



# Waimakariri River Regional Park Black-billed Gull Management 2015-2016 Breeding Season

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## Background

The braided Waimakariri River in Canterbury runs from the heart of the great divide in the Southern Alps to the South Pacific Ocean. The Waimakariri River is a very unique and rich ecosystem, which is currently attracting more attention from the community (recreational activities), industry (gravel mining) and conservation organisations (e.g. Environment Canterbury). The part of the river situated between the Waimakariri Gorge (upstream) and the Brooklands lagoon (seashore) corresponds to the Waimakariri River Regional Park, which is owned by Environment Canterbury (ECan). As a concerned landowner, ECan has been actively engaged in the river's management and protection. For the past eight years, the ECan Parks Team has had a special focus on monitoring and protection of braided river birds using the lower Waimakariri River as their breeding ground.

Bird species living on a braided river are specialised to an ever-changing environment, with unpredictable flood events and habitat modifications. Most species are endemic to New Zealand such as the Black-billed Gull (*Larus bulleri*), Black-fronted Tern (*Chlidonias albostratus*), Wrybill (*Anarhynchus frontalis*) and Banded Dotterel (*Charadrius bicinctus*). Unfortunately most of these are in decline and threatened with habitat destruction, human disturbance and introduced predators.

Black-billed Gull (Figure 1) have the unfortunate position of being the most endangered gull in the world and is therefore the focus species of the ECan monitoring and protection programme in the Waimakariri River Regional Park. Black-billed Gull form dense breeding colonies from August to March, nest on the riverbed and create a crèche for the chicks. Although adult Black-billed Gull are still abundant, their numbers are rapidly declining, resulting in this species being categorised as Nationally Critical.



**Figure 1: Black-billed Gull (*Larus bulleri*) on its nest with chicks. Photo: Rod Morris.**

One important threat to the Black-billed Gull is the Southern Black-backed Gull (*Larus dominicanus*; Figure 2). This large and abundant bird is native to New Zealand, is an opportunistic predator and a scavenger, feeding off the waste from landfills and farms (offal, lamb tails, etc). This increased food supply from human sources has caused Southern Black-backed Gull numbers to steadily increase. Southern Black-backed Gull breed in large colonies, frequently next to Black-billed Gull colonies, heavily predated on their eggs and chicks and competing for the same resources.



**Figure 2: An adult Southern Black-backed Gull (*L. dominicanus*). Photo: Tony Whitehead.**

## **Method**

Predator management and Black-billed Gull surveys were carried out with ECan Regional Park rangers and contractors which collected field data on braided river birds in the lower Waimakariri River from August 2015 to February 2016. ECan Parks contracted Keystone Ecology to survey the Waimakariri River Regional Park between the Waimakariri Gorge bridge and State Highway One (approximately 100 km) using a combination of four wheel drives and foot to access the river. The survey was conducted for four hours every four days until the end of the breeding season, but more hours were added when needed. In an attempt to not disturb the birds being surveyed, they were observed with binoculars and a telescope from a distance of 100-150 meters. For each bird observation, GPS coordinates, species, number of individuals and their activity (nesting, feeding, etc) were recorded. Black-billed Gull were observed with a telescope and subsequently counted individually. The life stages

were differentiated as follows: adult (sitting on a nest indicating the number of breeding pairs), chicks (distinguished by their spotted plumage) and fledglings (no down feathers, still dependent on their parents for food and can fly short distances). Finally, to control for the original estimated number of Black-billed Gull pairs, once all the birds had departed, the colony was visited and the total number of nests were recorded. The number of adults and fledglings allow us to calculate a breeding success rate (number of fledglings divided by number of nesting pairs) for each colony, which is used as an indication of how the population is performing.

Less extensive data (presence/absence, nesting, fledgling, etc) on other braided river bird species was also recorded within 1 km (up and down river) of the Black-billed Gull colonies.

## **2015-2016 Breeding Season**

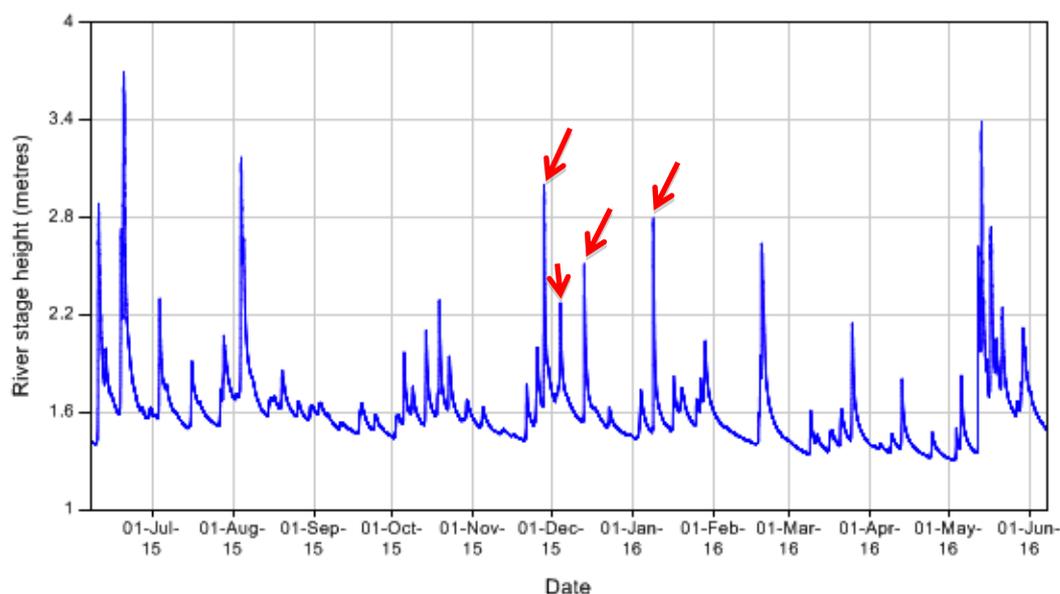
### *Black-billed gull*

In early October, two small colonies of Black-billed Gull were recorded. One colony began to establish close to The Sanctuary Wetland but had abandoned the site by mid-October (2015), potentially due to the disturbance of a flood coupled with a high level of gravel extraction upstream. Keystone Ecology assumes that these birds merged with the second colony located off McLeans Island (Appendix 1 and 2), increasing its number to 1500 adults. This colony was situated in the middle of the riverbed, which provided good protection against mammalian predators. However, this colony was surrounded by Southern Black-backed Gull colonies and three individuals were observed entering the Black-billed Gull colony repeatedly, eating Black-billed Gull eggs. By the end of October, only 20 pairs of Black-billed Gull remained nesting at the McLeans Island colony. Most departed possibly due to the high pressure from the surrounding southern Black-backed Gull. Eventually this colony completely failed.

