
*Management and monitoring of shorebirds
in the Ashley River during the 2006/07 season*



Ashley/Rakahuri Rivercare Group, Inc.

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Summary

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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 River. In 2005, the Group became an incorporated society, and in 2006 received a grant from WWF- New Zealand to assist it in carrying out its objectives. This is the third annual report from the Group.

The main activities undertaken by the Group in 2006/07 were:

- Clearance of weeds to create nesting habitat for shorebirds
- Advocacy and liaison with other groups of riverbed users
- 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 December 2006
- Monitoring of shorebird breeding success

Activities were focussed on managing the three most threatened species in the river, namely wrybill, black-billed gull and black-fronted tern.

Major floods in February, October and November 2007 cleared weeds from large areas, significantly increasing the amount of habitat suitable for bird breeding. An area of about one hectare was cleared of weeds by the Group, while shingle extraction removed weeds from several hectares at two sites, both of which attracted nesting birds.

Advocacy and liaison initiatives, in the form of media articles, advertising and public talks, continued to raise public awareness of shorebirds in the river and of the Group's activities. This appears to have paid dividends in the form of reduced human disturbance during the breeding season.

Predator trapping resulted in 54 mammals of six species being caught in 3445 trap-nights. Hedgehogs were again by far the most common species trapped.

Enhancement of public facilities in parts of the river not used by shorebirds focussed on completion and opening of a riverside walkway, and maintenance of the 4WD track.

High river levels disrupted the planned spring bird surveys and only one survey could be undertaken. Counts from this suggested that numbers of black-fronted terns and black-billed gulls were higher than usual, while those of most other species were slightly lower than in the previous year.

Monitoring of the three key threatened species revealed that the number of wrybill pairs in the study area rose from two to four. The four pairs of wrybills fledged four chicks between them. However, adult mortality appears high, and this is an area of concern. A colony of about 350 pairs of black-billed gulls, the largest in the study area for many years, established and bred successfully. At least 81 pairs of black-fronted terns nested in the study area, fledging 55 chicks between them.

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
- Give full support to the 'BRaid' meeting in October 2007, and promote follow-up workshops to implement its recommendations.
- Improve collaboration with commercial shingle extractors
- Support Environment Canterbury's initiative to develop a long-term management strategy for the Ashley River.

1 Introduction

The braided rivers of the South Island 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 threatened 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 variety of human activities.

The Ashley is a medium-sized river located in North Canterbury. From the Ashley Gorge, the river 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 resulting lack of major floods is probably the main reason why weeds persist longer in the Ashley than on larger braided rivers, such as the Waimakariri and Rakaia.

The shorebird values of the Ashley have long been 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).

In the past, the river has provided breeding habitat for significant numbers of black-fronted terns (*Sterna albobriata*) and black-billed gulls (*Larus bulleri*). Lindsay Rowe (pers. comm.) studied bird breeding on the Ashley River from the late 1950s to the early 1970s and recorded colonies of gulls numbering thousands of pairs in total. Recently the number of gulls has declined substantially (Dowding & Ledgard 2005). The Ashley is now the northernmost river on which wrybills (*Anarhynchus frontalis*) breed, following a southward contraction of range over the past century (Riegen & Dowding 2003). All three of these species are endemic (occur only in New Zealand) and are threatened. The wrybill has a declining range and is classified as Nationally Vulnerable. The black-billed gull is classified nationally as in Serious Decline but internationally as Endangered, making it the world's most threatened gull species (BirdLife International 2007). Of most concern is the black-fronted tern, which is classified as Nationally Endangered, the second-highest ranking possible under the New Zealand scheme. Other shorebird species that are in lower threat categories or are not threatened also breed in the Ashley.

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. 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. The activities undertaken during the 2004/05 and 2005/06 seasons were described in the Group's first and second annual reports (Dowding & Ledgard 2005, 2006). Those reports described the results of bird monitoring, habitat enhancement, predator control, and advocacy, and made recommendations for future management.

This report documents the management activities and monitoring of birds that were undertaken during the 2006/07 season. Emphasis was again placed on protection of the three key shorebird species: the wrybill, black-billed gull, and black-fronted tern. An Activity Chart for 2007/08, which summarises proposed activities by the Group, is shown in Appendix 1.

