 1 territory in late November, probably displaced by floods on the nearby Waimakariri River. They established quickly and bred successfully. Most chicks had hatched by 04 January and all appeared to have survived a hail-storm the previous night. By mid-January, crèches were forming around the margins of the colony. Many chicks were flying by the first week of February, and by 11 February, the colony site had been abandoned and there were two large crèches about 150 m apart and several hundred metres downstream of the nesting area. At least 252 chicks fledged from 337 nests, for productivity of 0.75 chicks fledged per pair.



*Creche of  
black-billed  
gull chicks at  
the Groyne 1  
colony*

### **Pied oystercatchers**

Seven pairs attempted to breed in the area between Dalziels and Marchmont. Three of these pairs (at Groyne 1 East, Railway, and Marchmont) fledged one juvenile each, for average productivity of 0.43 chicks fledged per pair.



*Pied oystercatcher nest, Ashley River*

years. In 2006/07 and again in 2007/08, it was paired with a pied stilt and bred at the upstream end of the Dalziels site. During the 2008/09 season, GK-OW was regularly seen in the Dalziels area, but there was no evidence that it was paired and breeding at any time. Later in the season, it was seen downstream, first between Big Island and Groyne 1, then at Ashley Estuary.

### **Banded dotterels**

Banded dotterels nested in many parts of the study area. As in previous seasons, fledging success was only recorded for a sample of pairs breeding in the areas that were monitored regularly for the three key species. In these areas, 24 pairs fledged at least 14 chicks, for minimum productivity of 0.58 chicks fledged per pair.

### **Pied stilts**

Many pairs of pied stilts bred in the study area, particularly in the Dalziels/Priors territories and at Marchmont. Productivity was not recorded, but appeared to be reasonably high - many pairs had one or more juveniles with them in January.

### **Black stilt**

One black stilt (banded GK-OW) has been resident in the study area for 5

## **4 Discussion**

Shorebirds breeding in the Ashley River face three main threats, and the Group's activities continue to be focussed on reducing impacts from these.

1. The three 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 selected sites, and contracted commercial gravel extractors for clearance of other new areas.
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 interpretative signs on the river during the breeding 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,

no hand weed clearing was carried out in 2008/09. 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. A major flood in February 2008 significantly increased the overall weed-free area, and swept over all the very small percentage which had been cleared by hand or shingle removal previously. If any weed clearance by volunteer groups is carried out in the future, it will be carried out primarily for 'team building' and to involve the public in the Group's activities on the river.

Having stated the above, past gravel extraction has cleared areas of weeds in many sections of the river, all of which have been used at times for breeding by the three key species and others. The Group will therefore continue to maintain good relationships with commercial gravel extractors and try to involve them in the creation (and maintenance) of suitable habitat in areas they clear. It is now common practice for shingle operators to contact the Group prior to initiating extraction, seeking assurance that their work will not unacceptably disturb breeding birds.

However, 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. During such work, it is important to have on-site supervision by someone who knows what is needed. Without appropriate supervision, the end results can be poor, despite the best of intentions by the machine operator. The actions most likely to produce good breeding habitat following gravel extraction have been listed previously (Dowding & Ledgard 2008).

#### 4.2 PREDATOR CONTROL

The number of trap-nights in 2008/09 was almost identical to that for 2007/08, but the number of predators trapped was only 55% of the previous season's figure. The overall capture rate was 0.75 predators per 100 trap-nights, compared to 1.4 in 2007/08 and 1.6 in 2006/07. The main reason for the low 2008/09 figure was the decline in hedgehog numbers, which were less than half of those caught in the previous season. One contributing factor could have been the major flood of February 2008, which cleared much of the vegetation in the riverbed that may have provided daytime cover for hedgehogs. Numbers of cats and stoats caught were up slightly. The Group does not monitor rabbit numbers, but anecdotal evidence suggests they are increasing in the river, possibly due to

*Black-billed gull defending the Groyne 1 colony*



reduced effectiveness of RHD. Whether this will result in an increase in predators in the area remains to be seen.

Recruiting and supporting volunteer trappers over a 4-5 month period each season remains a substantial challenge for the Group. The small number of trappers available means that a major commitment is required from each of them. The Department of Conservation is constructing a new Area office in Rangiora (only 1 km from the river), and it is hoped that staff may be able to assist in the training of trappers, and possibly in the trapping itself.