By November (2015) two large colonies had formed. Approximately 1,000 birds moved back to the Sanctuary site and started nesting, despite being in close proximity to Southern Black-backed Gulls and a large gravel extraction site situated upstream. The second colony, a group of several hundred Black-billed Gull (400+) established at the end of Haul Road (Appendix 1 and 2), a highly frequented public area.

The first significant flood (Figure 3) occurred at the end of November and washed-out half of The Sanctuary colony. Two more floods, at the start of December, displaced the rest of The Sanctuary colony. The Haul Road colony grew to about 1000 adults as it was untouched by the November flood and despite being washed-out twice by the December floods, the birds resumed nesting. By mid-January (2016), a fourth flood occurred, creating a channel of water running through the middle of the colony. In spite of this event, chicks survived and the colony remained. A total of 295 birds were estimated to fledge from this colony, from a total of 637 breeding pairs.

After the first flood (November 2015), approximately 100 Black-billed Gulls relocated and started a new colony off Weedons Ross Road (Appendix 1 and 3). By mid-December, 78 pairs were still nesting. This colony also survived the mid-January flood, adding 44 fledged birds to the original 167 breeding pairs.



**Figure 3: Water level at the Waimakariri River gorge from July 2015 to January 2016. The red arrows indicate flood numbers 1 to 4. Graph derived from Environment Canterbury website.**

#### *Other bird species*

Black-fronted Terns were observed nesting near The Sanctuary at the end of November (2015), however they were heavily predated on by Southern Black-backed Gulls. Keystone Ecology assumes that this colony collapsed and became washed-out by the November flood. Shortly after, an unusually large Black-fronted Tern colony (100-200) established upstream of Haul Road, close to the Black-billed Gull colony. Unfortunately, by the 25<sup>th</sup> January (2016) all Black-fronted Terns were absent, leaving us without the opportunity to record how many chicks or fledglings were produced.

A White-fronted Tern (*Sterna striata*) colony established at The Sanctuary but was partly washed-out during the first flood event (November, 2015). A second colony of 112 nesting adults established at the start of December, at Haul Road. On the last observation (28<sup>th</sup> January 2016), 11 chicks and 10 fledglings were present. These birds are regularly nesting next to Black-billed Gull colonies, possibly for mutual benefit (choice of breeding ground, high numbers against predators, feeding sites).

A male and female Wrybill (male ringed: silver/orange/white-orange/yellow; female not ringed) were also observed close to the Haul Road colony. This information will be transferred to the New Zealand Ornithological Society for record keeping.

A rare observation of Lesser Knots (*Calidris canutus*, approx. nine individuals) were recorded on the Waimakariri River on the 1<sup>st</sup> of January 2016. They were observed resting next to the Black-billed Gull colony off Haul Road.

Another uncommon bird was observed this season, the White-winged Black Tern (*Chlidonias leucopterus*). Sightings of a non-breeding adult and an adult in full breeding plumage (Figure 4) were recorded from November to January. The unusual length of time they were observed on the river suggests that a pair could have attempted to breed, although this was never verified. This bird normally breeds in the northern hemisphere in lagoon or estuarine environments.



**Figure 4: A White-winged Black Tern (*C. leucopterus*) in full breeding plumage. Photo: Will Parsons.**

#### *In Summary*

This season (2015/2016), two colonies of Black-billed Gull were successful in their breeding attempt. The colony by Haul Road had 637 breeding pairs, producing 295 fledglings and the colony off Weedons Ross Road with 167 breeding pairs produced 44 fledglings. Overall the success rate was 0.42 chicks per breeding pair. Although this success rate is lower than previous years (Table 1), the total amount of fledglings produced this year is greater than the amount of fledglings produced in 2012, 2013 and 2014. Last year's breeding season (2014-2015) was the exception with 1700 fledged birds produced, possibly the result of an absence of major floods (Thompson, 2015)

**Table 1: Fledgling success rates for Black-billed Gull (*L. bulleri*) in the Waimakariri River Regional Park. Table modified from Thompson (2015).**

<i>Breeding Season</i>	<i>Approximate number of chicks fledged</i>	<i>Breeding success rate (averaged over all lower Waimakariri colonies for season)</i>
<b>2015/2016</b>	339	0.42 chicks/pair
<b>2014/2015</b>	1400 – 1700	1.1 chicks/pair
<b>2013/2014</b>	100 – 136	0.54 chicks/pair

<b>2012/2013</b>	145	0.25 chicks/pair
<b>2011/2012</b>	200	0.50 chicks/pair

## **2015-2016 Management strategies**

### *Poisoning*

For the past three years, Southern Black-backed Gull control via poisoning has been implemented as a joint effort between ECan and Christchurch International Airport Limited (CIAL) in the lower Waimakariri River. The main reason for this control is the increased numbers of Southern Black-backed Gulls. From CIAL's perspective, Black-backed Gulls are large birds and rank in their top three species (along with Canada Goose (*Branta canadensis*) and Rock Pigeon (*Columba livia*)) for a risk of bird strike (a collision between a bird and an aircraft). CIAL is located near the Waimakariri River and most birds using the river potentially fly through the flight paths of aircraft several times per day, causing a real threat for aircraft safety. From ECan's perspective, Southern Black-backed Gulls pose a threat to endangered birds nesting on the riverbed. The constant harassment and predatory pressure from Southern Black-backed Gulls could potentially cause a Black-billed Gull colony to collapse.