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 undertaken in 2006. However, Taggarts did 'groom' part of the Racecourse site after riverside protection work had been carried out by Environment Canterbury in August. As part of their gravel removal operations, Taggarts also removed shingle from an area of several hectares upstream of Groyne 1. Smaller areas were also cleared of weeds by commercial shingle extractors further downstream, particularly between the Railway bridge and the end of Marchmont Road. Hand-weeding was carried out by the Group at the aerodrome site in April.

2.3 WALKWAY CREATION AND 4WD TRACK MAINTENANCE

Work continued on the Mike Kean Walkway between the road and rail bridges on the south bank of the river near the Ashley picnic ground. Barriers were reinforced at both ends of the Walkway to prevent entry of vehicles. More than 150 plants (consisting mainly of cabbage trees, flax and *Hebe*) were planted, and weed control was carried out around those 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.

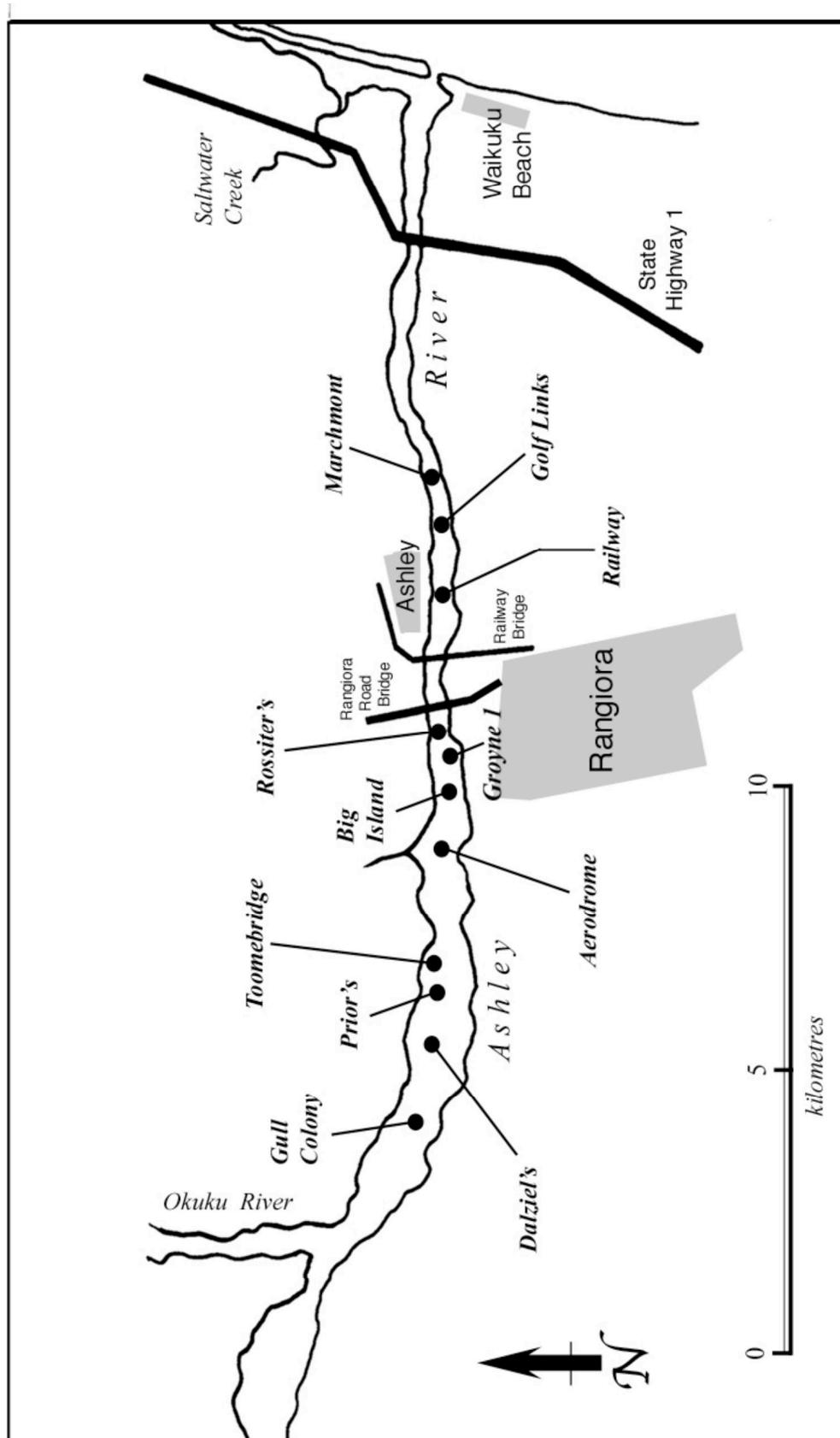
2.4 PREDATOR CONTROL

A range of traps was used to target mammalian predators (mainly cats, mustelids and hedgehogs). They included 12 cage traps, 14 Bushby tunnel traps, 10 Timms traps, 12 DOC 200 traps and 6 DOC 250 traps. Traps were first set on 19 August at sites with a history of use by wrybill and black-fronted tern pairs. As the three key bird species occupied territories, traps were added or moved between sites. Traps were baited with a range of baits, usually fresh or salted rabbit or hare meat, or hen eggs, and checked once or twice a week.



*Stoat
caught in a
DOC 200
trap,
Ashley River*

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.



As in 2005/06, traps were moved between sites as the season progressed to provide the greatest degree of cover possible for the most vulnerable pairs of birds, typically those with nests or small chicks. The last traps were removed (from the Big Island site) on 27 January after the pair of wrybills there had fledged their chick and left the area.

2.5 MONITORING

Monitoring of wrybills, black-billed gulls, and black-fronted terns was carried out as described in previous reports (Dowding & Ledgard 2005, 2006), and began this season on 10 August 2006. Breeding success (productivity) for each of these species was recorded as the average number of chicks fledged per pair within the study area.