### 4.3 ADVOCACY

There can be little doubt that the Group's advocacy efforts over the past 5 years have resulted in a much higher local awareness of the problems faced by riverbed birds, and of the Group's activities to protect them. In 2008/09, the number of advocacy activities was higher than usual (see section 3.3). Core activities were continued, and included media articles, talks to special interest groups (using a specially prepared PowerPoint presentation), nightly Screen Vista presentations for 4 months in the Rangiora cinema, and Corflute signs placed in managed riverbed areas during the season.

In addition, presentations were made to four schools, coinciding with the publication of local author Jane Buxton's story appearing in the School Journal. In March, the Group's PowerPoint address was presented to a meeting of the Lotteries Environment and Heritage Committee held at Canterbury Museum, Christchurch. The committee commented very positively on the Group's high standard of advocacy. In the field, three groups were guided on visits to the river. The concentration of breeding birds off Groyne 1 included all three key species, and was an excellent site for close-up views of nesting birds and their young. If such visits are well led and undertaken at appropriate times, they can be a memorable experience, and an invaluable advocacy opportunity, while causing minimal disturbance to the birds themselves.

Further afield, the Group's experiences on the Ashley River led to invitations to visit and address similar groups on the Orari River in South Canterbury and the Makarora River at the head of Lake Wanaka in western Otago.

Progress has been made with the children's book '*Ria the reckless wrybill*', written by Jane Buxton. The text is written and the illustrations completed. Lotteries Board funding is assisting publication, and it is hoped that the book will be ready for sale before Christmas 2009. The ARRГ will receive 25% of all royalty payments.

During 2008/09, the Group has remained closely involved with progress towards the formation of the Ashley-Rakahuri Regional Park. This plan has been approved by Environment Canterbury, although the funds for its implementation will not be available until 2010. The Group is well aware that the Regional Park concept is integral to ensuring the professional and long-term management of the river, and hence a more secure future for the birds.

Future advocacy for the birds on the river should be enhanced by the presence in Rangiora of the Department of Conservation's new Area Office.

### 4.4 SPRING BIRD COUNTS

During the November survey, numbers of most species were typical of recent years, with the only marked difference being the low number of spur-winged plovers. There is no obvious reason for that particular change, but it must be noted that these are one-off counts; there is therefore no measure of variability, and counts may be influenced by a wide range of factors, including weather, levels of disturbance, and differences in timing of breeding among different species. Birds that breed in the lower river also commonly feed in the Ashley Estuary over low tide, and the state of the tide at the estuary during a count can therefore influence the number of birds counted in the river substantially.

In addition, black-billed gulls and black-fronted terns are both highly mobile species, and entire colonies of gulls and groups of terns are known to move into and out of the study area, both between and within seasons. This was clearly demonstrated in the 2008/09 season, when only 16 gulls were recorded in the November count, but a colony of 300 pairs arrived shortly after.

An increase in the number of wrybills seen in the river in November was almost certainly due to first-year birds prospecting (Riegen & Dowding 2003), and not to the arrival of new breeding pairs. One bird banded as a chick at Aerodrome East in 2007/08 was among the additional birds seen from November onwards. Movements of these non-breeding wrybills resulted in fluctuations in the numbers of that species detected later in the season.

Earlier reports recommended a survey of the stretch of river upstream of the study area, between the Okuku confluence and the Ashley-Rakahuri Gorge. Although much of this stretch of the river has been heavily vegetated in the recent past, the 2008 floods may well have created good nesting habitat there, as they did elsewhere in the river. These circumstances suggest that there is now more reason to conduct a survey above the Okuku confluence.



*Aerial view of the Ashley Estuary and lower reaches of the Ashley River*

#### 4.5 SHOREBIRD BREEDING

##### **Wrybills**

Productivity in the 2008/09 season was disappointing, with only two chicks definitely fledged from six pairs. Five of the six pairs completed incubation successfully and hatched chicks, but losses at the small chick stage appear to have been high. New adults continue to be recruited, but adults continue to disappear, with the apparent loss of two banded males during the season.

A pulse of live-trapping for cats early each season may improve survival of adults and small chicks, and should be considered if current trends continue. However, while live-trapping is an effective means of cat control, it requires daily trap checks and is therefore labour-intensive.