During the breeding season Southern Black-backed Gull colonies are recorded and the information and costs of control are shared between the two agencies. CIAL is responsible for poisoning Southern Black-backed Gull colonies that are located at least 2 km away from endangered species while ECan will poison colonies that are within 2 km upstream or downstream of endangered bird colonies. Poisoning is conducted according to the previously established best practice guidelines and is the most effective method when compared to others, such as egg-oiling.

Southern Black-backed Gull numbers were reduced by approximately 80 percent in the lower Waimakariri River this season although many still remained, which is a reflection on the increased population numbers.

### *Shooting*

The McLeans Island black-billed gull colony was under a lot of pressure from a few Southern Black-backed Gulls entering the colony and eating Black-billed Gull eggs. An attempt at shooting these individuals was taken on the 15<sup>th</sup> of October (2015) as the Southern Black-backed Gulls were too close to the protected birds to poison. For safety reasons, a silenced 22 rifle with sub-sonic bullets was used, however this meant that the accuracy range was restricted to 50-75 metres. In an attempt to get closer to the birds, shooting was undertaken from the back of a vehicle. Birds were very wary

of the vehicle and after 3 hours of trying, only one Southern Black-backed Gull was shot. During this time Southern Black-backed Gulls were again observed entering the Black-billed Gull colony and predating eggs. As a last resort, two people were sent through the area to destroy Black-backed Gull nests in an attempt to make them relocate further away from the Black-billed Gull colony. However, this was unsuccessful and the Black-billed Gull colony collapsed a few days later.

### *Trapping*

Within 48 hours of a Black-billed Gull colony deciding on a nesting site, up to 50 DOC 200 mammalian predator traps were installed around the colony. Trapping was carried out by Keystone Ecology from 6th October 2015 to 1st February 2016, (118 days; Appendix 4).

### *Business exchange*

Road Metals Co Ltd were extracting gravel upstream of the black-billed gull colony located at The Sanctuary Wetland. ECan contacted the company and a site visit was organised with the Road Metals workers. Road Metals Co Ltd kindly agreed not to divert the river channel until after the Black-billed Gull breeding season to not disrupt or change the nesting environment.

Ready Mix Concrete Ltd had their extraction machinery travelling through an unusually big black-fronted tern colony (100-200 individuals), situated around the north bank of Haul Road. ECan contacted them and a site visit followed. Ready Mix Concrete Ltd was extremely co-operative and even built a shingle bundle along the road edge to discourage vehicles from accessing the Tern breeding area. ECan also added three bird information signs on the shingle bundle to reinforce the message. Ready Mix Concrete Ltd also agreed to only use the upstream access point to their extraction site to avoid any conflict with the Black-fronted Tern colony.

In January 2016, seven adult black-billed gulls were found dead upstream of Haul Road, most probably the result of a collision with the power lines (Niall Mogan pers.comm.; Figure 5). Two adults with broken wings were also observed at the colony and will have perished as a result. Keystone Ecology contacted the entitled company, Transpower on the 19<sup>th</sup> of January 2016. Although they were sympathetic, the cost of making these power lines safer for the birds would be excessive and unlikely to occur. If birds hitting power lines become recurrent, more evidence will be required before contacting them again.



**Figure 5: Dead adult Black-billed Gull (*L. bulleri*) found under power lines on the Waimakariri River in January 2016.**

### *Public encounter*

The Haul Road Black-billed Gull colony was established in a highly frequented public area. This area had a very high level of vehicle activity (Figure 6) but was unable to be blocked off, so ECan decided to put four bird information and warning signs up around the colony. The signs provide information intended for the general public explaining that Black-billed Gulls are endangered birds nesting on the riverbed and care should be taken to avoid them. A few days after installing these signs, they had been vandalised (Figure 7). Signs were re-installed and logs were strategically positioned to divert people away from the colony. ECan Parks created a Facebook post on their Regional Parks Facebook page to inform people about and discuss the vandalism. The message reached over 10,000 people and received mostly positive

comments. Towards the end of January, the Haul Road Black-billed Gull colony also suffered the loss of 20 chicks, possibly the result from a dog attack, however a certain number of dead birds present at a large colony is not uncommon.

ECan Park Rangers and contractors continue to routinely converse with people on the riverbed regarding the bird breeding season and distribute informative brochures to promote the protection of the braided river birds and what people can do to help their survival. Increasing public awareness is perceived as a long term solution to reduce the direct impact of recreational activities on birds breeding success. The promotional video (“Birds of the Waimakariri”) on the protection of braided river birds, created by ECan in 2013, is still available on the internet and has been viewed by a variety of audiences such as jet boating clubs, school groups and 4WD clubs.



**Figure 6: Vehicles ignoring signs and driving within 150 m of the Haul Road Black-billed Gull (*L. bulleri*) colony in the Waimakariri River. Photo: Niall Mugan.**



**Figure 7: Damaged signs of the Haul Road Black-billed Gull (*L. bulleri*) colony on the Waimakariri River. Photo: Niall Mugan.**

## **Discussion**

In terms of number of fledglings, the 2015-2016 Black-billed Gull breeding season was reasonably successful. Previous years have seen variable numbers recorded (Thompson, 2015) and this last season compares favourably. Although this year's breeding success rate is relatively low, the overall number of fledglings has increased as a direct result of the number of adult birds nesting on the Waimakariri River (compared with 2012 to 2014; Mugan, 2013; Thompson, 2014). The Haul Road colony produced 295 fledglings despite being regularly disturbed by human activities and both successful colonies survived four flood events, which were consistent with water levels from the same timeframe of previous seasons (Thompson, 2014).

This season was particularly effective in reducing the numbers of Black-backed Gull, which are a constant source of harassment and predation. Communication with businesses, such as gravel extraction companies, was also positive. However, informing the general public remained a challenge. While the majority of people reacted positively to the information provided on the river, previous years have shown that it only takes a few individuals to have a dramatic impact. It is imperative to continue to educate people about the beauty and the fragile ecosystem of the Waimakariri River.