The spring surveys of shorebirds in the study area could not be completed as normal due to high river flows. The October survey was cancelled, and the November survey could not be undertaken until 03 December, when nine people took part. Coverage was limited in parts of the river where the high flow rate made crossing channels difficult. The procedure for these surveys has been described earlier (Dowding & Ledgard 2005).

2.6 MEETINGS

During the 2006/07 season, the Group held meetings in the Waimakariri District Council's meeting rooms, Rangiora, in March, June, August and October. Average attendance was 14 members.

3 Results

3.1 HABITAT ENHANCEMENT

Walkway creation and 4WD track

The Mike Kean Walkway was officially opened on 23 April 2007, in the presence of Mike's wife, Lynne, and son, John. Mike was the Group's inaugural Chairman, and a totara tree was planted in his memory. The Walkway now appears to be more accepted by the public, and this, combined with better barriers to prevent vehicle access, has led to a significant drop in vandalism and improper use. 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.

*Entrance
to the
Mike Kean
Walkway*



The 4WD track continues to get reasonable use, acting as a good alternative to driving in the riverbed itself. However, its rugged contours are only really attractive to more adventurous drivers.

Weed clearance

Areas cleared of weeds by the Group or shingle extractors are described in section 2.2 above. One of the most significant of these was immediately upstream of Groyne 1, where a new breeding area was created at Big Island; a pair of wrybills and a small colony of black-fronted terns nested here. Terns also bred at the Marchmont site, where shingle removal had helped to clear the area of weeds, and had created an island.

Other areas were cleared by floods. Major floods on 04 October and 18 November (137 and 132 cumecs respectively at Ashley Gorge) had a number of impacts. At the Aerodrome island site, they creating numerous runnels and deposited a layer of silt, making the site less suitable for bird breeding. Elsewhere, areas cleared of weeds by these floods (and another in February 2006), created many new potential breeding sites. These included an area out from Groyne 7, where black-billed gulls set up a large colony, and another below the Railway site, where a pair of wrybills bred successfully.