### **Black-fronted terns**

About 40 pairs are known to have nested, but the number of individuals in the river at various times was considerably higher than 80, and suggests that some nesting attempts may not have been detected. In particular, some nests laid in mid-December downstream of Groyne 1 were probably lost to a flood later in the month (see Appendix 1), and before they were detected. This in turn suggests that estimated productivity for the season of 0.38 chicks fledged per pair may be an over-estimate.

Black-fronted terns and black-billed gulls often breed in association – mixed colonies formed on the coast near the Ashley Estuary in 2004/05 and in 2005/06; in 2006/07, at least 25 pairs of terns nested next to a gull colony of about 350 pairs at the Gull Colony site (Dowding & Ledgard 2007). Most of the tern pairs that fledged chicks in 2008/09 had nested within a few hundred metres of the black-billed gull colony in the Groyne 1 area, and probably benefited from the defensive activities of the gulls around their colony.

### **Black-billed gulls**

In terms of shorebird breeding activity in the study area, the establishment of a large black-billed gull colony was the most significant event in the 2008/09 season. Given that the colony was located in a part of the river with high levels of human recreational activity, the very high breeding success achieved (more than 250 chicks fledged) is particularly gratifying. This is only the second time in five years that a sizeable gull colony has bred successfully within the area managed by the ARRG.

### **Other species**

At 0.58 chicks fledged per pair, breeding success of banded dotterels was towards the lower end of the range of values seen in recent years (typically 0.60-0.80). Breeding success of pied oystercatchers was also lower than average at 0.43 chicks per pair.

## **5 Conclusions**

In terms of productivity of the three key shorebird species in the Ashley River, the 2008/09 season was one of mixed success. Breeding success of wrybills and black-fronted terns was relatively low, and turnover of adult wrybills continues to be high. By contrast, breeding success of the black-billed gull colony that established in late November was very high.

The revised threat rankings for some of the shorebirds that breed in the river may have implications for the Group's activities in future. The new ranking of Nationally Endangered for black-billed gulls makes their management an even higher priority than previously, and the recognition that banded dotterels are declining (and are now considered threatened) suggests that monitoring of that species should probably increase, at least.

It is pleasing to record that a high profile has been maintained relative to public awareness and education, as this remains vital to the success of the Group's cause. This profile has extended beyond North Canterbury, thanks to ARRG involvement with *BRaid*, plus invitations to assist similar community groups elsewhere in the South Island.

The Group's aim of improving breeding success of shorebirds on the Ashley-Rakahuri river is a long-term one, and depends on the establishment of a range of long-term partnerships with other stakeholders. In this regard, two developments in the past year have been particularly pleasing: the Department of Conservation's decision to locate its new Area Office close to the river, and the approval by Environment Canterbury of a plan for the Ashley-Rakahuri Regional Park.

## 6 Recommendations

- 1 Continue predator control (and consider a pulse of live-trapping for feral cats); continue annual bird surveys, monitoring activities and banding, focussing on the three key threatened shorebird species. Seek assistance with predator trapping from DOC (Rangiora).

### *Justification*

Effective predator control will be essential if the three species are to survive in the river. Collection of information through surveys and monitoring is vital, as it informs future management and decision-making.

- 2 Continue advocacy initiatives, notably in schools – making use of the Group’s PowerPoint presentation and Jane Buxton’s soon-to-be published children’s book on the wrybill.

### *Justification*

Although awareness has improved significantly over recent years, it can only be maintained and improved by continued effort.

- 3 Continue full support for the *BRaid* group.

### *Justification*

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

- 4 Maintain and improve collaboration with commercial shingle extractors.

### *Justification*

Gravel extractors are the major commercial users of the Ashley-Rakahuri river, and have opportunities to create weed-free sites that encourage successful bird breeding. The ARRG is in a position to advise on measures that will improve these sites.

- 5 Support the early 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 in the Ashley-Rakahuri River, and is due for implementation in the near future.



*ARRG interpretative sign used in the Ashley River*

## 7 Acknowledgements

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

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Appendix 1 River flow (cumecs) at Ashley Gorge during the 2008/09 bird breeding season (from Environment Canterbury website [www.ecan.govt.nz](http://www.ecan.govt.nz)).