This year's BRaid (Braided River Aid) conference, held on the 31<sup>st</sup> of May 2016 in Lincoln, had an encouraging attendance of 140 people from varied organisations: Department of Conservation, ECan, Universities of Canterbury, Lincoln and Otago, CIAL, Forest and Bird, Keystone Ecology, Wildland Consultants and members of the public. The main message was that braided rivers are a unique ecosystem and that

each conservation action is a stepping-stone to the protection, enhancement and awareness of braided river ecosystems. There was a unanimous desire to coordinate effort, decrease expenditure and obtain more desired outcomes in protecting this fragile environment. Looking to the future, we cannot urge enough the importance of research and communications between different organisations.

Although ECan Park's main focus is on the Black-billed Gull, its management strategies may be helping other endangered bird species such as the Wrybill, the Banded Dotterel and the Terns. Species that live in the vicinity of Black-billed Gull colonies are already being recorded during the routine survey and are most likely benefiting from the surrounding trapping and Southern Black-backed Gull poisoning. It would be beneficial for future braided river protection work to survey more consistently and include the other breeding species situated within a 2 km radius around a Black-billed Gull colony and potentially find out their breeding success rate. By achieving this around an existing surveyed Black-billed Gull colony, it would minimise expenditure and increase our ecological understanding of the river birds.

Floods are a major natural event threatening the success of any breeding colony. In previous years, building an island that would survive a flood event has been suggested. However, this option would be expensive and there is no guarantee that birds would use it. Two variations of this idea could be accomplished for a significantly lower cost (~\$1,000). The first suggestion would use a pre-existing island and scrape shingle (using an excavator for one day) to raise/mound parts (150m<sup>2</sup> total) of the island 20-30 cm. The purpose of using an existing island, created by a slow accumulation of sediment and gravel, is that it would be stronger than an artificially made island (loose shingle) and would resist floods better. The island needs to be strategically chosen in the hope that birds will use it but also that a big flood would have a minimal impact. This year's example is the Haul Road site. Birds have successfully bred there, which increases the chance of them coming back to the same site next year. This part of the river is also very wide, which minimises the impact of a big flood. The January flood had a water level up to 2.8 metres (Figure 3) at the Gorge and created a channel of water through the Haul Road Black-billed Gull colony. This channel of water may have been prevented if the island had been higher (Niall Mugaun, pers.comm.).

A second variation to the creation of a whole island would be to record and map the already existing islands that are high enough to protect birds from floods with a view to habitat management. Vegetation growing on the riverbed is also a problem for braided river birds, as they will only nest on gravel. If the vegetation has taken over and covers all the gravel, then there is no space for the birds to nest. Clearing an island of vegetation usually requires the use of a bulldozer before the breeding season. Contacting and using gravel extraction companies or ECan River Engineers could potentially decrease such cost as they regularly work on the river with bulldozers. A joint effort could be organised by asking them to clear selected patches as they work

in the vicinity. Birds would benefit from habitat improvement and companies could advertise their conservation efforts.

Once a higher island is identified and selected, social attractants could be added to guide birds to establish on this particular island. Courtney Hamblin, a Master student from Lincoln University, is about to test the effect of social attractants on Black-fronted Terns next summer in the Waimakariri River (pers.comm.). Since Tern and Black-billed Gull tend to create colonies close to each other, it could be a good opportunity to liaise with Courtney and expand one of her experiments to a Black-billed Gull colony. This joint project could potentially be executed at a minimal cost.

The Australasian Harrier (*Circus approximans*) has been described as a top predator for Black-fronted Terns at the 2016 BRaid conference. Similarly to the problem of Southern Black-backed Gull, Harrier numbers may need to be controlled during the breeding season. This reasonably successful breeding season for the Black-billed Gull could be the result of three intensive years of poisoning the Black-backed Gull and reducing their numbers. Establishing a similar management programme for Australasian Harrier for a few seasons could help the breeding success of the Black-fronted Tern in the lower Waimakariri.

The shooting attempt of the Southern Black-backed Gulls that invaded the McLeans Island Black-billed Gull colony to scavenge eggs and chicks was unsuccessful. The necessary safety required to use a gun in such an open space only allowed for 50-75 m accuracy. From that distance birds are disturbed and scared, which makes shooting even more difficult. This method is not worth continuing, unless a safe solution can be found with a shooting post from at least 100 m.

Mammalian predator trapping results obtained this season slightly differed from previous seasons (Mugan, 2013; Thompson, 2014; Thompson, 2015). Fewer Stoats (*Mustela erminea*) and Ferrets (*Mustela furo*) were caught this season, while Hedgehog (*Erinaceus europaeus occidentalis*) numbers remained consistent. A few Cats (*Felis catus*) were also caught in DOC 200 traps. Traps were positioned in the last piece of vegetation prior to entering the open shingle riverbed as it was assumed that predators would use this vegetation to remain inconspicuous. In a further step, to prevent any Black-billed Gull casualties, traps were also partially buried in the riverbed between the last piece of vegetation and the Black-billed Gull colony. In previous years most traps were positioned on the river berm with a lot of surrounding vegetation.

This year's Black-billed Gull colonies being placed in the middle of the riverbed provided them with a greater natural protection from mammalian predation. Trapping should continue as it is, with greater implementation of cat trapping for colonies that establish close to the riverbank. Cost effective techniques were being researched and discussed at the 2016 BRaid conference.

### *Other recommendations*

With the discovery of a few dead Black-billed Gull, probably from a collision with the power lines, the area underneath the powerlines should be checked as part of the weekly riverbed surveys next season. Further research is required to identify whether power lines are a serious threat that needs to be addressed or merely a source of occasional loss.

Gravel extraction companies are required to obtain consents for their work on the river. There is room to work more closely with gravel extractors working in the lower Waimakariri River to ensure they are meeting the terms of their consents and not disturbing any wildlife. Including an ornithologist more closely in the monitoring of extraction consents could improve the safety of nearby bird species.