*Big Island,
Ashley River,
September 2006*

3.2 PREDATOR CONTROL

In total, 54 potential predators were trapped in 3445 trap-nights. Predators trapped consisted of 45 hedgehogs, 2 stoats, 1 weasel, 1 rat, 2 mice and 3 cats. 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, 2006/07 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
Colony Dalziels	17/12/06 – 25/01/07	233	0	0	0	1	0	0
north bank	19/08/06 – 14/01/07	613	0	1	0	2	0	0
Priors	19/08/06 – 26/11/06	193	0	0	1	0	0	0
Toomebridge	none set	0	0	0	0	0	0	0
Aerodrome								
north bank	02/09/06 – 19/11/06	220	0	0	0	2	0	0
south bank	09/09/06 – 24/01/07	588	1	0	0	25	0	0
Racecourse								
north bank	26/08/06 – 05/11/06	272	0	0	0	1	0	0
Big Island	26/08/06 – 27/01/07	345	0	0	0	2	0	0
Groyne 1								
north bank	none set	0	0	0	0	0	0	0
Rossiters	none set	0	0	0	0	0	0	0
Railway								
north bank	05/10/06 – 15/01/07	312	1	1	0	3	0	0
south bank	26/08/06 – 15/01/07	413	1	0	0	10	0	2
island	09/09/06 – 15/01/07	256	0	0	0	0	0	0
Golf Links	none set	0	0	0	0	0	0	0
Marchmont	none set	0	0	0	0	0	0	0
Totals		3445	3	2	1	45	1	2

3.3 ADVOCACY

During the 2006/07 breeding season, the public were made aware of the Group's activities in the riverbed by:

- Four articles in the local *Northern Outlook* newspaper (05 August 2006, 09 December 2006, 21 March 2007 and 02 June 2007) plus one advertisement (November 2006).
- One article in *The Press* (20 January 2007).
- An article ('A river for all') in DOC's annual magazine *Conservation Action July 2005 – June 2006* (pp 50-51).
- An article in Environment Canterbury's *Living Here* in October 2006.
- A nightly Screenvista presentation for 3 months in the Rangiora cinema (September-November 2006).

- Talks to schools and special interest groups, using a specially prepared PowerPoint presentation included:
 - Presbyterian Support Services on 20 September 2006
 - Ashgrove School on 13 October 2006
 - Rangiora Rotary on 07 December 2006
 - River visit by N. Canterbury branch of the Forest & Bird Kiwi Club (08 December 2006).
- Field address to Environment Canterbury consent staff on 08 May 2007.
- Assistance with Environment Canterbury pamphlet for fishermen ‘Tread Carefully’.
- Customised Corflute signs placed in managed riverbed areas.

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



Part of the black-billed gull colony near Groyne 7, Ashley River, December 2006

3.4 SPRING BIRD SURVEYS

As noted above (section 2.5) high river flows prevented the normal October and November surveys being carried out. Results of the survey undertaken on 03 December 2006 were collated by Eric Spurr and are shown in Table 2, with results of earlier counts shown for comparison.

Table 2 Results of the bird count undertaken in the Ashley River in December 2006. November counts from the previous three years are shown for comparative purposes

Species	Dec 2006	Nov 2005	Nov 2004	Nov 2003
Black shag	2	2	7	8
Little shag	2	6	7	4
Pied oystercatcher	5	22	37	22
Pied stilt	68	137	140	138
Black stilt	1	1	2	0
Banded dotterel	84	245	213	169
Wrybill	5	7	9	16
Spur-winged plover	37	149	27	13
Southern black-backed gull	5	1	27	10
Black-billed gull	213	3	10	0
Black-fronted tern	180	26	28	102
Caspian tern	1	0	0	4

3.5 SHOREBIRD BREEDING

Locations of shorebird territories are shown in Figure 1.

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

Four pairs of wrybills attempted to breed in the study area in the 2006/07 season.

1. Male: UB Female: UB

This pair appeared late in the season and occupied part of the Aerodrome territory, on the shallow braid towards the south bank. An empty scrape was found on 09 November; this contained 1 egg by the following day and 2 by 13 November. The nest was low-lying, and was washed out by the major flood on 18 November. A second nest of 2 eggs was laid about 25 m from the first, but by 15 December this had been abandoned. What was probably the male was seen in the same area, but no UB female was seen again in this territory, and it appears that she was lost during the second nesting attempt.

Result: No chicks fledged.

2. Male: UB Female: BO-YO

In 2006, the widow of the Racecourse pair (BO-YO) paired with a new UB male. This pair occupied the Aerodrome territory, also south of the main channel, and close to pair 1. They had a 2-egg nest by 09 November. It survived the major flood of 18 November, and both eggs had hatched by 06 December. One chick had fledged by 06 January, and 2 were seen on 21 January.

Result: 2 chicks fledged.



Male wrybill at his nest in the Aerodrome territory, Ashley River, November 2006

3. Male: UB Female: –MM

This was another new pair in the river. The female is distinctively banded, with a metal band on the right tarsus and another on the right tibia. They were found in the Big Island territory with a 2-egg nest on 09 December. This hatched late in December, and 2 chicks were seen in early January. One had fledged by 24 January. Whether this pair had an earlier nest that was lost is not clear, but searches of Big Island in early-mid November recorded no wrybills in this area.

Result: 1 chick fledged.

4. Male: RO-M Female: UB

This pair again occupied the downstream end of the Railway territory, in the vicinity of Groyne 22. Both birds were particularly secretive, and proved very difficult to monitor. There was no evidence of a nest on 19 September, but by early October the male's behaviour suggested that there was probably one somewhere on the gravel island north of Groyne 22. The female was rarely seen, but the male's behaviour in late November suggested that one or more chicks were present. One chick fledged and was seen with RO-M on 07 January.

Result: 1 chick fledged.

Overall result: 4 pairs fledged 4 chicks, for productivity of 1.00 chick fledged per pair.

Black-fronted terns

Black-fronted terns bred at 5 sites during the 2006/07 season, with 3 sites having more than 20 pairs each. As usual, birds moved around in the study area early in the season, and areas that had substantial numbers in September and October (e.g. Dalziels) were not always used for nesting. One early nest was found hatching at Dalziels on 10 November, but most nests (e.g. those at Aerodrome and Big Island) were laid in mid-late November or later (e.g. at Marchmont). The 3 important sites were at Marchmont (21 pairs), Big Island (26 pairs), and Gull Colony, where 25 pairs nested, some on the same island as the gulls and others on a smaller one adjacent to it.

Result: 81 pairs fledged at least 55 chicks, for minimum productivity of 0.68 chicks per pair.

Black-billed gulls

During the bird survey undertaken on 03 December, a colony of black-billed gulls was located on a gravel island upstream of the Dalziels site. On 07 December, counts indicated that in total there were about 780 birds present. The colony was in two main parts, with one group of nests towards the northern edge of the island containing about 280 birds, and the second to the south of it containing about 430. About 70 birds were around the edges of the colony and appeared to be non-breeders.

Hatching had begun by 15 December and most nests appeared to have hatched by the following week. A visit on 15 January showed that the crèche of chicks had moved about 250 m downstream from the original colony site. Also on that date, 15 adult gulls were found dead among the southern group of nests at the original site. An empty cartridge box and 14 shotgun cartridges were scattered nearby.

As chicks fledged, some of them (and some adults) moved away from the colony and were seen at various points downstream, e.g. 90 (including 6 juveniles) were present in the Big Island area on 15 January. On the same date, a count from a photo at the colony revealed 190 chicks on the point of fledging. By 28 January, the remaining chicks had moved upstream, and about 100 remained. While there could have been a few losses between 15 December and the time when the last chicks fledged, these were probably offset by the juveniles that had already fledged and left the site.

Result: Approximately 190 chicks fledged from a colony estimated at 350 pairs (average productivity of about 0.54 chicks fledged per pair).



Crèche of black-billed gull chicks, Ashley River, January 2007

Pied oystercatchers

Eight pairs attempted to breed in the area between Dalziels and Golf Links Road. Three of these pairs (at Dalziels, Big Island, and Railway) fledged one juvenile each, for average productivity of 0.38 chicks fledged per pair.

Banded dotterels

Banded dotterels nested throughout the study area. The first nest was found on 05 September, upstream of Dalziels. However, there must have been nests before that date, as a chick about 1 week old was seen at Railway on 19 September. As previously, fledging success was only recorded for a sample of pairs breeding in the areas that were monitored regularly. In these areas, 34 pairs fledged at least 22 chicks, for minimum productivity of 0.65 chicks fledged per pair.

Pied stilts

Many pairs of pied stilts bred in the study area, particularly in the Dalziels/Priors territories, where there were 11 pairs nesting in mid-November. Their productivity was not recorded.