### **Conclusion**

The Black-billed Gull 2015-2016 breeding season was reasonably successful compared to previous seasons in that a higher number of chicks were fledged this year than previously. The regular poisoning of Southern Black-backed Gull, the mammalian predator trapping and the increased public and businesses awareness have likely contributed to this accomplishment. The future of the Waimakariri River lies in educating as many people as possible and in joint efforts like the mutually beneficial arrangement between ECan and CIAL. The Waimakariri River is a shared space and if everybody helps in its protection we might be able to increase desired outcomes.

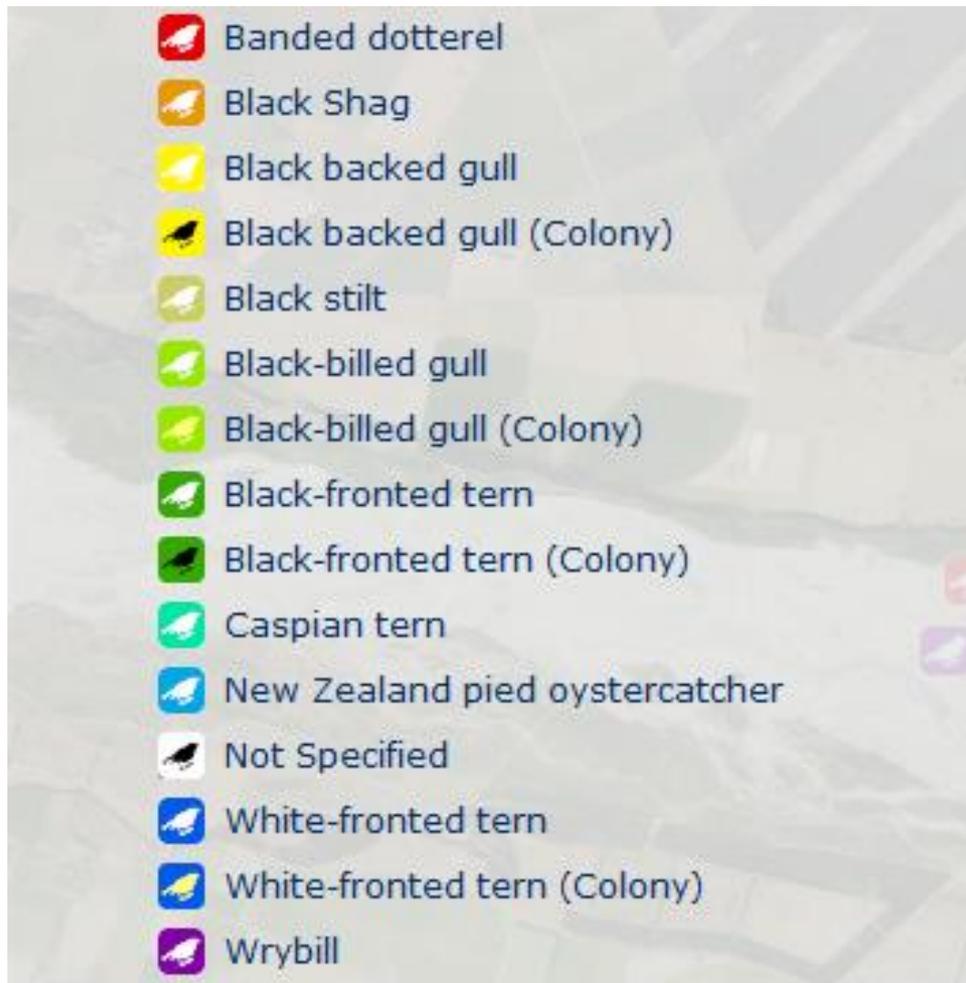
### **References**

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Thompson, C. 2015. Waimakariri River Regional Park 2014-2015 black-billed gull breeding season. Unpublished report, Environment Canterbury.

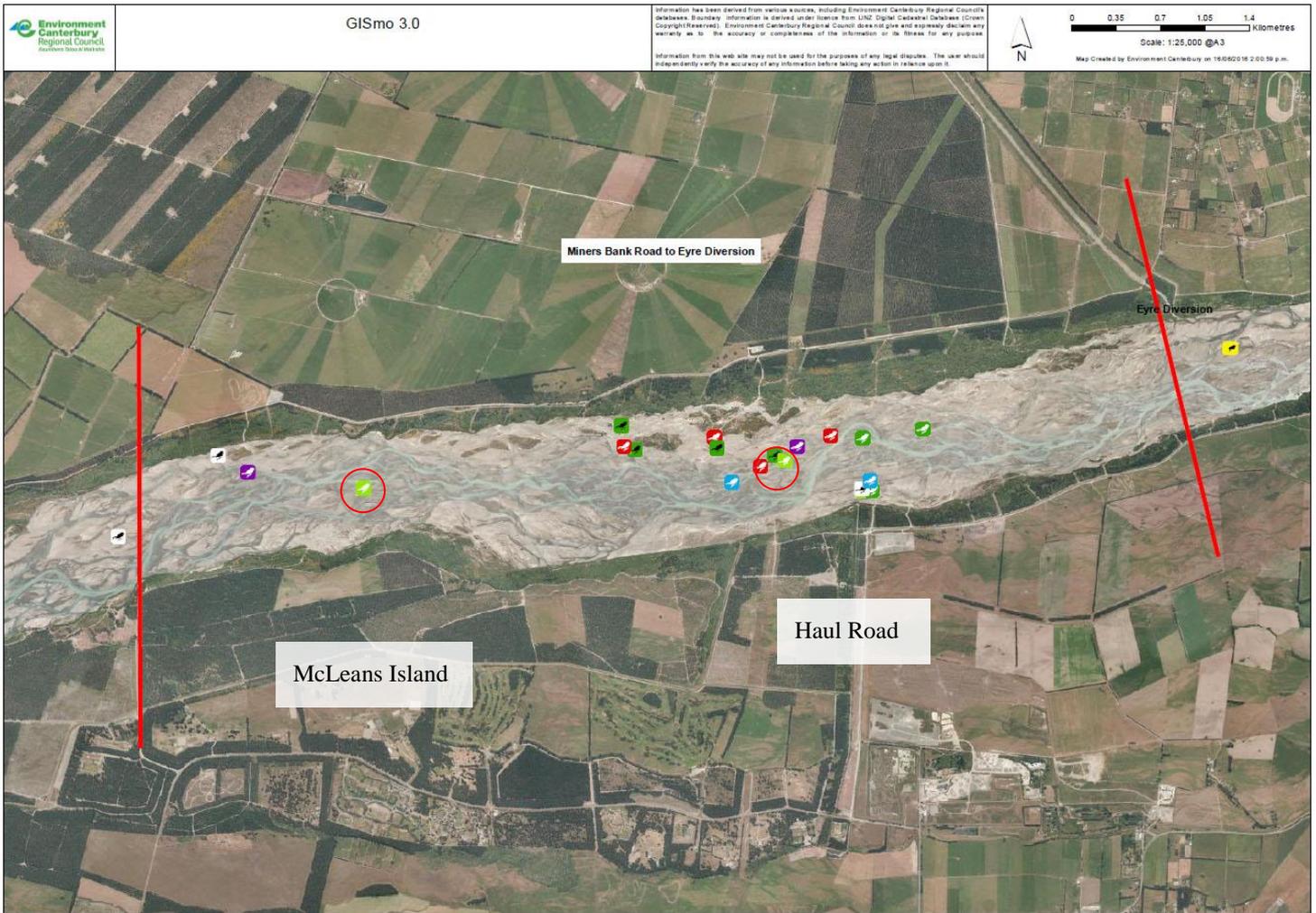
Thompson, C. 2014. Waimakariri River Regional Park black-billed gull management for the 2013-2014 breeding season. Unpublished report, Environment Canterbury.