Black stilt

One black stilt (GK-OW) has been resident in the study area for 3 years but had apparently not attempted to breed before this season. In 2006, it paired with a pied stilt and bred at the upstream end of the Dalziels site. No nest was found, but the two birds were defending chicks by 10 November. At least 1 chick was still present (and about 400 m further upstream) on 06 December. By 15 December, GK-OW had ceased defensive behaviour and it seemed very likely that the chick(s) had been lost.

4 Discussion

The three key shorebird species 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 species require a largely bare substrate for nesting, and weed growth in the riverbed results in loss of breeding habitat. In 2006/07, the Group cleared weeds from selected sites, and collaborated with commercial gravel extractors in clearance of other 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 installing signage and undertaking a range of advocacy and information initiatives.

4.1 HABITAT ENHANCEMENT

Given the practical difficulties and cost to the Group of clearing and maintaining large weed-free areas at many sites, the overall benefits of this activity may need to be re-examined. Colonies of gulls and terns are moving between sites from one season to the next and it is therefore impossible to predict which areas they will use. As a result, resources are sometimes spent on clearing areas that are not subsequently used for nesting by the 3 key species.

As noted earlier (Dowding & Ledgard 2006), the initial strategy of clearing areas away from human population centres, in the hope that birds would use them and suffer lower levels of disturbance, is proving relatively ineffective. This is probably because gravel extraction, flood protection works, and floods result in much larger-scale clearance elsewhere in the river. Increasing attention is therefore being paid to liaising with commercial gravel extractors to involve them in the creation (and maintenance) of suitable habitat in areas they clear. To this end, gravel extractors will be invited to the proposed 'BRaid' workshop (see section 4.3 below).

Following gravel extraction, the actions most likely to produce good breeding habitat appear to include:

- (a) levelling of the riverbed (most shorebirds require a flat substrate with good visibility for nesting),
- (b) blocking or ripping of haul roads (to reduce disturbance by restricting vehicle and pedestrian access),
- (c) sloping down of steep banks along channels (to allow chicks access to feeding areas), and
- (d) manipulation of flows to create islands (where predation and disturbance are likely to be lower) and shallow braided sections (which provide feeding habitat for the smaller birds).

The large floods of 2006 cleared significant areas of weeds. Re-growth is taking place on nearly all of these, but in places it has been slow. If birds are attracted to these areas in 2007, the Group may have to expand its weed-clearing activities in the 2007/08 season.

4.2 PREDATOR CONTROL

The number of trap-nights in 2006/07 was slightly below the 2005/06 total. The most common predator trapped was again the hedgehog, which has represented 75-86% of all captures in the past 3 seasons.

In 2006/07, the overall trapping rate was 1.6 predators per 100 trap-nights, marginally lower than the value of 1.9 in 2006/07. The number of cats trapped this season was low, probably in part because there are no really effective, user-friendly kill-traps available for cats. Cats are almost certainly present and not being caught at some sites, and are the predator most likely to be responsible for the substantial losses of adult wrybills seen in the river in recent years.

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. However, trapping is an essential part of the programme and must continue.

4.3 ADVOCACY

Disturbance of breeding birds remains a major threat in parts of the Ashley River, and it was noted in the 2005/06 report that the numbers of people recreating in the riverbed, particularly on machines (trail bikes, 4WDs and ATVs) appeared to be increasing. No quantitative surveys have been undertaken, but levels of disturbance appeared lower in 2006/07 and there appeared to be fewer vehicles in the riverbed. A number of factors were probably responsible, including the Group's advocacy efforts, Environment Canterbury's deployment of part-time rangers in the river, and more attention to barriers controlling vehicle access. In spite of this apparent improvement, there was one serious disturbance incident in early January, when at least 15 black-billed gulls were shot. This incident served to highlight the fact that even in a climate of increasing public awareness of the needs of riverbed birds, one or a few ignorant or malicious individuals can have a substantial negative impact.

Overall, the Group is in little doubt that its advocacy efforts over the past 3 years have resulted in a much higher local awareness of the problems faced by birds on the Ashley River, and of the Group's activities.

The Group supports the Waimakariri Regional Park concept, which aims to identify the commercial, environmental and social values associated with the Waimakariri River and to implement strategies to manage those values in appropriate sections of the river. This concept is currently being extended to the Ashley River, with two 'strategy development' meetings being held in Rangiora on 23 May and 20 June 2007. At the second of these, the Group's PowerPoint address was presented. Further meetings are planned, and the Group is closely involved. In the long term, it is hoped that the Group's activities can become an integral part of a formal management plan for the river.

The Group is currently working to improve communication between the various parties that have an interest in braided rivers and in the birds that depend on them. In collaboration with Environment Canterbury, a workshop has been organised at which key stakeholders and groups with an interest in these topics can share information and experiences, discuss threats and consider possible solutions. This workshop is entitled 'BRaid – aiding breeding birds on braided rivers', and is to be held in Rangiora in October 2007.



*Black stilt and its
pied mate,
Dalziels territory,
Ashley River*

4.4 SPRING BIRD COUNTS

As a result of high river flows, some species were probably under-recorded during the annual survey of the study area, especially in the lower reaches of the river. In particular, pied oystercatcher, pied stilt, and banded dotterel numbers appear much lower than in recent years. However, in the upstream section of the river the survey found sizeable colonies of nesting black-billed gulls and black-fronted terns.

The 2005/06 report recommended a survey of the stretch of river upstream of the study area, between the Okuku confluence and the Ashley Gorge. Although much of this stretch of the river is known to have a heavy infestation of weeds, birds have bred there in previous years (Lindsay Rowe, pers. comm.). The survey was not undertaken in 2006/07, and remains a priority.

4.5 SHOREBIRD BREEDING

Wrybills

The recruitment of new birds in the river and the increase from 2 pairs to 4 within the study area are both positive signs. Productivity was also high, with the 4 pairs fledging 4 chicks between them.

These aspects are balanced to some extent by the apparent loss of a female at the Aerodrome site. In spite of the increase in number of pairs, the Ashley wrybill population is clearly still very small, and further recruitment is required before it can be considered secure. Low adult survival is a growing concern, and further emphasis may need to be placed on control of cats and stoats around wrybill breeding sites.

Black-fronted terns

At least 81 pairs of terns nested within the study area. This is almost certainly the largest number in recent years. Three sites were each used by 20 or more pairs and breeding was successful at all 3 sites. Little is known about natal site fidelity in black-fronted terns, but if it is high the fledging of at least 55 chicks should make a significant contribution towards maintaining the population of this species in the river. Overall, the 2006/07 season was by far the most successful for terns in the Ashley since the formation of the ARRG.



Black-fronted tern chick hiding, Marchmont area, January 2007

Black-billed gulls

The establishment and successful breeding of a large black-billed gull colony within the study area was another highly significant event this season. In recent years, colonies have either been vandalised (e.g. at the Aerodrome site in 2002/03) or have been abandoned after disturbance (e.g. at Groyne 1 in 2004/05), and the only successful breeding recorded locally has occurred at Ashworth's Spit on the coast immediately north of the Ashley Estuary.

Black-billed gulls are a fully-protected endemic species, and the shooting of at least 15 birds in late December or early January was an offence under the Wildlife Act. This incident was reported in The Christchurch Press on 20 January 2007.

Other species

Minimum productivity was recorded for 3 other shorebird species in the river. Pied oystercatchers produced 0.38 chicks per pair in 2006/07, similar to the 0.43 produced in 2005/06, but well below the 1.20 chicks per pair in 2004/05. Productivity of banded dotterels has been relatively consistent between years (0.65 in 2006/07 compared to 0.70 in 2005/06). The black stilt/pied stilt pair at Dalziels is thought to have fledged no chicks.

5 Conclusions

In terms of productivity of the 3 key shorebird species in the Ashley River, the 2006/07 season has been the most successful for many years. Wrybills, black-billed gulls and black-fronted terns all nested in reasonable numbers within the study area and all produced good numbers of chicks per pair. However, the number of pairs of these key species fluctuates annually, and continued intensive management will be required if they are to persist. In the short-medium term, the key to maintaining populations of these species in the river is to increase breeding success. In the case of wrybills, it is becoming clear that adult survival is also an issue that will have to be addressed.

Continued advocacy and cooperation with the community are also vital. Given that the Group has no guarantee of funding from year to year, long-term progress with its aims depends partly on developing and strengthening links with relevant professional agencies. In particular, it needs to maintain close cooperation with local councils and DOC. In this regard, the Group strongly supports Environment Canterbury's deployment of rangers on the Ashley River in 2006/07. There is also a need for regular liaison with commercial gravel extractors in the river.