## Appendix 1 – Bird key identification for appendices 2 and 3.



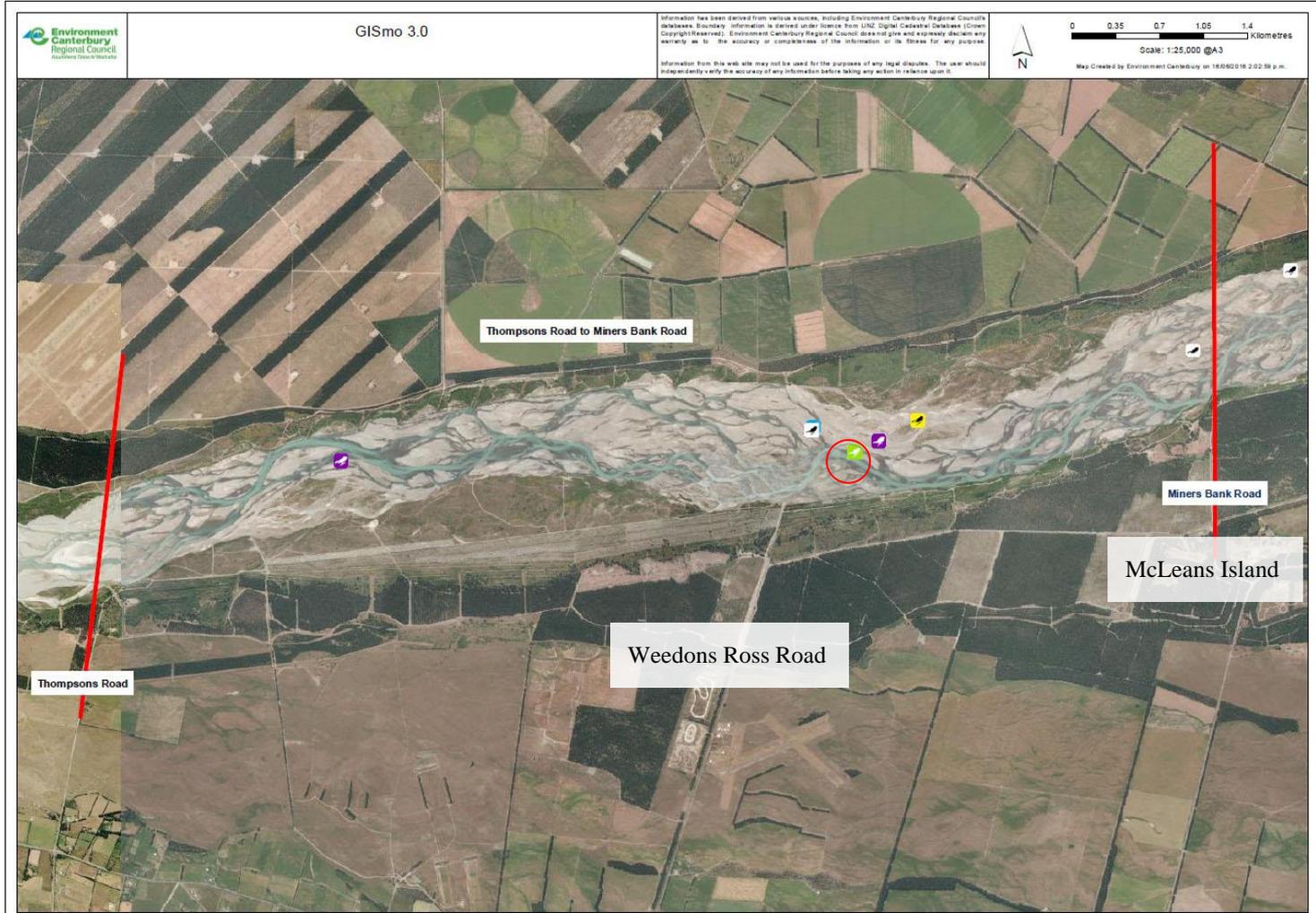
## Appendix 2 – McLeans Island and Haul Road bird colonies, 2015-2016 breeding season.