*Banded dotterel
nest,
Golf Links Road,
October 2006*

6 Recommendations

- 1 Continue predator control, annual surveys, monitoring activities and banding, focussing on the three key threatened shorebird species

Justification

Continuing 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. Banding provides information on survival, pairing and movements of individual birds.

- 2 Continue advocacy initiatives, notably in schools.

Justification

Although human disturbance over the last season appeared to be less than in previous years, improved awareness remains vital.

- 3 Give full support to the 'BRaid' meeting of all braided riverbed users in October 2007, and promote follow-up workshops to implement its recommendations.

Justification

The 'BRaid' meeting should enable actual riverbed users to find out how they can practically help birds breeding in braided rivers as part of their day-to-day activities. It will also set a network in place that will allow sharing of ideas, problems, and solutions.

- 4 Improve collaboration with commercial shingle extractors.

Justification

Gravel extractors are the major commercial users of the Ashley River, and have opportunities to leave cleared sites in a state that encourages successful bird breeding. The ARRG is in a position to advise on measures that will improve these sites.

- 5 Support Environment Canterbury's initiative to develop a long-term management strategy for the Ashley River.

Justification

Although it will be some years before this process is completed, it is potentially one of the most important long-term means of achieving the Group's aim of maintaining key shorebird populations in the Ashley River.



Pair of black-fronted terns defending their nest

7 Acknowledgements

We are particularly grateful to the **Habitat and Protection Fund of WWF-New Zealand**, which was the major sponsor of the ARRG in 2006/07. Major past sponsors have been the:

- Pacific Development and Conservation Trust
- New Zealand National Parks and Conservation Foundation

The activities recorded in this report would not have been possible without their generous grants.

Other agencies and companies 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, weed-pulling, advocacy, and attendance at meetings. Particular acknowledgement must go to the small band of trappers, who weekly maintained many traps over a long season.

8 References

BirdLife International. 2007. <http://www.birdlife.org/datazone/index.html> (viewed 15 August 2007).

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.; 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.

Appendix 1 Activity Chart for Ashley-Rakahuri Rivercare Group, Inc. Plans for the period 01 July 2007 to 30 June 2008.

Month	Bird activity	Group activity
July	Breeding season gets underway	Monthly visits (c. 2 days/month) start by John Dowding (professional ornithologist). Records locations threatened birds are establishing. Trapping begins Vehicle access-ways into riverbed blocked off (ECan)
August	Early birds arrive	Bird monitoring continues – first nests usually found Regular trapping (40+ traps visited 1-2 times weekly) Group meeting (4-5 annually) Signs erected in river at major breeding areas Screenvista showing in local cinema (runs for 4 months)
September	Main season	Trapping and monitoring continue, visiting groups and individuals shown around. Nests and first chicks monitored. Monthly ads in local paper for 4 months - plus at least two articles
October	Main season	Trapping and monitoring continue, visiting groups and individuals shown around. Nests and chicks monitored. Group meeting October bird survey of Ashley River (12+ people) First BRaid meeting for all braided river stakeholders (organised by ARRG)
November	Main season	Trapping and monitoring continue, visiting groups and individual shown around. Nests and chicks monitored. Counting of juveniles and banding of wrybills begins (John D) November bird survey of Ashley river
December	Main season	Trapping and monitoring continue. Last nests found, chicks/juveniles monitored Group meeting (decide on equipment and budget for coming year)
January	Season concluding	Trapping and monitoring continue. Last juveniles monitored. Applications for funding should be well underway (this can take many evenings)
February	Last juveniles fly	Bring in traps, monitoring ends
March		Begin report writing for last season (John D main author) Article in local paper on previous season First Group meeting of year
April		Talks to schools and local groups – over winter months try to speak (show PowerPoint) to four schools, Lions, Rotary, etc Article in local paper advertising volunteer weeding days
May		First Group and volunteer weeding day (favoured breeding sites)
June		Group meeting and AGM Second Group and volunteer weeding day Weed clearance by bulldozer in main breeding sites

From June through to January: Weekly updates are sent by email to all Group members.
Chairman averages one email/day on ARRG matters.

Appendix 2 River flow (cumecs) at Ashley Gorge during the 2006/07 bird breeding season (from Environment Canterbury website).