Black-billed Gull colonies are circled in red. Note the presence of Black-fronted Tern colonies (North bank of Haul Road) and one Southern Black-backed Gull colony (after Eyre Diversion). See Appendix 1 for bird identification key.



### Appendix 3 – Weedons Ross Road bird colonies, 2015-2016 breeding season.

Black-billed Gull colony is circled in red. Note the presence of a Southern Black-backed Gull colony nearby. See Appendix 1 for bird identification key.



**Appendix 4. Raw Trapping data from the Waimakariri River Regional Park (October 2015-February 2016).**

TRAPID	DATE_INSTALLED	DATE_REMOVED	TYPE	COMMENTS
93	06-10-15 13:25	25-10-15 9:23	DOC 200 Kill Trap	Hedgehog 13 /10, hedgehog 20 /10, checked 25 /10
101	06-10-15 13:35	25-10-15 9:45	DOC 200 Kill Trap	Checked 13 /10, hedgehog 20 /10, checked 25 /10
87	06-10-15 13:36	25-10-15 9:45	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10, checked 25 /10
96	06-10-15 13:40	25-10-15 9:48	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10, checked 25 /10
83	06-10-15 13:46	25-10-15 9:57	DOC 200 Kill Trap	Hedgehog 13 /10, checked 20 /10, hedgehog 25 /10
75	06-10-15 13:51	25-10-15 10:06	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10, checked 25 /10
79	06-10-15 13:54	25-10-15 10:06	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10, checked 25 /10
90	06-10-15 13:59	25-10-15 10:09	DOC 200 Kill Trap	Hedgehog 13 /10, checked 20 /10, checked 25 /10
71	06-10-15 14:04	18-11-15 10:32	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10, checked 25 /10, checked 5 /11
77	06-10-15 14:10	18-11-15 10:32	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10, checked 25 /10, checked 5 /11
89	06-10-15 14:17	18-11-15 10:31	DOC 200 Kill Trap	Hedgehog 13 /10, checked 20 /10, checked 25 /10, checked 5 /11
82	06-10-15 14:25	18-11-15 10:32	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10 checked 25 /10, checked 5 /11
88	06-10-15 14:28	18-11-15 10:31	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10 checked 25 /10, checked 5 /11
100	06-10-15 14:39	18-11-15 10:30	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10, checked 25 /10, checked 5 /11
84	06-10-15 14:40	18-11-15 10:30	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10, checked 25 /10, checked 5 /11
99	06-10-15 14:47	18-11-15 10:40	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10, checked 25 /10, checked 5 /11
76	06-10-15 14:49	25-10-15 10:48	DOC 200 Kill Trap	Checked 13 /10, checked 20 /10, checked 25 /10
92	06-10-15 14:53	25-10-15 10:52	DOC 200 Kill Trap	Hedgehog 13 /10, sprung 20 /10, checked 25 /10
98	06-10-15 14:59	25-10-15 10:55	DOC 200 Kill Trap	Hedgehog 13 /10 , sprung 20 /10, checked 25 /10
69	06-10-15 15:01	25-10-15 11:07	DOC 200 Kill Trap	Checked 13 /10, hedgehog 20 /10 ,checked 25 /10
85	06-10-15 15:12	25-10-15 11:15	DOC 200 Kill Trap	Checked 13 /10, hedgehog 20 /10, hedgehog 25 /10
72	06-10-15 15:14	25-10-15 11:06	DOC 200 Kill Trap	Hedgehog 13 /10, checked 20 /10, hedgehog 25 /10
95	13-10-15 10:17	25-10-15 11:30	DOC 200 Kill Trap	Checked 20 /10, checked 25 /10
80	13-10-15 10:21	25-10-15 11:33	DOC 200 Kill Trap	Checked 20 /10, ferret 25 /10
78	13-10-15 10:27	25-10-15 11:35	DOC 200 Kill Trap	Checked 20 /10, checked 25 /10
68	13-10-15 10:37	25-10-15 11:40	DOC 200 Kill Trap	Checked 20 /10, checked 25 /10

97	13-10-15 10:41	25-10-15 11:44	DOC 200 Kill Trap	Checked 20 /10, checked 25 /10,
86	13-10-15 10:47	25-10-15 11:49	DOC 200 Kill Trap	Checked 20 /10, hedgehog 25 /10
81	13-10-15 10:52	25-10-15 11:53	DOC 200 Kill Trap	Hedgehog 20 /10 ,checked 25 /10
73	13-10-15 10:59	25-10-15 11:57	DOC 200 Kill Trap	Checked 20 /10, checked 25 /10
70	13-10-15 11:09	25-10-15 12:04	DOC 200 Kill Trap	Checked 20 /10, checked 25 /10
94	13-10-15 11:14	25-10-15 12:00	DOC 200 Kill Trap	Checked 20 /10, hedgehog 25 /10
91	13-10-15 11:25	25-10-15 11:54	DOC 200 Kill Trap	Checked 20 /10, checked 25 /10
74	13-10-15 11:34	25-10-15 11:37	DOC 200 Kill Trap	Checked 20 /10, checked 25 /10
	04-11-15 11:19		DOC 200 Kill Trap	Checked 11 /11, sprung 20 /11, kitten & collected 16 /12
	04-11-15 11:20	16-12-15 9:42	DOC 200 Kill Trap	Checked 11 /11, checked 20 /11, collected 16 /12
	04-11-15 11:24	16-12-15 9:38	DOC 200 Kill Trap	Sprung 11 /11, checked 20 /11, sprung collected 16 /12
	04-11-15 11:28	16-12-15 9:34	DOC 200 Kill Trap	Checked 11 /11, checked 20 /11, collected 16 /12
	04-11-15 11:34	16-12-15 9:16	DOC 200 Kill Trap	Checked 11 /11, checked 20 /11, collected 16 /12
	04-11-15 11:38	16-12-15 9:10	DOC 200 Kill Trap	Checked 11 /11 ,checked 20 /11, bait gone collected 16 /12
	04-11-15 11:45	16-12-15 9:07	DOC 200 Kill Trap	Checked 11 /11, checked 20 /11 bait gone mouse poo, collected 16 /12
	04-11-15 11:51	16-12-15 8:53	DOC 200 Kill Trap	Checked 11 /11, mouse poo bait gone 20 /11, mouse & collected 16 /12
	04-11-15 11:55	16-12-15 8:49	DOC 200 Kill Trap	Checked 11 /11,checked 20 /11,collected 16 /12
	04-11-15 12:00	16-12-15 8:46	DOC 200 Kill Trap	Checked 11 /11,checked 20 /11, collected 16 /12
	04-11-15 12:06	16-12-15 9:01	DOC 200 Kill Trap	Checked 11 /11,bait gone mouse poo 20 /11 ,rat collected 16 /12
	04-11-15 12:14	16-12-15 9:58	DOC 200 Kill Trap	Checked 11 /11,checked 20 /11, collected 16 /12
	04-11-15 12:16	16-12-15 9:58	DOC 200 Kill Trap	Checked 11 /11,checked 20 /11,collected 16 /12
	04-11-15 12:24	16-12-15 10:04	DOC 200 Kill Trap	Checked 11 /11,checked 20 /11,collected 16 /12
	05-11-15 8:05	16-12-15 9:35	DOC 200 Kill Trap	Checked 11 /11,checked 20 /11, kitten collected 16 /12
	05-11-15 8:11	16-12-15 9:23	DOC 200 Kill Trap	Checked 11 /11,checked 20 /11,mouse collected 16 /12
	05-11-15 8:29	16-12-15 9:21	DOC 200 Kill Trap	Checked 11 /11,checked 20 /11,collected 16 /12 bait gone
	05-11-15 8:37	16-12-15 9:18	DOC 200 Kill Trap	Checked 11 /11 ,trap sprung 20 /11,collected 16 /12
	05-11-15 8:50	16-12-15 9:12	DOC 200 Kill Trap	Checked 11 /11 ,checked 20 /11,collected 16 /12
	05-11-15 8:58	16-12-15 9:05	DOC 200 Kill Trap	Checked 11 /11 ,checked 20 /11,collected 16 /12

05-11-15 9:05	16-12-15 9:01	DOC 200 Kill Trap	Checked 11 /11, mouse 20 /11 ,sprung collected 16 /12
05-11-15 9:09	16-12-15 8:57	DOC 200 Kill Trap	Checked 11 /11, checked 20 /11,sprung collected 16 /12
05-11-15 9:13	16-12-15 8:54	DOC 200 Kill Trap	Checked 11 /11, mouse 20 /11 cat shit on this path also, hedgehog collected 16 /12
05-11-15 9:20	16-12-15 10:25	DOC 200 Kill Trap	Checked 11 /11, hedgehog 20 /11,collected 16 /12
05-11-15 9:23	16-12-15 10:28	DOC 200 Kill Trap	Checked 11 /11, checked 20 /11,ferret collected 16 /12
05-11-15 9:27	16-12-15 10:32	DOC 200 Kill Trap	Checked 11 /11, hedgehog 20 /11 collected 16 /12
19-11-15 10:13	26-11-15 13:20	DOC 200 Kill Trap	Checked 20 /11
19-11-15 10:16	26-11-15 13:11	DOC 200 Kill Trap	Checked 20 /11
19-11-15 10:19	26-11-15 13:05	DOC 200 Kill Trap	Checked 20 /11
19-11-15 10:24	26-11-15 13:04	DOC 200 Kill Trap	Checked 20 /11
19-11-15 10:29	26-11-15 12:56	DOC 200 Kill Trap	Checked 20 /11
19-11-15 10:32	26-11-15 13:13	DOC 200 Kill Trap	Checked 20 /11
19-11-15 10:36	26-11-15 13:22	DOC 200 Kill Trap	Checked 20 /11
14-12-15 15:31	25-01-16 16:22	DOC 200 Kill Trap	Checked 21/12/15 Checked 1/1/16 Checked 7/1/16 checked 14/1/16. Trap destroyed
14-12-15 15:32	01-02-16 16:22	DOC 200 Kill Trap	Checked 21/12, Checked 1/1 Checked 7/1 checked 14/1. Checked 25/1 cat 1/2
14-12-15 15:37	01-02-16 16:21	DOC 200 Kill Trap	Checked 21/12. Checked 1/1. Checked 7/1 checked 14/1. Checked 25/1 Checked 1/2
14-12-15 15:43	01-02-16 16:21	DOC 200 Kill Trap	Checked 21/12/15. Checked 1/1. Checked 7/1 checked 14/1. Stoat 25/1 stoat 1/2
14-12-15 15:47	01-02-16 16:20	DOC 200 Kill Trap	Hog 21/12. Hog 1/1. Checked 7/1 checked 14/1. Checked 25/1 Checked 1/2
14-12-15 15:51	01-02-16 16:20	DOC 200 Kill Trap	Checked 21/12 Checked 1/1 Checked 7/1 checked 14/1. Checked 25/1 Checked 1/2
14-12-15 15:57	01-02-16 16:19	DOC 200 Kill Trap	Checked 21/12. Checked 1/1. Checked 7/1 checked 14/1. Checked 25/1 Checked 1/2
07-01-16 12:05	01-02-16 16:17	DOC 200 Kill Trap	Checked 14/1. Hog 25/1 Checked 1/2
07-01-16 12:08	01-02-16 16:24	DOC 200 Kill Trap	Checked 14/1. Checked 25/1 Checked 1/2
07-01-16 12:14	01-02-16 16:17	DOC 200 Kill Trap	Checked 14/1. Checked 25/1 Checked 1/2
07-01-16 12:20	01-02-16 16:15	DOC 200 Kill Trap	Checked 14/1. Hog 25/1 hog 1/2
07-01-16 12:25	01-02-16 16:18	DOC 200 Kill Trap	Checked 14/1. Checked 25/1 Checked 1/2
07-01-16 12:30	01-02-16 16:19	DOC 200 Kill Trap	Checked 14/1. Hog 25/1 Checked 1/2